

“Building an Evidence-Based, Ireland-Specific Framework for Employee Engagement in the Healthcare Sector”

A thesis submitted to Trinity College Dublin, the University of Dublin, for the
degree of Doctor of Philosophy



2025

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"To my mama yayi. Everything I am is thanks to you"

Declaration

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Executive Summary

Ireland's health system is currently facing acute challenges in engaging and retaining its workforce. Widespread staff burnout, organisational inefficiencies, limited career progression, and psychosocial stressors have contributed to declining morale, particularly among frontline workers. Although employee engagement is widely recognised as a key determinant of workforce resilience, service quality, and organisational sustainability, there is currently no validated, context-specific framework in the Irish health sector for systematically assessing and enhancing engagement at both the individual and organisational levels.

This doctoral research addresses this critical gap by developing, validating, and operationalising a comprehensive multidimensional framework for measuring employee engagement in the Irish healthcare system. Grounded in pragmatist philosophy and guided by an explanatory sequential mixed-methods design, the study integrates theory-driven quantitative analysis with qualitative insights into healthcare workers' lived experiences. The overarching aim is to generate a robust, empirically grounded model that is both statistically valid and practically relevant to policymakers, healthcare leaders, and human resource professionals.

The study began with a scoping review of the international literature on healthcare employee engagement. This review mapped the conceptual and theoretical landscape, highlighting fragmentation in definitions, inconsistencies across measurement tools, and a lack of comprehensive frameworks tailored to healthcare settings. Drawing on this evidence and using the Nienaber and Martins model as a theoretical foundation, an initial multidimensional engagement framework was developed, incorporating both organisational-level factors (e.g. leadership, teamwork, performance recognition) and individual-level factors (e.g. health and wellbeing, my role in my organisation, and training and opportunities).

The quantitative phase of the study involved secondary analysis of the HSE's "Your Opinion Counts" (YOC) staff survey data. Mirza et al.'s (2019) reflective validation framework was applied to structure the validation process. Principal Component Factor Analysis (PCFA) and Confirmatory Factor Analysis (CFA) confirmed the internal structure of the proposed framework, resulting in eight dimensions and 20 subdimensions of engagement. Structural Equation Modelling (SEM) and path analysis were used to explore the relationships between dimensions and overall engagement, while mediation and moderation analyses examined the influence of factors such as workplace bullying, discrimination, age, gender, job role, and years of experience.

To move beyond generalised, sample-level engagement measures, a novel Employee Engagement Score (EES) was developed at the individual level. The EES integrated: (1) direct scores from the validated dimensions, (2) indirect effects via mediators (e.g. bullying and discrimination), and (3) moderation effects shaped by demographic and occupational characteristics. The final score was

normalised using min-max scaling and transformed into a percentile rank, enabling meaningful interpretation, subgroup comparison, and policy-relevant benchmarking. Findings revealed considerable engagement disparities, with younger staff, women, frontline workers, and those in high-pressure environments reporting lower scores, highlighting the need for targeted interventions.

The qualitative phase complemented the quantitative findings by exploring the lived experiences of healthcare staff through interviews and focus groups. Using reflexive thematic analysis (RTA), themes such as employees need to feel recognised and valued, ineffective leadership and organisation's strategy, lack of health and wellbeing, and the need of systemic and structural changes were found to undermine engagement. NVivo software was used to facilitate coding, and researcher reflexivity was embedded throughout the process to ensure analytic rigour.

Quantitative and qualitative findings were integrated through the Pillar Integration Process (PIP), resulting in a revised, validated engagement framework that reflects both statistical evidence and the lived experiences of healthcare workers. The final framework recognises employee engagement as a dynamic, multidimensional construct, shaped by the intersection of organisational design, leadership culture, workplace experiences, and individual characteristics.

This thesis makes several original contributions. First, it offers a rigorously validated healthcare-specific engagement framework for Ireland, which addresses the theoretical and practical limitations of generic models. Second, it introduces a personalised engagement scoring system that captures indirect and moderated effects, advancing current practices in workforce analytics. Third, it integrates qualitative insights into the institutional, social, and psychological dimensions of engagement, producing a model with both explanatory power and operational relevance.

In the short term, the results of this study offer actionable insights for health service managers, Human Resources departments, and policymakers seeking to improve engagement, retention, and staff wellbeing. In the longer term, the validated engagement score and framework have the potential to inform national workforce strategy and support longitudinal tracking of engagement over time. Ultimately, this thesis contributes to international scholarship on healthcare workforce engagement and provides a scalable, evidence-informed blueprint for strengthening workforce resilience in complex and high-pressure health systems.

Acknowledgements

To my supervisors, Professor Steve Thomas, Dr Liz Farsaci, Dr Emer McGowan, and Dr Richard Layte, thank you for sharing this journey with me and for your wise guidance at every stage of this process.

To my husband, Alejandro, who stood by me through every moment of this thesis, drying my tears and celebrating every small step forward. I'm sorry for the stress and sleepless nights. I love you.

To my parents, Ángel and Maribel, thank you for your unwavering support, even from afar, and for lighting candles to guide my path. I miss you dearly.

To those who are no longer with us, Odalys, our beloved Kiara, and Elisaroba. You will always be with me. Thank you for being the hand I needed when I was falling, and for always being there.

To my two Irish families, the O'Mahoneys and the Doogans: Mary, Lucy, Donald, Gilliam, Anne Marie, Margaret, Mary Doogan, Suzanne, and Allison. Thank you for all your support. Fate brought us together, and we've shared so many moments, both joyful and difficult, that it feels as if I've known you all my life. Thank you, from the bottom of my heart.

To my "chuchis", my lifelong friends, I love you, girls. Thank you for your wise advice and long WhatsApp messages. Thank you for always being there, even when we're far apart.

Gracias a la vida, que me ha dado tanto

Publications and Conferences

Publications

Almirall Sanchez A, Barriers to resilience among healthcare staff in Ireland in the post-austerity period, European Journal of Public Health, Volume 33, Issue Supplement_2, October 2023, ckad160.057

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Sphere Conference 2023. Almirall A, Fleming P, Layte R, McGowan E, Thomas S. "Barriers to resilience among healthcare staff in Ireland in the post-austerity period: A cross-sectional analysis"

RESTORE workshop 2023. Barriers to resilience among healthcare staff in Ireland in the post-austerity period: A cross-sectional analysis

The European Health Association (Nov 2023). Improving the wellbeing and engagement of the health workforce in Europe: Issues and lessons from Ireland

-Sphere Conference 2022 Almirall A, Fleming P, Layte R, McGowan E, Thomas S. Staff Engagement in Irish Health Care System: General trends and particular features by subgroups
<https://www.sphereprogramme.ie/2022-annual-conference/2022-poster-presentations/>

Invited speaker for the MSc program on Global Health Systems, Resilience, and Sustainability at the University of California, San Francisco (UCSF). (January 2024)

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List of Abbreviation

APA: American Psychological Association

CFA: Confirmatory Factor Analysis

CHO: Community Health Organisation

EES: Employee Engagement Score

HIQA: Health Information and Quality Authority

HSE: Health Service Executive

IPSOS: IPSOS Engagement Model

JD-R: Job Demands-Resources Model

KMO: Kaiser-Meyer-Olkin Test

MeSH: Medical Subject Headings

NAS: Meaning not provided

NVivo: Qualitative Data Analysis Software

OCB: Organisational Citizenship Behaviour

PCFA: Principal Component Factor Analysis

PIP: Pillar Integration Process

PRISMA-ScR: Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews

SDT: Self-Determination Theory

SEM: Structural Equation Modelling

SET: Social Exchange Theory

UWES: Utrecht Work Engagement Scale

YOC: Your Opinion Counts

Chapter 1: Introduction

1.1 Employee Engagement as a Cornerstone of Healthcare Workforce Effectiveness

Employee engagement has emerged as a pivotal concept in organisational behaviour and workforce management, particularly in human capital-intensive sectors such as healthcare. Broadly defined as an employee's level of commitment, enthusiasm, and psychological investment in their work and organisation, engagement is widely recognised as a critical driver of organisational success (Saks., 2006; Macey & Schneider., 2008). Unlike job satisfaction, which reflects contentment with one's role, engagement encompasses employees' willingness to go beyond their prescribed duties, align with organisational goals, and exert discretionary effort to achieve shared objectives. This proactive and emotionally invested approach to work distinguishes engaged employees as key contributors to organisational performance (Kahn., 1990; Schaufeli & Bakker., 2004).

The growing emphasis on employee engagement stems from its association with positive organisational outcomes. Organisations with engaged employees tend to experience higher levels of efficiency, innovation, and adaptability, making engagement a strategic imperative for long-term success (Bakker., 2011). Research has consistently demonstrated that engaged employees exhibit greater motivation, job satisfaction, and commitment to their organisation (Christian, Garza, & Slaughter., 2011).

Beyond individual-level benefits, engagement also yields significant organisational advantages. Higher engagement levels correlate with increased staff retention, reduced absenteeism, and improved workplace morale (Harter et al., 2002). Engaged employees are more likely to demonstrate organisational citizenship behaviours, proactively contribute to workplace improvements, and support their colleagues in achieving shared objectives (Shuck & Wollard, 2010). Conversely, disengagement can result in diminished productivity, higher turnover rates, and greater operational inefficiencies (Bailey et al., 2017).

1.2 Context for Employee Engagement

Global studies, such as the one conducted by International Survey Research (ISR) in 2004 highlighted substantial variations in employee engagement. This research surveyed nearly 160,000 employees across ten of the world's largest economies: Australia, Brazil, Canada, France, Germany, Hong Kong, the Netherlands, Singapore, the United Kingdom, and the United States. The study revealed significant variations in employee engagement among these countries, emphasising that engagement is influenced by cultural, economic, and sector-specific contexts. For instance, while 75% of employees in Brazil and the U.S. were engaged, only 59% of French employees reported the same level of engagement. The findings emphasised that engagement is not a one-size-fits-all concept but is shaped by national labour policies, workplace norms, economic stability, and industry demands. For healthcare employees, these contextual elements are particularly significant, given

the complex interplay between professional expectations, resource availability, and institutional constraints (International Survey Research., 2004).

The study identified four global factors critical to managing engagement: career development, leadership, empowerment, and organisational image. Career development emerged as a universal determinant, with employees across different regions prioritising structured pathways for professional growth, skill enhancement, and career progression opportunities (International Survey Research., 2004).

Workplace autonomy and empowerment also played a pivotal role in shaping engagement. The study found that employees in high-engagement workplaces benefited from environments that fostered trust, encouraged participation in decision-making, and supported innovation (International Survey Research., 2004).

Sector-specific comparisons further highlighted differences between public and private healthcare settings. The study found that public-sector employees, reported more negative workplace experiences, often characterised by limited resources, high administrative burdens, and systemic inefficiencies. Challenges such as staff shortages, excessive workloads, and bureaucratic constraints contribute to increased stress levels, potentially undermining engagement (International Survey Research., 2004).

Additionally, reports of bullying, harassment, and a lack of recognition were more prevalent in public healthcare environments, reflecting broader structural and cultural challenges that require targeted interventions. Private-sector healthcare employees, while often benefiting from better resources and operational flexibility, experienced different pressures, including performance-driven targets, job insecurity, and commercialisation of their job (International Survey Research., 2004; Hutchinson et al., 2006).

Hofstede's (1980, 2001) cultural dimensions theory provides a useful framework for understanding these variations, as national cultural orientations such as individualism versus collectivism, power distance, and uncertainty avoidance significantly impact how employees perceive workplace structures and leadership styles. In collectivist cultures, such as those in East Asia and parts of Latin America, engagement is often fostered through strong relational ties, group cohesion, and participatory decision-making (Gelfand et al., 2007). Employees in these environments are more likely to exhibit higher engagement when they feel a strong sense of belonging within the organisation (Meyer et al., 2012). Conversely, in individualistic cultures, such as those in North America and Northern Europe, engagement tends to be driven by personal achievement, autonomy, and career growth opportunities (Schaufeli., 2013).

Economic stability also plays a crucial role in shaping employee engagement. Steelcase (2022) found that employees in economically stable regions tend to express higher workplace satisfaction and engagement, largely due to better job security, access to career development programmes, and

competitive compensation structures. This aligns with the findings of the Gallup Global Workforce Report (2021), which revealed that employees in high-income countries demonstrate stronger work engagement due to greater access to resources that enhance job satisfaction. In contrast, in economically strained regions, engagement may be undermined by job insecurity and lower wages (Demerouti et al., 2010).

Furthermore, national labour policies and regulatory environments influence how engagement manifests across different contexts. In Scandinavian countries, where labour laws emphasise worker protection, work-life balance, and participatory decision-making, employees report significantly higher levels of engagement compared to regions where employment rights are less stringent (Eurofound., 2020). Similarly, research by Bakker and Albrecht (2018) highlights that engagement levels are generally higher in countries where governments invest in workforce development and social security systems, as employees feel a greater sense of stability and career growth.

While previous discussion highlighted engagement challenges and workplace issues such as bullying in the public healthcare sector, the broader cultural and structural context within a healthcare system also plays a critical role in shaping engagement. Public healthcare systems with strong institutional support, such as those in Canada, often foster higher levels of engagement despite operational challenges, as job security and collective values help mitigate some of the stressors (West et al., 2021). In contrast, in highly privatised healthcare systems, engagement is more variable, shaped by market-driven pressures, administrative burdens, and disparities in job conditions, which can contribute to greater job insecurity and fluctuating morale (Laschinger et al., 2013). Moreover, cultural attitudes toward healthcare professionals also shape engagement; in societies where healthcare workers are highly respected and valued, engagement tends to be higher, while in settings where they experience workplace aggression or undervaluation, engagement declines (Leiter & Maslach, 2014).

1.3 The Irish Healthcare System: A Unique Context

The Irish healthcare system operates under a mixed model, comprising both public and private services. The Health Service Executive (HSE) oversees public healthcare delivery, which is predominantly funded through general taxation and supplemented by private insurance contributions. However, this structure has led to systemic inefficiencies, including disparities in access to care, resource constraints, and workforce challenges (Burke., 2018). Persistent underfunding, austerity measures following the 2008 financial crisis, and a growing demand for healthcare services have exacerbated staff shortages and operational pressures (HSE., 2021; Thomas et al., 2023). These challenges have significantly impacted the workforce, contributing to long working hours, high workloads, poor work-life balance, and increased levels of stress and burnout among healthcare professionals (Thomas et al., 2023).

The HSE's workforce is diverse, encompassing a wide range of roles, from doctors and nurses to administrative staff and support workers. This diversity, while a strength, also presents challenges in fostering a unified and engaged workforce. The hierarchical nature of healthcare organisations, coupled with the high-stakes environment of patient care, can create barriers to open communication and collaboration, further complicating efforts to promote engagement (O'Shea.,2010). Additionally, the Irish healthcare system has historically struggled with long waiting lists, overcrowded hospitals, and limited resources, all of which contribute to the pressures faced by healthcare professionals (McCarthy et al., 2019; Thomas et al.,2023).

In response to these long-standing issues, the Irish government introduced a comprehensive reform programme known as Sláintecare. Developed through cross-party consensus and published in 2017, the Sláintecare Report represents a blueprint for transforming Ireland's health system into a more equitable, integrated, and people-centred model of care. The core vision of Sláintecare is the establishment of a single-tier health service in which access to care is based on need rather than ability to pay. This involves significant structural, financial, and cultural changes across the entire system, including reforms in service delivery, governance, financing, and workforce planning (Houses of the Oireachtas., 2017).

A critical feature of Sláintecare is its structural framework for reform implementation. This framework aims to decentralise service planning and delivery through the establishment of six new Regional Health Areas (RHAs). This reform marks a significant departure from the HSE's legacy centralised model and is intended to enhance accountability, responsiveness, and regional equity. Under this new model, each RHA will be responsible for the planning, budgeting, and coordination of both acute and community services for a defined population, enabling more localised and integrated service provision (Department of Health., 2022).

The reconfiguration into RHAs is expected to address many of the structural inefficiencies that currently hinder effective healthcare delivery in Ireland. It aims to reduce duplication, streamline management layers, and foster closer collaboration between multidisciplinary teams working within defined geographic boundaries. Moreover, this restructuring seeks to ensure that health services are tailored to the needs of specific regional populations, enhancing flexibility and responsiveness to local health challenges (Greve., 2021). From the perspective of employee engagement, this shift has profound implications. The move toward decentralised decision-making may empower frontline staff and clinical leaders by granting them greater autonomy in service planning and delivery, which could enhance professional satisfaction and reduce the frustration associated with bureaucratic bottlenecks (Greve., 2021).

Nevertheless, the implementation of Sláintecare has faced numerous challenges. Progress has been slower than anticipated, with delays attributed to a lack of dedicated funding, limited change management capacity, and resistance from within existing institutional structures (Burke., 2021).

Concerns have also been raised regarding the clarity of roles and responsibilities within the new governance model, the duplication of effort across transitional structures, and the risk of further fragmentation during the period of reorganisation (Department of Health., 2023). These challenges have the potential to undermine the confidence of healthcare workers in the reform process, particularly if frontline employees perceive the reforms as top-down, under-resourced, or disconnected from the realities of daily clinical practice.

Importantly, the Sláintecare Implementation Strategy and Action Plan (2018–2023) has emphasised the centrality of the healthcare workforce in achieving successful reform. It explicitly calls for investment in staff recruitment, retention, training, and well-being (Department of Health., 2023). The accompanying Sláintecare Healthy Workplace Framework (2022) further reinforces this commitment by promoting a health system culture that values employee engagement, supports emotional resilience, and cultivates psychological safety (Department of Health & Health Service Executive., 2022). These developments are consistent with international evidence demonstrating that high levels of employee engagement contribute not only to better employee well-being but also to improved clinical outcomes, patient safety, and organisational innovation (West, Eckert, Collins, & Chowla., 2021).

However, the policy aspirations outlined in Sláintecare must be considered in light of the recent lived realities faced by healthcare professionals. The COVID-19 pandemic exposed and intensified many of the systemic vulnerabilities within the Irish healthcare system, highlighting the gap between strategic commitments to workforce well-being and the operational conditions experienced on the frontlines. The pandemic placed unprecedented strain on healthcare professionals, who were required to work longer hours, adapt to rapidly changing protocols, and confront heightened health risks (INMO., 2021). Frontline workers, in particular, faced significant emotional and physical challenges, including the fear of contracting the virus, the stress of caring for critically ill patients, and the grief of losing colleagues and patients to the disease (INMO., 2021). These experiences took a toll on the mental health and well-being of healthcare workers, leading to increased levels of burnout and anxiety (INMO., 2021). Following the pandemic, 79% of doctors and 97% of nurses believed COVID-19 had a negative psychological impact on their colleagues, while 91% reported feeling mentally exhausted even when off duty (HSE., 2021; Thomas 2023)

In addition to the direct impact on healthcare workers, the pandemic also disrupted the broader healthcare system, exacerbating existing challenges such as staff shortages, resource constraints, and inefficiencies. The sudden shift to remote work for non-clinical staff, while necessary to reduce the spread of the virus, created additional barriers to communication and collaboration, further complicating efforts to maintain engagement (INMO., 2021).

Workforce resilience was further tested by increased emigration among healthcare professionals. Between 2014 and 2019, 5,964 doctors voluntarily withdrew from the Irish Medical Council register,

with many relocating to the UK (43%), Australia (18%), and other countries offering better career development opportunities (HSE., 2020). Despite international travel restrictions, 391 Irish doctors received visas to work in Australia in 2020, an 18% increase from the previous year and a 44% increase compared to 2018 (OECD., 2022). Similarly, 1,154 nurses voluntarily withdrew from the Nursing and Midwifery Board of Ireland (NMBI) register in 2020, with 68% expressing an intention to leave the profession due to the pressures of the pandemic (INMO., 2021). These figures highlight the precarious nature of the Irish healthcare workforce and the urgent need for policies that support retention and engagement (Thomas et al.,2023).

The COVID-19 pandemic underscored the vital importance of employee engagement as a cornerstone of resilience and sustainability within the Irish healthcare system. Although the reforms proposed under Sláintecare represent a significant and ambitious reconfiguration of healthcare delivery, their success hinges not only on sound policy design but also on effective implementation, enduring political will, and the active engagement of healthcare professionals at every level. Without clear communication, sufficient resourcing, and meaningful opportunities for employee participation, there is a real risk that reform efforts will be perceived as top-down and disconnected leading to disengagement and reform fatigue rather than renewed motivation among frontline workers. Addressing these systemic and cultural barriers is not optional; it is fundamental to ensuring that reforms achieve their intended impact. As Ireland moves forward, there is a pressing need to adopt targeted strategies that create a supportive, inclusive, and empowering work environment, one in which healthcare professionals feel valued, respected, and motivated to contribute fully to the system's transformation. Rather than being treated as a consequence of systemic reform, employee engagement must be also understood as an essential driver of its success (Schulmann., 2024).

1.4 The Need for a Framework to Measure Employee Engagement in Irish Healthcare

The importance of fostering a highly engaged workforce has been emphasised across multiple strategic priority documents that guide the development of the Irish healthcare sector. The People Strategy 2015–2018 from Ireland's national health service, the Health Service Executive (HSE) underscores the need for employees to develop a strong sense of connection to the healthcare service, take personal responsibility for achieving better patient outcomes, and support their colleagues in delivering high-quality care (HSE., 2015). Similarly, the National Service Plan 2018 identifies staff engagement as a critical component in maximising the contribution of healthcare workers toward improving service quality (HSE., 2018). The HSE Corporate Plan 2015–2018 also acknowledges staff engagement as a key goal, advocating for the development and valuation of the workforce to ensure optimal patient care (HSE., 2015). Moreover, the National Standards for Safer Better Healthcare integrate engagement principles within leadership, governance, and workforce

development frameworks, reinforcing the need for a structured and comprehensive approach to employee engagement in the healthcare system (Health Information and Quality Authority [HIQA]., 2012).

As part of these strategic efforts, the HSE conducted its first Staff Survey in 2014, aiming to assess employees' opinions and identify opportunities for improvement within the health service (HSE., 2014). Since then, the survey has been conducted biennially, with results initially analysed using the IPSOS Engagement Model (IPSOS., 2014). This model evaluates engagement across three core dimensions: employee involvement with their jobs, loyalty to their organisation, and alignment with management. While these surveys have provided valuable insights into workforce engagement, the framework that was used for measuring health employee engagement presented several methodological and contextual limitations (IPSOS., 2014).

The IPSOS Engagement Model, while effective in identifying broad engagement trends, presents significant limitations when applied to the healthcare sector. Originally developed in Canada to measure engagement within private sector organisations, the model is primarily workplace-oriented, framing engagement as a tool for organisational performance and business success rather than addressing the unique complexities and pressures experienced by healthcare professionals (IPSOS., 2014). Unlike employees in corporate environments, healthcare workers operate in high-stakes settings where emotional labour, patient-care responsibilities, and ethical decision-making are central to their roles (Schaufeli., 2017). These sector-specific stressors significantly impact engagement but are not adequately captured by the IPSOS framework. Moreover, it lacks sensitivity to the structural and cultural dynamics specific to the Irish healthcare system (HSE., 2018).

Given these limitations, applying the IPSOS Engagement Model to the Irish healthcare sector risks oversimplifying the factors that drive engagement and fails to provide an accurate representation of the lived experiences of healthcare workers. Relying on results derived from a generic, context-independent model introduces significant methodological limitations, as such models fail to reflect the specific realities of Ireland's healthcare workforce (Schaufeli & Bakker., 2004). This raises concerns about the validity and reliability of any engagement measurements that do not explicitly account for the distinct challenges and structural conditions of the sector (Demerouti et al., 2010). These limitations are not exclusive to the IPSOS model but extend to broader attempts to measure healthcare employee engagement. The field lacks a universally accepted framework that adequately captures the complexity of engagement within the healthcare context. Various theoretical models have been used to explain employee engagement, including the Needs-Satisfaction Framework, (Deci & Ryan., 2000) the Job Demands-Resources Model (JD-R) (Bakker & Demerouti., 2007), and Self-Determination Theory (SDT) (Ryan & Deci., 2017). While these frameworks offer valuable perspectives, they present inconsistencies in defining engagement, identifying influencing factors, and determining its outcomes (Christian et al., 2011). For example, different models place varying

emphasis on demographic variables, personality traits, and organisational culture, leading to fragmented findings across studies (Macey & Schneider., 2008). In the Irish healthcare system, where workforce challenges include staff shortages, high turnover, and burnout (Thomas et al.,2023), a more comprehensive and context-sensitive measurement framework is needed to ensure that engagement strategies are both effective and sustainable.

This thesis aims to develop a more robust understanding of employee engagement in Ireland's healthcare sector. By critically examining the definitions, mediators, moderators, and measurement instruments of employee engagement, this study offers valuable insights into the key factors that influence engagement within the healthcare workforce. Developing a measurement framework tailored to the Irish healthcare context will enable policymakers and healthcare leaders to implement evidence-based strategies that enhance workforce well-being, job satisfaction, and ultimately, patient care quality.

1.5 Aim

To design a robust and context-specific framework and instrument for measuring employee engagement in the Irish healthcare sector that can inform evidence-based policymaking, strategic workforce planning, and organisational development initiatives.

OBJECTIVES:

- 1. Conceptualising Employee Engagement in the Healthcare sector**
 - Examine definitions, dimensions, theoretical frameworks, and measurement instruments related to employee engagement in both academic literature and HSE surveys.
 - Develop a conceptual model and formulate theories on the relationships between individual factors, organisational dimensions, and overall employee engagement in the Irish healthcare sector.
- 2. Validation of Measurement Criteria:**
 - Assess and refine measurement criteria for employee engagement by leveraging extensive data from HSE surveys.
 - To develop and validate a robust, context-specific measurement scale for evaluating employee engagement in the Irish healthcare sector.
 - To analyse employee engagement across key subgroups, including sex, age, healthcare service areas, staff categories, healthcare divisions, Community Health Organisation (CHO) areas, years of experience in the health sector, and direct patient contact, using the newly developed engagement scale, providing a comprehensive understanding of engagement patterns.
- 3. Capture Healthcare Workers' Lived Experiences to Contextualise and Deepen Understanding of the Quantitatively Validated Theoretical Framework**
 - To explore Irish healthcare workers' perspectives on employee engagement by capturing their experiences, challenges, and perceptions.
 - To interpret and validate the newly developed theoretical framework on employee engagement, assessing its practical relevance, and limitations in the Irish healthcare sector.
- 4. Apply a Mixed Methods Design to Integrate Quantitative and Qualitative Findings, Supporting, Refining, or Challenging the Validated Employee Engagement Framework and Informing Its Future Development.**

RESEARCH QUESTIONS:

Scoping Review and Secondary Data Analysis (Objective 1):

- What are the diverse definitions, dimensions, instruments, and theoretical frameworks associated with staff engagement in the health sector globally and within the Irish context?
- How does the hypothesised theoretical framework, developed from the scoping review and contextualised for the Irish healthcare system, conceptualise the key dimensions and subdimensions of employee engagement at both organisational and individual levels.

Scoping Review and Secondary Data Validation (Objective 1 and 2):

- What are the precise measurement criteria for dimensions and subdimensions related to health staff engagement in Ireland, considering both theoretical insights and empirical data?
- How does the newly developed employee engagement framework explain variations in engagement levels across different healthcare settings in Ireland?

Focus Groups (Objective 3):

- How do Irish healthcare workers perceive employee engagement within the country's healthcare sector, and what factors influence their experiences?
- What challenges and opportunities do healthcare workers identify in fostering meaningful employee engagement in the Irish healthcare system?

Integration Process (Objective 4):

- What key recommendations emerge from the data to effectively support and enhance the implementation of workforce engagement initiatives in the Irish healthcare sector?

By addressing these objectives and research questions, this study aims to provide a nuanced, context-specific understanding of employee engagement in the Irish Health sector and offer practical insights for fostering a positive and engaged workforce.

1.6 Thesis Structure

Chapter 1: Introduction.

This chapter introduces the study by situating employee engagement as a central determinant of workforce effectiveness in healthcare. It defines engagement, distinguishes it from related concepts like job satisfaction, and reviews global evidence linking engagement to organisational outcomes. It examines international trends and contextual influences on engagement, highlighting sectoral differences between public and private healthcare. The Irish healthcare system is described in detail, noting structural inefficiencies, workforce challenges, and the ongoing Sláintecare reform programme. The chapter discusses how COVID-19 amplified existing pressures, reinforcing the urgency of a tailored engagement framework. It identifies limitations of current measurement models, particularly the IPSOS framework used in HSE surveys, and argues for a context-specific, healthcare-focused approach. The chapter concludes with the study's aim, objectives, and research questions.

Chapter 2: Methodological Approach: An Explanatory Sequential Mixed-Methods Design.

This chapter explains the study's pragmatic philosophical foundation and the rationale for employing an explanatory sequential mixed-methods design. It describes how the research was structured to progress from quantitative analysis to qualitative exploration, allowing for the validation of the engagement framework and the deepening of understanding through lived experiences. The methodology integrates four interconnected components.

First, a scoping review was undertaken to map definitions, theoretical frameworks, and measurement instruments for healthcare engagement internationally. Second, a quantitative secondary data validation phase was conducted using Health Service Executive (HSE) "Your Opinion Counts" survey data. This phase involved harmonising datasets, refining survey items, and applying statistical validation techniques to test the hypothesised framework.

Third, a qualitative exploration phase involved conducting focus groups and interviews with healthcare professionals to contextualise and expand upon the quantitative findings. Finally, the integration process applied the Pillar Integration Process (PIP) to synthesise quantitative and qualitative results.

Ethical considerations are addressed for both the quantitative and qualitative phases, ensuring participant confidentiality, informed consent, and secure data management throughout the study.

Chapter 3: Results of the Scoping Review: Conceptualisation, Theories, and Measurement of Employee Engagement.

This chapter presents findings from the scoping review, detailing the diversity of engagement definitions, theoretical foundations, and measurement instruments. It categorises definitions into organisational, individual, and multidimensional perspectives, summarises common theoretical models and evaluates instrument validity and applicability to healthcare. Gaps in conceptual clarity,

psychometric robustness, and healthcare contextualisation are highlighted, providing the foundation for framework adaptation.

Chapter 4: Developing a Healthcare-Specific Theoretical Framework for measuring Employee Engagement.

This chapter adapts the Nienaber and Martins framework for the Irish healthcare context, presenting eight organisational and individual dimensions, 20 subdimensions, two mediators, and four moderators. Each component is justified through literature and contextual evidence. The chapter also outlines the scale developed to measure these constructs and explains the distinction between theorised mediators/moderators and established engagement dimensions.

This chapter presents the findings from the quantitative analysis, focusing on the empirical validation of employee engagement dimensions and their relationships with key organisational and individual factors. The results identify engagement trends across different professional groups, revealing disparities based on job roles, demographics, and systemic factors. The findings inform the refinement of the measurement model, providing a robust empirical foundation for subsequent qualitative exploration.

Chapter 5: Empirical Validation of a Healthcare-Specific Theoretical Framework for measuring Employee Engagement.

This chapter details the quantitative validation of the proposed framework using harmonised 2016 and 2018 HSE survey data. It reports baseline sample characteristics, dimensional distributions, factor analysis results, and reliability tests. SEM and path analyses explore direct, mediated, and moderated effects on engagement. The Employee Engagement Score (EES) is developed, incorporating weighted dimension scores, mediation/moderation adjustments, and normalisation into percentile ranks. Subgroup comparisons reveal disparities across demographics, job roles, and service areas

Chapter 6: Understanding the Theoretical Framework for Measuring Healthcare Employee Engagement Through Lived Experiences: A Qualitative Exploration.

This chapter presents thematic findings from focus groups and interviews, capturing healthcare workers' lived experiences. Four overarching themes emerge: employees need to feel recognised and valued, leadership and organisational strategy, health and wellbeing, and systemic/structural challenges. Each theme is discussed in relation to the quantitative framework, revealing context-specific insights.

Chapter 7: Advancing a Validated Framework for Healthcare Employee Engagement: Integrating Quantitative Evidence and Qualitative Insights.

This chapter synthesises the two data strands through the Pillar Integration Process, producing ten explanatory pillars that connect validated dimensions with real-world experiences. The integrated model enhances interpretive power and operational applicability, showing how engagement is

shaped by the interplay of systemic structures, leadership practices, workplace experiences, and individual factors.

Chapter 8: Discussion: A Critical Discussion of Employee Engagement in Irish Healthcare: Synthesising Psychometric Evidence with Sector-Specific Insights.

This chapter critically engages with the study's key findings, situating them within existing theoretical debates and empirical research on employee engagement. The results are compared against international literature, highlighting similarities and divergences between the Irish healthcare context and other health systems. The chapter also explores policy and practical implications, discussing how engagement interventions can be optimised to address workforce retention, staff well-being, and healthcare system performance.

Chapter 9: Conclusion, Limitations, and Recommendations.

The final chapter synthesises the study's contributions, reflecting on how the research advances both theoretical knowledge and practical applications of employee engagement measurement in healthcare. The chapter acknowledges methodological limitations, particularly in data availability, sample representativeness, and generalisability. It also outlines directions for future research, emphasising the need for longitudinal engagement studies, intervention-based assessments, and expanded qualitative explorations. Finally, it presents actionable recommendations for healthcare policymakers, workforce managers, and organisational leaders to enhance employee engagement and sustain a resilient healthcare workforce.

Chapter 2: Methodological Approach: An Explanatory Sequential Mixed-Methods Design

2.1 Research Design and Methodological Framework: A Pragmatic Approach

This study employed a mixed-methods research design and pragmatism served as both the ontological and epistemological paradigm. Pragmatism, as a research paradigm, has its roots in the works of Charles Sanders Peirce (1878), William James (1907), John Dewey (1931), and Richard Rorty (1999). These philosophers argued that truth is not absolute but is instead shaped by human experiences, inquiry, and the practical consequences of ideas. Pragmatism, therefore, does not seek a single, ultimate truth but rather emphasises the utility of knowledge, a concept that aligns with practice-oriented research that seeks to generate meaningful, real-world insights (Biesta & Burbules., 2003).

Pragmatism is distinct from positivism, which assumes that reality can be fully understood through objective measurements, and constructivism, which posits that reality is entirely subjective and socially constructed. Instead, pragmatism bridges the two, recognising that reality consists of both objective structures and subjective experiences (Morgan., 2007). It acknowledges that different research methods contribute to different aspects of knowledge and advocates for the use of multiple approaches to best understand a phenomenon (Tashakkori & Teddlie., 2010). This philosophy aligns with the nature of employee engagement research, which requires both statistical validation of engagement levels and qualitative insights into workers' lived experiences (Tashakkori & Teddlie., 2010).

In this study, pragmatism served as both a philosophical foundation and a methodological approach, allowing for the integration of quantitative and qualitative methods in a way that prioritises problem-solving and practical application. By adopting a pragmatic stance, this study did not adhere strictly to a single epistemological position, but rather selected methods based on their ability to address the research questions effectively (Creswell & Plano Clark., 2011). This approach was particularly well-suited to the study of workforce engagement in healthcare, where multiple perspectives, ranging from organisational policies to individual worker experiences, were considered to develop a meaningful understanding.

2.1.1 Pragmatism as a Methodological Approach

Pragmatism influenced the research process by guiding data collection, analysis, and interpretation in a way that was both empirically rigorous and contextually meaningful. This study followed a sequential explanatory mixed-methods design, in which the quantitative phase was conducted first, followed by the qualitative phase to provide deeper insights into the initial quantitative findings. This approach allowed for an explanation of theoretical dimensions, ensuring that the employee engagement framework was not only statistically validated but also contextually enriched by the lived experiences of healthcare workers (Creswell & Plano Clark., 2011).

The quantitative phase involved a secondary data validation of Health Service Executive (HSE) staff engagement surveys. These large-scale datasets, which had been underutilised in theoretical model development, provided empirical evidence of engagement trends across different healthcare workforce subgroups. This phase focused on identifying key patterns in engagement levels across variables such as age, gender, position within the organisation, years of experience, and patient-facing roles. It also aimed to validate and refine measurement criteria for assessing employee engagement, ensuring that the dimensions used were empirically supported and theoretically meaningful (Morgan., 2014).

The qualitative phase employed reflexive thematic analysis, an approach that allows for a flexible yet structured exploration of healthcare workers' experiences (Braun & Clarke., 2019). Reflexive Thematic Analysis aligns well with a pragmatist paradigm as it enables a dynamic interplay between inductive and deductive reasoning, supported by both semantic and latent coding. This approach allows themes to emerge organically from participant data, while also being meaningfully interpreted through the lens of existing theoretical dimensions identified in the literature and validated through quantitative analysis. (Braun & Clarke., 2019). This phase was crucial for explaining the subjective dimensions of engagement, including personal motivations, workplace challenges, and perceptions of organisational support, which cannot be fully described through survey metrics alone.

The iterative nature of data analysis in this study was also informed by pragmatism. Unlike rigid, linear models of research, pragmatism supports a dynamic, reflexive approach, where the researcher continuously engages with the literature, data, and emerging themes to develop and elucidate the theoretical framework (Morgan., 2007). This means that preliminary findings from the scoping review informed the quantitative data collection, and vice versa, creating a continuous cycle of theory refinement.

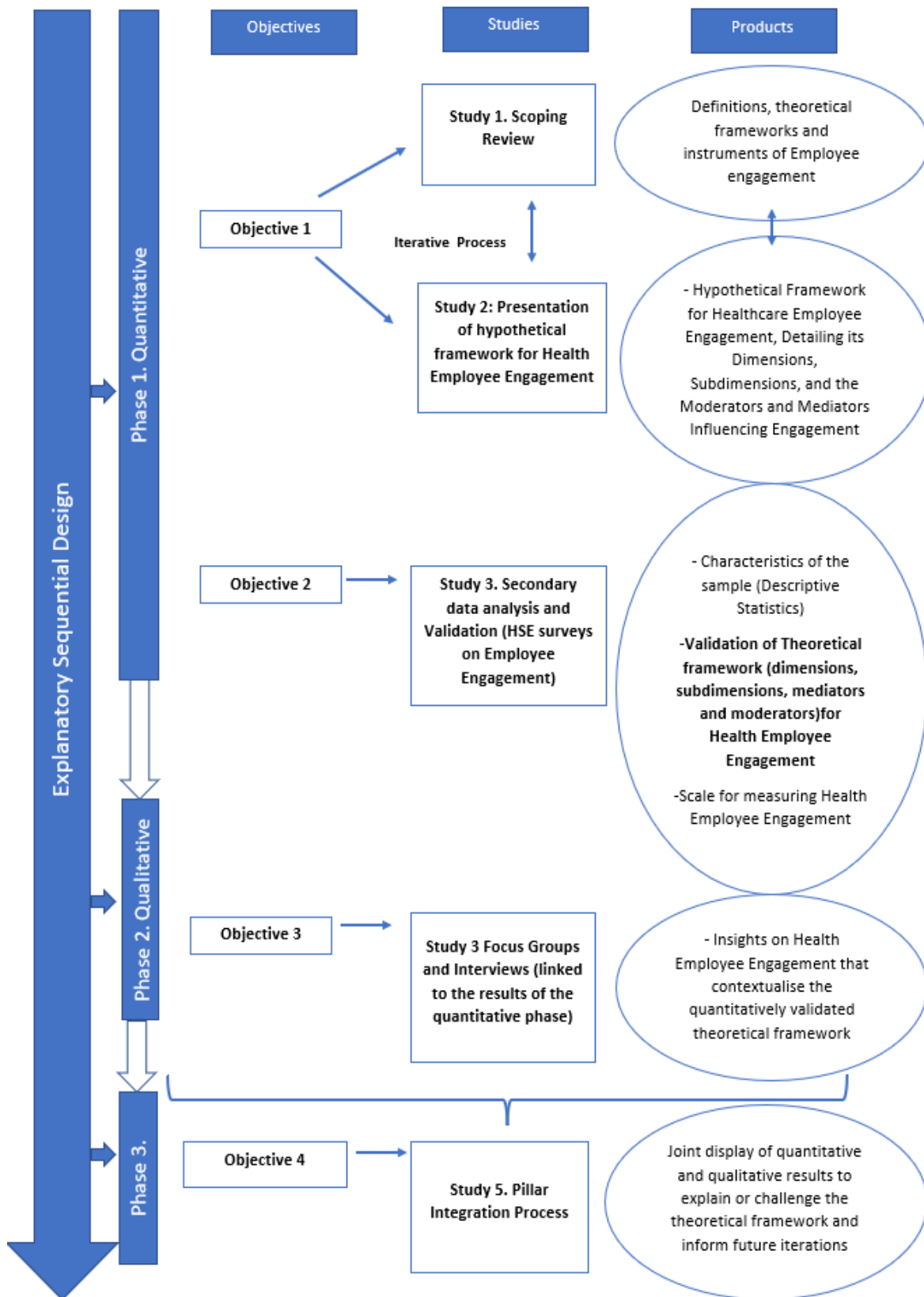
The final stage involved the integration of both phases, where qualitative insights were used to contextualise, and deepen the interpretation of the quantitative findings, leading to a comprehensive and actionable understanding of employee engagement in the Irish healthcare sector.

Beyond guiding data collection and analysis, pragmatism played a crucial role in ensuring the practical applicability of research findings. A central tenet of pragmatism is that knowledge must be useful and applicable to real-world contexts (Tashakkori & Creswell., 2007). This study aligned with this principle by ensuring that findings do not remain purely theoretical but instead contribute to evidence-based strategies for enhancing workforce engagement in the Irish healthcare sector.

2.2 Overall Research design

As previously outlined, this research adopted an explanatory sequential mixed-methods design, as illustrated in **Figure 1**. To inform the development of the initial theoretical framework and guide item selection for the quantitative instrument, a comprehensive scoping review was conducted as an integral first step in the research process. Building on the insights gained from this review, the study then progressed to the quantitative phase, which focused on the construction and validation of this new theoretical framework for employee engagement. The subsequent qualitative phase, consisting of focus groups and interviews, was conducted to provide a deeper contextual understanding of the quantitative findings. The final stage involved integrating both phases at the analysis level, using the Pillar Integration Process (PIP) (Johnson, Grove, & Clarke., 2019).

Figure 1: Explanatory Sequential Design.



2.3 Understanding staff engagement in health systems internationally: A scoping review and model development.

This section outlines the methodology and findings of the scoping review conducted during the conceptualisation phase of the study. The purpose of the review was to enhance conceptual clarity and deepen understanding of the definitions, theoretical frameworks, and measurement constructs associated with employee engagement in the healthcare sector, with particular attention to its application within the Irish context. To structure the inquiry, the scoping review was organised into three core areas: the conceptual definitions of employee engagement; the theoretical frameworks underpinning its development; and the instruments and tools that have been employed to evaluate employee engagement in healthcare settings. This tripartite approach enabled a comprehensive synthesis of the literature, allowing for critical appraisal of how engagement has been defined, theorised, and operationalised across diverse health systems. The primary objective was to consolidate existing evidence regarding the theoretical and methodological foundations of employee engagement, while also identifying validated instruments with established psychometric robustness for use in healthcare-specific contexts. The findings of this study were utilised in crafting an initial theoretical framework for health staff engagement (**see Chapter 4**) which served as a foundational framework to be iteratively capitalise throughout subsequent stages of the thesis. These refinements were authenticated through secondary data validation of the HSE's "Your Opinion Counts" surveys, which informed the development of a final theoretical framework for measuring employee engagement in Ireland. This framework was subsequently contextualised through qualitative interviews and focus groups.

2.3.1 Methodological Framework

I selected a scoping review approach to address the broad scope of the research questions effectively. This approach also allowed me to anticipate and accommodate diverse methodologies and reporting styles related to employee engagement, given the limited prior exploration of engagement methods in health-related scoping reviews (Munn et al.,2018).

The scoping review was conducted following the six-step methodological framework recommended by Arksey and O'Malley (2005). This well-established framework (Levac., 2010) includes identifying the research question, identifying relevant studies, selecting studies, data collection, data analysis and summarising, and reporting the results. Adopting this structured approach ensured a systematic and rigorous review, capturing a comprehensive overview of employee engagement in healthcare contexts. Each step was carried out with attention to methodological transparency and adherence to best practices for scoping reviews (Arksey & O'Malley., 2005).

2.3.2 Identify the research question

The initial step in the scoping review involved determining the operational definitions of the primary components of Employee Engagement. This approach was intended to streamline the interpretation and analysis of the data, setting a clear foundation for the study. The main components identified are as follows:

- **Concepts of Health Employee Engagement:** This component encompasses the range of interpretations and perspectives surrounding employee engagement within healthcare. It involves examining how healthcare employees connect with, commit to, and derive purpose from their roles, thereby influencing their experience and contribution within healthcare organisations (Hasan, M., & Ashraf, A. 2022).
- **Theoretical Frameworks of Health Employee Engagement:** This refers to the foundational theories and models that support the understanding of employee engagement within healthcare. These frameworks provide a structured approach to analysing and interpreting the core factors that influence engagement in healthcare settings (Prakash, A., & Mohite, P., 2020).
- **Measurement of Employee Engagement in the Healthcare Context:** This component includes the various tools, scales, and methods used to evaluate employee engagement in healthcare environments. It focuses on capturing and quantifying different levels and dimensions of engagement among healthcare professionals (Health Enhancement Research Organisation., 2019).
- **Healthcare Context:** The healthcare context defines the specific settings and environments where healthcare employees work, characterised by distinct demands and organisational dynamics. This context shapes both the employee engagement experience and the methods by which it is assessed and understood (Squires, M., & Belanger, M., 2022).
- **Healthcare Worker/Employee:** The term healthcare worker/employee refers to a broad category of professionals engaged in delivering healthcare services across various settings, including hospitals, clinics, long-term care facilities, and community health organisations. This category encompasses a diverse range of roles, such as doctors, nurses, allied health professionals, support staff, and administrative personnel (World Health Organisation & Centres for Disease Control and Prevention., 2023).

The main focus of the scoping review was addressing the following research questions:

- What are the comprehensive definitions, dimensions, mediators, and theoretical frameworks underlying staff engagement in the healthcare sector?
- What methodologies and instruments are used to assess and measure employee engagement effectively within the healthcare sector?

These research questions were deliberately broad, designed to support the development of an in-depth conceptual definition of employee engagement and its associated dimensions. A systematic search was conducted in line with PRISMA-ScR guidelines to ensure methodological rigor and completeness. This approach facilitated a thorough exploration of employee engagement within healthcare, contributing to a more nuanced understanding of the field (Tricco et al., 2018).

2.3.3 Selection Criteria

To ensure relevance and methodological rigor, strict inclusion and exclusion criteria were applied in selecting studies for this review. The selection criteria emphasised studies involving healthcare employees as previously defined in this chapter. Only healthcare workers with a minimum of one year of formal training, and who were licensed or registered within their respective countries or healthcare systems, were eligible for inclusion (Tricco et al. 2018).

Inclusion Criteria:

Study Design: Studies employing quantitative, qualitative, or mixed methods were considered, including literature reviews, experimental, quasi-experimental, non-experimental, descriptive, and observational designs (cohort and case control).

Focus: Articles that explored definitions, theoretical frameworks or measurement instrument associated with healthcare staff engagement.

Publication Date: Studies published from 2000 to July 2023, ensuring contemporary relevance given that employee engagement gained widespread attention in the early 2000s.

Language and Peer Review: Only peer-reviewed articles published in English were included to maintain quality and accessibility.

Participant Criteria: Studies involving healthcare workers with at least one year of formal training, who were licensed or registered within their healthcare system.

Exclusion Criteria:

Non-research Articles: Commentary pieces, conference abstracts, opinion pieces, draft articles, discussion articles, editorials, newsletters, or news articles were excluded to maintain a focus on empirical research.

Non-eligible Participants: Studies involving healthcare staff with less than one year of formal training, or those who were not licensed or registered, were excluded to maintain consistency in participant qualifications.

To enhance transparency and reproducibility in the review, I developed a PRISMA-ScR (Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews) flowchart. This comprehensive flowchart visually mapped each stage of the review process, including initial search results, screening phases, and detailed inclusion and exclusion criteria. It provided a clear, step-by-step account of study selection, offering a traceable audit trail from the

initial pool of studies to those that were ultimately included in the review, thereby reinforcing the methodological rigor of the scoping process (Tricco et al., 2018). **(Figure 5)**

2.3.4 Search Strategy

An extensive search was conducted in English language databases, and only peer-reviewed articles were included to ensure the quality of retrieved tools, thereby excluding all grey literature. A systematic literature search was planned and performed across various English databases, including Medline, CINAHL, Embase, Scopus, Web of Science with the help of a librarian. Snowball citations were also conducted among the reference lists of the included studies.

The search encompassed a broad spectrum of peer-reviewed studies published in academic journals from the year 2000 onwards. This timeframe was selected because while employee engagement emerged as a concept in management theory during the 1990s, it was not until the 2000s that it gained widespread recognition in management practice. (Wang et al., 2021).

Table 1 outlines the several systematic searches, following the PRISMA-ScR guidelines that were undertaken in relevant databases (Medline, CINAHL, Embase, Scopus, Web of Science) using a combination of keywords and subject headings (like MeSH and Emtree terms) and Boolean operators to ensure a comprehensive, relevant set of results.

Table 1: Systematic searches per Databases

Databases	Medline	CINAHL	EMBASE	SCOPUS	WEB OF SCIENCE
Concepts of Employee Engagement (Keywords)	"health employee engagement," "healthcare worker engagement," "staff engagement," "employee commitment in healthcare," "healthcare motivation"	"healthcare employee engagement," "hospital staff motivation," "employee commitment," "healthcare personnel attitudes"	"employee engagement in healthcare," "healthcare personnel motivation," "staff commitment in hospitals"	"healthcare employee engagement," "staff motivation in hospitals," "job satisfaction in healthcare," "employee commitment in healthcare"	"employee engagement in healthcare settings," "hospital staff motivation," "healthcare worker job satisfaction," "organizational commitment in healthcare"
Concepts of Employee Engagement (MESH/Emtree terms)	"Personnel, Hospital"[Mesh], "Health Personnel"[Mesh], "Employee Performance Appraisal"[Mesh], "Motivation"[Mesh], "Job Satisfaction"[Mesh]	"Job Satisfaction," "Personnel Management," "Employee Morale," "Health Personnel Attitudes"	"healthcare personnel," "job satisfaction," "work commitment," "employee morale"	N/A	N/A
Search string	("health employee engagement" OR "healthcare worker engagement" OR "staff engagement" OR "employee commitment in healthcare" OR "healthcare motivation")	("healthcare employee engagement" OR "hospital staff motivation" OR "employee commitment" OR "healthcare personnel attitudes")	("employee engagement in healthcare" OR "healthcare personnel motivation" OR "staff commitment in hospitals") AND ("healthcare personnel" OR "job satisfaction" OR "work commitment" OR "employee morale")	("healthcare employee engagement" OR "staff motivation in hospitals" OR "job satisfaction in healthcare" OR "employee commitment in healthcare")	("employee engagement in healthcare settings" OR "hospital staff motivation" OR "healthcare worker job satisfaction" OR "organizational commitment in healthcare")

	"healthcare motivation") AND ("Personnel, Hospital"[Mesh] OR "Health Personnel"[Mesh] OR "Employee Performance Appraisal"[Mesh] OR "Motivation"[Mesh] OR "Job Satisfaction"[Mesh])	personnel attitudes") AND ("Job Satisfaction" OR "Personnel Management" OR "Employee Morale" OR "Health Personnel Attitudes")	satisfaction" OR "work commitment" OR "employee morale")		
Theoretical Frameworks of Health Employee Engagement (Keywords)	"engagement theory," "theoretical models," "conceptual frameworks for employee engagement," "employee engagement theory in healthcare"	"employee engagement models," "work engagement theory," "conceptual frameworks in healthcare," "theoretical frameworks for engagement"	"theoretical models of engagement," "employee engagement frameworks," "healthcare engagement theories"	"theoretical frameworks for engagement," "employee engagement models," "healthcare motivation theories," "conceptual frameworks for employee engagement"	"employee engagement theoretical frameworks," "conceptual models for healthcare engagement," "employee engagement theories in healthcare"
Theoretical Frameworks of Health Employee Engagement (MESH/Emtree terms)	"Models, Theoretical"[Mesh], "Concept Formation"[Mesh], "Motivation"[Mesh], "Organizational Culture"[Mesh]	"Models, Psychological," "Organizational Theory," "Theory Construction," "Organizational Development"	"theoretical model," "work motivation," "concept formation," "health services research"	N/A	N/A

	employee engagement" OR "employee engagement theory in healthcare") AND ("Models, Theoretical"[Mesh] OR "Concept Formation"[Mesh] OR "Motivation"[Mesh] OR "Organizational Culture"[Mesh])	"conceptual frameworks in healthcare" OR "theoretical frameworks for engagement") AND ("Models, Psychological" OR "Organizational Theory" OR "Theory Construction" OR "Organizational Development")	"healthcare engagement theories") AND ("theoretical model" OR "work motivation" OR "concept formation" OR "health services research")	frameworks for employee engagement)	"employee engagement theories in healthcare")
Instruments for Measuring Health Employee Engagement (Keywords)	"employee engagement measurement tools," "engagement assessment," "healthcare engagement scales," "survey tools for employee engagement"	"engagement scales," "engagement surveys for healthcare," "measurement tools for employee engagement," "healthcare engagement questionnaires"	"engagement measurement tools," "survey instruments for healthcare engagement," "healthcare engagement scales," "psychometric validation for engagement"	"engagement measurement tools in healthcare," "employee engagement scales," "healthcare engagement survey tools," "psychometrics for engagement"	"healthcare engagement measurement tools," "survey instruments for engagement," "engagement scales for healthcare professionals"
Instruments for Measuring Health Employee Engagement (MESH/Headings terms/Emtree terms)	"Surveys and Questionnaires"[Mesh], "Psychometrics"[Mesh], "Reproducibility of Results"[Mesh], "Data Collection"[Mesh]	"Measurement Tools," "Data Collection Instruments," "Scales," "Psychometrics," "Surveys"	"measurement scale," "survey," "questionnaire," "psychometrics," "data collection method"	N/A	N/A

Search String	("employee engagement measurement tools" OR "engagement assessment" OR "healthcare engagement scales" OR "survey tools for employee engagement") AND ("Surveys and Questionnaires"[Mesh] OR "Psychometrics"[Mesh] OR "Reproducibility of Results"[Mesh] OR "Data Collection"[Mesh])	("engagement scales" OR "engagement surveys for healthcare" OR "measurement tools for employee engagement" OR "healthcare engagement questionnaires") AND ("Measurement Tools" OR "Data Collection Instruments" OR "Scales" OR "Psychometrics" OR "Surveys")	("engagement measurement tools" OR "survey instruments for healthcare engagement" OR "healthcare engagement scales" OR "psychometric validation for engagement") AND ("measurement scale" OR "survey" OR "questionnaire" OR "psychometrics" OR "data collection method")	("engagement measurement tools in healthcare" OR "employee engagement scales" OR "healthcare engagement survey tools" OR "psychometrics for engagement")	("healthcare engagement measurement tools" OR "survey instruments for engagement" OR "engagement scales for healthcare professionals")

2.3.5 Study Selection

The tables below provide a breakdown of the number of articles found per research engine.

Table 2: Articles per Databases and research engine.

Keywords	Databases					
	Medline	CINAHL	Embase	Scopus	Web of Science	Hand searches
Health Workforce	1.766.508	587.410	832.760	635.578	6.334.215	324
Assessment of engagement	154.098	50.198	78.134	67.150	132.908	156
Combined	2866	857	618	756	3144	56
Time period (2000-2022)	1090	800	584	712	2088	50
Articles in per review journals & English & humans	967	755	500	560	2050	49
Total	967	755	500	560	2050	49

Table 3: Articles excluded due to duplication across databases.

	Databases					
	Medline	CINAHL	Embase	Scopus	Web of Science	Hand searches
Total of articles retrieved from databases	967	755	500	560	2050	49
Excluded	646	503	81	213	1023	49
Screening result	321	252	419	347	479	0
Combined number of articles	1818					

References were retrieved over a focused period from July 20th to July 31st, 2023. A two-stage duplicate screening process was employed to ensure data integrity, beginning with an automated duplicate removal step followed by manual verification for accuracy (**see Table 3**). A total of 1,818 unique articles were imported into a designated folder, “Articles for Revision,” to facilitate organised review.

Each title and abstract (where available) was independently screened by me and a second reviewer against predefined inclusion criteria. Articles that met these criteria, as well as those marked “unclear,” were retrieved in full for further review. Any discrepancies between reviewers were resolved through discussion to ensure alignment and consistency in selection.

The study selection and data extraction processes were supported by Covidence, an online tool developed by Cochrane. Covidence streamlined abstract and full-text screening, enabling efficient management of the review workflow. Additionally, it facilitated the export of screened data directly into Excel, optimising data organisation and further analysis (Cochrane., 2017).

2.3.6 Data Extraction

The data extraction process was meticulously designed to capture all relevant characteristics and findings from each study. Critical study attributes, including author names, publication year, country of origin, study design, sample characteristics, and methodological details such as data collection tools and analysis methods were recorded. Additionally, elements specific to employee engagement were systematically documented: each study's definition of engagement, theoretical frameworks used, measurement instruments (e.g., surveys, scales), and key engagement-related variables or antecedents, such as organisational support, leadership, job satisfaction, and workload. (**see Table 4**)

To ensure the accuracy and consistency of the data extraction, myself and the second reviewer, calibrated the data extraction form by testing it on the first 5–10 studies. During this initial phase, we made iterative adjustments to the form, refining categories, and definitions as we deepened our familiarity with the included studies. This process ensured that the extraction form was aligned with the nuances and diversity of data across studies.

Data was charted in duplicate by me and the second reviewer independently to enhance reliability. We managed and stored records using Covidence and Microsoft Excel to allow for cross-referencing and ease of access.

Table 4: Data Extraction Form.

Category	Variable
Publication characteristics	Title
	Year of publication
	Journal (or source if unpublished)
Author characteristics	Surnames
	Principal author's contact information
	Country
Study characteristics	Study Design (epidemiology, clinical trials, scoping/systematic reviews, metanalysis)
	Sample/Population characteristics
	Outcome measures
	Limitations/risk of bias
Definition, theoretical frameworks, and measurement of Employee engagement	What are the concepts, theoretical frameworks of Employee engagement in the healthcare context
	What are the theories that sustained those concepts, theoretical frameworks, and measurement instruments
	Name of the model/framework/measurement instrument that was used for measuring employee engagement
	Purpose/Aim of the model/framework or measurement instrument
	How was measure health employee engagement (surveys, scales).
	What were the strengths and limitations relevant to the engagement approach or process suggested by each study

2.3.7 Data Analysis

For the data analysis, an in-depth descriptive and analytical synthesis approach was employed to comprehensively interpret the extracted data from each study. This dual-layered method involved a structured categorisation of key findings, followed by an analytical comparison across studies to reveal nuanced insights into the diverse factors influencing employee engagement within healthcare. The descriptive synthesis allowed for the systematic organisation of data related to study characteristics, such as definitions, frameworks, and engagement measurement tools, while the analytical synthesis focused on identifying patterns and discrepancies across studies. This included exploring theoretical perspectives, identifying recurring engagement dimensions (e.g., motivation, job satisfaction, leadership influence), and mapping these onto specific healthcare contexts (Popay et al., 2006).

I summarised dichotomous or nominal variables using descriptive statistics to provide a precise overview of study characteristics. Results were presented through an array of visual aids, including figures, detailed diagrams, and organised tables, which facilitated clear and accessible reporting of the findings (Arksey & O'Malley., 2005). **(Figure 6,7)**

To maintain consistency and mitigate potential biases, the other reviewer and I held regular meetings and consensus discussions. These sessions allowed us to cross-examine interpretations, ensuring mutual agreement on findings and interpretations. When discrepancies arose, they were discussed thoroughly until consensus was reached, further ensuring the reliability of the results.

The descriptive and analytical synthesis method used to present the results of this phase (Chapter 3) not only offered a structured overview of the current research landscape but also highlighted significant gaps in the literature, identifying areas where further investigation into healthcare-specific engagement factors is warranted (Thomas & Harden, 2008). These insights informed the development of a hypothetical theoretical framework, presented in **Chapter 4**.

Building on the outcomes generated through the descriptive and analytical synthesis of the scoping review and the hypothetical theoretical framework explained in **Chapter 4**, the next phase of the research involved quantitatively validating the emerging theoretical framework.

2.4 Quantitative Methodological Approach: Secondary Data Validation

The section is structured into several key segments, detailing the study design, data sources, survey refinement, harmonisation, and statistical validation techniques. It begins by outlining the study setting and design, which follows the Guideline for Data Mining and Construct Validation in Secondary Data proposed by Mirza et al. (2019). The data source for this study was the Health Service Executive (HSE) "Your Opinion Counts" (YOC) surveys on health staff engagement. The rationale for using secondary data is discussed, highlighting its advantages in terms of sample size,

representativeness, and feasibility, as well as the challenges related to dataset harmonisation and missing data management.

A critical step in the methodology was the refinement of the YOC survey instrument, which involved selecting 27 key items from the original 151-question dataset. This selection process was guided by the findings of the scoping review and the hypothesised theoretical framework (**Chapter 3, 4**). The survey questions were mapped onto relevant dimensions and subdimensions of health employee engagement to create a structured measurement instrument.

Following survey refinement, harmonisation of datasets was necessary to integrate data from the 2016 and 2018 waves of the YOC survey. This process included aligning variable definitions, standardising response scales, and ensuring conceptual consistency across survey waves.

Handling missing data was another essential aspect of the methodology. Little's Missing Completely At Random (MCAR) test was used to determine the randomness of missing values, followed by Predictive Mean Matching (PMM) and logistic regression imputation techniques to address gaps in demographic and categorical variables (van Buuren & Groothuis-Oudshoorn., 2011).

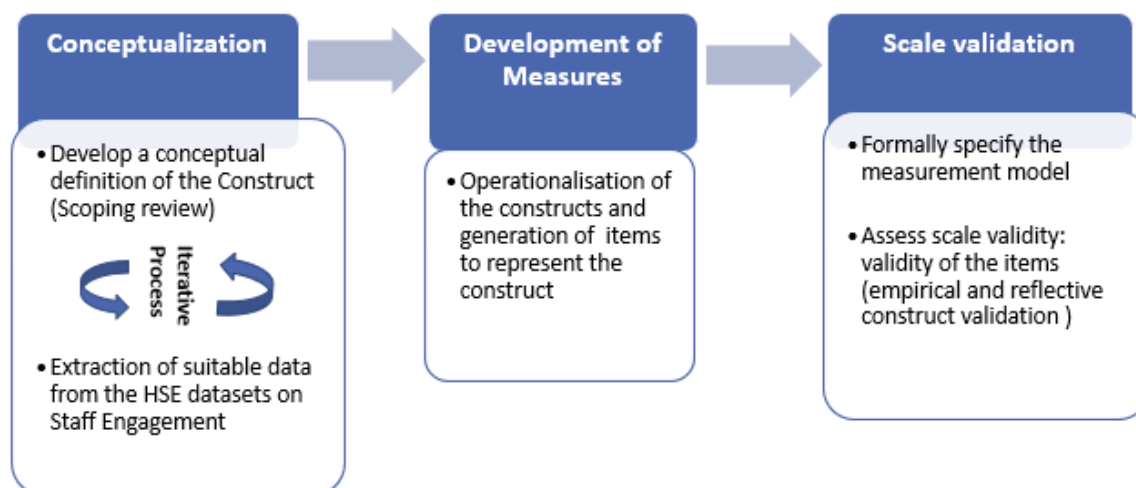
To enhance the generalisability of findings, the section also discusses post-stratification weighting, which corrects for potential sampling biases by adjusting demographic distributions in the sample to reflect the actual population of healthcare workers.

The section lastly details the statistical validation process, focusing on Structural Equation Modelling to confirm the theoretical and empirical validity of the proposed framework. Principal Components Factor Analysis (PCFA) was used to explore the latent structure of the dimensions in the engagement model, followed by Confirmatory Factor Analysis (CFA) to test its reliability and validity. Additionally, the study examines indirect effects and moderation, particularly the role of workplace bullying and discrimination as mediators in the relationship between organisational and individual factors and staff engagement.

2.4.1 Setting and Study Design

For validating the theoretical framework to measure health employee engagement I utilised the Guideline for Data Mining and Construct Validation in Secondary Data proposed by Mirza et al. (2019), which provided a robust structure for ensuring the reliability and applicability of the framework. (**Figure 2**)

Figure 2: Guideline for Data Mining and Construct Validation in Secondary Data.



This guideline comprises two distinct phases: reflective validation and empirical validation, both supported by Structural Equation Modelling and path modelling.

The validation process began with the extraction of data from the Health Service Executive (HSE) "Your Opinion Counts" (YOC) surveys on health staff engagement. These datasets were carefully chosen because they aligned with the theoretical specifications and the foundational model of health employee engagement that will be discussed in **Chapter 3 and Chapter 4**. The primary aim was to ensure that the data adequately represented the dimensions and subdimensions outlined in the proposed theoretical framework while also providing a sufficiently large sample size to enhance the reliability and generalisability of the results.

The reflective validation began by treating all dimensions in the hypothetical framework (**Figure 9**) as reflective constructs, meaning that the dimensions themselves were considered to drive their respective subdimensions and survey questions, rather than them defining the dimensions. For instance, dimensions associated to employee engagement like Teamwork was conceptualised as influencing subdimensions such as "Communication within the Team" and "Support within the Team," revealing the cohesive nature of teamwork as reflective dimension. This phase involved theoretical reviews to ensure that each dimension aligned with its theoretical foundations (**see Table 13**) and internal consistency testing using measures like Cronbach's alpha to evaluate the reliability of the dimensions of health employee engagement. (Mirza et al., 2019).

The empirical validation phase tested how well the dimensions and subdimensions performed when applied to the secondary HSE data. Advanced statistical techniques were employed to assess the framework's structure and relationships. Principal Components Factor Analysis (PCFA) was used to explore the underlying structure of the subdimensions and to confirm that the survey questions reliably captured the intended dimensions. (Hair et al., 2019) For example, questions related to Leadership were analysed to ensure that they consistently reflected this dimension. Confirmatory Factor Analysis (CFA) was then employed to test the validity and reliability of the measurement

model, providing evidence that each subdimension and question accurately measured the intended dimension (Hair et al., 2019).

Structural Equation Modelling (SEM) and path analysis were utilised to explore indirect effects and moderators on the dimensions of Employee Engagement. For instance, Teamwork can influence Employee Engagement indirectly through bullying. In this pathway Bullying mediates the relationship between teamwork and staff engagement, with poor teamwork increasing the likelihood of bullying, which reduces engagement. SEM and Path analysis were instrumental in decomposing these effects, allowing for a clear understanding of how dimensions interacted within the framework (Hair et al., 2019).

To ensure the framework's robustness, the overall model fit was assessed using indices such as the Root Mean Square Error of Approximation (RMSEA) and the Comparative Fit Index (CFI). These indices confirmed that the framework was well-aligned with the data and provided a strong empirical foundation for understanding employee engagement (Hu & Bentler, 1999).

2.4.2 HSE surveys on health staff engagement

The analysis for this research utilised the Irish Health Sector's National Staff Survey, Your Opinion Counts (YOC). This survey serves as a vital instrument for measuring employee engagement across the Irish healthcare system, with its primary aim being to assess critical domains of engagement and provide actionable insights (Health Service Executive., 2021).

One of the key advantages of using secondary data in this research was the ability to access a large, dataset without the need for independent data collection (Johnston., 2017). The YOC surveys were conducted on a significant scale, ensuring diverse participation from healthcare staff across various roles, regions, and sectors within the health service. This diverse and large sample allowed me to focus on variables that were directly supported by existing theoretical frameworks and literature on health employee engagement (Health Service Executive., 2021).

Attempting to recruit participants independently would have posed substantial logistical challenges, particularly within the demanding context of the healthcare sector in Ireland (Shah., 2017). Healthcare staff often work irregular hours and face high workloads, making participation in research initiatives difficult to coordinate. The YOC surveys, by contrast, benefitted from a well-established, national-level data collection process, leveraging the HSE's infrastructure and communication networks to maximise participation. This ensured access to a robust dataset that would have been extremely difficult to replicate through independent means (Health Service Executive., 2021).

Another critical advantage of using secondary data was the efficiency it provided. With the data already collected and the survey design established, I could focus on analysing the selected variables and aligning the datasets for integration (Smith., 2008). This was especially important

given the study's aim on merging the 2016 and 2018 waves into a unified dataset. The process of harmonisation involved aligning the 27 theoretically grounded questions chosen for analysis, standardising variable names, coding schemes, and response scales, and ensuring consistency across both datasets. This careful preparation enabled the integration of two high-quality datasets into a single, cohesive resource, providing a strong foundation for examining staff engagement (Smith., 2008).

2.4.2.1 Original YOC Surveys Design

The YOC surveys primarily employed an online data collection approach to maximise accessibility and encourage widespread participation. Respondents could securely access the survey through the official website, www.youropinioncounts.ie, which enabled them to complete it at their convenience, from any location, and on any internet-enabled device. This flexibility was designed to accommodate the demanding schedules of healthcare professionals, many of whom work irregular hours in clinical settings (Health Service Executive., 2021).

For staff unable to access the survey online or those who preferred a physical format, a paper-based questionnaire was also made available. This dual-format approach ensured inclusivity, addressing potential barriers to participation, such as lack of internet access or technical difficulties. To further enhance participation, the survey was extensively promoted across the healthcare sector through a combination of online and offline communication channels. These promotional efforts leveraged a variety of internal tools, including email newsletters, organisational intranet platforms, posters, and direct communication from managers, to raise awareness and encourage staff to take part (Health Service Executive., 2021).

The YOC survey has been conducted over four waves to date: 2014, 2016, 2018, and 2021. For this research, the 2016 and 2018 waves were selected due to their methodological consistency, which facilitated the harmonisation of datasets for analysis. Both surveys contained 151 questions (**see Appendix 1**), spanning nine domains: My Job, My Role, My Organisation, Leadership, Line Management, Training & Development, Health & Wellbeing, Dignity at Work, and Standard of Care & Service. These domains captured a wide range of factors from individual experiences to organisational culture and leadership practices. The surveys also included demographic subgroups such as staff category, age group, gender, contract type, role, and geographic area within the health service (Health Service Executive., 2021).

2.4.2.2 YOC surveys refinement: A reflective Validation

2.4.2.2.1 Selection of Questions for Analysis

The selection of survey questions for this study was a critical step in ensuring that the analysis was both theoretically robust and practically relevant. Beginning with the complete dataset of 151

questions, which spanned an extensive range of items across multiple domains, I systematically narrowed down the selection to 27 questions. These questions were identified as the most relevant, reliable, and theoretically grounded items, based on the specifications and framework that will be discussed in **Chapter 4**. This process followed a multi-step approach guided by the principles outlined by DeVellis (2016), ensuring both rigor and alignment with the study objectives (DeVellis.,2016).

The process began with a preliminary evaluation of the data, where I compiled an exhaustive inventory of all questions present in the dataset. Using an Excel spreadsheet, I catalogued each question along with its corresponding metadata. This included details such as the domain it belonged to, response formats, and any documentation or notes that provided additional context. The metadata was thoroughly reviewed to gain a comprehensive understanding of the substance and structure of each question (DeVellis.,2016). This initial step was crucial for identifying potential overlaps, redundancies, or ambiguities in the dataset. A summary of these results is presented in **Appendix 2**

Following the preliminary review, I moved on to assessing the theoretical relevance of each question. This phase was informed by the findings of the scoping review (**Chapter 3**) and the hypothesised theoretical framework outlined in **Chapter 4**, which had already identified the key dimensions and subdimensions of staff engagement. (**see Table 13**) Each question was evaluated based on its alignment with these dimensions and its theoretical significance to the study objectives. For example, questions addressing team communication and psychological safety were prioritised due to their well-documented importance in fostering engagement (Edmondson., 1999). Survey items like “I believe that communication within my team is strong” and “I feel supported by my team members” directly reflected these dimensions and were supported by the literature (Edmondson., 1999; Newman et al., 2017).

To further refine the selection, I consulted with experts in health staff engagement, including senior healthcare managers and academic researchers, whose insights were invaluable in assessing the significance and applicability of specific survey items. These consultations helped confirm that the selected questions not only aligned with theoretical principles but also captured practical and contextual nuances relevant to the Irish healthcare system. For instance, the experts highlighted the importance of including items that addressed workplace mistreatment, such as discrimination and bullying, as these factors were particularly relevant to understanding barriers to engagement. This feedback reinforced the inclusion of questions like “I have not experienced bullying in my workplace,” which corresponded to mediators identified in the scoping review and literature, such as those noted by Glavas (2012).

The selected 27 questions focused on critical aspects of engagement, encompassing psychological threats, health and wellbeing, workplace context, individual differences, and experiences of

mistreatment. For instance, Cha et al. (2007) emphasised the role of health and wellness in engagement, which informed the inclusion of items such as “I believe I have a good balance between my private and professional life.” Similarly, the inclusion of questions addressing team support and alignment with organisational goals reflected well-established constructs from theories such as Hackman’s Team Effectiveness Theory and Self-Determination Theory (Cha et al., 2007; Hackman., 1987; Deci & Ryan., 2000).

Ultimately, the selection and validation processes worked in tandem to ensure that the analysis captured the core dimensions underpinning health employee engagement (**see Table 13**).

2.4.2.2.2 Instrument Refinement

The refinement of the "Your Opinion Counts" survey was undertaken to ensure it accurately represented the theoretical constructs underpinning health employee engagement. This process involved categorising the survey questions into dimensions and subdimensions based on the hypothetical framework (**Figure 9**), operationalising these constructs into measurable variables, and incorporating sociodemographic and psychological threats variables as moderators and mediators (DeVellis, 2016; Kline, 2015) (**see Table 13**).

The refined survey instrument included 27 questions comprised into 8 dimensions, 2 mediators and 4 moderators (**see Table 13**) measured consistently with the methodology of the original YOC datasets (Health Service Executive., 2021). Each question subdimension and dimension utilised a 5-point Likert scale, with response options carefully operationalised to reflect the nature of the construct being measured. The response categories were defined as follows:

- 1 (Strongly Agree): Reflects full and consistent alignment with the statement, indicating the highest level of agreement or satisfaction.
- 2 (Agree): Indicates general alignment with the statement, with occasional exceptions.
- 3 (Neutral): Suggests ambivalence or lack of strong feelings about the statement.
- 4 (Disagree): Reflects general disagreement, with some possible alignment.
- 5 (Strongly Disagree): Indicates complete misalignment with the statement.

The description that follows details how each dimension, moderator, and mediator was operationalised in accordance with the original methodology of the YOCS surveys

Pride and Culture of My Organisation A response of "Strongly Agree" indicated that employees felt very proud of the culture in their organisation and experienced a strong connection to its values. Those who selected "Agree" expressed general pride in the organisation’s culture, though acknowledging areas that could be improved. A "Neutral" response suggested ambivalence or indifference toward the organisational culture. Employees who chose "Somewhat Disagree" were not particularly proud of the culture but could recognise some positive aspects, while a response

of "Strongly Disagree" reflected a complete lack of pride in and connection to the organisation's culture (Ashforth & Mael., 1989).

Teamwork: A response of "Strongly Agree" indicated that team members collaborated very effectively, demonstrating high levels of coordination, shared objectives, and mutual support. Those who selected "Agree" reflected generally good collaboration and alignment within the team, though with some areas for improvement. A "Neutral" response suggested mixed experiences, where teamwork was inconsistent, and instances of collaboration and support were not uniformly strong. Employees who chose "Somewhat Disagree" indicated that collaboration and alignment within the team were limited, though occasional positive interactions occurred. Finally, a response of "Strongly Disagree" pointed to significant dysfunction, where team members rarely or never collaborated effectively (Salas, Sims, & Burke., 2005).

Performance Recognition A response of "Strongly Agree" indicated that employees felt their performance was consistently recognised and appreciated, both by their team and the organisation, representing the highest level of acknowledgment. Those who selected "Agree" expressed that their performance was frequently recognised, though not always consistently. A "Neutral" response reflected mixed feelings about recognition, with employees experiencing inconsistencies in how their contributions were acknowledged. Employees who chose "Disagree" reported that their performance was rarely recognised or appreciated, pointing to significant gaps in acknowledgment. Finally, a response of "Strongly Disagree" revealed that employees felt their performance was never recognised, highlighting a complete absence of appreciation and validation (Eisenberger et al., 1997).

Job Involvement A response of "Strongly Agree" indicated that employees felt highly motivated and optimistic about their work, consistently exhibiting enthusiasm and a positive outlook toward their roles. Those who selected "Agree" expressed feeling motivated and optimistic most of the time, though they might occasionally encounter challenges or dips in engagement. A "Neutral" response reflected mixed feelings, suggesting variability in motivation and optimism, with no clear pattern of sustained engagement or disengagement. Employees who chose "Disagree" reported rarely feeling motivated or optimistic about their work, pointing to a general sense of disconnection or dissatisfaction with their roles. Finally, a response of "Strongly Disagree" indicated a complete lack of motivation and optimism, highlighting profound disengagement and disinterest in their professional responsibilities (Kanungo., 1982).

Leadership: A response of "Strongly Agree" indicated that employees felt their leaders consistently communicated effectively and made sound, well-informed strategic decisions, demonstrating the highest level of confidence in leadership. Employees who selected "Agree" believed that their leaders generally communicated well and provided strategic direction, though occasional lapses might occur. A "Neutral" response reflected mixed feelings, suggesting that employees perceived

inconsistencies in their leaders' communication and decision-making, resulting in neither strong confidence nor dissatisfaction. Those who chose "Disagree" reported that their leaders rarely communicated effectively or make sound decisions, pointing to significant gaps in leadership performance. Finally, a response of "Strongly Disagree" indicated that employees felt their leaders consistently failed to communicate or make effective strategic decisions, reflecting deep dissatisfaction and a lack of trust in leadership (Yukl., 2013).

The individual-level dimensions focused on employees' personal experiences and perceptions, particularly regarding professional development, wellbeing, and clarity about their roles within the organisation.

Training and Opportunities: A response of "Strongly Agree" indicated that employees felt their organisation consistently provided ample training opportunities and clear paths for career advancement, demonstrating a robust commitment to their professional growth. Employees who selected "Agree" expressed satisfaction, stating that their organisation provided good training and career progression opportunities, though they might see room for improvement in certain areas. A "Neutral" response reflected mixed feelings, suggesting variability or uncertainty in the availability and quality of these opportunities. Employees who chose "Disagree" reported that their organisation offered limited training and career progression opportunities, with occasional initiatives that fell short of expectations. Finally, a response of "Strongly Disagree" indicated that employees perceived their organisation as offering no meaningful training or career progression opportunities, signalling a significant gap in addressing professional development needs (Noe., 2010).

Health and Wellbeing: A response of "Strongly Agree" indicated that employees felt their organisation actively and consistently supported their health and wellbeing, providing comprehensive resources and creating an environment that prioritised their physical and mental needs. Employees who selected "Agree" expressed satisfaction, stating that their organisation generally supported their health and wellbeing, though some areas could be improved. A "Neutral" response reflected ambivalence or uncertainty, suggesting that employees experienced inconsistent or unclear support from their organisation in this regard. Those who chose "Disagree" reported that their organisation rarely supported their health and wellbeing, pointing to significant gaps in resources, policies, or workplace practices. Finally, a response of "Strongly Disagree" revealed that employees felt their organisation entirely neglected their health and wellbeing, creating an environment that lacked basic support mechanisms (Danna & Griffin., 1999).

My Role in My Organisation: A response of "Strongly Agree" indicated that employees felt they had a thorough understanding of their role, enjoyed a high level of autonomy, and perceived their work as strongly aligned with the organisation's objectives. Those who selected "Agree" expressed that they generally understood their role and felt aligned with organisational goals, though occasional

ambiguities or areas for improvement might exist. A "Neutral" response suggested mixed feelings, indicating variability in clarity or autonomy and no consistent alignment with the organisation's objectives. Employees who chose "Disagree" reported that they rarely felt clear about their role or aligned with organisational goals, pointing to gaps in communication, guidance, or empowerment. Finally, a response of "Strongly Disagree" revealed a complete lack of clarity, autonomy, and alignment, with employees feeling disconnected from their roles and the broader mission of the organisation (Hackman & Oldham., 1976).

Moderators: Sociodemographic Variables

In this study, the inclusion of moderators offered a deeper and more nuanced understanding of how individual and contextual factors shape the relationship between key dimensions of organisational functioning and staff engagement. These relationships are examined in greater detail in **Chapter 4 section 4.3.4**. Moderators are variables that affect the strength or direction of the relationship between independent variables, such as teamwork or leadership, and dependent variables like health employee engagement. By examining these moderators, this study aimed to uncover how certain individual characteristics and experiences either amplify or weaken these relationships, offering a more comprehensive view of staff engagement dynamics in healthcare (Frazier, Tix, & Barron., 2004).

Sociodemographic Variables

Sociodemographic variables were included as moderators because they are known to significantly influence workplace dynamics and perceptions of engagement.

The variables were operationalised and measured as follows:

Age: Refers to the chronological age of an employee. Categorised as ≤ 30 years and >30 years.

Gender: Refers to an individual's identity as male, female, or non-binary. Categorized as Male, Female, and Other.

Position in the Organisation: It refers to an employee's role or rank within the organisational hierarchy, including their responsibilities, authority, and access to resources. Categories include Medical/Dental, Nursing, Management/Admin, General Support Staff, Patient & Client Care.

Years of experience in the Health Sector: The total length of time an individual has worked in the healthcare sector. Categorized as ≤ 5 years, >5 years.

Mediators: Psychological hazards variables

Psychological threats variables, specifically discrimination and bullying, were conceptualised as mediators rather than moderators to better capture the mechanisms through which organisational factors influence engagement. This decision was guided by Maslach et al. (2001) who emphasised these 2 variables mediate the relationship between leadership, teamwork, performance recognition and health employee engagement. Mediators were particularly valuable for explaining the processes or pathways that link independent variables or dimensions to outcomes, rather than

simply identifying for whom or under what conditions these relationships hold (Maslach et al., 2001). Each premise of bullying and discrimination as possible mediators of health employee engagement will be also explained in **section 4.3.4 of Chapter 4**.

Discrimination: refers to self-reported instances of unfair treatment based on various personal characteristics, including but not limited to ethnicity, gender, religion, sexual orientation, civil status, trade union activity, disability, membership in the Traveller community, employment status, or physical appearance (Health Service Executive., 2021).

Bullying refers to instances of harassment perpetrated by patients, managers, or colleagues, as defined in accordance with the parameters of the HSE surveys. (Health Service Executive, 2021)

For both discrimination and bullying, responses were dichotomised into "Yes" (indicating the presence of such experiences) and "No" (indicating their absence).

2.4.3 Harmonisation of the Datasets

Dataset harmonisation is the process of aligning and integrating data from different sources or time points to create a unified, consistent dataset that enables meaningful comparisons and pooled analyses. According to Fortier et al. (2017), harmonisation involves addressing variations in variable definitions, measurement scales, coding schemes, and response formats to ensure comparability across datasets. Harmonisation is particularly valuable in longitudinal or multi-cohort studies as this because it leverages the strengths of multiple datasets while mitigating inconsistencies (Fortier et al., 2017).

In this thesis, I chose to use data from two waves of the "Your Opinion Counts" (YOC) surveys conducted in 2016 and 2018, rather than relying on a single wave. This decision was guided by the need to provide a more comprehensive and reliable analysis of health employee engagement while capitalising the distinct advantages of combining datasets collected at different time points. The 2016 and 2018 waves of the YOC survey were particularly suited for harmonisation because they shared methodological consistency in their design and structure. Despite this consistency, differences in time provided an additional layer of richness, capturing the evolving dynamics of staff engagement and allowing for a broader understanding of how organisational factors influence engagement across contexts (Your Opinion Counts, 2016, 2018)

Using these two waves of the YOC surveys allowed me to build a more robust dataset that captures variations in staff experiences over time (Smith & Johnson., 2017) For instance, the 2016 survey reflects staff engagement in the context of recovery from economic austerity measures in Ireland, which heavily impacted public healthcare funding and staffing levels. By 2018, Ireland's healthcare system had begun to stabilise, with increased investment in services and initiatives aimed at improving employee wellbeing and engagement (McGowan., 2013). These temporal differences provided an opportunity to analyse engagement under varying organisational and systemic

conditions, enriching the findings. Harmonisation also ensured that the findings reflected a more diverse cross-section of the Irish healthcare workforce, accounting for variations in demographics, roles, and experiences across two years

Moreover, the inclusion of two waves allowed for a larger sample size, enhancing the statistical power of the analysis. A larger sample provided more reliable estimates and reduced sampling error. This was particularly important in examining variables like discrimination and bullying, where smaller subgroups might otherwise lack sufficient representation in a single wave. Additionally, combining data from different time points ensured that the study reflects a broader spectrum of experiences and is less susceptible to anomalies specific to one year (Smith & Johnson., 2017).

2.4.3.1 Roadmap for harmonisations of the datasets

Harmonising the 2016 and 2018 datasets required a meticulous process to ensure not only the consistency of the variables but also their theoretical alignment and contextual relevance to healthcare settings. The table below (see Table 5) provides a detailed roadmap for this harmonisation, highlighting specific changes and theoretical foundations for each variable. Following the data harmonisation methodology described by González (2017), the process was iterative, involving tasks such as aligning variable definitions, ensuring conceptual equivalence, and validating outcomes (González., 2017).

The first step involved creating a detailed data inventory of all 27 variables across the two datasets. Next, I reviewed the data alignment, and each variable was documented with its definition, question phrasing, response format, and theoretical background. These initial steps were essential in identifying discrepancies that might undermine the validity of the combined dataset. The next step included harmonise questions to ensure conceptual standardisation across years and theoretical mapping where each question was reviewed to ensure alignment with its theoretical background. For example, the variable addressing workplace conditions had different phrasing in 2016 ("My work environment is comfortable and supports productivity") compared to 2018 ("I am satisfied with my work conditions, including space, light, and comfort"). While both captured the essence of workplace conditions, the 2018 phrasing was broader, integrating physical, psychological, and environmental factors. To harmonise these, the final version adopted the broader terminology from 2018 (González., 2017).

Another example was the variable related to organisational culture. In 2016, this was phrased as "I believe my organisation has good values," while in 2018, it evolved into "I value the culture in my organisation." The final harmonised version retained the broader conceptual framing from 2018 to better reflect Schein's Organisational Culture Theory, which emphasises shared values and norms as central to shaping employee behaviour and engagement (Schein.,2010).

The process of conceptual standardisation was also critical for variables such as pride in the organisation. In 2016, the question asked, "I take pride in being a part of this organisation," whereas the 2018 version phrased it as "I feel proud to work for my organisation." Although similar, these questions were standardised to align with Social Exchange Theory, ensuring that the final phrasing captured the relational dynamics between employees and their organisations (Schein.,2010).

Demographic variables posed unique challenges. For instance, age categories differed between the datasets, with 2016 using six distinct age brackets (e.g., 16–20, 21–30, 31–40, 41-50, 51-60, >60) and 2018 collapsing these into two groups (≤ 30 and >30). This simplification was retained in the harmonised dataset, drawing on Life-Span Development Theory (Carstensen.,1999) and Socioemotional Selectivity Theory (Baltes., 1990). These theories suggest that individuals under 30

are often in the exploratory phases of their careers, prioritising learning and skill-building, while those over 30 focus more on stability, long-term goals, and deeper organisational alignment. Retaining this dichotomy allowed the analysis to capture meaningful contrasts in engagement patterns based on life stage and professional priorities. For example, younger employees might value opportunities for training and development more acutely, reflecting Human Capital Theory (Becker., 1993), whereas older employees might prioritise job stability and strategic alignment, as indicated by Transformational Leadership Theory (Bass., 2006).

The harmonisation also extended to response scales. While both datasets predominantly used a 5-point Likert scale, inconsistencies in scale application were identified. For example, questions addressing workplace atmosphere and support from team members used slightly different anchoring terms for the scale (Completely Agree, Somewhat Agree, Undecided, Somewhat Disagree, Fully Disagree). These were changed to maintain uniformity, ensuring the reliability of comparative analyses across the datasets (Tajfel.,1979). **(see Table 5)**

Finally, validation with experts was a cornerstone of this process. An expert team, including specialists in organisational behaviour, healthcare, and employee engagement, reviewed the harmonised variables to ensure theoretical integrity and practical relevance. For instance, the experts assessed whether the phrasing of questions captured the nuances of healthcare work environments. When evaluating the training and development variable, originally phrased in 2016 as "I feel that my organisation provides adequate chances for me to participate in training programmes," they recommended adopting the broader 2018 phrasing, "I have enough opportunities for training in my organisation" for emphasising access to both formal and informal learning opportunities as a driver of health employee engagement.

Table 5: Harmonisation of “Your opinion counts datasets” (YOC) waves from 2016 and 2018.

Variable 2016 and definition	Questions and measurement 2016	Variable 2018	Question and measurement 2018	Final Variable and definition	Final Question and measurement	Theoretical Background
Resources: Emphasises comfort and productivity as key elements of the work environment.	My work environment is comfortable and supports productivity. Measurement: 5 points Likert scale	Workplace conditions: Refers to the physical and psychological environment in which employees work, including workspace design, safety, cleanliness, and access to resources	I am satisfied with my work conditions (space, light, comfort). Measurement: 5 points Likert scale	Workplace conditions: Refers to the physical and psychological environment in which employees work, including workspace design, safety, cleanliness, and access to resources	I am satisfied with my work conditions (space, light, comfort) Measurement: 5 points Likert scale	Schein's Organisational Culture Model Herzberg's Two-Factor Theory
Workplace environment: Focuses on collaborative and supportive interactions among staff.	The atmosphere in my workplace is supportive and collaborative. Measurement: 5 points Likert scale	Workplace atmosphere: Refers to the emotional tone and interpersonal dynamics within the organisation, including how employees interact and collaborate.	I am satisfied with the workplace atmosphere Measurement: 5 points Likert scale	Workplace atmosphere: Refers to the emotional tone and interpersonal dynamics within the organisation, including how employees interact and collaborate	I am satisfied with the workplace atmosphere Measurement: 5 points Likert scale	Social Identity Theory
Enthusiasm and contentment with the organisation: Focuses on employees' perception of the values of the organisation	I take pride in being a part of this organisation. Measurement: 5 points Likert scale	Pride in the organisation: Refers to employees' positive perception of the organisation's values, reputation, and achievements	I feel proud to work for my organisation. Measurement: 5 points Likert scale	Pride in the organisation: Refers to employees' positive perception of the organisation's values, reputation, and achievements	I feel proud to work for my organisation. Measurement: 5 points Likert scale	Social Exchange Theory Emotional Engagement Theory

Culture: Norms and values that define an organisation	I believe my organisation has good values Measurement: 5 points Likert scale	Organisational Culture: Refers to the shared values, beliefs, and norms that shape the behaviour of individuals within an organisation	I value the culture in my organisation. Measurement: 5 points Likert scale	Organisational Culture: Refers to the shared values, beliefs, and norms that shape the behaviour of individuals within an organisation	I value the culture in my organisation. Measurement: 5 points Likert scale	Schein's Organisational Culture theory
Communication: Process of exchanging information among team members	I believe communication is strong within my team Measurement: 5 points Likert scale	Communication within the team: Refers to the process of exchanging information, feedback, and ideas openly and effectively among team members	I believe that communication within my team is strong. Measurement: 5 points Likert scale	Communication within the team: Refers to the process of exchanging information, feedback, and ideas openly and effectively among team members	I believe that communication within my team is strong. Measurement: 5 points Likert scale	Hackman's Team Effectiveness Theory Team Communication Theory
Objectives: Synergy between personal and team objectives.	The goals within my team align well with my personal objectives. Measurement: 5 points Likert scale	Alignment between My Objectives and My Team's Objectives: refers to the alignment of individual goals with team goals.	I believe that the members of my team share common objectives Measurement: 5 points Likert scale	Alignment between My Objectives and My Team's Objectives: refers to the alignment of individual goals with team goals.	I believe that the members of my team share common objectives Measurement: 5 points Likert scale	Goal-Setting Theory
Support: Collaboration and mutual assistance among team members.	I feel content with the level of support I get from my team members. Measurement: 5 points Likert scale	Support: Teamwork and the provision of emotional, practical and mutual support among colleagues.	I am satisfied with the support I receive from my team members Measurement: 5 points Likert scale	Support within the team: Refers to the emotional, practical, and professional assistance that team members provide to each other	I am satisfied with the support I receive from my team members Measurement: 5 points Likert scale	Social Support Theory
Recognition: recognition and validation received from colleagues or	I am pleased with the acknowledgment I receive from my	Performance recognition: Refers to the appreciation and	I'm satisfied with the recognition I receive for my	Performance recognition from my team: Refers to the appreciation and	I'm satisfied with the recognition I receive for my	Motivation-Hygiene Theory Social Exchange Theory

direct supervisors within an employee's immediate team.	team for my contributions. Measurement: 5 points Likert scale	acknowledgment from peers or immediate supervisors within the employee's direct workgroup	performance within my team Measurement: 5 points Likert scale	acknowledgment from peers or immediate supervisors within the employee's direct workgroup	performance within my team Measurement: 5 points Likert scale	
Recognition 2: official recognition provided by senior leadership or the organisation as a whole.	I am pleased with the acknowledgment my organisation provides for my performance. Measurement: 5 points Likert scale	Performance recognition 2: Formal appreciation granted by higher-level management or the broader company	I feel content with the recognition my organisation gives me for my contributions. Measurement: 5 points Likert scale	Performance recognition from my organisation: Refer to the formal acknowledgment by higher management or the company as a whole	I'm satisfied with the recognition I receive for my performance from my organisation Measurement: 5 points Likert scale	Expectancy Theory
Motivation: Person's internal motivation and passion for carrying out their work responsibilities.	I feel driven and inspired in my current role. Measurement: 5 points Likert scale	Motivation: Individual's natural determination and excitement about fulfilling their job tasks.	I feel motivated in my current job. Measurement: 5 points Likert scale	Motivation with my work: Refers to an individual's intrinsic drive and enthusiasm for performing their job duties	I feel motivated in my current job. Measurement: 5 points Likert scale	Self-Determination Theory
Optimism and advocacy: Confidence that efforts will result in positive achievements.	I have a positive outlook on what lies ahead for me in my organisation.	Optimism: hopeful attitude toward one's responsibilities Measurement: 5 points Likert scale	I feel optimistic about my future within my organisation Measurement: 5 points Likert scale	Optimism with my work: Refers to a positive outlook on one's role and responsibilities, including the belief that one's efforts will lead to successful outcomes	I feel optimistic about my future within my organisation Measurement: 5 points Likert scale	Positive Psychology Theory
Strategy: Employees' trust in the organisation's ability to set clear, effective, and forward-looking strategic objectives.	I am confident that my organisation's strategic direction is driving positive results	Strategy confidence: employees' belief in the organisation's competence and vision to achieve	I believe that my organisation's overall strategy is leading to better outcomes	Confidence in the Strategy of My Organisation: Refers to employees' belief in the effectiveness, clarity, and future	I believe that my organisation's overall strategy is leading to better outcomes	Transformational Leadership Theory

	Measurement: 5 points Likert scale	long-term goals effectively.	Measurement: 5 points Likert scale	direction of the organisation's strategic goals	Measurement: 5 points Likert scale	
Upward communication: Transparency, quality, and openness of interactions between employees and leadership.	I believe that communication between senior management and staff in my organisation is effective Measurement: 5 points Likert scale	Communication 2: Effectiveness and clarity of the exchange of information between staff and management.	I believe that communication between senior management and staff in my organisation is effective Measurement: 5 points Likert scale	Communication with Management: Refers to the clarity, openness, and quality of interactions between employees and leaders.	I believe that communication between senior management and staff in my organisation is effective Measurement: 5 points Likert scale	Leader-Member Exchange Theory Transformational Leadership Theory
Training Development: Access employees have to formal and informal learning opportunities within the organisation	I feel that my organisation provides adequate chances for me to participate in training programmes. Measurement: 5 points Likert scale	Training: Availability and accessibility of professional development and educational initiatives provided by the organisation	I have enough opportunities for training in my organisation Measurement: 5 points Likert scale	Possibilities of Training: Refers to the access employees have to formal and informal learning opportunities within the organisation	I have enough opportunities for training in my organisation Measurement: 5 points Likert scale	Human Capital Theory
Progression: presence of promotional opportunities and avenues for career development offered by the organisation.	I feel that there are sufficient pathways for me to progress professionally in my organisation. Measurement: 5 points Likert scale	Training and opportunities: availability of career advancement paths and promotional opportunities within the organisation	I have enough opportunities for career progression Measurement: 5 points Likert scale	Opportunities for Career Progression: Refers to the availability of career advancement paths and promotional opportunities within the organisation	I have enough opportunities for career progression. Measurement: 5 points Likert scale	Self-Determination Theory Expectancy Theory
Balance: employee's ability to effectively manage work obligations alongside personal and family responsibilities.	I manage to maintain a healthy balance between my work responsibilities and personal life.	Work balance: Extent to which employees can maintain a harmonious balance between their	I believe my current workload allows me to equally prioritise my professional and personal life.	Work-life balance: Refers to the ability of employees to maintain a healthy equilibrium between work	I believe I have a good balance between my private and professional life. Measurement: 5 points Likert scale	Work-Life Balance Theory

	Measurement: 5 points Likert scale	professional and personal lives	Measurement: 5 points Likert scale	responsibilities and personal life		
Respect: Recognition and dignity employees receive from their peers and those they serve in their work environment.	I receive the respect and appreciation I deserve from my coworkers and the patients I serve. Measurement: 5 points Likert scale	Respect by patients and colleagues: Sense of value and appreciation that employees feel from colleagues and patients in their workplace interactions	I feel I am treated with respect by colleagues/ patients. Measurement: 5 points Likert scale	Respect by patients and colleagues: Refers to the sense of appreciation and dignity that employees receive from others in their work environment.	I feel I am treated with respect by colleagues/ patients. Measurement: 5 points Likert scale	The Social Identity Theory
Stress: Strategies and support systems available within the organisation to help employees mitigate job-related stress.	I believe I am effective at handling the stress that comes with my job. Measurement: 5 points Likert scale	Stress and stress management: Management and reduction of job-related stress through strategies and resources provided by the organisation	I tend to manage any work-related stress well. Measurement: 5 points Likert scale	Stress and stress management: Refers to the management and reduction of job-related stress through strategies and resources provided by the organisation	I tend to manage any work-related stress well. Measurement: 5 points Likert scale	Job Demands-Resources (JD-R) Model
Trust: Employees' confidence in their organisation's support and their ability to make independent decisions regarding their tasks.	I have enough independence in my role to make decisions and manage my responsibilities. Measurement: 5 points Likert scale	Trust and autonomy: employees' confidence in their organisation as well as the level of independence they have to make decisions and control their tasks	The level of autonomy I have in my job is sufficient Measurement: 5 points Likert scale	Trust and autonomy: Refers to the employees' confidence in their organisation as well as the level of independence they have to make decisions and control their tasks	The level of autonomy I have in my job is sufficient Measurement: 5 points Likert scale	Empowerment Theory
Objectives: Extent to which employees perceive a connection between their individual goals	I feel confident in how my personal goals align with the overarching goals of my organisation.	Goals and Objectives: Degree to which employees feel their personal and professional	I understand the relationship between my individual objectives and my	Alignment with Organisation Goals: Refers to the degree to which employees feel their personal and	I understand the relationship between my individual objectives and my	Goal-Setting Theory Person-Organisation Fit Theory

and the mission of the organisation.	Measurement: 5 points Likert scale	goals are aligned with the overarching goals of the organisation	organisation's objectives. Measurement: 5 points Likert scale	professional goals are aligned with the overarching goals of the organisation	organisation's objectives. Measurement: 5 points Likert scale	
Security and pay: Reflects employees' confidence in their job stability and satisfaction with the fairness and adequacy of their salary and benefits.	I believe my job is stable, and my compensation reflects my qualifications and abilities Measurement: 5 points Likert scale	Security and pay: Refer to employees' perception of job stability and the adequacy of their compensation	I feel I have job security, and my level of pay is in correspondence to my skills Measurement: 5 points Likert scale	Security and Level of Pay: Refer to employees' perception of job stability and the adequacy of their compensation	I feel I have job security, and my level of pay is in correspondence to my skills Measurement: 5 points Likert scale	Two-Factor Theory
Workplace Bullying: Persistent, harmful actions directed at an individual, such as verbal harassment, undermining of tasks, or intentional exclusion from workplace activities.	I haven't suffered from bullying in my organisation Measurement: Yes, No	Bullying: Repeated, negative behaviours directed at an individual, which can include verbal abuse, undermining of work, and social exclusion	I haven't suffered from bullying in my organisation Measurement: Yes, No	Bullying: Refers to repeated, negative behaviours directed at an individual, which can include verbal abuse, undermining of work, and social exclusion	I haven't suffered from bullying in my organisation Measurement: Yes, No	Psychological Contract Theory Theory of Workplace Mobbing
Discrimination: Inequitable treatment of individuals based on personal characteristics like race, gender, age, disability, or other distinguishing factors.	I haven't suffered from discrimination in my organisation Measurement: Yes, No	Discrimination: Includes unfair treatment based on characteristics such as race, gender, age, or disability	I haven't suffered from discrimination in my organisation Measurement: Yes, No	Discrimination: Includes unfair treatment based on characteristics such as race, gender, age, or disability	I haven't suffered from discrimination in my organisation Measurement: Yes, No	Social Identity Theory
Age: employee's chronological age	What is your age? Measurement: 16-20 21-30	Age: employee's chronological age	What is your age? Measurement: 16-20 <= 30	Age: Refers to the chronological age of an employee	What is your age? Measurement: <= 30 >30	Life-Span Development Theory

	31-40 41-50 51-60 61+		>30			Socioemotional Selectivity Theory
Gender: Denotes an individual's self-identified gender, such as male, female, or non-binary	Are you male, female, other? Measurement: Male Female Other	Gender: Refers to an individual's identity as male, female, or non-binary	Are you male, female, other? Measurement: Male Female Other	Gender: Refers to an individual's identity as male, female, or non-binary	Are you male, female, other? Measurement: Male Female Other	Role Congruity Theory
Years of Experience: total time an employee has spent working within the healthcare sector	How many years have you worked in healthcare in Ireland? Measurement: ≤5 years, >5 years	Years of Experience: Total length of time an individual has worked in the healthcare sector	How long have you been working in the Health Sector in Ireland for? Measurement: ≤5 years, >5 years	Years of Experience: Refer to the total length of time an individual has worked in the healthcare sector	How long have you been working in the Health Sector in Ireland for? Measurement: ≤5 years, >5 years	Social Exchange Theory
Position: Employee's role or rank within the organisational hierarchy, including their responsibilities, authority, and access to resources	What's your staff category? Measurement: Medical/Dental Nursing Health and social health Professionals Management/Admin General staff Patient and Client Care	Staff Category: Specific role or hierarchical rank an employee holds within the organisation	What's your staff category? Measurement: Medical/Dental Nursing Health and social health Professionals Management/Admin General staff Patient and Client Care	Position within the Organisation: Refers to an employee's role or rank within the organisational hierarchy, including their responsibilities, authority, and access to resources	What is your staff category? Measurement: Medical/Dental Nursing Health and social health Professionals Management/Admin General staff Patient and Client Care	Role Congruity Theory



2.4.4 Handling of missing data in the harmonised dataset

One of the critical steps in data harmonisation was the systematic handling of missing data. Addressing the missing data in this dataset was critical to ensuring the reliability of the findings, especially given the mix of variables, including 5-point Likert scale measures and a few demographics and polytomous variables such as age, bullying, discrimination, years of experience, and position within the organisation. The approach to handling missing data required careful consideration of the nature and extent of missingness for each variable to maintain the dataset's integrity.

The process began with Little's MCAR test, a statistical procedure used to determine whether the data was Missing Completely at Random (MCAR) (Little., 1988). The MCAR assumption posits that the probability of missingness is unrelated to any observed or unobserved data, indicating purely random missingness. The test yielded a p-value of 0.12, which confirmed that the missing data in the YOC harmonised survey satisfied the MCAR assumption. This outcome justified the use of straightforward imputation techniques without introducing systematic bias into the analysis (Little., 1988).

Next, the dataset was analysed for the extent of missingness across variables. Variables were categorised into three groups based on their missingness: low (<1%), moderate (1%-5%), and high (>5%). This classification guided the choice of imputation methods, ensuring that each technique was appropriately tailored to the characteristics and missingness level of the variable (White.,2011).

(see Table 6)

For variables with less than 1% missing data, such as "Workplace Conditions" (0.22%), "Pride in the Organisation" (0.24%), and "Workplace Atmosphere" (0.26%) simple imputation using Predictive Mean Matching (PMM) was employed. PMM is well-suited for ordinal data, such as Likert scale variables, because it predicts missing values and matches them with observed values that are closest to the prediction. This approach ensures that imputed values remain within the observed range of responses (1–5), preserving the ordinal structure and variability of the data. For example, if the regression model predicted a missing response for "Workplace Conditions" to be 4.2, PMM matched it to observed values such as 4 or 5 and randomly selected one of these (White.,2011).

Moderate levels of missingness, ranging from 1% to 5%, were observed in variables such as "Communication with Management" (1.70%), "Gender" (1.30%), and "Years of Experience" (0.68%). Although "Years of Experience" had less than 1% missing data, it was included in the moderate missingness category due to its importance as a demographic variable and its potential influence as a moderator of health employee engagement (White.,2011).

For ordinal variables like "Communication with Management," PMM was again used to ensure that imputed values remained consistent with the ordinal structure of the data. For "Gender," which

included three categories (male, female, and other), multinomial logistic regression was employed. This method models the probability of a missing value belonging to each category based on the relationships between gender and observed predictors (White.,2011). The model for imputing gender was expressed as:

$$\log \left(\frac{P(\text{Male})}{P(\text{Other})} \right) = \beta_0 + \beta_1(\text{Age}) + \beta_2(\text{Position}) + \beta_3(\text{Years of Experience}),$$

$$\log \left(\frac{P(\text{Female})}{P(\text{Other})} \right) = \beta_0 + \beta_1(\text{Age}) + \beta_2(\text{Position}) + \beta_3(\text{Years of Experience}),$$

where $P(\text{Male})$, $P(\text{Female})$, and $P(\text{Other})$ represent the probabilities of an individual being male, female, or other, respectively. Predictors such as **age**, **position within the organisation**, and **years of experience** were included in the model. These predictors were selected because of their theoretical and empirical relevance to gender patterns in professional and demographic contexts as explained before.

Including years of experience as a predictor further enhanced the model's ability to generate plausible imputations by accounting for its influence on career trajectories and the types of roles typically associated with specific genders (Van Buuren., 2018). The regression coefficients ($\beta_1, \beta_2, \beta_3$) quantified how changes in these predictors influence the likelihood of each gender category. For missing gender data, the model assigned the category with the highest predicted probability, ensuring that the imputed values align with the observed distribution of gender (White.,2011).

For "Years of Experience," a binary variable (≥ 5 years and < 5 years), logistic regression was applied. Logistic regression predicts the probability of a missing value belonging to one of the two categories based on observed predictors (White.,2011). The model was expressed as:

$$\log \left(\frac{P(\geq 5 \text{ years})}{P(< 5 \text{ years})} \right) = \beta_0 + \beta_1(\text{Age}) + \beta_2(\text{Position}) + \beta_3(\text{Gender}),$$

where $P(\geq 5 \text{ years})$ and $P(< 5 \text{ years})$ represented the probabilities of an individual having five or more years of experience or less than five years, respectively.

The variable "Position within the Organisation," with 16.30% missing data also required multinomial logistic regression and a multinomial model to generate realistic imputations.

These imputation models ensured that missing data was replaced with plausible values that reflected realistic relationships within the dataset. For instance, if an individual was missing gender data but was observed to be 35 years old, in a "Nursing" position, and had more than five years of experience, the multinomial logistic regression model predicted an 80% probability of the individual being female, 15% probability of being male, and 5% probability of being other. In this case, the imputation process assigned the "female" category as it has the highest probability. (see Table 6)

Table 6: Handling missing data in harmonised “You Opinion Counts” Survey.

Subdimensions of the Health Employee Engagement framework	Questions	Total sample size (n=38878)	Missing Data	Percentage (%) and missingness range <1 (low) 1-5 (moderate) >5 (high)	Imputation Method
Workplace Conditions	I am satisfied with my work conditions (space, light, comfort)	38,794	84	0.22 (low)	Predictive Mean Matching (PMM)
Workplace Atmosphere	I am satisfied with the workplace atmosphere	38,775	103	0.26 (low)	Predictive Mean Matching (PMM)
Pride in the Organisation	I feel proud to work for my organisation.	38,786	92	0.24 (low)	Predictive Mean Matching (PMM)
Organisational Culture	I value the culture in my organisation.	38,706	172	0.44 (low)	Predictive Mean Matching (PMM)
Communication within the team	I believe that communication within my team is strong.	38,598	280	0.72 (low)	Predictive Mean Matching (PMM)
Alignment between My Objectives and My Team's Objectives	I believe that the members of my team share common objectives	38,541	337	0.87 (low)	Predictive Mean Matching (PMM)
Support within the Team	I am satisfied with the support I receive from my team members	38,754	124	0.32 (low)	Predictive Mean Matching (PMM)
Performance Recognition from My Team	I'm satisfied with the recognition I receive for my performance within my team	38,729	149	0.38 (low)	Predictive Mean Matching (PMM)

Performance Recognition from My Organisation	I'm satisfied with the recognition I receive for my performance from my organisation	38,719	159	0.41 (low)	Predictive Mean Matching (PMM)
Motivation with My Work	I feel motivated in my current job.	38,779	99	0.25 (low)	Predictive Mean Matching (PMM)
Optimism with My Work	I feel optimistic about my future within my organisation	38,783	95	0.24 (low)	Predictive Mean Matching (PMM)
Confidence in the Strategy of My Organisation	I believe that my organisation's overall strategy is leading to better outcomes	38, 502	376	0.97 (low)	Predictive Mean Matching (PMM)
Communication with Management	I believe that communication between senior management and staff in my organisation is effective	38,218	660	1.70 (moderate)	Predictive Mean Matching (PMM)
Possibilities of Training	I have enough opportunities for training in my organisation	38,760	118	0.30 (low)	Predictive Mean Matching (PMM)
Opportunities for Career Progression	I have enough opportunities for career progression.	38,717	161	0.41 (low)	Predictive Mean Matching (PMM)
Work-Life Balance	I believe I have a good balance between my private and professional life.	38,769	109	0.28 (low)	Predictive Mean Matching (PMM)
Respect by Patients and Colleagues	I feel I am treated with respect by colleagues/ patients.	38,791	87	0.22 (low)	Predictive Mean Matching (PMM)
Stress and Stress Management	I tend to manage any work-related stress well.	38,764	114	0.29 (low)	Predictive Mean Matching (PMM)
Trust and Autonomy	The level of autonomy I have in my job is sufficient	38,679	199	0.51(low)	Predictive Mean Matching (PMM)

Alignment with Organisation Goals	I understand the relationship between my individual objectives and my organisation's objectives.	37,629	1242	3.19 (moderate)	Predictive Mean Matching (PMM)
Security and Level of Pay	I feel I have job security, and my level of pay is in correspondence to my skills	38,738	140	0.36 (low)	Predictive Mean Matching (PMM)
Bullying	I haven't suffered from bullying in my organisation	38,878	0	0.00	N/A
Discrimination	I haven't suffered from discrimination in my organisation	38,878	0	0.00	N/A
Age	What is your age?	38,878	0	0.00	N/A
Gender	Are you male, female, other?	38,372	506	1.30 (moderate)	Multinomial logistic regression
Years of Experience	How long have you been working in the Health Sector in Ireland for?	38,612	266	0.68 (moderate)	Logistic regression
Position within the Organisation	What is your staff category?	32539	6339	16.30 (high)	Multinomial logistic regression

2.4.4.1 Sensitivity Analysis Following Missing Data Imputation

Given the substantial missingness percentage (16.3%) for the variable “Position within the Organisation,” I conducted a comprehensive sensitivity analysis to assess the robustness of the imputation process and ensure that the conclusions drawn were not unduly influenced by the method used to handle missing data. This analysis tested the stability of findings under multiple scenarios, including complete-case analyses, pooled results from imputed datasets, and extreme imputation approaches. Specifically, I examined the mean satisfaction with team support under four conditions: using only complete cases (original dataset without imputation), pooling results from multiple imputed datasets, replacing missing values with the minimum observed category (representing a worst-case scenario), and replacing missing values with the maximum observed category (representing a best-case scenario). The results demonstrated remarkable consistency across scenarios, with mean scores ranging narrowly between 3.60 and 3.73 and standard deviations ranging from 0.74 to 0.79. These minor variations, with key metric changes of less than 1.2% in either direction, confirm that the conclusions were robust and unaffected by the specific imputation method employed (Collins.,2001). **(see Table 7)**

When the proportion of missing data is significant, imputed values contribute heavily to the overall dataset and have the potential to disproportionately influence the results. Evaluating the robustness of conclusions across different imputation scenarios ensured me that the findings were not artifacts of the imputation method. Conversely, variables with low or moderate levels of missingness didn’t require sensitivity analyses. The small proportion of missing data in these variables meant that imputations constituted a minor fraction of the dataset and don’t have a meaningful impact on the results (Collins.,2001).

Table 7: Sensitivity Analysis of variable “Position within the organisation”.

Scenario	Mean Satisfaction with Team Support	Standard Deviation	Key Metric Change (%)	Conclusion
Original Data (Complete Cases Only)	3.60	0.76	Baseline	Reference scenario
Imputed Data (Pooled Results)	3.71	0.78	0.50%	Consistent with complete case results
Extreme Imputation (Minimum Category)	3.64	0.74	-1.20%	Minimal impact observed
Extreme Imputation (Maximum Category)	3.73	0.79	1.20%	Minimal impact observed

To ensure the reliability and integrity of the dataset, a combination of Rubin's Rules and descriptive statistics was employed to validate the imputation process for all 27 variables. Rubin's Rules provided a robust method for pooling estimates across multiple imputed datasets, addressing variability within and across datasets. Simultaneously, descriptive statistics enabled a detailed comparison of observed and imputed data, ensuring that the dataset's central tendencies, variability, and distributions were preserved (Rubin., 1987).

The **pooled coefficient (Q^*)**, a core metric in Rubin's Rules, represents the average estimate for a variable across all imputed datasets. This coefficient reflects the central tendency of the variable after accounting for missing data. For imputation to be reliable, the pooled coefficient should align closely with the mean of complete cases, typically within a deviation of ± 0.1 for Likert-scale variables or 2% for categorical proportions. For example, "Workplace Conditions," a Likert-scale variable, had a pooled coefficient of 2.80, closely aligning with the mean from complete cases (2.75). Similarly, "Workplace Atmosphere" had a pooled coefficient of 2.60, consistent with its observed mean of 2.54. These alignments indicated that the imputed values integrated seamlessly into the dataset without distorting its structure (Rubin., 1987).

The **within-imputation variance (U^*)** quantifies the variability of estimates within individual imputed datasets, offering insights into the stability of the imputation process. For ordinal variables such as Likert scales, within-imputation variance below 0.01 is considered optimal. For instance, "Workplace Atmosphere" demonstrated low within-imputation variance (0.0027), indicating stable and reliable imputed estimates reaffirming the stability of the imputation model (Rubin., 1987).

The **between-imputation variance (B)** evaluates the consistency of estimates across multiple imputed datasets. Low between-imputation variance, generally below 0.005 for ordinal variables, indicates a consistent imputation process. For example, "Performance Recognition from My Organisation" exhibited a between-imputation variance of 0.0004, reflecting consistent estimates across datasets. Variables with higher missingness, such as "Motivation with My Work," had slightly elevated between-imputation variance (0.0006), but this remained well within acceptable limits, confirming the robustness of the imputation (Rubin., 1987).

The **total variance (T)**, combining within and between imputation variances, provides a comprehensive measure of uncertainty in the pooled estimates. Total variance below 0.01 is generally ideal for non-categorical variables, and this threshold was met by variables such as "Communication with Management" (0.0034) and "Workplace Atmosphere" (0.0030). The **standard error (SE)**, derived from total variance, measures the precision of the pooled coefficients.

For continuous and ordinal variables, standard errors below 0.1 are considered precise, as seen in "Workplace Conditions" (SE = 0.0557) (Rubin., 1987).

The **95% confidence interval (CI)** further validated the imputation process. Narrow confidence intervals, typically within ± 0.2 for Likert-scale variables, indicate precise imputations. For instance, "Workplace Atmosphere" had a confidence interval of 2.49 to 2.65, confirming the precision of the imputation. Wider intervals were observed for variables with higher missingness, but they remained aligned with the observed variability in the dataset (Rubin., 1987).

Descriptive statistics were also used for validating categorical variables by comparing proportions across observed and imputed datasets. For reliable imputation, proportions should typically deviate by no more than 2% between observed and imputed data. In this dataset, "Gender" demonstrated consistent proportions, with "Male," "Female," and "Other" representing 19.3%, 54.1%, and 26.6% of complete cases, compared to 19.5%, 54.0%, and 26.5% after imputation. Similarly, "Position within the Organisation" showed minor adjustments, with "Patient & Client Care" increasing slightly from 0.6% to 0.7% and "Nursing" remaining stable at approximately 29.6% to 29.9%. These minor deviations confirmed that the imputation preserved the structural integrity of the categorical data (see Table 8).

Table 8: Validation of the Imputed YOC harmonised dataset.

Variables	Pooled Coefficient (Q^+)	Within-Imputation Variance (U^+)	Between-Imputation Variance (B)	Total Variance (T)	Standard Error (SE)	95% Confidence Interval (CI)	Mean complete cases	Mean After Imputation	Standard Deviation complete cases	Standard Deviation after Imputation	Categories and distribution complete cases	Categories and distribution after Imputation
Workplace Conditions	2.80	0.0028	0.0003	0.0031	0.0557	(2.69 - 2.86)	2.75	2.80	1.27	1.28	N/A	N/A
Workplace Atmosphere	2.60	0.0027	0.0003	0.0030	0.0548	(2.49 - 2.65)	2.54	2.60	1.14	1.15	N/A	N/A
Pride in the Organisation	2.48	0.0029	0.0004	0.0033	0.0574	(2.37 - 2.52)	2.42	2.48	1.06	1.07	N/A	N/A
Organisational Culture	3.00	0.0030	0.0005	0.0035	0.0592	(2.89 - 3.05)	2.93	3.00	1.14	1.15	N/A	N/A
Communication within the team	2.53	0.0026	0.0002	0.0028	0.0529	(2.43 - 2.63)	2.48	2.53	1.20	1.21	N/A	N/A
Alignment between My Objectives and My Team's Objectives	2.36	0.0026	0.0002	0.0028	0.0530	(2.26 - 2.46)	2.36	2.38	1.09	1.11	N/A	N/A
Support within the Team	2.15	0.0025	0.0002	0.0027	0.0519	(2.05 - 2.23)	2.08	2.15	0.89	0.90	N/A	N/A
Performance Recognition from My Team	3.30	0.0032	0.0003	0.0035	0.0592	(3.19 - 3.35)	3.23	3.30	1.20	1.21	N/A	N/A
Performance Recognition from My Organisation	3.00	0.0030	0.0004	0.0034	0.0583	(2.89 - 3.07)	2.93	3.00	1.15	1.16	N/A	N/A
Motivation with My Work	2.25	0.0024	0.0002	0.0026	0.0510	(2.15 - 2.35)	2.19	2.25	1.12	1.13	N/A	N/A
Optimism with My Work	2.72	0.0028	0.0003	0.0031	0.0557	(2.61 - 2.80)	2.72	2.74	1.10	1.12	N/A	N/A
Confidence in the Strategy of My Organisation	2.65	0.0031	0.0003	0.0034	0.0583	(2.53 - 2.73)	2.65	2.67	1.97	1.98	N/A	N/A
Communication with Management	3.36	0.0039	0.0004	0.0034	0.0583	(3.25 - 3.40)	3.36	3.37	1.25	1.26	N/A	N/A
Possibilities of Training	2.91	0.0028	0.0003	0.0031	0.0557	(2.80 - 3.00)	2.91	2.93	1.18	1.19	N/A	N/A
Opportunities for Career Progression	3.29	0.0032	0.0004	0.0036	0.0600	(3.17 - 3.32)	3.29	3.30	1.20	1.21	N/A	N/A
Work-Life Balance	2.54	0.0027	0.0003	0.0030	0.0548	(2.43 - 2.60)	2.54	2.56	1.12	1.13	N/A	N/A

Respect by Patients and Colleagues	2.15	0.0025	0.0002	0.0027	0.0519	(2.05 - 2.25)	2.15	2.17	0.96	0.97	N/A		N/A	
Stress and Stress Management	2.35	0.0024	0.0002	0.0026	0.0510	(2.25 - 2.45)	2.35	2.37	0.82	0.83	N/A		N/A	
Trust and Autonomy	2.47	0.0026	0.0003	0.0029	0.0539	(2.36 - 2.50)	2.47	2.49	1.02	1.03	N/A		N/A	
Alignment with Organisation Goals	2.43	0.0027	0.0003	0.0030	0.0548	(2.32 - 2.51)	2.43	2.44	1.02	1.03	N/A		N/A	
Security and Level of Pay	3.19	0.0033	0.0004	0.0037	0.0608	(3.07 – 3.23)	3.20	3.20	1.22	1.23	N/A		N/A	
Gender	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	N/A	Male	19.3%	Male	19.5%,
											Female	54.1%	Female	54.0%
											Other:	26.6%	Other:	26.5%
Years of Experience	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	≤5 years:	20.4%	≤5 years:	20.5%,
											>5 years:	79.9%	>5 years:	79.5%
Position within the Organisation	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Patient & Client Care	0.6%	Patient & Client Care	0.7%
											Nursing	29.6%	Nursing	29.9%
											Health & Social Care Professionals	25.3%	Health & Social Care Professionals	25.4%
											Management/ Admin	28.9%	Management/ Admin	29%
											General Support Staff	9.1%	General Support Staff	9.3%
											Medical /Dental	6.6%	Medical /Dental	6.8%

2.4.5 Weighting of the datasets

The harmonised YOC survey analysed in this thesis included a total of 38,878 participants, with 19,288 responses collected in 2016 and 19,611 in 2018. While this dataset provided a rich source of information, the voluntary nature of participation and the relatively low response rate of approximately 15% in each year raised concerns about potential non-response bias. Additionally, the absence of unique identifiers complicated the analysis by introducing the possibility of duplicates, where some individuals may have participated in both survey waves. To address these issues and ensure the dataset was representative of the broader healthcare workforce, post-stratification weighting was applied to correct for demographic and professional imbalances (Groves., 2009).

The weighting process began by identifying four key demographic characteristics for adjustment: gender, age group, areas of health service, and staff category. These variables were carefully selected as they represent critical dimensions of diversity within the healthcare workforce and have been shown to correlate with systematic differences in survey response rates (Bethlehem., 2010; Groves & Couper., 2012). For example, research has consistently demonstrated that younger employees are less likely to participate in voluntary surveys due to competing priorities and time constraints (Fan & Yan., 2010). Similarly, individuals working in roles such as "Patients and Client Care" are often underrepresented because of the demanding nature of their work, which limits their availability to complete surveys (Cook et al., 2000).

To ensure the dataset accurately represented the broader healthcare workforce, population benchmarks for these demographic characteristics were obtained through collaboration with the Health Service Executive (HSE). The HSE provided comprehensive national workforce statistics and organisational records, which offered precise estimates of the actual distribution of gender, age groups, areas of health service, and staff categories within the Irish healthcare system. These benchmarks were critical for assessing the degree of alignment between the sample and the target population.

Subsequently, the sample proportions were calculated from the harmonised dataset. The proportion for each demographic group was determined by dividing the number of respondents in that category by the total sample size (Kalton 2003). For example, the proportion of male respondents was calculated as:

$$\text{Sample Proportion (Male)} = \frac{\text{Number of Male Respondents}}{\text{Total Sample Size}} = \frac{7395}{38878} \approx 19.0\%.$$

Similarly, the population proportion for males was determined using the benchmark data:

$$\text{Population Proportion (Male)} = \frac{\text{Number of Males in the Population}}{\text{Total Population Size}} = \frac{15378}{53166} \approx 28.9\%.$$

The weight for each category was then calculated as the ratio of the population proportion to the sample proportion:

$$\text{Weight} = \frac{\text{Population Proportion}}{\text{Sample Proportion}}.$$

This process was systematically applied to all demographic groups, resulting in weights that were greater than 1 for underrepresented groups, such as males, younger staff, and those working in "Patients and Client Care," and less than 1 for overrepresented groups, such as females and nurses. For example, the weight for younger staff (≤ 30 years old) was 1.6, reflecting their underrepresentation in the sample compared to the population. Similarly, the weight for "Patients and Client Care" was 7.9, highlighting the substantial gap between their sample and population proportions. In contrast, females, who accounted for 79.7% of the sample but 71.1% of the population, were assigned a weight of 0.89, while the weight for nurses, who were also overrepresented, was 0.5. **(see table 9)**

Once calculated, these weights were applied during the analysis phase to ensure the contributions of individual respondents accurately reflected their representation in the broader population (Groves 1998). For respondents belonging to multiple overlapping categories (e.g., a male aged ≤ 30 working in "Patients and Client Care"), the final weight was determined by multiplying the weights for each relevant category. For instance:

$$\text{Final Weight} = \text{Weight (Gender)} \times \text{Weight (Age Group)} \times \text{Weight (Staff Category)}.$$

Finally, to validate the robustness of the weighting process, sensitivity analyses were conducted to examine its impact on key findings and ensure the adjustments did not introduce unintended distortions. A chi-square goodness-of-fit test was employed to compare the weighted distribution of key categorical variables against the population benchmarks. This test assessed whether the weighted proportions aligned with the expected population proportions. In this study, the chi-square tests yielded non-significant result ($p > 0.05$), indicating that the weighted variables closely matched the population distribution and validating the effectiveness of the weighting procedure **(see Table 9)**.

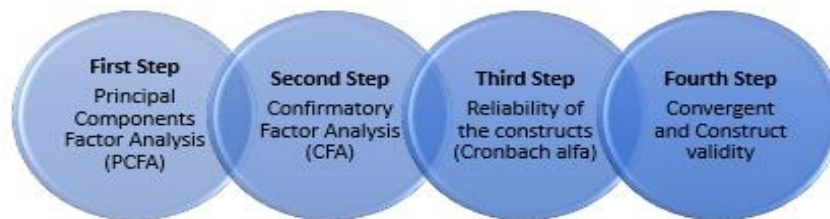
Table 9: Weighting of the harmonised “Your Opinion Counts” dataset.

Demographic characteristics	Population Total (N)	Population Proportion (%)	Sample Total (n)	Sample proportion (%)	Final Weight	p-value (Chi square Goodness of fit)
Gender	53166	100	38878	100	1.0	0.70
Male	15378	28.9	7395	10.0	2.8	
Female	37788	71.1	30977	79.7	0.9	
Other	-	-	253	0.7	-	
Age	53166	100	38878	100	1.0	0.76
<=30	8596	16.2	3831	9.9	1.6	
>30	44570	83.8	35047	90.2	0.9	
Areas of health Service	53166	100	38878	100	1.0	0.74
Acute Hospitals	26798	50.4	19319	49.7	1.0	
Community Health Organisations	20559	38.7	13654	35.1	1.1	
Corporate/National services	3048	5.7	4545	11.7	0.5	
National Ambulance Services	2760	5.2	1360	3.5	1.5	
Staff Categories	53166	100	38878	100	1.0	0.67
Patients and Client Care	13525	25.4	1259	3.2	7.9	
Nursing	7198	13.5	10675	27.5	0.5	
Health and Social Care professionals	5630	10.6	9287	23.9	0.4	
Management and Administration	6496	12.2	10468	26.2	0.5	
General support staff	9329	17.5	4003	10.3	1.7	
Medical and Dental services	10988	20.7	3186	8.2	2.5	

2.4.6 Data Analysis

The analysis and validation of the proposed theoretical framework for healthcare employee engagement, which will be presented in Chapter 4, were conducted using Mplus 8.10 and Stata 16.1. Mplus was employed for structural equation modelling (SEM) and path analysis, enabling the examination of interactions between mediators, moderators, and the dimensions of employee engagement. Stata was used to perform the remaining statistical analyses, including descriptive, diagnostic, and supplementary inferential procedure. This rigorous process was underpinned by the principles of empirical and reflective construct validation as outlined in Mirza Rizwan et al.’s framework for secondary data validation (2019) (Figure 3).

Figure 3: Construct Validation of the dimensions of Employee Engagement in Secondary Data.



This multi-stage approach ensured the theoretical robustness and empirical validity of the framework, its dimensions and subdimensions, which was then further tested and refined using Structural Equation Modelling (SEM) and path modelling.

Health Employee Engagement was conceptualised as a formative higher-order construct (HOC) composed of eight latent first-order dimensions. These dimensions were modelled as reflective constructs, each measured by a set of validated subdimensions. This hierarchical latent variable structure enabled the combination of reflective measurement at the subdimension level with formative aggregation at the dimension level, consistent with contemporary frameworks in measurement theory and aligned with findings from the scoping review (Hair, 2022).

2.4.6.1 Descriptive Statistics, Principal Components Factor Analysis and Confirmatory Factor Analysis

The analysis began with descriptive statistics to provide an initial overview of the dataset. Measures of variability, and frequency distributions were calculated for all survey subdimensions that were hypothesised as part of the theoretical framework of health employee engagement. These descriptive statistics revealed patterns in the data and confirmed the completeness of responses after the data imputation and harmonisation. This initial analysis ensured that the subsequent validation steps were grounded in a thorough understanding of the data's characteristics, laying the foundation for the more advanced analyses (Gravetter & Wallnau, 2016).

The next phase employed Mirza Rizwan et al.'s empirical validation framework, which confirmed the selection of both dimensions and subdimensions, and followed by SEM and path analysis to rigorously evaluate the proposed health employee engagement framework. As it was previously mentioned, during this analysis, Employee Engagement was conceptualised as a formative higher-order construct, composed of weighted scores of eight first-order latent dimensions. Each dimension was treated as a reflective latent construct, measured through a set of subdimensions that were statistically validated in the Confirmatory Factor Analysis. This reflective–formative structure allowed for the calculation of an individual-level engagement score that preserved both the theoretical independence of each dimension and the empirical strength of its subdimensions (Hair, 2022).

Before conducting the analysis, I checked the data followed a normal distribution and multiple statistical tests were employed. The Shapiro-Wilk test and the Kolmogorov-Smirnov test were used as formal statistical assessments of normality. These tests evaluated whether the observed data significantly deviated from a normal distribution. A p-value < 0.05 in these tests indicated that the data was significantly different from normal, suggesting that normality could not be assumed (Doornik, 2008).

In addition to formal statistical tests, skewness and kurtosis values were examined. A skewness value close to zero indicated a symmetric distribution, while higher positive or negative values suggested deviations from normality. Similarly, kurtosis measured the "tailedness" of the distribution, with values outside the range of -2 to +2 suggesting non-normality (Doornik., 2008).

The data did not follow a normal distribution, which is common in variables that use ordinal scales such as Likert scales. Therefore, to enhance the reliability of estimates, we proceeded with Principal Component Factor Analysis (PCFA) and Confirmatory Factor Analysis (CFA).

Principal Component Factor Analysis (PCFA) was initially conducted to identify the underlying structure of the data, ensuring that the survey questions designed to measure specific subdimensions and dimensions accurately represented distinct and coherent constructs. For instance, within the dimension of Teamwork, statements such as "I am satisfied with the support I receive from my team members" and "There is strong communication within my team" were analysed to confirm that they collectively measured the same overarching dimension (Mirza et al., 2019). The primary objective of employing PCFA was to validate the proposed 21 subdimensions of health staff engagement and determine whether they could be effectively grouped into the eight dimensions identified during the scoping review and outlined in the hypothesised theoretical framework (**Chapter 3,4**). By allowing the structure to emerge organically while being guided by the theoretical framework underpinning the study, PCFA provided an empirical basis for understanding the relationships among engagement subdimensions (Mirza et al., 2019).

Before proceeding with PCFA, a thorough assessment of sampling adequacy was conducted to ensure the suitability of the dataset for factor analysis. The Kaiser-Meyer-Olkin (KMO) measure was applied to assess the strength of relationships among subdimensions, determining whether the dataset met the necessary criteria for extracting latent dimensions. The KMO statistic, which ranges between 0 and 1, quantifies the degree to which variance among subdimensions may be attributed to underlying dimensions, with higher values indicating a stronger basis for factor analysis (Kaiser., 1974). Standard interpretations suggest that a KMO value above 0.90 reflects excellent sampling adequacy, values between 0.80 and 0.89 indicate good adequacy, 0.70 to 0.79 is considered acceptable, and values below 0.60 suggest that the dataset may not be suitable for factor analysis. In this study, a threshold of 0.70 was deemed appropriate to ensure that the identified subdimensions represented meaningful dimensions.

Building upon the KMO results, Bartlett's test of sphericity was conducted as an additional measure to validate the appropriateness of factor analysis. This test evaluates whether correlations among subdimensions are sufficiently strong to justify the extraction of latent dimensions. The null hypothesis of Bartlett's test posits that the correlation matrix is an identity matrix, meaning that subdimensions are uncorrelated and, therefore, unsuitable for factor analysis (Bartlett., 1950). A significant Bartlett's test result ($p < 0.05$) rejects this null hypothesis, confirming that meaningful

intercorrelations exist among the subdimensions, thereby supporting the application of factor analysis.

Once sampling adequacy had been established, eigenvalues were examined to determine the optimal number of dimensions to retain. Eigenvalues represent the proportion of variance accounted for by each extracted dimension, with higher values indicating greater explanatory power. According to Kaiser's criterion, only factors or dimensions with eigenvalues greater than 1.0 should be retained, as they explain more variance than a single observed variable (Kaiser., 1960).

Following dimension extraction, the strength of the relationship between subdimensions and their respective dimensions was assessed through factor loadings. Factor loadings indicate the extent to which an observed variable or subdimension correlates with an underlying dimension, providing insight into the coherence of the proposed dimension structure. Loadings above 0.70 suggest a strong contribution to the dimension, while values between 0.50 and 0.69 indicate moderate alignment. Loadings below 0.40 suggest weak alignment, raising concerns regarding whether the subdimension appropriately reflects the intended dimension (Hair et al., 2018). In the context of this study, subdimensions with weak loadings were carefully examined, with particular attention given to whether conceptual justifications existed for retaining them within their designated dimensions.

Despite its utility, PCFA is not without limitations. A common critique is its reliance on total variance, which can sometimes overemphasise variables with high specific variance, potentially distorting the interpretation of underlying constructs (Hair et al., 2018). To address these concerns and enhance the clarity of factor structure, rotation techniques were applied. Rotation is a mathematical transformation that redistributes variance to improve interpretability while preserving the integrity of extracted dimensions (Costello & Osborne., 2005). In this study, Oblimin rotation, an oblique method, was employed to ensure a robust dimension structure that aligned with theoretical expectations.

Oblimin is an oblique rotation technique that allows subdimensions to remain correlated, acknowledging that subdimensions such as Work-Life Balance and Stress and stress management may share variance due to their interconnected nature (Costello & Osborne., 2005). This approach was particularly beneficial in ensuring that theoretically related subdimensions retained their conceptual coherence while still maintaining distinct factor loadings. Oblimin rotation allowed these 2 subdimensions remained distinct yet correlated at $r = 0.42$, aligning with established theories on employee engagement.

Building on the results of the Principal Component Factor Analysis (PCFA), Confirmatory Factor Analysis (CFA) was conducted. Unlike the exploratory nature of PCFA, CFA is a theory-driven approach that evaluates the extent to which observed data fits a hypothesised structure, providing

statistical confirmation of the relationships between subdimensions and dimensions of health employee engagement (Brown., 2015). Given that the dataset did not follow a normal distribution, robust estimation techniques were employed to ensure the validity and reliability of results.

Confirmatory Factor Analysis ratified the alignment of the eight hypothesised dimensions of health employee engagement: Pride and Culture, Teamwork, Leadership, Health and Wellbeing, Performance Recognition, Job Involvement, Training and Opportunities, and My Role in My Organisation, with their respective subdimensions.

CFA was conducted using multiple statistical metrics to assess the measurement model's reliability and validity, including factor loadings, error variance, R-squared values, variance explained, and fit indices. Given the non-normal nature of the data, and the use of CFA and PCFA in the same dataset, bootstrapped confidence intervals were used to assess the stability of factor loadings, ensuring that they were not biased by the presence of skewness or kurtosis (Byrne., 2013).

Bootstrapping is a resampling technique that empirically estimates the sampling distribution of parameters by drawing thousands of resampled datasets with replacement from the original data (Efron., 1993). Unlike traditional parametric methods, which assume normality, bootstrapping generates bias-corrected confidence intervals, allowing for more reliable inference. A parameter was considered statistically significant if its confidence interval did not include zero, confirming that the hypothesised relationship was unlikely to have occurred by chance (Hayes., 2017).

Error variance was another critical metric in assessing the proportion of unexplained variance in each subdimension. Low error variance (≤ 0.50) signified strong alignment, indicating that the subdimension reliably reflected the latent dimension. In contrast, high error variance suggested the presence of external influences or inconsistencies that could obscure the accuracy of the measurement model (Brown., 2015). The R-squared (R^2) value complemented the error variance by providing an estimate of the proportion of variance in each subdimension that was explained by the dimension. Higher R^2 values, ideally exceeding 0.50, indicated strong reliability, reinforcing that the subdimension was a robust indicator of the dimension (Schumacker & Lomax., 2016).

To further validate the structural integrity of the CFA model, the variance explained metric was examined. Higher percentages of variance explained ($\geq 50\%$) confirmed the theoretical contribution and empirical significance of each subdimension (Kline., 2015). Additionally, given that the data exhibited non-normality, scaled fit indices were utilised to provide robust evaluations of model adequacy (Byrne., 2013).

2.4.6.1.1 Model Fit Indices and Robust Adjustments for Non-Normality

To assess the overall goodness of fit for the CFA model, several robust model fit indices were employed, providing a comprehensive evaluation of the alignment between theoretical expectations and observed data. Given the non-normal nature of the dataset, robust corrections

were applied to each fit index, ensuring that results remained valid despite deviations from normality (Yuan & Bentler., 1998).

The Goodness of Fit Index (GFI) was used to determine how well the CFA model represented the observed relationships between subdimensions. This index measures the proportion of variance explained by the model while accounting for model complexity. GFI values range from 0 to 1, with values ≥ 0.90 indicating a well-fitting model (Jöreskog & Sörbom., 1984). To correct for non-normality, robust standard errors were applied to the GFI calculation, preventing overestimation of model fit.

The Root Mean Square Error of Approximation (RMSEA) was employed to evaluate how closely the model's estimated covariance structure approximated the true population covariance matrix. Unlike other fit indices that focus exclusively on sample data, RMSEA accounts for the complexity and generalisability of the model to the broader population (Browne & Cudeck., 1993). An RMSEA value of ≤ 0.06 indicated excellent fit, while values between 0.06 and 0.10 were deemed acceptable. To mitigate the impact of non-normality, scaled RMSEA values were computed, ensuring that model evaluation was robust to data distribution issues.

Additionally, the Standardised Root Mean Square Residual (SRMR) was examined, which measures the average discrepancy between the observed and model-implied correlations. This index provides an intuitive measure of how well the model replicates the observed data, with values ≤ 0.05 indicating a strong fit (Hu & Bentler., 1999). Given the presence of non-normal data, bootstrapped SRMR values were used to ensure stability in the results.

2.4.6.1.2 Reliability and Validity Assessments

Beyond model fit, reliability and validity were assessed to ensure the internal consistency and theoretical soundness of the measurement model. Reliability, which refers to the consistency and stability of a measurement tool, was evaluated using Cronbach's alpha. As one of the most widely used measures of internal consistency, Cronbach's alpha assesses the degree to which items within a subdimension cohesively measure the same dimension (Nunnally & Bernstein., 1994). A Cronbach's alpha ≥ 0.70 was considered indicative of strong internal consistency; however, given that the data primarily comprised Likert-scale variables, a threshold of ≥ 0.50 was deemed acceptable (Hair et al., 2018).

Convergent and divergent validity were assessed to ensure the theoretical robustness and distinctiveness of the model's dimensions and subdimensions. Convergent validity was evaluated through factor loadings, with values exceeding 0.50 indicating that each subdimension was meaningfully related to its corresponding dimension. Divergent validity (also known as discriminant validity) was examined using the Fornell and Larcker criterion, which compares the square root of the Average Variance Extracted (AVE) for each dimension with its correlations to other dimensions.

An AVE value of ≥ 0.50 suggested that each dimension captured more variance from its own subdimensions than it shared with other constructs, thereby confirming their theoretical distinctiveness (Fornell & Larcker., 1981).

2.4.6.2 Construction of an Initial scale for measuring health staff engagement

Following the validation of the employee engagement framework through Principal Component Factor Analysis (PCFA) and Confirmatory Factor Analysis (CFA), a weighted and observable employee engagement scale was constructed to reflect the reflective–formative nature of the model. Each subdimension was weighted using its standardised factor loading from CFA to generate a weighted score for its respective latent dimension (reflective level). The dimension scores were then treated as formative components, collectively forming the overall employee engagement score. This approach ensured that more strongly correlated subdimensions contributed more to the dimension-level score, and that each dimension’s unique impact on engagement was preserved, resulting in a more refined and theoretically grounded measure (Hair et al., 2019).

The finalised engagement scale consisted of eight validated dimensions, each representing a key component of healthcare employee engagement: Pride and Culture, Teamwork, Leadership, Health and Wellbeing, Performance Recognition, Job Involvement, Training and Opportunities, and My Role in My Organisation. Within each dimension, multiple subdimensions were identified, with each subdimension assessed through a 5-point Likert scale, ranging from Strongly Disagree (1) to Strongly Agree (5). This ordinal scale was chosen to allow for variation in responses while maintaining the original scale of the HSE datasets (Likert., 1932).

2.4.6.2.1 Development of Dimension Scores

To calculate the dimension score per participant, the subdimensions were weighted using their standardised factor loadings (λ_j) from CFA. This approach allowed subdimensions with higher factor loadings (i.e., those that have a stronger statistical relationship with the dimension) to contribute more to the overall dimension score (Brown., 2015).

The weighted dimension score per participant was computed as follows:

$$\text{Dimension Score}_d = \frac{\sum_{j=1}^m (\lambda_j \times \text{Subdimension Score}_j)}{\sum_{j=1}^m \lambda_j}$$

where:

λ_j : is the CFA factor loading for subdimension j

Subdimension Score_j: is the score for subdimension j

m : is the number of subdimensions within dimension d

2.4.6.2.2 Rescaling Dimension Scores Using Min-Max Normalisation

To ensure that the final dimension scores remained compatible with the original 5-point Likert scale, a min-max normalisation method was applied. This rescaling technique preserved the relative differences in engagement levels across participants, ensuring that all dimension scores fit within the 1 to 5 range, consistent with the Likert-scale format used in data collection (Jain et al., 2005).

$$D_{\text{scaled}} = 1 + \frac{D - D_{\min}}{D_{\max} - D_{\min}} \times 4$$

where:

D_{scale} =computed dimension score

$D_{\min}$ = minimum possible score (when all subdimension scores are at their lowest).

$D_{\max}$ = maximum possible score (when all subdimension scores are at their highest).

The factor of 4 ensures that values are stretched to fit the 1–5 range.

Once dimension scores are computed, they were used to calculate the initial Employee Engagement Score (**EES**) per participant. EES is calculated as a simple average of dimension scores.

$$EES = \frac{\sum_{d=1}^8 \text{Dimension Score}_d}{8}$$

where:

Dimension Score_d: is the weighted subdimension score per participant

d=1,2...,8: represents the eight validated engagement dimensions

2.4.6.3 Testing Indirect and Moderating Effects in the Structural Model

Following the validation of the employee engagement measurement model through Principal Component Factor Analysis (PCFA) and Confirmatory Factor Analysis (CFA), path modelling and Structural Equation Modelling (SEM) were employed to examine both mediation and moderation effects on the composite Employee Engagement Score (EES).

Each of the dimensions that contributed to the EES was initially modelled and validated as a latent reflective construct, meaning they were inferred from correlated subdimensions using Confirmatory Factor Analysis. Once validated, these latent dimensions were then used as formative components in the higher-order engagement model, meaning that they contributed collectively and non-interchangeably to the overall construct of employee engagement (Hayes 2018).

The analysis also evaluated how psychological processes (e.g., bullying and discrimination) and demographic characteristics (e.g., age, gender, position within the organisation) shaped the

influence of these dimensions on engagement. These mediation and moderation analyses provided insight into the mechanisms that shape engagement at the individual level, reflecting how various factors uniquely affected each participant's engagement profile (Hayes.,2018).

Given the ordinal nature of the dataset and the presence of non-normality, bootstrapping was applied across all mediation and moderation models to ensure the robustness and reliability of the parameter estimates (Hayes, 2018; Hair et al., 2019; Preacher & Hayes, 2008). SEM was conducted at the individual level, allowing all indirect, and interaction pathways to reflect personalised engagement experiences, rather than relying solely on sample-level aggregates (Preacher.,2008).

2.4.6.3.1 Mediation Effects (Indirect Effects Hypothesis)

Mediation occurs when the effect of an independent variable (X) on a dependent variable (Y) operates through an intermediary variable (M) (Baron & Kenny., 1986). This analysis helps to identify the processes through which engagement is shaped at the individual level, capturing how specific workplace dynamics such as bullying, and discrimination influence each participant's engagement score.

Based on preliminary patterns that will be detailed in **Chapter 4** two key psychological threats (bullying and discrimination) were theorised to mediate the relationships between employee engagement dimensions and overall staff engagement at the individual level. Each participant's exposure to bullying or discrimination influenced their personal engagement score.

1. Bullying

- Theory 1: Bullying mediates the relationship between teamwork and staff engagement, with poor teamwork increasing the likelihood of bullying, which reduces engagement.
- Theory 2: Bullying mediates the relationship between health and wellbeing and staff engagement, reducing trust and collaboration.
- Theory 3: Bullying mediates the relationship between performance recognition and staff engagement, undermining employees' sense of value.

2. Discrimination

- Theory 4: Discrimination mediates the relationship between leadership and staff engagement, with ineffective leadership fostering discrimination, thereby reducing engagement.
- Theory 5: Discrimination mediates the relationship between teamwork and staff engagement, eroding collaboration and psychological safety.
- Theory 6: Discrimination mediates the relationship between health and wellbeing and staff engagement, reducing organisational support.

Testing Mediation Using Path Coefficient and Ordinal Logistic Regression

To accurately capture these mediation effects at the individual level, indirect effects were assessed using the path coefficient method, where the indirect effect for each participant was calculated as the product of two regression coefficients:

$$\text{Indirect Effect}_i = a_i \times b_i$$

where:

a_i: Path coefficient from dimension (*X*) → mediator (*M*) for participant *i*

b_i: Path coefficient from mediator (*M*) → Employee Engagement (*Y*) for participant *i*

Ordinal logistic regression was applied to estimate these path coefficients, ensuring that each participant's engagement score was adjusted based on their exposure to bullying or discrimination. Bootstrapped confidence intervals determined whether the indirect effect was statistically significant (Hair et al., 2018).

2.4.6.3.2 Moderating Effects Hypothesis

Moderation occurs when the strength or direction of the relationship between an independent variable (*X*) and a dependent variable (*Y*) depends on the level of a third variable (*M*) (Baron & Kenny., 1986). Unlike mediators, which explain how an effect occurs, moderators determine under what conditions an effect is stronger or weaker, reflecting individual differences in engagement based on demographic and occupational characteristics (Baron.,1986) The moderation effects, along with the theoretical relevance of variables such as age, years of experience, organisational position, and gender as moderators, will be discussed in detail in **Chapter 4**.

1. Age:

- Theory 1: The relationship between training opportunities and staff engagement will be stronger for younger employees (≤30 years) than for older employees (>30 years).
- Theory 2: The relationship between health and wellbeing and staff engagement will be stronger for older employees (>30 years) than for younger employees (≤30 years).

2. Gender:

- Theory 3: The relationship between leadership and staff engagement will be stronger for women than for men.
- Theory 4: The relationship between work-life balance and staff engagement will be stronger for women than for men.

- Theory 5: The relationship between teamwork and staff engagement will be stronger for non-binary employees due to their unique experiences of inclusion.

3. Position within the Organisation:

- Theory 6: The relationship between teamwork and staff engagement will be stronger for nursing staff than for administrative staff.
- Theory 7: The relationship between health and wellbeing and staff engagement will be stronger for general support staff due to their reliance on workplace health initiatives.

4. Years of Experience:

- Theory 8: The relationship between performance recognition and staff engagement will be stronger for employees with more than five years of experience.
- Theory 9: The relationship between training opportunities and staff engagement will be stronger for employees with five or fewer years of experience.

Testing Moderation Using Interaction Terms in SEM

Moderation effects were tested using interaction terms in a path modelling framework. The following regression equation was used:

$$Y_i = \beta_0 + \beta_1 X_i + \beta_2 M_i + \beta_3 (X_i \times M_i) + \varepsilon_i$$

where:

X_i : Score for a specific engagement dimension for participant i

M_i : Value of the moderator (e.g., age, gender) for participant

$X_i \times M_i$: Interaction term representing moderation

β_3 : Coefficient representing the strength of the moderation effect

ε_i : Error term

A statistically significant β_3 indicated the presence of moderation, meaning that each participant's engagement score was affected differently based on their demographic characteristics. A mediator was deemed statistically significant if, after bootstrapping, its confidence interval didn't include zero, offering a robust measure of significance (Hayes., 2017).

To evaluate the overall model fit, multiple indices were examined, including the Goodness of Fit Index (GFI), Root Mean Square Error of Approximation (RMSEA), and the Standardised Root Mean Square Residual (SRMR). These fit statistics were used to confirm that the proposed structure,

including the dimensional configuration of engagement and hypothesised mediation and moderation pathways, aligned well with the observed data. Robust estimation methods and bootstrapping were applied to ensure accuracy given the non-normal distribution of responses (Hair et al.,2018).

2.4.6.4 Developing the final Employee Engagement Score (EES) considering Indirect and Moderated Effects

To provide a comprehensive and statistically robust measurement of employee engagement at the individual level, the final Employee Engagement Score (EES) was developed using a composite modelling approach. This approach integrates multiple components of the engagement framework, including the weighted scores of each engagement dimension, adjustments for indirect effects (via mediators such as workplace bullying and discrimination), and moderation effects (reflecting demographic and occupational variability). The final EES was then normalised to the original 1–5 Likert scale and transformed into a percentile rank, enabling a comparative interpretation of engagement across individuals (Hair et al., 2018).

The rationale for incorporating mediation and moderation effects at the individual level lies in the need to capture personalised engagement profiles, rather than relying on sample-level averages. By implementing a stepwise computational process, the EES reflects the complex and interdependent pathways through which engagement is shaped within the workforce (Kline, 2015).

Step 1: Compute the Baseline Engagement Score (Direct Effects Only)

The baseline engagement score (EES_i^{direct}) represents an individual's engagement level derived from the weighted scores of eight validated dimensions, prior to accounting for mediation or moderation as was previously explained. Each subdimension was weighted based on its factor loading from CFA, aggregated into dimension scores, and then averaged to form the unadjusted EES.

$$EES_i^{direct} = \frac{1}{D} \sum_{d=1}^D \text{DimensionScore}_{di}$$

where:

D : Total number of dimensions (e.g., 8)

Dimension Score_{di}: Weighted average score of dimension d for individual i

This baseline score provides an initial measure of engagement that is subsequently adjusted based on the psychological hazards underlying engagement (mediation) and the contextual influences that shape engagement (moderation).

Step 2: Adjust the Baseline Score for Indirect Effects (Mediation-Adjusted Employee Engagement Score)

Mediators, such as workplace bullying and discrimination, represent intermediary processes through which engagement dimensions exert their effects on overall engagement. The inclusion of mediation effects ensures that the engagement score reflects how specific workplace experiences alter engagement levels rather than assuming direct, unmediated relationships. The indirect effect for each dimension was calculated as the product of the dimension's effect on the mediator and the mediator's effect on engagement, forming a mediation pathway (Kline., 2015).

The mediation-adjusted engagement score is computed as follows:

$$EES_i^{indirect} = \sum_{m=1}^M (a_{mi} \times b_{mi})$$

where:

a_{mi} : Effect of engagement dimension (X) on mediator (M) for individual i

b_{mi} : Effect of mediator (M) on engagement (Y) for individual i

The mediation-adjusted score is calculated as:

$$EES_i^{adjusted\_mediation} = EES_i^{direct} + EES_i^{indirect}$$

Each individual's engagement score was increased or decreased depending on the strength of the indirect pathways. If an individual experiences high levels of bullying or discrimination, their indirect effect reduces their engagement score. Conversely, if an individual experiences positive mediation their engagement score is elevated accordingly.

Step 3: Adjust the Score for Moderated Effects

Moderation effects capture how different demographic, or occupational factors influence the relationship between engagement dimensions and overall engagement. Unlike mediators, which explain how an effect occurs, moderators determine when and for whom engagement dimensions have a stronger or weaker impact (Kline., 2015).

Moderation was assessed using interaction terms in a path modelling framework. The moderation adjustment was calculated as:

$$EES_i^{moderation} = \sum_{k=1}^K (\beta_{3ki} \cdot X_{ki} \cdot M_{ki})$$

where:

X_{ki} : Score on engagement dimension for individual i

M_{ki} : Value of moderator (e.g., age group) for individual i

β_{3ki} : Interaction effect (dimension $\times$ moderator) for individual i

The moderation-adjusted EES becomes:

$$EES_i^{final} = EES_i^{adjusted\_mediation} + EES_i^{moderation}$$

The moderation adjustment ensures that the engagement score reflects how different employees experience engagement differently based on their characteristics. For instance, if younger employees have a stronger response to training opportunities, their engagement score will be increased more significantly in the presence of this moderator.

Step 4: Normalise the Final EES Using Min-Max Scaling

To maintain consistency with the 1–5 Likert scale and prevent extreme values from distorting the engagement measure, min-max normalisation was applied:

$$EES_i^{normalised} = 1 + \left(\frac{EES_i^{final} - EES_{min}}{EES_{max} - EES_{min}} \right) \times 4$$

where:

$EES_i^{normalised}$: Final engagement score after normalisation.

EES_{min} and EES_{max} : Minimum and maximum possible engagement scores in the dataset.

The factor of 4 ensures that all engagement scores remain within the 1–5 range.

This normalised EES provided a holistic and interpretable measure of engagement at the individual level, incorporating both dimension-level inputs and the psychosocial and contextual variables that shape engagement across the healthcare workforce.

2.4.6.5 Percentile scale for evaluating Health Employee Engagement

Once the final engagement scores were computed by integrating indirect, and moderation effects, the next step involved transforming these scores into percentile ranks. The transformation to percentile ranks provided a distribution-independent metric, making it particularly valuable in this case where health employee engagement doesn't follow a normal distribution (Wilkinson., 1999). The first step in this transformation involved ranking all computed engagement scores in ascending order. The participant with the lowest engagement score was assigned the lowest rank, while the highest engagement score was assigned the highest rank. This ranking process allowed for an intuitive understanding of how each employee's engagement level compares to their peers within the organisation. When multiple individuals had the same engagement score, a fractional ranking system (also known as average ranking) was applied. This method ensured that employees with

identical engagement scores were given the same rank rather than being arbitrarily assigned different positions. Fractional ranking helped to prevent distortions in the percentile calculations that could artificially inflate or deflate engagement levels within certain groups. This approach was especially critical in large-scale healthcare studies like ours where engagement scores often cluster within particular ranges due to shared working conditions, departmental policies, or cultural influences (Lehmann., 2006).

After rank ordering, the engagement scores were converted into percentile scores to normalise them within a 0-100 scale, ensuring consistency in interpretation across different organisations and time periods. The percentile rank was calculated using the formula:

$$EE_{\text{percentile}} = \frac{\text{Rank}(EE) - 1}{N - 1} \times 100$$

where:

EEpercentile: engagement score for individual *i* in percentiles

Rank(EE): is the ordinal rank of the engagement score in ascending order (i.e., lowest score = rank 1).

N: is the total number of individuals in the dataset.

Multiplying by 100 converts the result into a percentile range (0–100)

Once the percentile scores were computed, they were classified into categories to facilitate interpretation and decision-making. The classification process was based on empirical distribution analysis, which identified cut-off points that differentiate engagement levels effectively. Employees with percentile **scores between 0 and 20** fell into the category of Very Low Engagement, indicating that they were at significant risk of disengagement, dissatisfaction, and potentially higher turnover rates. Those scoring between **21 and 40** were classified as having Low Engagement, meaning they exhibited minimal motivation and commitment to their work responsibilities. Employees in the **41 to 60 percentile** range represented the Moderate Engagement group, where individuals showed average levels of engagement but may require additional support to maintain or improve their work enthusiasm. **The 61 to 80 percentile group** consisted of employees with High Engagement, demonstrating consistent dedication and motivation toward their roles. Finally, employees scoring between the **81st and 100th percentiles** belonged to the Very High Engagement category, representing the most committed, satisfied, and motivated employees within the organisation. (Lehmann., 2006)

This classification ensured that engagement levels were understood in a way that is relative rather than absolute, making workforce comparisons more meaningful and actionable. For instance, rather than concluding that an employee with an engagement score of 4.1 out of 5 is “moderately

engaged” based on Likert scale cut-offs, the percentile-based approach determines how that employee’s score ranks within the overall distribution, allowing for a more accurate and context-aware interpretation (Wilkinson., 1999).

As a final step our newly built health Employee engagement scale was analysed across various subgroups. These subgroups included demographic and professional categories such as sex, age, areas of health service, staff category, and divisions of healthcare services. We also examined comparisons by Community Health Organisation (CHO) areas, years of work in the health sector and whether staff had direct contact with patients as part of their work. This analysis allowed us to draw meaningful conclusions regarding the validity and utility of our scale

2.5 Qualitative Methodological Approach: Exploring Engagement through Focus Groups and Interviews

Following the explanatory sequential mixed-methods design adopted in this study, the qualitative phase was initiated after the development and empirical validation of the theoretical framework for measuring employee engagement in the healthcare system in Ireland. This phase was conceived for exploring how this framework was perceived and experienced by healthcare staff in real-world settings. Specifically, I sought to understand the practical relevance, contextual meaning, and perceived validity of the engagement dimensions identified during the quantitative phase. The qualitative component, therefore, served a complementary and explanatory function allowing for a deeper examination of the underlying mechanisms, organisational dynamics, and cultural factors that may shape or challenge engagement in practice.

This section outlines the methodological approach employed in the qualitative phase of the study. It details the research design, sampling strategy, participant recruitment, data collection methods, and analytical framework used to explore healthcare staff and managers' perspectives on employee engagement. The chapter explains the use of focus groups and interviews as data collection tools, the application of Reflexive Thematic Analysis, and the integration of deductive and inductive approaches to ensure a comprehensive examination of the qualitative data. These methodological considerations provide the foundation for the subsequent analysis and discussion of findings.

2.5.1 Methodological framework

The thesis employed a combined deductive-inductive approach, guided by pragmatism and Reflexive Thematic Analysis (RTA).

RTA is rooted in qualitative research traditions that emphasise the active role of the researcher in interpreting data. This approach, developed by Virginia Braun and Victoria Clarke, builds on their foundational work on Thematic Analysis, which they describe as a flexible method for identifying patterns of meaning across qualitative data. Braun and Clarke (2019) argue that in RTA, themes are

not simply "discovered" in the data but are actively constructed by the researcher through ongoing engagement with the material.

This thesis adopted a constructionist approach to RTA, recognising that meaning is not inherent in the data but is co-constructed through the interaction between participants' accounts and the researcher's interpretative lens. From this perspective, employee engagement was understood as a socially and contextually situated phenomenon, shaped by organisational structures, cultural norms, and individual experiences. Alternatively, elements of an experiential approach were also incorporated, acknowledging that participants' subjective experiences and perspectives are central to the analysis. By integrating both constructionist and experiential lenses, this study acknowledges both the broader social influences on engagement and the lived realities of healthcare employees (Braun and Clarke., 2019).

In RTA the analytic process commences with data familiarization, during which I immersed myself in the dataset to develop a thorough understanding of its content.

RTA also provided the flexibility to draw on both deductive and inductive approaches as guiding theoretical orientations, and to engage with the data at both semantic and latent levels of interpretation. The deductive phase was guided by the theoretical framework developed in the quantitative phase. Alongside this, the research had an inductive phase to remain open to new ideas that emerged directly from the participants' accounts, allowing for the identification of theories not previously included in the framework.

Each data extract was analysed at two levels. First, I applied semantic coding to capture the explicit, surface-level meaning of what participants said. Then, I used latent coding to interpret the underlying meaning or assumptions behind their statements. After completing both levels of coding, I reviewed each code to determine whether it aligned with the existing framework (deductive) or represented a new, emerging concept (inductive). If the code did not fit within the predefined quantitative dimensions, it was treated as a new or inductive contribution to the understanding of health employee engagement (Braun & Clarke, 2019).

Following the coding process, I began to search for patterns or themes and subthemes that captured the deeper meanings within the data and followed the deductive-inductive approach of the thesis. (Braun & Clarke., 2019)

After developing the initial themes, I moved on to the crucial phase of reviewing and naming them to ensure they accurately represented the data and were coherent both internally and in relation to the overall dataset. This stage involved two levels of review: first, ensuring that the coded data extracts supported the themes (internal homogeneity), and second, confirming that the themes functioned cohesively within the context of the entire dataset (external heterogeneity). During this process I tested and refined my interpretations against the data to ensure rigor and credibility (Huberman & Miles., 1994).

The final stage of the analysis involved writing up the results. This stage was about telling the "story" of the data in relation to the research questions, supported by rich, illustrative quotes from the participants. My goal at this stage of the analysis was to construct a narrative that resonated with the participants' experiences while aligning with the previously developed theoretical framework (Braun & Clarke., 2019).

The analysis did not progress through clearly defined, linear stages of description. Instead, it was a dynamic and iterative process that required continuous engagement with the data and where the different phases of RTA frequently overlapped, underscoring the fluid nature of the analytical process.

2.5.2 Sample strategy

In this qualitative phase of the thesis, purposeful sampling was employed to facilitate the selection of participants most capable of providing in-depth insights into the patterns and relationships identified in the quantitative phase. Purposeful sampling was chosen as it allowed for the deliberate selection of individuals who could offer the most relevant and rich information to further explain and contextualise the quantitative results. Unlike random sampling, which aims for generalisability, purposeful sampling is strategic and intentional, focusing on selecting individuals or cases that are most likely to provide rich, detailed, and meaningful data (Patton., 2015).

2.5.3 Participant recruitment

The study focused on recruiting participants across different staff categories, genders, years of experience, and hospital locations. The inclusion criteria required that participants be active nurses, doctors, or health managers with more than five years of experience in the public health sector.

Three focus groups and two interviews were conducted, each focus group consisting of five participants.

The rationale for conducting the first two focus groups was grounded in the results obtained during the quantitative phase of the study, following a deductive approach. The results indicated that doctors and nurses were among the most disengaged healthcare professionals, both falling within the 0-20th percentile for engagement. Additionally, discrimination and bullying emerged as significant mediators of employee engagement, further highlighting the need for in-depth exploration of the challenges faced by these groups. The third focus group addressed the inductive component of our qualitative approach, focusing on the enablers/withholders of employee engagement in Ireland.

The two interviews were conducted to contrast and further explore the results obtained from the focus groups.

- First Focus Group and Interview: Nurses from two acute hospitals, with diverse genders and locations.

- Second Focus Group and Interview: Doctors from two acute hospitals, with diverse genders and locations.
- Third Focus Group: Health managers from two acute hospitals, with diverse genders and locations

Gatekeepers were utilised to facilitate participant recruitment at each site where the focus groups and interviews were conducted. The first focus group was held with staff from a large acute hospital and included doctors as part of the sample. The gatekeeper for this group was a doctor. He introduced the project and explained the study's aims to the targeted participants.

The second focus group consisted of nurses from an acute hospital. Gatekeepers for this group included a nurse and a doctor. Both gatekeepers introduced the project and explained its aims to the potential participants. These gatekeepers also assisted in recruiting participants for the third focus group, which consisted of health managers. All gatekeepers were knowledgeable and had prior interactions with the potential participants. They served as the initial point of contact for potential focus group participants.

The gatekeepers' role involved distributing information and, upon identifying interested participants, connecting them with me, as the principal investigator (PI) of this research. Initially, the gatekeepers contacted potential participants via email, explaining the purpose of the study. This initial email included details on the background and objectives of the study (**Appendix 3**). Upon expressing a willingness to participate, potential participants were introduced to me. I then provided them with a full information sheet detailing data collection, storage, anonymisation, analysis, intended use of data, GDPR compliance, and any potential risks, benefits, or alternatives (**Appendix 4**).

Following this process, all participants who met the inclusion criteria and agreed on participating in the study were contacted to arrange specifics for the focus groups and interviews.

2.5.4 Data Collection

Interviews and focus groups were conducted to gain a comprehensive understanding of the opinions and perspectives of Irish healthcare workers regarding employee engagement (EE).

The focus groups were the primary method of data collection for the qualitative phase of this study. Focus groups are especially valuable for generating collective discussions, where participants can share and respond to each other's experiences, creating a rich, dynamic data set (Braun & Clarke's., 2006). This group interaction was crucial in this explanatory sequential design, where the aim of the qualitative phase was to expand upon the findings from the quantitative phase.

However, recognising the potential limitations of focus groups, such as the influence of dominant voices or the possible discomfort participants might feel discussing sensitive topics in a group setting, I also conducted interviews with selected participants. These interviews were essential for

several practical and methodological reasons. Firstly, they provided a more private environment for participants to speak openly about personal experiences, particularly on sensitive topics such as workplace bullying, psychological stress, or lack of support from management. Interviews allowed participants to express themselves without fear of judgement or repercussion.

Secondly, the one-to-one format allowed for greater flexibility in scheduling, making it easier to include participants who were unable to attend focus groups due to shift work, clinical duties, or geographic constraints, common challenges in healthcare settings. This ensured broader representation across roles and departments, helping to avoid sampling bias. (Braun and Clarke.,2019).

The focus groups and interviews, each lasting one hour, were conducted online. This approach was chosen primarily for its time efficiency and convenience for the participants. Most participants were frontline workers with demanding schedules, and online sessions allowed for more flexible scheduling, accommodating participants' availability. Additionally, the online format reduced social pressure and increased participants' comfort, particularly when discussing sensitive topics like bullying or discrimination, leading to more straight and open discussions (Stewart et al., 2005; Turney, 2005). Microsoft Teams was the selected platform for its practicality and ease of use.

During the qualitative phase of this study, clear, straightforward, and open-ended questions were employed to delve deeper into the findings from the quantitative phase (**see Box 1**). I moderated each focus group, with an additional researcher, a psychologist, who served as the note-taker. As moderator, I sought to maintain a balanced discussion, preventing any dominant voices from skewing the narrative and allowing all participants the opportunity to contribute meaningfully. The use of open-ended questions facilitated an environment where participants could express their perspectives freely (Krueger & Casey., 2015).

At the outset of each focus group and interview, I provided an overview of the research objectives, the importance of the project, and the structure of the sessions. After introducing myself, I invited participants to introduce themselves by sharing their workplace affiliations as detailed in **Table 10**, which outlines the participants' roles and organisations. I initiated the discussion by defining the concept of Employee Engagement and inquired about the participants' familiarity with the term and its relevance to Irish health organisations. With this shared understanding, we examined the factors contributing to health employee disengagement, as well as the key drivers and barriers to engagement in Ireland. Throughout the sessions, the note taker enriched the discussion with insights from the quantitative phase, while ensuring participants had the flexibility to steer the conversation.

My role as a facilitator involved guiding the discussion using the prepared discussion guide, prompts and follow-up questions (**see Box 1**). I actively acknowledged contributions, paraphrased statements for clarity, and reflected comments back to the group. While some discussions were

naturally fluid, in other instances, I needed to take a more proactive approach, particularly in engaging quieter participants by directing specific questions to them.

The topics of the focus groups and interviews were directly linked to the findings from the quantitative phase of the study, particularly in relation to factors contributing to health employee disengagement. Key areas of concern, which arose from the quantitative phase, included communication within the organisation (50% of dissatisfied employees), possibilities of training and career progression (33.3 and 44.9 respectively) and confidence in the organisation's strategy (42.2%). Personal factors that influenced employee engagement included experiences of bullying and discrimination. Certain staff categories, such as doctors and nurses, also showed higher disengagement rates compared to other health staff. **(see Table 22)**

The latter part of the focus groups discussions shifted to the inductive phase of our research, where we examined the enablers and barriers to health staff engagement in Ireland. Follow-up questions were strategically employed to encourage deeper discussion. **(Box 1)**

Box 1: Focus Group and Interviews discussion guide.

1. Introduction – welcome and thanks.

2. Background to the research: Provide an overview of the research objectives, which include exploring the experiences and perspectives of healthcare staff and managers regarding employee engagement within their organisations. The study also seeks to gain insights into strategies for enhancing staff engagement in Ireland. Additionally, this research aims to deepen the understanding of the outcomes derived from reanalysing the HSE "Your Opinion Counts" (YOC) surveys conducted during the quantitative phase. Emphasise that the participants' views and insights are crucial to this study and reassure them that there are no right or wrong answers, only valuable contributions to the discussion.

3. Ground rules

- ✓ Participation in the focus group is voluntary.
- ✓ It's all right to abstain from discussing specific topics that you may find uncomfortable.
- ✓ All responses are valid, there are no right or wrong answers.
- ✓ Please respect the opinions of others even if you don't agree.
- ✓ Try to stay on topic; we may need to interrupt so that we can cover all the material.
- ✓ Speak as openly as you feel comfortable.
- ✓ Help protect others' privacy by not discussing details outside the group.

4. Introductions: Each participant said their staff category and place of work. The note taker was introduced, and we addressed any questions that participants had.

4. Employee engagement Concept: It was presented to the participants the definition of employee engagement that will be used throughout the session: "A psychological state or attitude, in which people are positive about traits, such as satisfaction, commitment, and involvement towards their job, role, or organisation" (Biswas et al., 2013).

5. Icebreaker: Each participant was asked to share one word that comes to mind when they describe their workplace to someone else.

6. Discussion:

PART 1: Current State of Employee Engagement in Your Organisation [25 minutes]

Key Topics

Explore the causes of disengagement among healthcare staff, with a focus on:

- ✓ Familiarization with the Concept of Employee Engagement (EE)
- ✓ Confidence on the strategy of the organisation
- ✓ Communication within the organisation
- ✓ Training and career progression
- ✓ Bullying and discrimination
- ✓ Implementation of strategies for guaranteeing the engagement and retention of the Irish health staff

Discussion Questions

1. How would you describe the current state of employee engagement and retention within your organisation?

Box 1: Focus Group and Interviews discussion guide. (Continuation)

Follow-up questions

- ✓ What in your opinion are the main causes of disengagement within your organisation?
- ✓ Are there particular sectors or roles within your organisation where engagement and retention require more immediate attention?
- 2. Is there any strategy in your organisation for improving the engagement and the retention of the health staff?**

Follow-up questions

- ✓ To what extent have these strategies have been implemented? Is feasible the implementation of these strategies?
- ✓ If not, do you believe that staff engagement and retention are priorities on your organisation's agenda?

PART 2: Future Directions and Necessary Changes to Ensure Engagement and Retention of Health Staff in Your Organisation and Ireland [25 minutes]

Key Topics

Enablers/withholders of the Irish health organisations for the retention and engagement of the health staff

- 1.** What do you see as the key enablers or barriers that Ireland faces as a country in improving the retention and engagement of health staff?

Follow-up questions

- ✓ What changes and new resources the Irish health system should incorporate to fill in the workforce gaps that it currently has?
- ✓ What is your perspective on the lessons learned from the COVID-19 pandemic, and how have they influenced the Irish government's approach to the engagement and retention of the health workforce?

7. Conclusions and thanks: The key points were summarised and discussed. The research team expressed thanks to the participants for their valuable contributions.

Table 10: Demographics of participants in focus groups and Interviews.

Participant	Sex	Staff Category	Hospital
Participant 1 (Focus Group 1)	Female	Nurse	Acute hospital 1
Participant 2 (Focus Group 1)	Female	Nurse	Acute hospital 1
Participant 3 (Focus Group 1)	Female	Nurse	Acute hospital 1
Participant 4 (Focus Group 1)	Female	Nurse	Acute hospital 1
Participant 5 (Focus Group 1)	Female	Nurse	Acute hospital 1
Participant 6 (Focus Group 2)	Male	Doctor	Acute hospital 1
Participant 7 (Focus Group 2)	Male	Doctor	Acute hospital 1
Participant 8 (Focus Group 2)	Male	Doctor	Acute hospital 1
Participant 9 (Focus Group 2)	Female	Doctor	Acute hospital 1
Participant 10 (Focus Group 2)	Male	Doctor	Acute hospital 1
Participant 11 (Focus Group 3)	Female	Manager	Acute hospital 2
Participant 12 (Focus Group 3)	Female	Manager	Acute hospital 2
Participant 13 (Focus Group 3)	Female	Manager	Acute hospital 2
Participant 14 (Focus Group 3)	Male	Manager	Acute hospital 2
Participant 15 (Focus Group 3)	Female	Manager	Acute hospital 2
Participant 16 (Interview 1)	Male	Doctor	Acute hospital 2
Participant 17 (Interview 2)	Female	Nurse	Acute hospital 2

2.5.5 Data Analysis

All three focus groups and the two interviews conducted for this study were recorded using a digital voice recorder, supplemented by the recording capabilities provided by Microsoft Teams, an approach commonly employed in data management. Prior to recording, I obtained consent from all participants. During the sessions, I was mindful of the potential impact of the recording devices; however, I did not perceive them as intrusive. Nonetheless, the possibility of their influence on participants should be acknowledged. Additionally, another researcher served as a note-taker throughout the focus groups and interviews, a role that proved invaluable for ensuring the completeness and richness of the data. Beyond recording key discussion points, the note-taker documented non-verbal cues such as body language, facial expressions, and shifts in tone, which added depth to the interpretation of participants' responses. This role was particularly important for capturing contributions during moments of overlapping dialogue, ensuring that no participant's input was lost, and for noting contextual details, such as group dynamics that might not have been fully conveyed in the audio recordings (Opdenakker., 2006).

The audio recordings from the focus groups and interviews were transcribed manually by me, supported by the transcription features offered by Teams, and securely stored in a dedicated project folder on TCD OneDrive, accessible only to me and my thesis supervisors. It is often recommended that researchers transcribe their own data (e.g., Liangputtong, 2009) to maintain closeness to the original source and avoid potential misinterpretation. However, given the challenges posed by varied accents, rapid or quiet speech, and background noise during the focus group discussions, the use of transcription software was highly beneficial in ensuring accuracy. After transcription, I carefully reviewed the transcripts while re-listening to the recordings. This allowed me to correct any errors and initiate the analysis process. While I was able to transcribe most of the discussions accurately, there were a few instances where the speech was unintelligible (McLellan, MacQueen, & Neidig., 2003).

Throughout this analysis, I actively engaged in critical reflexivity, consciously acknowledging how my professional background, experiences, and assumptions could influence the interpretation of data. As a medical doctor, I possess an inherent familiarity with the healthcare environment, providing valuable contextual insights but also presenting a risk of bias in interpreting participants' experiences. My clinical background particularly shaped my views during the quantitative phase, influencing my expectations around numerical trends and patterns in the data. To mitigate this, I deliberately adopted strategies such as regularly revisiting raw data, seeking contradictory evidence, and remaining mindful of my inclination to interpret findings through a clinical lens. Additionally, during qualitative coding and theme development, I continuously reflected on and challenged my assumptions, ensuring interpretations remained authentic to participants' narratives and

perspectives rather than my own preconceptions. This active reflexivity allowed me to stay grounded in the data, maintain openness to diverse interpretations, and enhance the overall trustworthiness and credibility of my analysis.

2.5.5.1 Phases of Reflective Thematic Analysis (RTA)

Phase 1: Familiarisation with the Data

During the familiarisation phase with the data, I engaged deeply with the material by reading and re-reading the transcripts, listening to the audio recordings, and making detailed notes utilising Microsoft Word (version 16.9). **(Appendix 5)** This process, allowed me to highlight key excerpts and document initial reflections. This helped establish connections with the findings from the quantitative phase, promoting early engagement with the content and enabling a comprehensive exploration of the data (Bazeley & Jackson., 2013).

This phase commenced with 23 potential deductive topics and that were derived from the theoretical framework for measuring employee engagement that will be explained in **Chapter 3 and 4**. The deductive categories were grounded in the subdimensions and mediators of employee engagement evaluated during the quantitative phase (**Chapter 5, Sections 5.4 and 5.5**) and defined in the **Chapter 4 (see Table 13)**, encompassing areas such as Workplace Conditions, Workplace Atmosphere, Pride in the Organisation, Organisational Culture, Communication within the team, Alignment between My Objectives and My Team's Objectives, Support within the Team, Performance Recognition from My Team, Motivation with My Work, Optimism with My Work, Confidence in the Strategy of My Organisation, Communication with Management, Possibilities of Training, Opportunities for Career Progression, Work-Life Balance, Respect by Patients and Colleagues, Stress and Stress Management, Trust and Autonomy, Alignment with Organisation Goals, Security and Level of Pay, Bullying and Discrimination (Fereday & Muir-Cochrane., 2006). **(Appendix 11)**

In conclusion, the data analysis predominantly followed a theoretical deductive approach, guided by the predefined framework developed during the quantitative phase. However, we remained open to emergent insights thorough the different stages of RTA.

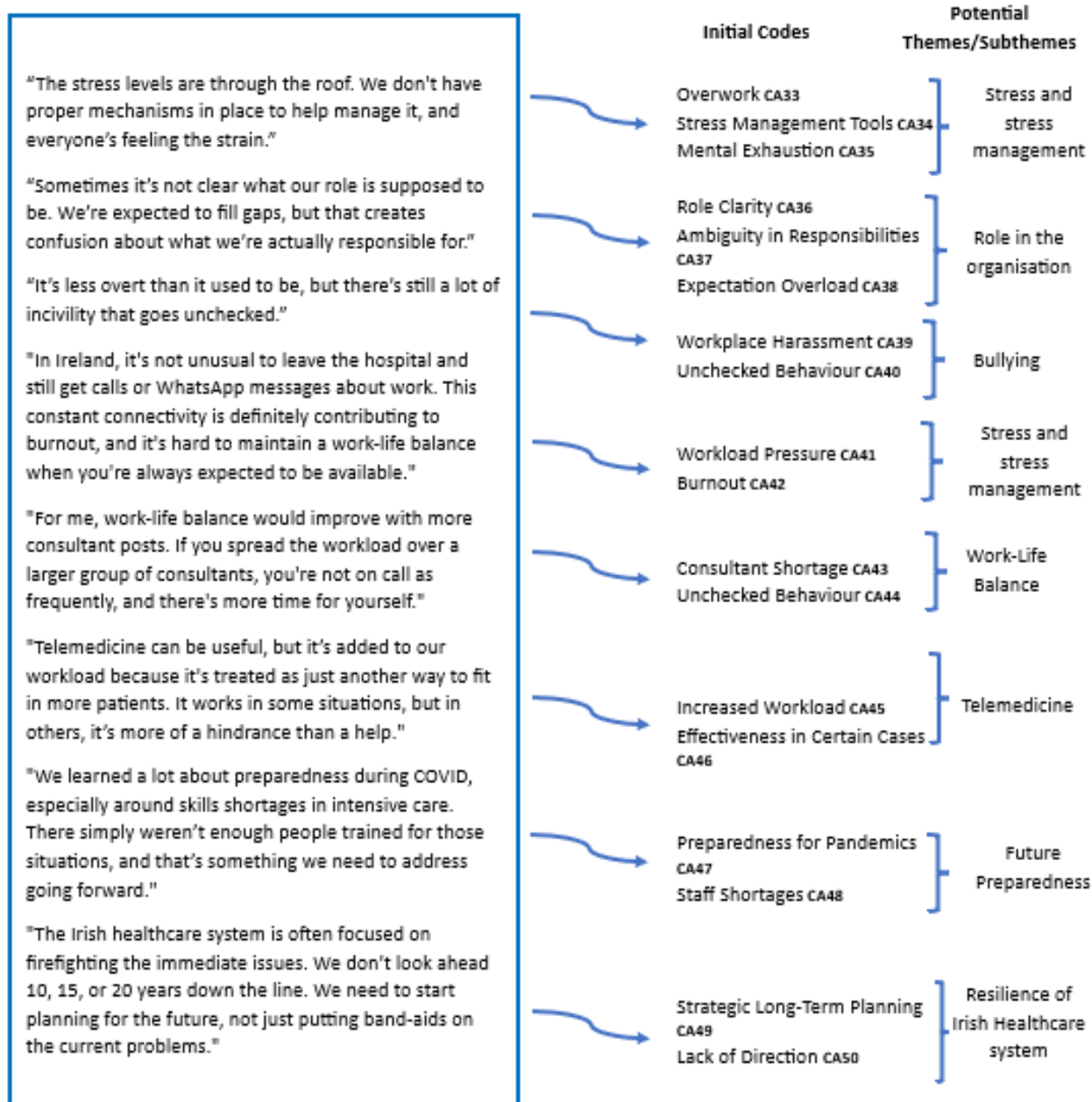
Box 2 illustrates an example from the familiarisation phase of Focus Group 1, which included nurses, demonstrating how we initially approached data familiarisation and conducted preliminary coding utilising Microsoft word. This early coding was subsequently revised and changed after the data was imported into NVivo for systematic analysis. The box is a comprehensive overview of the familiarisation process and the semantic or surface-level coding that was employed at this phase detailing transcript excerpts, codes applied to each excerpt and potential themes/subthemes that

were linked to the quantitative dimensions and subdimensions of the quantitative framework. (Saldana., 2016)

Box 2: Familiarisation Phase – Focus Group 1 with Nurses (Initial Coding in Microsoft Word)



Box 2: Familiarisation Phase – Focus Group 1 with Nurses (Initial Coding in Microsoft Word)
(Continuation)



C: Code; A: Nurse Interview; 1: Number of the code

Phase 2: Generating of Initial Codes

After completing the familiarisation phase I uploaded all qualitative materials into NVivo for systematic organisation and analysis. This included audio recordings, transcripts, researcher memos, and initial reflective notes (**Appendix 5**). This choice was driven by several critical considerations, including the complexity and volume of the data, the nature of the analysis, and the need for rigor and transparency throughout the research process. The analysis encompassed a substantial amount of qualitative data gathered from interviews and focus groups. NVivo's ability to efficiently organise, store, and retrieve large volumes of data proved invaluable, ensuring that the nuances of participants' responses were meticulously preserved. By centralising all data types, such as audio recordings, transcripts, and memos, NVivo provided a cohesive platform where everything was accessible in one place, even after importing the focus groups and interviews initially transcribed into Word documents. (Bazeley & Jackson., 2013). Although initial interpretive coding and observations were made in Microsoft Word during the familiarisation process, I repeated the coding in NVivo to ensure consistency and enable more efficient management of data segments. (Braun & Clarke., 2019).

Semantic coding was primarily employed, focusing on the explicit, surface-level meaning of participants' statements and what was directly observable in the data. This type of coding particularly suited to the initially deductive component of the qualitative phase. As a result, many of the early semantic codes that emerged from the qualitative data corresponded closely to the quantitative theoretical framework's dimensions and subdimensions, allowing for the qualitative data to contextualise, illustrate, and help explain the quantitative findings. (Braun & Clarke., 2006).

(see Table 11)

As I progressed to higher-level codes and began refining the analysis, latent coding was introduced to uncover underlying meanings and insights that were not initially anticipated in the scoping review or the quantitatively developed framework. This phase leaned more heavily on the inductive component of the research. Using also NVivo to facilitate this process, I revisited the initial semantic codes to explore how different codes could be meaningfully integrated based on shared conceptual foundations. This involved consolidating overlapping codes that reflected similar underlying ideas into more comprehensive and analytically robust codes (Braun & Clarke, 2006). This combination of semantic coding and latent coding enriched the analysis, providing a more comprehensive understanding of the data (Braun & Clarke., 2012). **(see Table 11)**

To track the progression of coding over time, I exported my coding summaries from NVivo into Microsoft Excel 2021 rather than relying solely on NVivo's built-in Project Event Log. While the Event Log automatically records actions such as the creation or modification of nodes, Excel provides a more accessible and flexible structure for organising and reviewing the evolving coding framework.

I developed a structured spreadsheet to track participant quotes, which aligned with NVivo's conventions. Each quote was assigned a unique identifier that combined professional role and participant number (e.g., PN1 for Nurse Participant 1, PD7 for Doctor Participant 7), while also indicating the data source, whether from a focus group (FG) or individual interview (I). For example, "FG2/PD6" refers to Participant 6, a doctor, from Focus Group 2. Successive iterations of codes initially developed in NVivo were systematically documented across columns in Excel, providing a clear and traceable record of how codes were refined, merged, or expanded over time **(see Table 11)**

For instance, early codes such as "strong work culture" or "lack of recognition" were revisited and refined into a more specific code, "hierarchical culture." This iterative process was essential, as it allowed me to capture both surface-level or semantic observations and deeper, latent or more nuanced meanings within the data. It demonstrates how semantic and latent coding worked in tandem throughout multiple stages of analysis (Saldaña., 2016). **(see Table 11)**

Phase 3, 4: Generating and Reviewing Potential themes

According to Braun and Clarke (2013), themes are not passively "discovered" within the data; rather, the researcher actively constructs them through interpretation. This involves examining the relationships between different codes and assessing how these relationships contribute to the broader narrative. The significance of a theme is not determined by the frequency with which it appears in the data but by the meaningful patterns it forms, which ultimately help address the research question(s) (Braun and Clarke.,2013).

As the analysis progressed, some potential themes that were initially examined together. For example, "trust in the organisation" and "autonomy", initially grouped together were separated, as both had sufficient data from participants to stand as distinct themes (Braun & Clarke., 2012). **(see Table 11)**

Conversely, "Future preparedness" and "Resilience of the Irish Healthcare system," were combined under the broader theme of "Systemic and Structural Challenges." **(see Table 11)** These observations lacked sufficient data to justify their classification as independent themes. Additionally, some very initial themes were discarded due to insufficient support, as they were not substantiated by more than a single data item (Braun & Clarke., 2012) **(see Table 11)**

Table 11: Familiarisation, generation of initial Codes and Potential Themes.

Focus group number (FG) /Participant Number (P) and Staff category (Nurses (N),Doctors (D),Managers (M))	Excerpt/Quote	Familiarisation Phase Initial Code (In vivo and Microsoft word) First Iteration. Semantic Coding	Generation of Initial Codes Second Iteration. Latent Coding	Generating and Reviewing potential Themes/Subthemes (deductive/inductive)
FG1/PN3, PN1	"We're often asked to do admin work, answer phones, chase up on tasks, and much more. The lack of a clear role definitely adds to the feeling of being overwhelmed "There's a strong work ethic among nurses; our teamwork is the best and we always try to do what's best for the patient"	• Lack of a clear Role • Felling Overwhelmed • Multiple tasks at the same time • Strong work ethics • Team Support	1. Role ambiguity 2. Team support and collaboration	1. Teamwork (deductive)
FG1 and FG2/PN1, PD9	"There's a strong culture here where senior staff tend to be valued more, and sometimes, lower-level staff's contributions aren't fully recognised. It's hard to feel a real sense of pride when you're not seen as an equal part of the team." "Incivility is an issue in certain places in the country, with senior figures like big surgeons who think they're untouchable. There's a culture	• Strong work culture (senior staff more valued) • Lack of recognition • No sense of pride	3. Hierarchical culture 4. Pride	2. Organisational Culture (deductive) 3. Pride in the Organisation (deductive)

	where they get away with unpleasant behaviours."			
FG1/PN4, PN2	"There's a lack of communication, and the expectations placed on staff are often unrealistic. There's a huge gap between what management expects and what's realistically possible on the floor" "There's a lack of engagement from management with these which makes them feel their concerns aren't addressed"	• Poor Communication • Unrealistic expectations • Lack of engagement from management	5. Lack of engagement and unrealistic expectations from management 6. Poor communication	4. Leadership and Communication with management (deductive)
FG2/PD9, PD6	"You might put in work to improve things, but you often don't see the benefit because you're gone within a year. This leads to a lack of motivation to make changes, especially if the effort is unlikely to result in any personal benefit." "It's hard to stay optimistic when you put in the work to improve things but leave before seeing any results. After a while, you stop expecting your efforts to make a difference, especially when there's no personal benefit."	• Lack of motivation • Hard to stay optimistic • Effort with no personal benefit • Short-term employment challenges	7. Low motivation and optimism due to temporary roles and not personal benefits.	5. Motivation with My Work (deductive) 6. Optimism with My Work (deductive)

FG2/PD7, PD6	"For doctors on training schemes, moving is part of the process. However, better structures for onboarding and feedback, like exit interviews, could help retention issues in other areas often stem from suboptimal working conditions, workload, and better opportunities elsewhere, like in the private sector." The conditions can be really tough, especially in public hospitals. You see colleagues leaving because they've had enough.... honestly, unless the health system deals with resource allocation and starts improving primary care, retention will continue to be a major problem	• Training scheme challenges • Need for better onboarding structures. • Retention issues • Suboptimal working conditions • Improvement of primary care • Resource Allocation • Healthcare Reforms	8. Suboptimal working conditions leading to staff retention issues 9. Resource Allocation and retention of the health staff 10. Fragmentation of the healthcare system	7. Systemic and Structural Challenges (inductive)
FG2 and FG1 /PD5, PN5, PD6, PD10	"The lack of formal teaching and protected time for training is an issue. In other countries, there's more emphasis on formal education, and this could be a factor in why doctors leave. The national programmes also makes it hard to plan long-term, which can discourage people from	• Lack of formal teaching • Insufficient protected time for training • Long-term planning challenges • Influence of national programmes on speciality choice	11. Inadequate formal teaching and training opportunities 12. Lack of protected time for training 13. Barriers to long-term planning in career progression	8. Training and Opportunities of career Progression (deductive)

	applying for certain specialties."			
FG2, FG1, I2 /PN5, PN17 PD7	"There were some counselling sessions for emotional support during COVID, but it felt like it was more about getting us back to work rather than truly supporting us. Now, it feels like that support has dwindled." "I don't know of any specific initiatives at this hospital either. In my experience, the culture has improved over the years, with more awareness of doctors' mental health, but there's still work to be done." "There's definitely more talk about bullying now, but still in some departments senior staff are untouchable and if you speak up, you're the one who's seen as the problem."	• Unaddressed Emotional Toll even with the existence of counselling sessions. • Limited visibility of mental health programmes • Cultural improvements in mental health awareness, but gaps remain. • Bullying	14. Programmes for stress and burnout 15. Mental Health Awareness 16. Workplace Bullying	9. Stress and Stress management (deductive) 10. Bullying (deductive)
FG1 and FG3/PN1, PN2, PM13	"We really need more recognition for the work nurses do, both in terms of pay and career growth. The system should value and support us better, and there should be a more consistent approach across the country."	• Salary Compensation • Lack of Recognition • Career Progression • Value and Support • Clear strategy during COVID • Staff alignment with strategy • Lack of current direction • Lack of Autonomy	17. Inadequate Compensation 18. Recognition Deficit 19. Strong strategic alignment during crisis and erosion of strategic direction post-crisis	11. Performance recognition (deductive) 12. Security and Level of Pay (deductive) 13. Confidence in the strategy of my organisation (deductive)

	"During COVID, we had a clear strategy, and staff got behind it because they knew it was for the patients. But now, with no clear direction, there's a sense of 'what are we doing this for?'" "We're supposed to make decisions on the ground, but every choice we make needs to go through several layers of approval. It's hard to feel trusted when we're not really given the autonomy to act in the best interest of patients."		20. Organisational clarity and purpose 21. Need for consistent and clear communication of strategy 22. Autonomy	14. Trust in my Organisation (deductive) 15. Autonomy(deductive)
FG 1 and Interview 1/PN2, PD16	"For me, it's about work-life balance, which could be improved by creating more consultant posts. With more consultants, the workload would be spread out more evenly, and we'd have a better work-life balance." "Work-life balance is nearly impossible the way things are. We're constantly covering gaps because there just aren't enough consultant posts. If staffing was better, we could actually take proper breaks and not feel guilty for leaving on time."	• Importance of work-life balance • Need for more consultant posts. • Desire for improved work-life balance	23. Structural improvements needed for balance (e.g., more consultants) 24. Impact of workload distribution on well-being 25. Organisational responsibility in ensuring work-life balance	16. Work-Life Balance (deductive)

FG 2 and Interview 2/PD10, PN17	"Telemedicine has become a bigger part of daily work, but it's not always efficient. We've also seen what a 7-day week system could look like, but that was an artificial setting during COVID. Implementing such changes permanently would be challenging." "Telemedicine took off during COVID, but it's not always efficient, and now it feels like we're backpedalling and making those changes permanent will be difficult in the daily practice."	• Expansion of telemedicine • Efficiency concerns with telemedicine • Impact of telemedicine on daily work • Temporary nature of 7-day week system during COVID • Challenges in implementing new technologies permanently	26. Increased reliance on telemedicine 27. Mixed efficiency and effectiveness of telemedicine 28. Temporary vs. permanent implementation of technology 29. Scepticisms about long-term viability of telemedicine	17. Telemedicine (inductive)
FG1 and Interview 2/PN2, PN16	"During COVID, we had to move quickly, and everyone was amazing. Some positive changes, like Healthmail, have stuck, but it feels like we've gone back to the slow pace of before. We're not learning from what worked, and there's frustration because there's no capacity for reflection or improvement." "We went through something as massive as COVID, and you'd think we'd stop to ask what worked and what didn't but that reflection never really happened. It's like we just went back to business as usual without learning a thing. That's the most frustrating part."	• Rapid response during COVID • Positive changes (e.g., Healthmail) • Regression to pre-COVID pace • Lack of learning from past experiences • Frustration with the lack of capacity for reflection and improvement	30. Effective crisis response capability 31. Sustainability of positive changes 32. Regression to status quo post-crisis 33. Missed opportunities for systemic learning 34. Need for ongoing reflection and improvement	18. Future Preparedness and Resilience of the Irish Healthcare System (inductive)

Following this extensive review of the data, 18 potential themes were identified. Of these, 15 were aligned with our deductive or quantitative phase, specifically addressing various subdimensions of employee engagement that were validated in the quantitative theoretical framework. Additionally, the inductive approach uncovered three novel themes.

Potential Deductive themes

1. Teamwork
2. Organisational Culture
3. Pride in the Organisation
4. Leadership and Communication with management
5. Motivation with My Work
6. Optimism with My Work
7. Training and Opportunities of career Progression
8. Stress and Stress management
9. Bullying
10. Performance recognition
11. Security and Level of Pay
12. Confidence in the strategy of my organisation
13. Trust in my Organisation
14. Autonomy
15. Work-Life Balance

Potential Inductive themes

1. Systemic and Structural Challenges
2. Telemedicine
3. Future Preparedness and Resilience of the Irish Healthcare System

Phase 5: Refining, defining and naming themes

In this phase of analysis, I carefully examined the initial 18 potential themes identified in earlier phases of this qualitative chapter (**see Table 11**), alongside the findings from the scoping review and the hypothesised theoretical framework. (**see Chapter 3,4**)

As Braun and Clarke (2012) highlight, it is common at this stage to discover that some initial themes may not serve as meaningful or effective interpretations of the data. Some themes may fail to provide valuable insights relevant to the research questions, or they may be composed of codes and data items that lack coherence. Additionally, inconsistencies within themes may emerge,

requiring further refinement, reorganisation, or even the removal of certain themes (Braun & Clarke., 2012). I found this to be true as I conducted the analysis. The review and refinement process of the potential 18 deductive and inductive themes were conducted following Patton's (1990) framework of internal homogeneity and external heterogeneity.

1. Level One: Review of Internal Relationships or Internal Homogeneity

The first level of this review concentrated on a meticulous examination of the internal relationships within each potential theme. This stage was crucial for assessing the coherence and alignment between the data items and codes that had been grouped under each theme. The primary objective was to determine whether these data items and codes formed a consistent and logical pattern that effectively supported the proposed theme. When such alignment was achieved, the candidate theme was considered to present a robust and coherent argument, thereby making a meaningful contribution to the overall narrative of the dataset (Braun and Clarke., 2012). During this stage, the theoretical foundations of employee engagement, which will be discussed extensively in **Chapter 3 and 4**, provided theoretical specifications for evaluating the coherence of the themes.

2. Level Two: Review in Relation to the Entire Dataset or External Heterogeneity

The second level of review extended this analysis to consider the potential themes in the context of the entire dataset. At this stage, the focus shifted to evaluating how well each theme captured the broader essence of the data. This phase involved comparing the themes against one another to determine whether each offered a unique perspective or addressed a specific aspect of the employee engagement. It was important that themes did not overlap significantly and that each one covered a distinct and relevant aspect of the data. If two themes were found to be too similar in scope or content, they were either merged into a single theme or one was revised to focus on a more specific element of the data. (Braun and Clarke 2012; Patton., 1990)

Robustness was another key criterion in this phase. The robustness of each theme was tested by applying it across different segments of the dataset to see if it remained relevant and consistent. This involved checking whether the themes were applicable not only to specific parts of the data but also broadly across different focus groups and interviews. Additionally, I considered whether the themes were consistently referenced or supported by a wide range of participants. If a theme was found to be applicable only to a very narrow part of the dataset or if it did not hold up when applied more broadly, it was subject to further revision or, in some cases, discarded altogether (Braun and Clarke., 2012; Patton., 1990).

Based on the insights gathered from both levels of review, I engaged in a detailed process of revising and refining the themes to ensure they accurately represented the data. This process involved

consolidating initial potential themes that were either too narrow in scope or closely related to one another. These narrower themes were restructured as sub-themes. (Braun and Clarke., 2012; Patton.,1990).

A clear example of the iterative refinement process or the generation of the final themes in this Phase 5 is explained through the development of the overarching theme “Leadership and Organisational Strategy.” Initially, multiple candidate themes were identified during earlier coding cycles, including Communication with management, Communication within the team Trust and Autonomy, Work-Life Balance, and Confidence in the organisational strategy (**see Table 11**). At first glance, these appeared as distinct thematic entities. However, during the level one review focused on internal homogeneity (Patton, 1990), I observed that these themes frequently co-occurred and shared a unifying conceptual thread, participants were expressing how leadership structures and organisational planning shaped their daily work experiences and emotional investment. For example, statements describing managerial disengagement or inconsistent communication patterns often intertwined with concerns about unclear strategic direction and a lack of professional autonomy. When tested against the broader dataset (level two-external heterogeneity), the same statements reappeared across multiple transcripts and participant roles, reinforcing their cross-cutting relevance and justifying their consolidation under a single overarching theme. This process culminated in the development of the theme “Leadership and Organisational Strategy,” which integrated the previously identified potential themes as subthemes (Braun & Clarke, 2012). (**see Table 12**)

Upon completing this analysis, it became evident that the qualitative data, although collected with a primarily deductive approach, could not be organised into the exact dimensions or themes originally proposed by the quantitative findings.

Four overarching themes were found within the qualitative phase. These include 3 deductive themes: “Employees need to feel recognised and valued”, “Leadership and Organisational Strategy”, “Health and Wellbeing” and the inductive theme “Systemic and Structural Challenges”. These themes and their subthemes are presented and defined in the **Table 12**.

Table 12: Defining and naming themes and subthemes.

Themes	Subthemes
Employees need to feel recognised and valued Refers to the fundamental employee's expectation that their contributions, efforts, and achievements are acknowledged and appreciated by their organisation. Recognition involves formal or informal acknowledgment of an employee's work, while feeling valued encompasses a broader sense of respect, inclusion, and appreciation within the organisation. Meeting this need enhances motivation, engagement, and job satisfaction, contributing to higher productivity and retention.	Motivation with my work Refers to an individual's intrinsic drive and enthusiasm for performing their job duties. It reflects a deep-seated interest in the tasks at hand and a desire to excel, stemming from both internal and external factors.
	Optimism with my work Refers to a positive outlook on one's role and responsibilities, including the belief that one's efforts will lead to successful outcomes.
	Performance Recognition Involves appreciation and acknowledgment from peers and formal acknowledgment by higher management or the company as a whole. This includes awards, promotions, formal appreciation events, or structured recognition programmes.
	Training and Opportunities of Career Progression Refers to the access employees have to formal and informal learning opportunities and to the availability of career advancement paths and promotional opportunities within the organisation
Leadership and Organisation's strategy Refers to the structured approach and guiding principles that leaders implement to steer an organisation toward its goals, enhance performance, and foster a positive work environment. It encompasses decision-making, vision-setting, resource allocation, and policy development, ensuring that organisational objectives align with both employee needs and broader institutional priorities. Explores the relationship between staff and leadership, focusing on communication, trust, and strategic alignment. It highlights the disconnect between management and frontline workers and how it impacts confidence in the organisation.	Communication with management Involves the clarity, openness, and quality of interactions between employees and leaders.
	Confidence in the Strategy of My Organisation Refers to employees' belief in the effectiveness, clarity, and future direction of the organisation's strategic goals.
	Trust and Autonomy in My Organisation Reflect employees' confidence in their organisation as well as the level of independence they have to make decisions and control their tasks
	Workplace Atmosphere Refers to the emotional tone and interpersonal dynamics within the organisation, including how employees interact and collaborate
	Pride in the Organisation Refers to employees' positive perception of the organisation's values, reputation, and achievements.
	Communication within the team

	Refers to the process of exchanging information, feedback, and ideas openly and effectively among team members, fostering trust, understanding, and collaboration.
	Support within the Team Encompasses the emotional, practical, and professional assistance that team members provide to each other. This includes helping one another with tasks, offering constructive feedback, and being empathetic to each other's challenges
Health and Wellbeing Refers to the physical, mental, and social state of an individual, encompassing overall quality of life, workplace security, and financial stability. Delves into how structural issues affect staff wellbeing, covering stress management, work-life balance, bullying, and compensation. It addresses the challenges healthcare staff face in managing workloads while feeling unsupported by organisational wellbeing initiatives.	Stress and Stress Management Refers to the management and reduction of job-related stress through strategies and resources provided by the organisation, such as employee assistance programmes, counselling, and wellness initiatives.
	Work-Life Balance Refers to the ability of employees to maintain a healthy equilibrium between work responsibilities and personal life
	Security and Level of Pay Refer to employees' perception of job stability and the adequacy of their compensation
	Bullying Refers to repeated, negative behaviours directed at an individual, which can include verbal abuse, undermining of work, and social exclusion
Systemic and Structural Challenges Revolves around the pervasive inefficiencies and organisational shortcomings that impact the functionality of the healthcare system Focuses on broader issues like resource allocation and the healthcare system's preparedness for future challenges. It also examines the role of telemedicine in healthcare delivery.	Systemic and Structural Challenges Refers to deep-rooted, interconnected barriers within a healthcare system that affect its overall functionality and efficiency
	Future Preparedness and Resilience of the Irish Healthcare System Refers to the capacity of the Irish healthcare system to anticipate, respond to, and recover from future crises, demographic shifts, and evolving healthcare demands
	Telemedicine Refers to the use of digital communication technologies to provide remote healthcare services, allowing patients to consult with healthcare professionals without requiring in-person visits. It includes virtual consultations, remote monitoring, electronic prescriptions, and digital health interventions delivered through video calls, mobile applications, and telehealth platforms.

Phase 6: Producing the Report

This represents the final phase of Reflexive Thematic Analysis (RTA) as described by Braun and Clarke (2006, 2022). In this phase, the results are reported in a coherent, accessible narrative that clearly conveys the analytic story. In this thesis, the reporting primarily followed a deductive, explanatory approach aligned with the theoretical framework, while also incorporating and interpreting an inductive theme that emerged from the data. These results will be presented in detail in **Chapter 6**. However, comparing the findings from the qualitative and quantitative phases proved challenging, as each phase offered distinct perspectives that were not always easily comparable. This underscored the importance of a thoughtful integration process. By synthesising both strands of data, I was able to critically assess the practical relevance of the validated framework within real-world healthcare settings and identify key areas that warrant further investigation in future research.

2.6 Integration of Finding- Methodological Approach

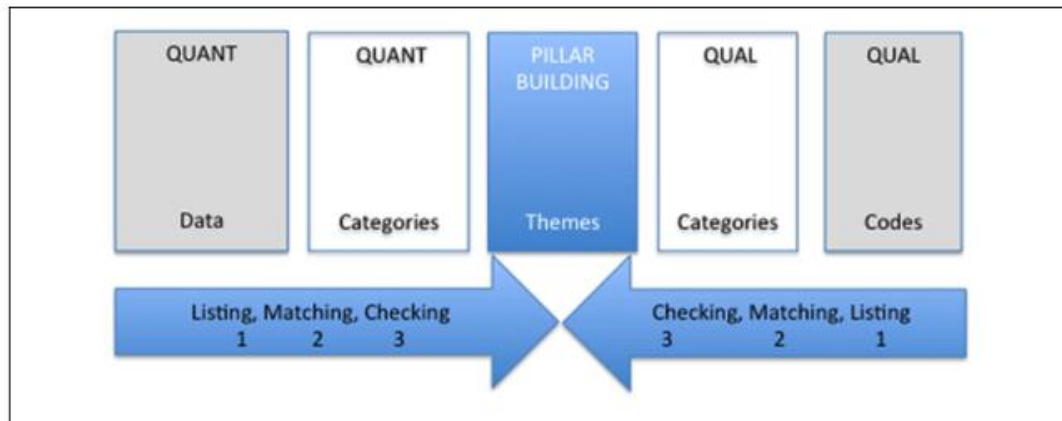
2.6.1 Pillar Integration Process (PIP)

The integration of the quantitative and qualitative data was conducted at the interpretation stage, following the Pillar Integration Process (PIP) (Johnson, Grove, & Clarke., 2019). The Pillar Integration Process (PIP) is grounded in mixed-methods research methodology and since its inception, numerous studies have adopted the PIP approach. For instance, Hall and Mansfield (2023) utilised PIP to integrate mixed-method findings in evaluating a workplace health intervention, highlighting its utility in complex intervention assessments. Similarly, Ryan et al. (2022) employed PIP to synthesise qualitative and quantitative data in their research, emphasising its role in enhancing data integration. In general, methodological discussions on PIP note its benefits in providing a profound and comprehensive understanding of research findings (Hall & Mansfield., 2023).

The decision to utilise PIP was made after both phases of data collection and independent analysis had been completed, ensuring that data integration was guided by empirical findings rather than preconceived assumptions (Fetters & Freshwater., 2015). Unlike convergent mixed methods designs, where integration occurs at the data collection stage, or embedded designs, where one data type supplements another, the sequential approach in this study ensured that qualitative insights were fully shaped by and responsive to quantitative findings (Fetters & Freshwater., 2015). PIP employs a systematic joint display method, structured around four sequential stages: listing, matching, checking, and pillar building. Each of these stages is designed to progressively refine and

enhance the understanding of health employee engagement through the interaction between qualitative and quantitative data. **(Figure 4)**

Figure 4: Pillar Integration Process.



Following the principles outlined by Johnson et al. (2019), data integration was conducted across thematic cases spanning the entire dataset, ensuring that patterns identified in one data type were validated, expanded upon, or problematised by insights from the other.

2.6.1.1 Phase 1: Listing of Quantitative results on Healthcare Employee Engagement

The first phase of PIP involved systematically organising and categorising quantitative data to establish a structured foundation for subsequent integration. This stage ensured that all relevant statistical findings were clearly documented, allowing for a methodical approach to data alignment with qualitative insights. Following best practices in joint display methodology (Guetterman, Fetters, & Creswell., 2015), I grouped raw numerical data into predefined quantitative engagement dimensions, which formed the primary analytical categories for comparison **(see Table 23)**. This categorisation was informed by my validated theoretical framework of health employee engagement **(Figure 15)** (Schaufeli., 2013; Bailey et al., 2017) and was designed to capture variations in engagement levels, key influences, and subgroup differences.

In my framework, eight engagement dimensions were identified as central to understanding the broader patterns in employee engagement. **(Figure 15)** These dimensions were comprised by twenty subdimensions and moderated and mediated by variables that helped contextualise variations across different occupational roles, levels of experience, and systemic conditions. **(Figure 15).**

2.6.1.2 Phase 2 and Phase 3: Matching and comparison of Qualitative and Quantitative results

The second and third phases of PIP involved systematically aligning and comparing findings from both quantitative and qualitative strands, ensuring that insights from each methodology were meaningfully integrated. These stages were designed to enhance validity through triangulation, allowing for a more holistic understanding of engagement by cross-referencing numerical trends with lived experiences (Fetters, Curry, & Creswell., 2013). The matching process was conducted by identifying correspondences between the engagement dimensions and subdimensions validated in the theoretical framework and the four emergent themes and 18 subthemes from the qualitative analysis, ensuring that statistical or quantitative findings were contextualised within real-world healthcare settings (see Table 23).

To achieve this, a case-based comparative approach (Miles & Huberman., 1994) was employed, where qualitative narratives were systematically linked to corresponding quantitative categories. This ensured that statistical findings were either validated, enriched, or challenged by qualitative insights, preventing the risk of superficial data alignment (Creswell & Plano Clark., 2018).

Given that qualitative coding had already been conducted, I made a detailed re-examination of the themes and subthemes, ensuring that all relevant insights were properly mapped onto the quantitative framework. I gave particular attention to discrepancies between datasets, as divergent findings often indicated deeper structural or cultural issues within the healthcare system that are many times hard to fully captured by numerical data alone (Morgan., 2007).

To maintain analytical transparency, I left unmatched instances where qualitative data did not correspond to a quantitative category, avoiding the imposition of artificial connections. This decision aligns with Johnson et al.'s (2019) principles for PIP, which emphasise that integration should emerge organically from the data rather than being forced. Once all data were matched, the results provided the foundation for the pillar-building phase

2.6.1.3 Phase 4: Interpretation and Synthesis: Refining the Engagement Framework

Finally, I carried out the pillar-building process systematically comparing, contrasting, and integrating findings from the qualitative and quantitative columns to create a cohesive analytical framework.

Each pillar was narratively constructed, synthesising insights from the pillar-building column of the joint displays, and these are presented in **Chapter 7**. The integration of numerical trends with qualitative narratives enabled a clearer understanding of workplace challenges, and a more robust

empirical foundation for both validating my health employee engagement framework and guiding future research priorities.

2.7 Researcher Role and Contribution

This PhD study was conceptualised, led, and carried out in its entirety by me, as the doctoral researcher. I was responsible for all stages of the research from developing the initial research questions and study design to conducting data analysis, integration, and interpretation. While the study was supported by my supervisory team, their role was advisory, providing critical guidance at key junctures of the project. Additional expert input was sought selectively, for example during the harmonisation of quantitative datasets and the review of the scoping methodology, to ensure rigour and technical accuracy. However, the development, application, and interpretation of the employee engagement framework were based on my independent analysis, supported by the academic guidance of my supervisors.

2.8 Ethical Considerations

2.8.1 Quantitative Phase

Ethical approval for this study was obtained from the Trinity College Dublin Ethics Committee (Application 03E/2021/10) as part of the RESTORE project: Towards Dynamic Resilience in Health Performance and Reform, the research grant under which this PhD was originally funded. (**Appendix 6**). All procedures strictly adhered to data protection regulations, including the General Data Protection Regulation (GDPR), to guarantee the confidentiality, security, and ethical handling of sensitive information (Creswell et al., 2018). This approval allowed us to proceed with the secondary validation of employee engagement data originally collected by the HSE and IPSOS MRBI.

Before beginning the secondary analysis, I verified that the original data collection process had obtained explicit consent from participants for their data to be used in future research. For instance, participants in the original HSE survey were informed about the purpose of data collection, the anonymisation process, and the possibility of their data being reused in subsequent research under strict ethical guidelines. By confirming this consent, it was ensured that participants' autonomy and initial agreements were respected (Grady., 2018).

To protect confidentiality and privacy, the datasets were received in a fully anonymised format. Identifying information such as names, addresses, and phone numbers had already been removed by the HSE and IPSOS MRBI. Additional steps were taken to further safeguard anonymity. For instance, indirect identifiers, such as job titles or work locations in small teams, were aggregated or

generalised to prevent re-identification. In the output of the analysis, such as tables or figures, only aggregated results were presented, ensuring individual-level data were never exposed (Nass., 2009).

I also required a specific ethical approval for the secondary analysis before the study began. The application submitted to the Ethics Committee included a comprehensive description of the research objectives, the sources of the datasets, the planned analytical methods, and the safeguards in place to protect participants. For example, I detailed how sensitive variables, such as bullying or age, would be analysed in a way that preserved anonymity by grouping or aggregating data rather than using granular individual-level identifiers (European Commission., 2016).

Additionally, this thesis explicitly acknowledges the original sources of the datasets, including the HSE and IPSOS MRBI, who provided the data under agreements with the Resilience to Reform (RESTORE) project (European Commission., 2016).

Data security was a central focus of the research. The datasets were stored on a secure cloud-based Network Attached Storage (NAS) facility at Trinity College Dublin, designed for managing sensitive research data. Only authorised members of the study team, including me and my supervisors, were granted access, and each member was assigned a strong, unique password. Temporary files generated during analysis were deleted immediately after use, and access rights were revoked when I was no longer working on the data (European Commission., 2016).

Recognising the potential risks associated with data breaches posed another key challenge. To address this, a clear and proactive response plan was implemented to ensure rapid and effective action if a breach were to occur. In the event of a breach, the first step would be to isolate the compromised system to prevent further unauthorised access. I would immediately report the incident to the university's data protection officer. A detailed investigation would follow to identify the nature and scope of the breach, including whether any data were accessed, copied, or exfiltrated. If the breach involved sensitive or personal information, the Ethics Committee, and relevant authorities, such as the Data Protection Commission, would be notified within 72 hours, as required by GDPR regulations. Participants whose data might have been compromised would also be informed promptly, and steps would be taken to mitigate potential harm, such as enhancing security measures (European Commission., 2016).

Finally, to address concerns about bias and misinterpretation, rigorous analytical methods were applied to ensure the validity and reliability of findings. Sensitivity analyses were conducted to confirm that results were consistent across subgroups, such as age, sex, or staff categories, minimising the risk of conclusions being influenced by outliers or anomalies. Additionally, all

interpretations of the results underwent internal peer review by my supervisors to ensure objectivity and accuracy before publication.

2.8.2 Qualitative Phase

Ethical considerations were integral to the conduct of the focus groups and interviews, ensuring that the research process consistently upheld the rights, dignity, and well-being of all participants (Wiles, 2013). Ethical approval for the qualitative phase was obtained from the joint research ethics committee of the two acute hospitals that participated in the study. **(Appendix 7, Appendix 8)** This section offers a comprehensive examination of the specific strategies employed to manage data confidentiality and protect participants' anonymity throughout the qualitative phase.

1. Ensuring Confidentiality and Anonymity

The confidentiality and anonymity of all participants were of paramount importance in this study. Each participant was assigned a unique codename to protect their identity. This codename, along with the participant's real name, was recorded in a "code key," which was securely stored in a locked filing cabinet within a locked office at the Trinity Centre for Health Policy and Management. Access to this code key was strictly limited to me, as the Principal Investigator, ensuring that the connection between participants and their data remained confidential. At no point was identifiable information used in the analysis or reporting of the data, ensuring that participants could not be linked to their responses (Kaiser., 2009).

2. Managing Audio Recordings and Transcriptions

Focus group discussions and interviews were recorded using the Teams platform and audio recorders to ensure clarity and accuracy during transcription. Immediately following each focus group session, the audio recordings were transferred to a secure, dedicated OneDrive project folder within the Trinity College Dublin (TCD) network. Once securely transferred, the recordings were permanently deleted from the original device to prevent any potential data breaches. Transcriptions of these recordings were manually prepared by me, utilising the transcription functionalities provided by Teams. The transcriptions were stored in the same secure OneDrive folder, with all files password-protected to enhance security. Throughout the transcription process, any identifying information was meticulously redacted to ensure the anonymity of participants was fully protected (Kaiser., 2009).

3. Secure Data Storage and Controlled Access

All participant information, including names, email addresses, and postal addresses, was securely stored in a password-protected Excel database. This database resided in a secure OneDrive folder

that was exclusively accessible by me and my principal supervisor. Access to this data was strictly controlled. Digital consent forms were password-protected and securely stored within the OneDrive project folder (Parry & Mauthner., 2004).

4. Protecting Participant Well-being in Focus Groups and Interviews

Given the sensitive nature of topics such as stress, bullying, and discrimination discussed during the focus groups and interviews, careful consideration was given to the organisation and facilitation of these sessions. To mitigate potential discomfort or hierarchical pressures, focus groups were organised according to staff categories (e.g., nurses, doctors, managers). This segmentation helped create a more comfortable environment where participants could speak freely without concerns about power dynamics (Wilkinson., 1998).

Each session was scheduled for one hour, with the flexibility to take breaks if participants felt uncomfortable at any point. As the moderator, I ensured that discussions remained respectful, productive, and within the comfort zones of all participants. When conversations became too intense or if consensus was elusive, I intervened to guide the discussion toward a more constructive and manageable direction. This approach was carefully designed to protect the emotional well-being of participants while fostering an environment conducive to open and honest dialogue (Wilkinson., 1998).

5. Data Analysis and Integrity

Data analysis was conducted using the Microsoft Office suite and NVivo software. All software was set up in accordance with Trinity College Dublin's GDPR protocols, including secure local and cloud storage, controlled access permissions, and encryption where applicable. Both my primary supervisor and I had completed extensive GDPR training provided by TCD, which informed the secure handling, storage, and analysis of all research data in line with legal and institutional standards.

Additionally, the qualitative data obtained from focus groups were carefully integrated with the quantitative findings from the earlier phase of the research (**Chapter 5**). This mixed-methods approach allowed for a robust Pillar Integration Process, where qualitative insights were used to contextualise and explain the quantitative results, leading to a more comprehensive understanding of the research outcomes (Fetters, Curry, & Creswell., 2013).

6. Respecting Participant Rights

Participants in this study were given the opportunity to correct any inaccuracies or withdraw specific statements they no longer wished to include. They also had the option to withdraw from the study

entirely, in which case their data were carefully identified, edited out of the audio recordings, and removed from the transcripts and all subsequent analyses (Israel & Hay, 2006).

If a participant wished to exercise their right to review or amend their data, they could contact me directly. I provided the participant with secure, read-only access to their transcript. Any requested changes were promptly implemented, and the participant was notified once the revisions were completed. Once the transcript was finalised, no further changes were permitted, and all audio recordings were permanently deleted to protect participant confidentiality (British Psychological Society., 2018).

7. Data Oversight and Compliance

Trinity College Dublin (TCD) acted as the data controller for all research data collected in this study, ensuring that stringent data protection measures were implemented and consistently adhered to throughout the research process. In the event that I, as the Principal Investigator, left the university for any reason, my primary supervisor, Professor Steve Thomas, would have assumed responsibility for ensuring ongoing compliance with these data protection regulations. This plan for continuity guaranteed that all data protection protocols would be maintained without interruption, thereby preserving the integrity and security of the research data (European Union., 2016).

2.9 Conclusions

This chapter outlines the research design, methodological rationale, and analytical procedures used to develop and validate the evidence-based framework for measuring employee engagement in the Irish healthcare sector. Guided by a pragmatic paradigm, an explanatory sequential mixed-methods approach was employed, progressing from quantitative validation to qualitative explanation and integration. The quantitative phase established statistical robustness, while the qualitative phase added explanatory depth by capturing healthcare professionals' lived experiences. Integration of both strands allowed for comprehensive interpretation, ensuring the framework was both theoretically robust and practically relevant. Together, these phases provide a well-rounded understanding of engagement and highlight the framework's potential to inform workforce policy, practice, and future research. The following chapters present the results of each phase.

Chapter 3: Results of the Scoping Review: Conceptualisation, Theories, and Measurement of Employee Engagement

3.1 Introduction

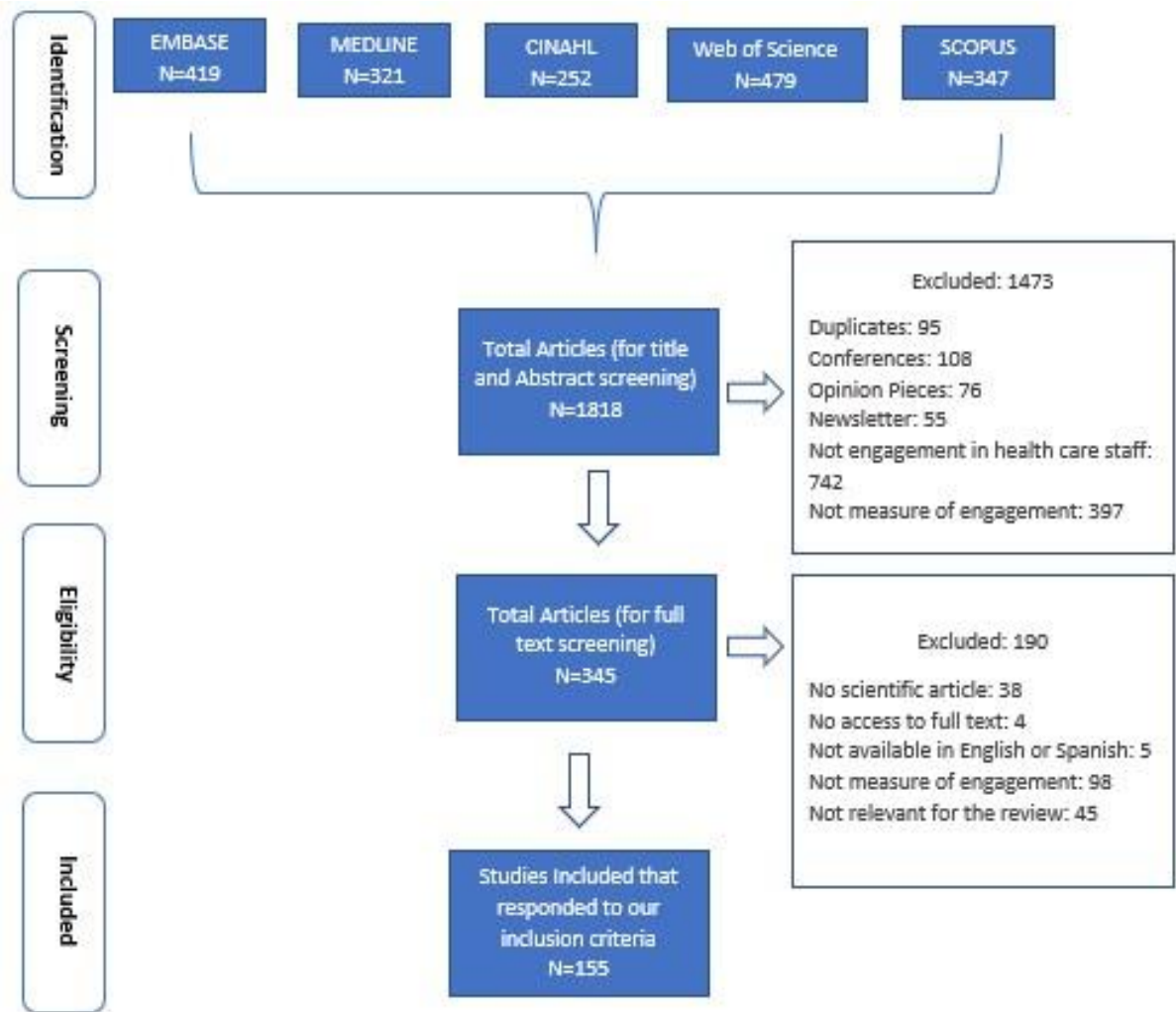
This chapter presents the findings of the scoping review, which constituted the foundational phase of the research and informed the subsequent design, development, and validation of the health employee engagement (HEE) framework explored in this thesis. The primary aim of the review was to explore and synthesise the existing body of literature on employee engagement within healthcare contexts. Given the multidimensional and context-specific nature of employee engagement, particularly in complex healthcare systems, this scoping review was essential in mapping the breadth of available evidence, identifying any existing gaps in theory or measurement.

The results of the review are presented according to three distinct but interrelated outcomes: (1) the conceptualisation of employee engagement and its constituent elements; (2) the theoretical frameworks that underpin the understanding of employee engagement (3) the tools, scales, and methodologies used to assess and operationalise engagement among healthcare workers. These three outcomes form the structural basis of the chapter and are supported by direct references to the peer-reviewed literature identified during the systematic screening and data extraction process. The integration of these findings not only guided the initial conceptual development of the engagement framework (**Chapter 4**) but also provided a critical evidence base for its empirical validation (**Chapter 5**) and application in the later phases of the study.

3.2 Descriptive Characteristics of Included Studies

A total of 1818 articles were identified as meeting the inclusion criteria. **Figure 5** presents a comprehensive overview of the study flow throughout the review process. The entire screening process, from the initial title and abstract review through to full-text assessment, was managed using Covidence. Following the initial phase, 345 articles were deemed suitable for full-text review, while 1,473 were excluded for not meeting the inclusion criteria. Data extraction encompassed details including authors, country of origin, study type, and outputs pertaining to employee engagement such as definitions, theoretical frameworks, measurement methodologies, and relevant variables. Ultimately, 155 articles met the inclusion criteria and were included for data extraction.

Figure 5: Flow Chart.



The geographic distribution of the studies is described in **Figure 6 (Appendix 9)**. The majority of studies were conducted in the United States (24.5%), followed by the Netherlands (19.4%) and China (17.4%). Regarding methodological design, cross-sectional studies were predominant (41.9%), followed by literature reviews (26.5%). Furthermore, a significant proportion of articles were published between 2000 and 2010 (58.7%), which coincides with the period when numerous instruments for measuring staff engagement were developed. **(Figure 7)** Notably, this period saw the emergence of widely used tools such as the Utrecht Work Engagement Scale (UWES), originally developed in the Netherlands and extensively applied in assessing health employee engagement across the literature.

Figure 6: Geographical distribution of the articles.

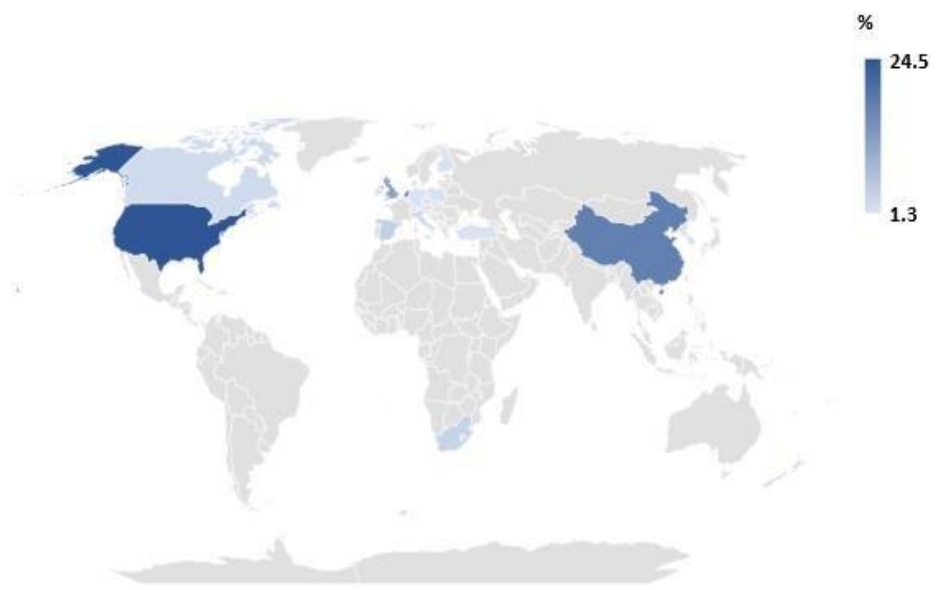
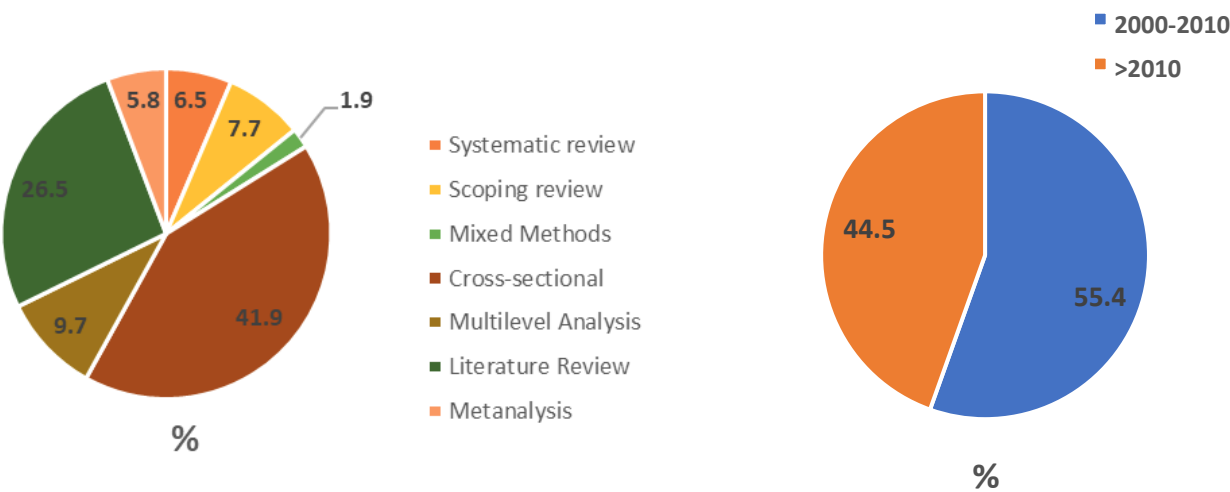


Figure 7: Articles by methodological design and year of publication.



3.3 Definitions of Employee Engagement

Employee Engagement (EE) has emerged as a crucial and extensively studied concept in organisational research, particularly in healthcare, where an engaged workforce is essential for positive patient outcomes, operational efficiency, and overall employee well-being (Aiken, Sloane, & Bruyneel., 2014; Boamah, Spence Laschinger, & Cummings., 2018; Applebaum et al., 2010). In the last two decades, the importance of engagement has grown significantly in healthcare management, given its strong association with key performance indicators such as patient safety, quality of care, and staff retention (Bakker et al., 2014; Leiter & Maslach, 2009; Albrecht, 2012; Barrick et al., 2015). Policymakers, healthcare leaders, and researchers increasingly recognise EE's potential to enhance both the performance and long-term sustainability of healthcare systems. However, despite its broad acceptance, the conceptualisation of EE remains complex and multifaceted, particularly in healthcare settings where the emotional, physical, and cognitive demands on employees are exceptionally high (Demerouti et al., 2010; Schaufeli & Bakker., 2004; Swanson & Champine., 2017; Hakanen & Schaufeli., 2012).

Parker and Griffin (2011) point out that employee engagement is often touted as a vital component of organisational effectiveness, yet its definition frequently overlaps with earlier concepts such as job satisfaction, organisational commitment, and job involvement (Griffith & Clarke., 2011; Burton, Hoobler, & Scheuer., 2017). This overlap has spurred ongoing debates regarding the uniqueness of EE as a construct. Nevertheless, academic discourse has increasingly clarified the distinctions between EE and related constructs, positioning it as a unique and valuable measure of employee motivation, involvement, and performance (Boon et al., 2011). This differentiation is particularly relevant in healthcare, where engagement transcends mere cognitive or emotional attachment to one's job. It represents a comprehensive investment encompassing physical, emotional, and cognitive dimensions, all critical for delivering high-quality care and ensuring the stability of healthcare organisations (Bakker & Demerouti., 2017; Chen et al., 2014; Collini, Guidroz & Perez., 2015).

Saks (2006) supports this notion, arguing for the distinctiveness of employee engagement in relation to constructs such as organisational commitment, job involvement, and organisational citizenship behaviour (OCB). He asserts that organisational commitment primarily pertains to an employee's attitude and emotional bond with the organisation, whereas engagement delves deeper into an individual's attentiveness, focus, and absorption in their role performance (Evans & Bell., 2015; Garrosa et al., 2010). This distinction is particularly pertinent in healthcare, where professionals

must sustain high levels of engagement over extended periods, often amidst emotional exhaustion and physical strain (Ferreira & De Mello., 2013). While job involvement reflects the degree of identification with one's job and 'flow' signifies moments of deep immersion in work, engagement in healthcare encompasses a more enduring and holistic commitment that integrates organisational and individual dimensions (Csikszentmihalyi., 1990; Huber., 2010).

The following section explores three prominent conceptual approaches to employee engagement discussed within the academic literature.

3.3.1 Employee Engagement an Organisational Approach

Hewitt (2001) defined employee engagement as the extent to which employees are willing to remain in an organisation and put forth effort for its success. This concept is reflected in three key aspects: 1) employees use positive language to describe their organisation, colleagues, and jobs; 2) employees have a strong desire to be part of the organisation long-term, seeing their role as more than a temporary transition; and 3) employees are willing to exert extra effort beyond their formal duties to contribute to the organisation's success (Bakker & Demerouti., 2008; Brunetto et al., 2013; Zito et al., 2016). This model emphasises both emotional and behavioural engagement, suggesting that committed employees are not only loyal but also proactive in their support of organisational goals (Wong et al., 2010; Boamah et al., 2018).

Towers (2001) further expanded on this idea by introducing two types of engagement: rational engagement and emotional (or sensuous) engagement. Rational engagement focuses on the relationship between individuals and the organisation, such as employees' understanding of their roles and how they contribute to the organisation's success. Sensuous engagement, on the other hand, emphasises emotional satisfaction and a sense of self-achievement derived from work (Collini et al., 2015; Deci & Ryan., 2000; Applebaum et al., 2010).

Xie (2006) and Masson et al. (2008) followed a similar organisational approach. Xie argued that employee engagement is characterised by dedication to the profession, hard work, loyalty to the company, and self-confidence. Masson et al. (2008) further connected engagement to different types of commitment: affective commitment, where employees feel pride in their organisation and are willing to recommend it to others; continuance commitment, which refers to employees' intention to remain with the organisation; and discretionary effort, where employees are motivated to go beyond their formal job requirements, feeling inspired by the organisation (Othman et al., 2014; Garrosa et al., 2010).

These conceptualisations of engagement largely emphasised the organisational perspective highlighting commitment, effort, and retention, while giving limited attention to psychological or individual-level factors such as emotional wellbeing, intrinsic motivation, or personal fulfilment (Kahn, 1990). The organisational approach primarily focuses on what employees are willing to sacrifice or contribute for the organisation's benefit, often neglecting individual motivations (Kahn, 1990; Saks, 2006). **(Appendix 2)**

3.3.2 Employee Engagement an Individual Approach

Another approach taken within the literature focuses on the individual's state of mind, but it doesn't recognise the influence that the organisations can have on these employees' state of mind. Authors like Schaufeli et al. (2002) defined engagement as a positive, fulfilling, work-related state of mind that is characterised by vigour, dedication, and absorption, and a more persistent and pervasive affective-cognitive state that is not focused on any specific object, event, individual, or behaviour, aligning with studies that highlight engagement's enduring nature (Bakker & Demerouti., 2008; Boon et al., 2011). Similarly, Harter et al. (2002) define employee engagement as the individual's involvement, satisfaction, and enthusiasm for work, echoing findings that suggest personal investment significantly impacts work outcomes (Dutton & Ragins., 2007; Laschinger et al., 2013).

Zeng and Han's (2005) definition took a mixed approach and utilised some elements from the "Dedicated Willingness model". They conceptualised employee engagement as having pleasant, proud, and encouraging experiences during work. Their definition moves beyond simply focusing on employees' performance or commitment to tasks. Instead, they emphasise the emotional and psychological experiences of employees in the workplace, suggesting that true engagement occurs when individuals have positive emotional responses to their work (Holman & Totterdell., 2010; Tuckey et al., 2012).

Another individual-centric definition of employee engagement is the "opposite of burnout". This approach conceptualises engagement and burnout as two extremes of the same continuum, where engagement is seen as the positive pole and burnout as the negative. Specifically, it interprets engagement as an inverse of burnout, framing the two as direct opposites: burnout characterised by exhaustion, cynicism, and reduced professional efficacy, while engagement is marked by energy, involvement, and professional efficacy (Maslach et al., 2001; González-Romá et al., 2006; Demerouti et al., 2010; Schaufeli & Bakker, 2004., Hakanen & Schaufeli., 2012; Swanson & Champine., 2017).

Drawing together insights from these two different approaches, an engaged employee is one who not only understands the organisational context but also collaborates with colleagues to enhance job performance for the organisation's benefit, as highlighted by Robinson et al. (2004). This necessitates a reciprocal relationship between employees and employers, where the organisation actively fosters and sustains engagement (Cloutier et al., 2015; Barrick et al., 2015).

Engaged employees experience a synergy of job satisfaction, organisational commitment, job involvement, and a sense of empowerment, forming a holistic construct that goes beyond any single component. As suggested by the Institute for Employment Studies, this underscores the need for a multidimensional approach to understanding and measuring employee engagement (Robinson et al., 2004).

3.3.3 Employee Engagement as a Multi-Faceted/Multidimensional Construct.

This approach is used when employee engagement is understood as a multidimensional concept. Researchers and theorists intentionally combine two or more distinct variables, such as organisational commitment, and work motivation, to predict engagement levels and develop a broader theoretical framework that explains its impact on workplace outcomes (May et al., 2004). Many authors have employed this approach. May et al. (2004) emphasised that employee engagement involves not only cognitive processes but also the flexible application of emotions and behaviours, highlighting its multidimensional nature. This perspective was supported by Saks (2006), who underscored the importance of integrating different psychological states and behaviours in the engagement model, a view that aligns with findings on the interaction of cognitive, emotional, and behavioural elements in enhancing engagement (Boamah et al., 2018; Othman et al., 2014).

Cha (2007) expanded on this by adding the critical role of active involvement in work and the physiological state of employees. Cha identified three dimensions of employee engagement, emphasising the importance of organisational recognition and the sense of work value in fostering work engagement. This model highlighted how recognition and perceived work value contribute to sustained engagement. Building on Cha's foundation, Xu et al. (2013), Xiao and Duan (2014), and Liu (2016) enriched and organised the construct further, incorporating broader, not solely work-related, dimensions. Xu introduced four dimensions of engagement: organisational identity, work attitude, mental state, and responsibility effectiveness, noting the importance of psychological variables and their connection to burnout and work engagement. Xiao and Duan added loyalty and commitment as central variables in their engagement model, while Liu developed a five-

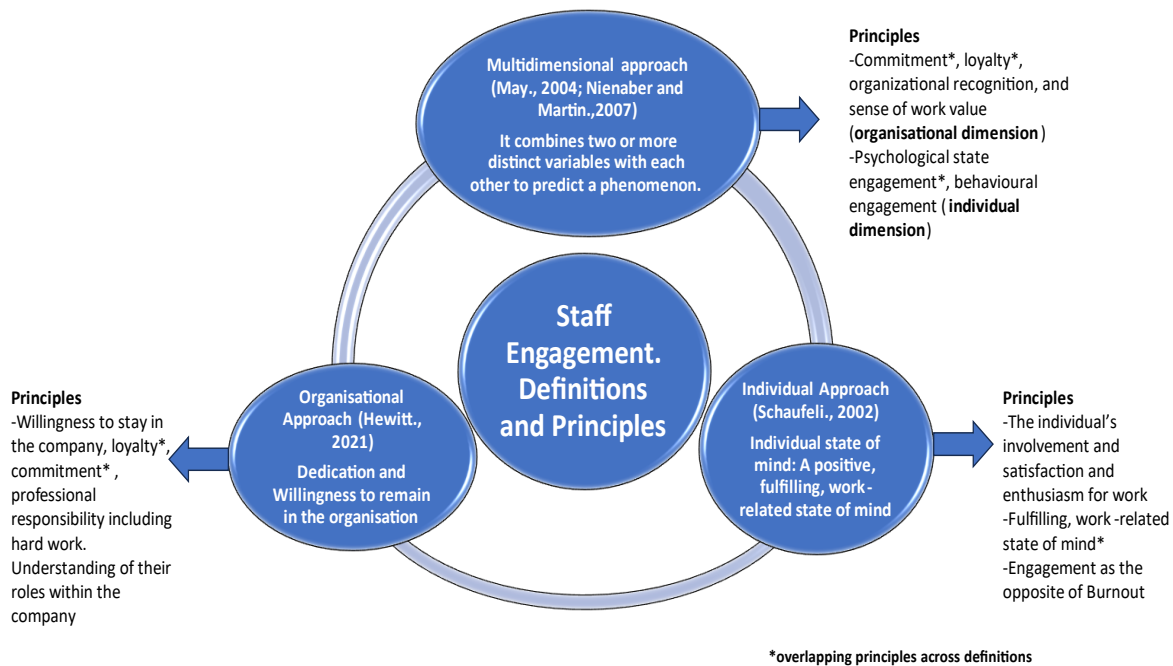
dimensional model that combined earlier insights but, for the first time, incorporated the work environment as a key factor in employee engagement. Liu's inclusion of the work environment sparked further debate on its significance in engagement models (Applebaum et al., 2010; Goyal & Kaur., 2023).

Macey and Schneider (2008) and Frese (2008) advanced this understanding by conceptualising EE as a broad term encompassing various types of engagement: trait engagement, psychological state engagement, and behavioural engagement. They emphasised the need for different conceptualisations to capture the full scope of engagement. For instance, proactive personality is aligned with trait engagement, involvement represents psychological state engagement, and organisational citizenship behaviour (OCB) represents behavioural engagement. Frese, in particular, highlighted the role of positive affectivity or the tendency to experience positive emotions as a critical factor in employee engagement. His work suggested that employees with higher levels of positive affectivity are more likely to engage with their organisations, contributing to better overall outcomes (Collini et al., 2015; Dutton & Ragins., 2007).

While the conceptualisations of Employee Engagement offered by the previous authors significantly expanded the theoretical scope of EE, they tend to place emphasis on organisational structures and external influences, often at the expense of adequately addressing individual psychological states. These concepts advanced the understanding of EE as a multifaceted construct, but they lack the balance between individual and organisational dimensions, which is critical for understanding how these factors interact and mutually influence each other (Bakker & Demerouti, 2008; Barrick et al., 2015; Saks, 2006).

Figure 8 illustrates the key approaches to conceptualising employee engagement as identified through this phase of the scoping review. These approaches reflect the diverse ways in which engagement has been defined and interpreted in the literature, highlighting its multidimensional nature and the varying emphasis placed on psychological, behavioural, and organisational components across studies. **(Appendix 10)**

Figure 8: Definitions of employee engagement.



While these concepts provide a deeper understanding of employee engagement, they require a careful structuring to ensure its application in daily organisational practices. Without clear frameworks, the richness of these concepts may become too abstract or difficult to implement. To translate these insights into actionable strategies, organisations need structured models that allow them to break down engagement concepts into measurable, manageable elements. (Cascio., 2014; Barrick et al., 2015).

3.4 Theoretical Frameworks to explain Employee Engagement

While the diversity of conceptual approaches to the definition of EE has been outlined above, the array of theoretical frameworks that have been employed to elucidate the concept of employee engagement will be presented below, with various researchers offering distinct perspectives based on their empirical investigations. At this time, there is no singular, universally accepted theoretical framework for employee engagement; instead, definitions and constructs varied significantly across these models. However, broadly speaking, these frameworks can be categorised into three primary approaches that are derived from the previous definitions of EE:

- The positive state of mind or individual approach, exemplified here by the Needs-Satisfaction Model, which emphasised the role of individual psychological needs as essential components of engagement (Kahn., 1990; Deci & Ryan., 2000).
- The dedicated willingness to the organisation or organisational approach exemplified here by the Job Demands-Resources (JD-R) and Social Exchange Theory (SET), which focused on the interplay between organisational factors and employee commitment (Bakker & Demerouti., 2007).
- The multifaceted or multidimensional framework represented in this thesis by the Nienaber and Martins model, which provided a comprehensive view of engagement by integrating individual, team, and organisational levels (Nienaber & Martins., 2014).

In the following section, four prominent frameworks will be examined, exploring their relevance to employee engagement within healthcare settings. The analysis included their respective advantages and disadvantages, as well as an explanation of which framework had been used as a theoretical foundation in this thesis for the construction and validation of my own theoretical framework.

1. **The needs-satisfaction framework proposed by Kahn (1990)** centres on the individual employee's perspective, positing that employees are more engaged in their work when three fundamental psychological needs are fulfilled: meaningfulness, safety, and availability.

- **Meaningfulness:**

It refers to the employee's perception that their work is significant and that they are deriving a substantial return on their investment of time, energy, and emotional resources. In the healthcare context, meaningfulness is particularly critical, as healthcare professionals often derive a profound sense of purpose from their roles. For example, nurses and doctors frequently cite improving patient outcomes and contributing to community health as central to their job satisfaction (Hakanen et al., 2006 Applebaum et al., 2010; Boon et al., 2011). The meaningfulness of work is influenced by various factors, including the nature of the tasks performed, the relationships built with patients and colleagues, and the overall impact of one's role on patient care and recovery (Bakker & Demerouti., 2008). When healthcare employees feel that their contributions are valuable and recognised, their engagement levels tend to increase, fostering a positive work environment that enhances job satisfaction and reduces turnover (Saks., 2006; Collini et al., 2015).

- **Psychological safety:**

It is another crucial element of the framework, emphasising the importance of an environment where employees feel secure in expressing their thoughts, opinions, and concerns. For healthcare professionals, this sense of safety is vital for effective communication and decision-making (Nembhard & Edmondson., 2006). The ability to speak up without fear of negative consequences, such as damaging one's self-image, status, or career is essential for fostering an open and collaborative culture. Factors influencing psychological safety include the quality of interpersonal relationships, the dynamics within teams, management styles, and the prevailing organisational norms (Mason et al., 2008; Wong & Cummings., 2007). In a healthcare setting, where team-based care is fundamental, an atmosphere of psychological safety encourages staff to voice concerns about patient care or suggest improvements without fearing retribution. This open dialogue is essential for enhancing teamwork and ultimately leads to better patient outcomes (Boamah et al., 2018; Bell & LaValle., 2010).

- **Availability:**

It pertains to the physical, emotional, and psychological resources that employees must possess to fully invest in their roles. In the demanding healthcare environment, employees are often required to manage high workloads, emotional stress, and the physical toll of caregiving (Demerouti et al., 2010; Maslach & Leiter., 2008). Therefore, availability is influenced by personal resources such as energy levels, emotional resilience, and external factors such as work-life balance and personal life stressors (Maslach & Leiter., 2008).

The needs-satisfaction framework underscores the necessity for healthcare organisations to foster a supportive environment that addresses these individual psychological needs (Bakker & Demerouti., 2008). However, while Kahn's framework provides valuable insights, it also has certain limitations. Primarily, it focuses on individual psychological needs, which may lead to a narrow understanding of employee engagement. For instance, it tends to overlook the broader organisational context that can significantly impact an employee's ability to satisfy their psychological needs. Factors such as confidence in the organisation's strategic direction, the overall organisational culture, and the availability of resources also play crucial roles in shaping employee engagement (Saks., 2006; Manion, 2009). Therefore, while the needs-satisfaction framework is instrumental in identifying critical psychological factors, it should be augmented with other variables that consider organisational dynamics and contextual influences to provide a more

comprehensive understanding of employee engagement in healthcare settings (Nienaber & Martins., 2014; West & Dawson, 2012).

2. The Job Demands-Resources (JD-R) Model, developed by scholars such as Salanova, Bakker, Hakanen, Schaufeli, Xanthopoulou, Crawford, and Salminen, offers a comprehensive framework for understanding employee engagement, particularly from an organisational perspective. This model posits that organisations may face varying working environments, which can be categorised into two general domains: job demands and job resources.

- **Job demands:**

They are defined as the physical, psychological, social, or organisational aspects of a job that require sustained physical and/or psychological effort, leading to certain physiological and psychological costs (Bakker & Demerouti., 2007). In the healthcare sector, job demands may include high patient loads, emotional labour, long working hours, and the stress associated with critical decision-making. These demands can lead to increased stress and burnout among healthcare professionals if not adequately managed (Hakanen et al., 2006; Applebaum et al., 2010). For instance, healthcare workers who face excessive demands without the necessary support may experience emotional exhaustion, negatively affecting their engagement levels and the quality of care they provide (Maslach & Leiter., 2016; Zito et al., 2016).

- **Job Resources:**

It refers to the aspects of a job that help employees cope with job demands and facilitate their work goals. These resources can include social support from colleagues, access to training and professional development opportunities, autonomy in decision-making, and a positive organisational culture (Schaufeli & Bakker., 2004; Boamah et al., 2018; Tuckey et al., 2012).

The Job Demands-Resources (JD-R) model emphasises that sufficient job resources can effectively buffer the negative effects of job demands, promote goal achievement, and stimulate personal growth and development (Bakker et al., 2014). This model provides valuable insights into the dynamics of employee engagement, suggesting that when organisations adequately supply resources, employees are better equipped to handle the challenges presented by their job demands (Nahrgang et al., 2011).

However, the JD-R model overlooks individual psychological factors and intrinsic motivators that also influence engagement. Intrinsic motivators are defined as internal factors that drive individuals to engage in behaviours or activities for the inherent satisfaction or pleasure derived from the activity itself, rather than for external rewards or pressures (Ryan & Deci., 2000).

In the context of employee engagement, particularly within healthcare settings, intrinsic motivators play a vital role in enhancing overall well-being and engagement levels (Shuck.,2014). Factors such as the satisfaction derived from performance recognition, the motivation associated with the meaningfulness of one's work, and the pride in being part of a reputable organisation significantly contribute to an employee's commitment and engagement (Hakanen et al., 2006; Collini et al., 2015; Deci & Ryan, 2000; Manion, 2009). Therefore, while the JD-R model provides a robust framework for understanding employee engagement, it is essential to integrate considerations of intrinsic motivation and individual psychological factors to gain a more comprehensive understanding of what drives engagement in the healthcare sector.

3. Social Exchange Theory (SET) is also an organisational approach for understanding employee engagement. This model posits that employment relationships are fundamentally transactional, characterised by an exchange of labour, loyalty, and social rewards (Levinson, 1965). Within the healthcare sector, SET illuminates the reciprocal nature of relationships between healthcare professionals and their organisations, suggesting that engagement dynamics are significantly influenced by mutual benefit. Specifically, healthcare employees are motivated to exert effort in their roles when they perceive that their organisation is investing in their professional development and well-being (Saks., 2006; Flynn & Irvin., 2006).

According to Masterson et al. (2000), one party in the exchange relationship anticipates a return in the future after contributing or providing services to the other party. In the context of healthcare, when professionals receive adequate support such as training opportunities, recognition for their efforts, and the necessary resources to perform their duties, they often experience a heightened sense of obligation to reciprocate. This sense of obligation can translate into increased engagement, job satisfaction, and commitment to their roles. For instance, when healthcare organisations invest in employee training and development, staff members are more likely to feel valued and motivated,

fostering a positive work environment that encourages higher levels of engagement (Berta et al., 2013; Manion, 2009).

Numerous studies have analysed the implications of SET within healthcare organisations. Research has shown that healthcare professionals often exhibit loyalty to their institutions and demonstrate considerable effort in exchange for economic benefits and social rewards, thereby solidifying the organisation-employee relationship (Goyal & Kaur, 2023; Barrick et al., 2015). Eisenberger et al. (1986) found that high levels of perceived organisational support create a sense of obligation among healthcare employees to reciprocate with increased engagement and positive work behaviours, contributing to improved patient care and team dynamics (Collini et al., 2015).

Despite its valuable insights, SET has faced criticism for potentially oversimplifying the complex dynamics of employee-employer relationships by framing them solely as transactional exchanges. Critics argue that this perspective, as the previous organisational models, also overlooks intrinsic motivators that play a crucial role in sustaining employee engagement. For instance, the sense of personal fulfilment that healthcare professionals derive from helping others and making a meaningful impact on patients' lives is a significant driver of engagement (Ryan & Deci., 2000 Edmondson., 2004) By focusing exclusively on transactional aspects, the model may neglect the intrinsic rewards that motivate healthcare employees, such as the emotional satisfaction gained from successful patient interactions and a sense of purpose in their work (Faragher et al., 2013; Jenkins & Elliott., 2004).

- 4. The Nienaber and Martins model:** This multifaceted framework comprises three distinct levels: individual, team/departmental, and organisational. This structure provides a comprehensive lens through which to examine employee engagement, as it acknowledges that engagement is shaped by numerous factors across different contexts (Nienaber & Martins., 2016; West & Dawson., 2012; Wong & Cummings., 2007)

The Nienaber and Martins model addresses critical limitations in earlier approaches by offering a comprehensive and practical framework for measuring and sustaining engagement in complex environments such as healthcare (Leiter & Maslach., 2009). It recognises that individual experiences are as fundamental to engagement as organisational structures, capturing the interdependent nature of these dimensions. In settings like hospitals and clinics, where employees face high demands, individual resilience alone is insufficient. Organisational infrastructure, leadership, and

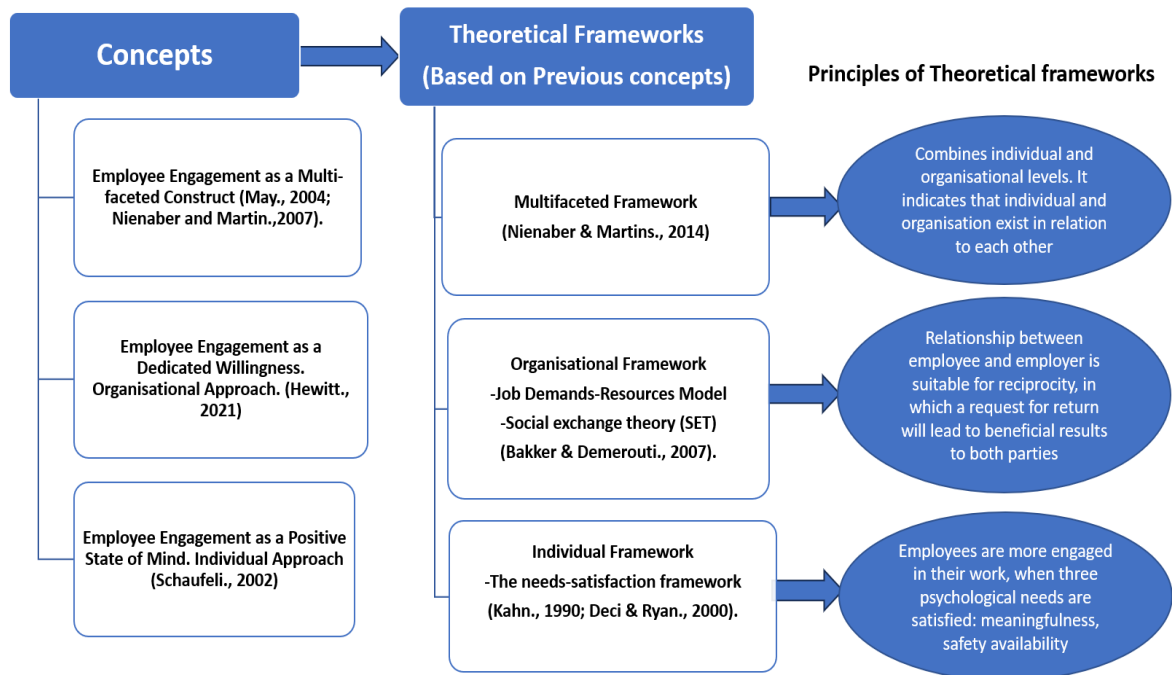
systemic support are equally necessary to foster and maintain engagement (Leiter & Maslach, 2009; Bakker et al., 2014; West & Dawson, 2012). By integrating both individual and organisational elements, the Nienaber and Martins model provides a structured yet adaptable tool for healthcare leaders seeking to enhance engagement across diverse service areas (Simpson., 2009).

The model has been acknowledged in the literature as particularly relevant for healthcare settings because of its explicit emphasis on multidimensionality. Different scholars have consistently advocated for this model because it incorporates key drivers such as leadership, teamwork, and organisational recognition, factors that closely align with the levels and dimensions outlined in the Nienaber and Martins framework (Simpson, 2009; Keyko et al., 2016; Brunetto et al., 2016). This alignment with established empirical findings supports the model's practical utility and conceptual robustness for use in dynamic healthcare environments.

Given its comprehensive, multilevel structure, the Nienaber and Martins model was selected as the foundational framework for this study. Its layered perspective is particularly well-suited to healthcare contexts, where professional identity, team dynamics, and institutional culture intersect to shape employee engagement. The model's recognition of individual-level factors (e.g., role clarity), team-level elements (e.g., Leadership, Teamwork), and organisational-level drivers (e.g., Pride and culture, Performance recognition, Development opportunities) reflects the complex and interconnected realities of healthcare work (West & Dawson, 2012; Wong & Cummings, 2007). These dimensions have also been emphasised in studies that underscore the role of systemic and contextual factors in influencing healthcare workforce engagement and performance (Shanafelt et al., 2017). A detailed overview of the model's structure and its adaptation in this study is provided in **Chapter 4**.

All the theoretical frameworks reviewed offer potential benefits as well as limitations when applied to measuring employee engagement in healthcare settings. **(Appendix 11)** However, any effective theoretical framework for assessing engagement in healthcare must be inherently multidimensional. A theoretical framework that encompasses both individual and organisational factors provides a more comprehensive and realistic view of health employee engagement (Nahrgang et al., 2011; Collini et al., 2015). **(Figure 9)**

Figure 9: Theoretical frameworks of employee engagement.



While theoretical frameworks offer critical conceptual foundations for understanding employee engagement, it is equally important to examine how these frameworks are operationalised through validated measurement instruments. The practical utility of any engagement model ultimately depends on the availability of robust tools capable of capturing its dimensions and subdimensions in real-world settings (Schaufeli & Bakker., 2010). Assessing the instruments currently used in healthcare and beyond allowed me a critical appraisal of their alignment with established theoretical models, particularly in terms of their capacity to measure both individual and organisational dimensions. The following section reviews key instruments employed to assess employee engagement and evaluates their methodological rigour, scope, and relevance within complex environments.

3.5 Instruments and Validation of Instruments for Employee Engagement

Employee engagement is commonly measured through attitude surveys that evaluate how employees perceive various aspects of their work environment, such as compensation, communication, growth opportunities, supervision, and work-life balance (CIPD., 2008). Numerous surveys have been developed for this purpose, including widely used metrics like the Gallup Workplace Audit (Harter et al., 2002), which includes 12 questions centred on the employee's work

experience. These questions assess factors such as clarity of role expectations, access to resources necessary to meet job demands, support and recognition from managers, opportunities for personal development, and relationships within the workplace. Scores from the 12 items are then aggregated to produce an index that classifies employees as engaged, not involved, or disengaged, offering a snapshot of engagement levels within the organisation.

Another prominent measure is the Employee Engagement Index, developed by Robinson et al. (2004). This index includes 12 attitudinal statements across three main categories: organisational commitment and alignment with values, confidence in the organisation's support for individual performance, and organisational citizenship behaviours, such as cooperation and going beyond job requirements. Responses are scored from one (indicating high disengagement) to five (indicating high engagement), with three as the neutral midpoint (Robinson et al., 2007).

The Utrecht Work Engagement Scale (UWES), developed by Schaufeli and Bakker (2003), is another well-regarded tool comprising 17 items and is notable for its accessibility. This scale emphasises the subjective emotions and personal experiences of employees, with a particular focus on their psychological well-being. The UWES measures three core engagement dimensions: vigour, dedication, and absorption, providing insights into how employees experience their roles in terms of energy, involvement, and immersion. Additionally, Parker and Griffin (2011) extended this model to include three specific types of behaviours: proficiency, adaptivity, and proactivity at three levels (individual, team, and organisation), creating a nine-subdimension grid to assess role-related performance comprehensively.

While attitude surveys are advocated as useful tools for evaluating employees' mental and emotional states, particularly in relation to job motivation (Latham., 2007), scepticism exists regarding their reliability. This is especially true when these surveys are designed for practical use rather than research purposes. Attridge (2009) notes that most engagement instruments focus on the individual level, though Van Rooy (2011) and Masson et al. (2008) critique these tools for their inability to offer actionable insights. They argue that engagement measures should address a range of factors in ways that are both meaningful and practical for organisations, echoing Aguinis and Edwards' (2014) stance on the need for research to be both rigorous and relevant to management practice. For any instrument to be effective, it must demonstrate reliability and validity to ensure consistency and accuracy.

Debate exists within academic circles over which instrument best captures staff engagement. Rothman and Rothman (2010) reported suboptimal reliability for the UWES in their studies, suggesting a need for further refinement to develop tools that reliably capture the full spectrum of engagement, including physical, emotional, and cognitive aspects. Viljevac et al. (2012) compared the UWES with May et al.'s (2004) scale, two of the most commonly used engagement measures, and found that while UWES showed higher validity, neither instrument fully encapsulated the concept of work engagement, reinforcing the need for further development in this area.

Critics argue that many engagement measures amalgamate elements like job satisfaction, which lack a clear conceptual distinction from engagement itself (Macey and Schneider, 2008). This lack of differentiation often results in satisfaction measures being mislabelled as engagement indicators, or conditions for engagement being mistaken for direct measures of engagement. Consequently, these tools may overlook essential facets of engagement, such as emotional investment, motivation, and dedication, thus limiting their effectiveness.

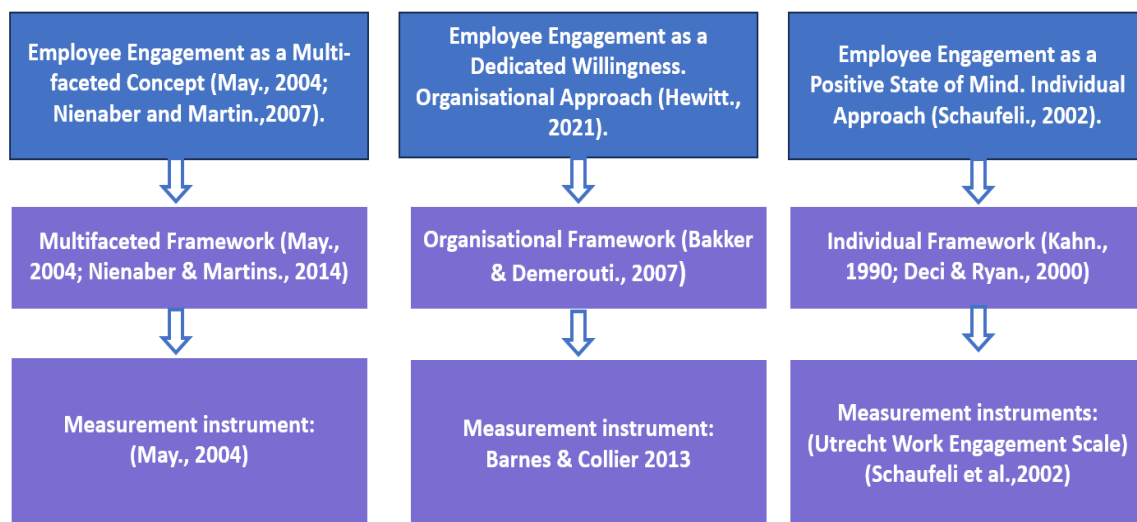
This conceptual ambiguity has practical implications. While engagement does involve an element of satisfaction, it suggests active involvement and commitment, whereas satisfaction alone implies passive contentment. Surveys that focus on satisfaction can be valuable in encouraging feedback on work conditions, contributing to an understanding of the factors influencing engagement in both mindset and behaviour. However, satisfaction indicators do not directly measure the depth of involvement, motivation, or dedication that true engagement entails (Macey and Schneider, 2008).

To reinforce the argument on the limitations of current employee engagement measurement tools, it is essential to highlight the lack of sector-specific validation, particularly in healthcare. Despite the prevalence of tools like the Gallup Workplace Audit (Harter et al., 2002) and the Utrecht Work Engagement Scale (Schaufeli & Bakker, 2003), few have undergone rigorous validation in the healthcare setting, where unique stressors, job demands, and emotional labour significantly impact engagement levels. This gap often results in the adaptation of general engagement surveys, such as the Employee Engagement Index (Robinson et al., 2004), in healthcare without confirming their applicability or predictive accuracy within this context (Shuck, 2011; Shuck & Reio, 2014). The limited validation hinders these surveys' ability to accurately capture the nuanced dimensions of healthcare worker engagement, such as the emotional resilience required for patient care and the high stakes associated with teamwork and communication (Leiter & Bakker, 2010).

The reliance on non-validated metrics for healthcare engagement introduces potential inaccuracies. These tools, designed with general occupational settings in mind, may not sufficiently address healthcare-specific drivers like wellbeing or role-related autonomy (Demerouti & Bakker., 2008). Furthermore, Rothman and Rothman (2010) and Viljevac et al. (2012) caution that instruments like the UWES may offer limited reliability when used across diverse professions, underscoring the importance of contextually validated tools.

Figure 10 provides an overview of the key concepts, frameworks and measurement instruments, commonly utilised in the literature to assess staff engagement. It illustrates how each approach uniquely defines and assesses engagement, highlighting variations in emphasis on organisational dynamics, individual psychological factors, and commitment within the workplace. **(Appendix 12)**

Figure 10: Instruments for measuring Employee Engagement.



3.6 Conclusion: Analytical Reflections

This scoping review has revealed that while employee engagement (EE) is a widely acknowledged and extensively researched construct in healthcare, its conceptualisation remains fragmented and often inadequately operationalised (Bakker & Demerouti, 2008; Collini, Guidroz, & Perez, 2015; Hakanen & Schaufeli, 2012). The review illuminated three dominant but competing lenses through which engagement is understood: as an organisational commitment (Hewitt, 2001; Masson et al., 2008), an individual psychological state (Schaufeli et al., 2002; Harter et al., 2002), and a multidimensional construct (May et al., 2004; Macey & Schneider, 2008). While each of these approaches has contributed meaningfully to the literature, none alone sufficiently captures the complex interplay of factors that shape engagement in dynamic and emotionally demanding healthcare environments (Boamah et al., 2018; Swanson & Champine, 2017).

What emerges from this synthesis is the recognition that employee engagement is not merely an individual disposition or a reflection of organisational culture, it is a relational, context-sensitive, and multilevel phenomenon (Nienaber & Martins, 2014; West & Dawson, 2012). The individual and organisational approaches, though insightful, frequently overlook the organisational role of teams, and neglect how contextual and systemic variables interact with psychological and sociodemographic variables (Bakker et al., 2014; Wong & Cummings, 2007). The review highlights the inadequacy of existing tools to fully capture these interdependencies, particularly within healthcare, where emotional labour, team cohesion, leadership quality, and organisational values are tightly interwoven with job performance and employee wellbeing (Maslach & Leiter, 2008; Leiter & Bakker, 2010; Applebaum et al., 2010).

A particularly striking insight from this review is the disjunction between theoretical richness and measurement pragmatism. While frameworks like Kahn's Needs-Satisfaction (Kahn, 1990) and the JD-R model (Bakker & Demerouti, 2007) offer partial yet useful lenses, their translation into validated tools often lacks sector-specific calibration. Existing instruments such as the Utrecht Work Engagement Scale (Schaufeli & Bakker, 2003) or Gallup Q12 (Harter et al., 2002), though popular, fall short in capturing the healthcare-specific demands of emotional resilience, professional identity, and the reciprocal expectations between staff and system (Rothman & Rothman, 2010; Shuck, 2011). This measurement gap suggests that many current practices in assessing employee engagement may be misaligned with the lived realities of healthcare professionals, thereby limiting their utility for meaningful organisational action (Viljevac et al., 2012; Attridge, 2009).

These insights underscore the pressing need for a theoretically robust, context-sensitive, and practically adaptable framework to assess employee engagement in healthcare. The limitations of existing models and instruments provide a clear rationale for the development of a new framework that integrates the psychological states of individuals, the moderating influence of sociodemographic variables, and the structural enablers and constraints imposed by organisations (Nahrgang et al., 2011; Goyal & Kaur, 2023).

It is precisely this need that motivates the transition to the next chapter, which presents an adapted theoretical framework for health employee engagement based on the Nienaber and Martins model. Unlike single-level or unidimensional models, this framework offers a layered, multilevel approach that acknowledges the interplay between individual and organisational dimensions and is grounded in the theoretical gaps and empirical inconsistencies identified through this scoping review.

Chapter 4: Developing a Healthcare-Specific Theoretical Framework for measuring Employee Engagement.

4.1 Introduction

The preceding chapters have highlighted employee engagement as a vital determinant of healthcare delivery, employee well-being, and organisational effectiveness. Despite the considerable breadth of research in the general literature, existing engagement frameworks often fail to capture the unique characteristics and complex dynamics present within healthcare organisations. In response to this gap, this chapter introduces an adapted theoretical framework specifically designed to conceptualise and measure employee engagement within the healthcare context.

Building upon the multi-level model proposed by Nienaber and Martins (2014), the newly adapted framework is contextualised for healthcare by integrating insights from sector-specific literature and empirical findings from healthcare studies. It maintains a dual-level structure comprising organisational and individual dimensions, with important modifications such as the repositioning of teamwork within the organisational dimension, acknowledging its systemic roots in organisational culture, leadership, and institutional practices. Further adaptations at the individual level highlight healthcare-specific issues like professional well-being and career progression, reflecting the unique stressors and motivational drivers prevalent among healthcare workers.

Central to this framework is the identification of key mediating and moderating variables, including psychological threats (e.g., bullying, discrimination) and sociodemographic factors (e.g., age, gender, years of experience, and position within the organisation). These variables critically influence engagement by altering its intensity and manifestation within healthcare environments, thus providing a comprehensive basis for understanding how various factors interactively shape employee experiences.

Additionally, acknowledging the limitations of traditional Likert-based measurement tools commonly used in employee engagement studies, this framework served as the basis for developing a percentile-based scoring scale specifically tailored for healthcare settings.

This chapter thus serves as the conceptual and methodological cornerstone of this thesis, providing the theoretical justification and operational basis necessary for subsequent empirical validation.

4.2 Adapting the Nienaber and Martins Framework: Similarities and Key Differences in Developing the Context-Specific Model for Evaluating Employee Engagement in the Health Sector.

The Nienaber and Martins (2014) framework conceptualises employee engagement as a multifaceted, multi-level construct that acknowledges organisational, team and individual influences on engagement. At the organisational level, their framework emphasises factors such as leadership, strategic clarity, performance recognition, and team or departmental support, while at the individual level, it focuses on variables including autonomy, role clarity, training opportunities, and alignment between personal and organisational goals.

While my theoretical framework draws on insights from Nienaber and Martins (2014), I propose to adapt it based on the literature and the specific context in which this new framework will be applied: the healthcare sector. Both frameworks operate under a multi-level approach to engagement, acknowledging that it is shaped by a combination of organisational and individual factors.

At the organisational level, performance recognition is an area where both frameworks converge. Both recognise that acknowledging employee contributions plays a vital role in sustaining high levels of engagement. In Nienaber and Martins (2014), recognition spans across multiple levels, including leadership and team dynamics, reflecting its importance at both the team and organisational levels. My framework similarly situates performance recognition within the organisational dimension, emphasising both formal and informal recognition practices. The literature, particularly Deci & Ryan (2000), supports the idea that recognition, whether through structured awards or simple verbal praise, can significantly enhance engagement in high-stress environments like healthcare. Recognition helps reinforce positive behaviours and motivates employees to continue performing at high levels.

Both frameworks also agree on the importance of confidence in the organisation's strategic direction as a driver of engagement. Employees are more likely to engage when they understand and align with the organisation's goals. In Nienaber and Martins (2014), this confidence is linked to the organisational level, where the connection between organisational objectives and individual roles is emphasised. My framework follows a similar approach, highlighting confidence in the organisation's strategy as an essential factor. Saks (2006) and Rafferty & Griffin (2006), provide strong evidence that transparent communication of organisational goals helps build trust and align employee efforts with broader objectives, a key factor in sustaining engagement, particularly in healthcare, where strategic alignment often revolves around patient care and service improvements.

Another critical component in both frameworks is the role of organisational culture in fostering engagement. Both models agree that a strong sense of pride in the organisation is essential. This pride emerges from shared values and a commitment to excellence, fostering a sense of belonging among employees. Nienaber and Martins (2014) emphasise this connection between organisational values and emotional engagement, while my framework similarly underscores the importance of pride and culture in the organisational level. According to Schein (2010), when employees' values align with those of the organisation, they experience deeper engagement and commitment. This alignment is particularly relevant in healthcare, where the mission of providing quality patient care is often a powerful motivator for employees (Zuckerman & Chafin., 2018; Brown & Duguid., 2001).

The two models diverge notably in how they conceptualise teamwork. In contrast to the framework proposed by Nienaber and Martins (2014), which positions teamwork as a distinct component separate from organisational dimensions, my framework explicitly incorporates teamwork within the organisational level. This decision is grounded in key theoretical and practical considerations. First, teamwork is profoundly shaped by the broader organisational culture, a culture that encourages collaboration, open communication, and mutual respect fosters effective teamwork (Schein., 2010). In healthcare, this is especially critical given that interdisciplinary cooperation is fundamental for patient care (Kohn et al., 2000). By integrating teamwork into the organisational level, my framework emphasises how a collaborative organisational culture sets the foundation for successful teamwork. It also highlights that teamwork, particularly in healthcare, is not just about local team dynamics but involves a more systemic approach. This conceptualisation aligns with the research of West et al. (2014), who argue that effective teamwork in healthcare is embedded within an organisation's overall commitment to collaboration and coordination.

Lastly, at the organisational level, both frameworks highlight the importance of support from management as a key factor in fostering employee engagement. Nienaber and Martins (2014) position leadership support at the team/departmental level, emphasising the importance of direct interactions with managers in influencing engagement. In contrast, my framework situates managerial support within the organisational dimension, suggesting that leadership influences engagement not just through direct interactions but also through the broader organisational structures they put in place. My approach is supported by Schaufeli and Bakker (2004) who emphasise that supportive leadership that includes all the structures within an organisation is critical for fostering a work environment conducive to engagement. This is particularly relevant in healthcare, where employees often encounter high levels of stress, making management support

at every level of the organisation essential for sustaining morale and preventing burnout (Schaufeli & Bakker, 2004; Laschinger et al., 2009).

At the individual level, both my proposed framework and the Nienaber and Martins model emphasise the significance of role clarity, trust, autonomy, and the alignment between personal and organisational goals. These elements are consistently identified in the literature as core drivers of employee engagement, facilitating intrinsic motivation, psychological safety, and a sense of meaningful contribution to the workplace (Bakker & Demerouti, 2007; Tims et al., 2013). However, while these foundational factors remain essential, they are not sufficient to fully capture the lived experience of healthcare professionals, particularly in complex and emotionally demanding systems.

To address this gap, my framework extends Nienaber's by explicitly incorporating the well-being of healthcare workers as a dimension of individual-level engagement. This inclusion was guided by robust evidence indicating that well-being is not merely a by-product of engagement but a prerequisite for sustaining it over time, especially in high-pressure environments such as healthcare, where professionals are routinely exposed to emotional labour, long working hours, and systemic stressors (Hakanen et al., 2006; Goyal & Kaur, 2023). Other scholars have similarly highlighted the importance of integrating well-being into models of engagement, particularly in healthcare. For instance, Schaufeli and Bakker (2004) conceptualise engagement as a positive, fulfilling state of mind characterised by vigour, dedication, and absorption, all of which are compromised when well-being is undermined. Similarly, Hall et al. (2016) emphasise the interdependence of well-being and engagement in frontline healthcare settings, arguing that emotional exhaustion and stress are among the primary barriers to sustained engagement. West et al. (2020) also advocate for a systems-level approach that recognises staff well-being as essential for high-quality care delivery and organisational performance.

One area where both frameworks align closely at the individual level is the emphasis on training and career development opportunities. In both models, these opportunities are seen as crucial drivers of employee engagement, particularly in sectors like healthcare, where ongoing professional development is necessary to keep pace with technological advancements and evolving practices. Nienaber and Martins (2014) include training as part of the individual level, underscoring its role in personal growth and learning. Similarly, my framework highlights training and career progression as key dimensions within the individual context, focusing on how opportunities for advancement and continuous education contribute to job satisfaction and motivation. Tims et al. (2013) and Boon et

al (2011) support this view, demonstrating that employees who perceive a path for career growth are more likely to remain engaged.

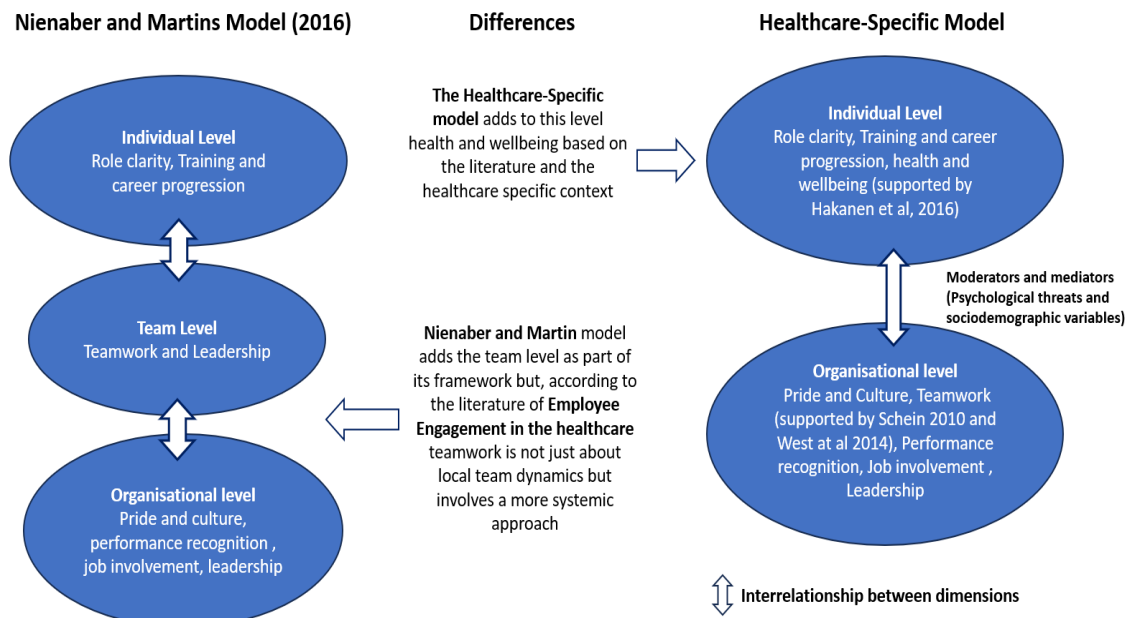
However, while both frameworks recognise the role of individual-level variables, my framework expands upon this understanding by explicitly integrating sociodemographic characteristics and psychological threats as mediators and moderators of employee engagement. This deliberate inclusion recognises that personal backgrounds, psychological conditions, and workplace stressors such as bullying and discrimination profoundly shape how employees engage with their roles and organisations. The inclusion of psychological threats aligns with research indicating that workplace bullying and discrimination significantly mediate engagement outcomes, often disrupting teamwork, reducing organisational commitment, and increasing emotional exhaustion and turnover intentions (Einarsen et al., 2011; Berry et al., 2016; Johnson & Rea, 2009). Moreover, the moderating role of individual characteristics, such as age, gender, years of experience, and professional role, reflects theoretical evidence that engagement varies systematically across diverse workforce segments, influenced by career stage, life circumstances, and professional identity (Holcombe & Buehler, 2018; Boamah et al., 2018; Jaupi & Llaci, 2015).

In conclusion, while both frameworks share foundational concepts, including the importance of pride and culture, teamwork, performance recognition, confidence in strategy, and management support, they also diverge in key areas that were adapted in my framework based on theoretical evidence specific to employee engagement in the healthcare sector. The Nienaber and Martins model offers a strong foundational structure by distinguishing between organisational and individual levels of engagement; however, it takes a more generalised, sector-agnostic approach.

In contrast, my framework is explicitly designed for the healthcare context. For instance, teamwork is repositioned within the organisational level to reflect the reality that collaboration in healthcare is not merely a product of interpersonal dynamics but is heavily shaped by institutional culture, staffing structures, and leadership practices (West et al., 2011; Salas et al., 2008). Likewise, the inclusion of well-being and career progression as central dimensions at the individual level acknowledges the chronic issues of burnout, emotional exhaustion, and limited advancement opportunities that are pervasive in the sector (Maslach & Leiter, 2016; Shanafelt et al., 2015; Goyal & Kaur, 2023). Additionally, my framework explicitly incorporates mediators and moderators, recognising the complexity of employee engagement in healthcare, where multiple interacting factors dynamically shape employee experiences and outcomes (Demerouti et al., 2010; Saks, 2006; Nahrgang, Morgeson, & Hofmann, 2011).

My model, therefore, moves beyond a compartmentalised understanding of engagement and instead proposes a more integrated, context-sensitive, and practically applicable framework that aligns more closely with the lived experiences of healthcare professionals. (Figure 11)

Figure 11: Comparison of the Nienaber and Martins Model and Context-Specific Model for Evaluating Employee Engagement in the Health Sector.



4.3 Context-Specific Model for Evaluating Employee Engagement in the Health Sector. Levels, Dimensions and Subdimensions

This section presents the levels, dimensions, and subdimensions of the newly developed multifaceted framework for evaluating employee engagement. It offers a detailed explanation and conceptualisation of each component, outlining how they contribute to a comprehensive understanding of engagement within the healthcare context. Through this integration, the framework captures organisational, individual levels and moderators and mediators that shape engagement, with particular attention to the unique challenges and dynamics of healthcare environments.

4.3.1 Organisational Level

1. Dimension: Pride and Culture

Pride and culture play an essential role in shaping the emotional and professional connections that employees form with their organisation, particularly in healthcare. A positive organisational culture

that resonates with employees' values fosters a sense of pride, creating a strong emotional bond with the workplace. According to Schein's Organisational Culture Model (2010), culture profoundly influences employee behaviour. In healthcare, a culture that emphasises patient safety, support, and continuous improvement in care delivery not only enhances employee engagement but also improves patient outcomes. Mannion and Davies (2018) and West and Dawson (2012) emphasise that healthcare organisations with a well-established safety culture tend to report higher staff morale and engagement, reinforcing the critical role of culture in fostering employee satisfaction. The **subdimensions** of Pride and Culture were based on Nienaber and Martin's model and also in a well-established theoretical background.

- **Workplace Conditions:**

Refers to the physical and psychological environment in which employees work, including workspace design, safety, cleanliness, and access to resources (Herzberg., 1968). Herzberg's Two-Factor Theory categorises workplace conditions as hygiene factors, which, when adequate, prevent dissatisfaction and foster pride and engagement. In healthcare, providing adequate resources, maintaining a clean and safe environment, and offering access to necessary equipment not only ensures patient safety but also fosters employee's pride in their organisation (Laschinger & Finegan, 2005; Tuckey et al., 2012).

- **Workplace Atmosphere:**

Refers to the emotional tone and interpersonal dynamics within the organisation, including how employees interact and collaborate. The Social Identity Theory (Tajfel & Turner, 1979) supports this assumption stating that a positive workplace atmosphere reinforces employees' identification with the organisation, enhancing pride and engagement. Psychological safety allows healthcare workers to express concerns without fear of repercussions, essential for a supportive and engaging workplace (Wong & Cummings., 2007; Nemhard & Edmondson., 2006).

- **Pride in the Organisation:**

Refers to employees' positive perception of the organisation's values, reputation, and achievements. The Social Exchange Theory (Blau., 1964) and the Emotional Engagement Theory (Ashforth & Mael., 1989) state that employees who feel pride in their organisation invest emotionally in its goals and success, contributing to higher levels of engagement. In healthcare, employees often take pride in being part of an organisation that improves public health and well-being. This sense of pride fosters a deep emotional connection, leading to higher engagement (Pride & Ferrell., 1995; Zuckerman & Chafin., 2018).

- **Organisational Culture:**

Refers to the shared values, beliefs, and norms that shape the behaviour of individuals within an organisation. Schein's Organisational Culture Theory (Schein., 2010) argues that organisational culture is critical for shaping employee attitudes, behaviour, and pride in the workplace. In high-stakes environments like healthcare, a culture that promotes respect, learning, and collaboration fosters a positive work environment where employees feel motivated to perform at their best. (West et al., 2017; Manion., 2009).

2. Dimension: Teamwork

Teamwork is a cornerstone of healthcare, where professionals must coordinate complex care plans and rely on one another to ensure the best outcomes for patients. The importance of teamwork extends beyond patient care; it also influences employee engagement by fostering a sense of community, mutual support, and shared purpose. Hackman's Team Effectiveness Theory (1987) suggests that team cohesion, clear goals, and mutual support are essential for successful teamwork and higher engagement. Furthermore, Salas et al. (2008) emphasise that effective communication and coordination within healthcare teams are crucial for both team performance and individual employee engagement (Salas et al., 2008; Boamah et al., 2018; Barrick et al., 2015).

Subdimensions:

- **Communication within the team:**

Refers to the process of exchanging information, feedback, and ideas openly and effectively among team members, fostering trust, understanding, and collaboration. Team Communication Theory (Salas et al., 1992) emphasises that clear and effective communication is essential for team cohesion and performance. Quality communication improves understanding, alignment, and the ability to coordinate effectively, which are critical for engagement and team success. In healthcare, clear, and open communication ensures that team members are aligned, minimising errors, and improving patient safety (Leonard et al., 2004; Cloutier et al., 2015).

- **Alignment between My Objectives and My Team's Objectives:**

This subdimension refers to the alignment of individual goals with team goals, ensuring that each team member's personal objectives are compatible with and supportive of the team's collective objectives. When individuals feel their goals align with those of the team, they are more likely to be committed and engaged. Goal-Setting Theory (Locke & Latham., 1990) suggests that goal clarity and alignment improve motivation and performance. When team

objectives align with personal goals, employees find greater meaning in their work, which enhances their engagement and commitment to team success. This is supported by the Self-Determination Theory (Deci & Ryan., 2000) that posits that individuals experience higher levels of intrinsic motivation and engagement when they perceive their goals as aligned with those of their team. In healthcare, where patient-centred care is the priority, the alignment of individual and team goals leads to improved collaboration, motivation, and performance. West (2014) and Wong and Spence Laschinger (2010) reinforce that healthcare teams with aligned goals report higher levels of engagement, resulting in better patient care.

- **Support within the Team:**

Encompasses the emotional, practical, and professional assistance that team members provide to each other. This includes helping one another with tasks, offering constructive feedback, and being empathetic to each other's challenges, contributing to a cohesive and engaged team. Social Support Theory (Cohen & Wills., 1985) highlights the importance of social support in reducing stress and enhancing well-being. When team members provide support, it creates a positive environment, fosters engagement, and enhances team resilience, especially in high-stress settings like healthcare. Laschinger et al. (2001) and Goyal and Kaur (2023) found that healthcare employees who experience strong support from their teams report lower levels of burnout and higher levels of job satisfaction and engagement.

3. Dimension: Performance Recognition

Performance recognition is a powerful motivator for engagement, particularly in healthcare where the emotional and physical demands of the job can be overwhelming. Recognising employees' efforts validates their contributions and reinforces their commitment to the organisation. Herzberg's Motivation-Hygiene Theory (1959) posits that recognition is a key motivator for job satisfaction and engagement. This theory is particularly relevant in healthcare, where employees often work in challenging and emotionally taxing environments (Rhoades & Eisenberger., 2002; Manion., 2009).

Subdimensions:

- **Performance Recognition from My Team:**

This subdimensions involves appreciation and acknowledgment from peers or immediate supervisors within the employee's direct workgroup. This type of recognition is often informal, such as verbal praise or support from team members, and it plays a key role in

strengthening team cohesion and individual motivation. Social Exchange Theory (Blau., 1964) posits that social interactions are based on reciprocity. Recognition from one's team fosters a sense of belonging and creates a cycle of mutual respect and support, which boosts engagement and commitment to the team. Peer recognition is particularly meaningful in healthcare, where colleagues understand the complexities of the job. Ariely et al. (2009), Collini et al. (2015) and Edmonson (2004) found that recognition from colleagues has a more significant impact on engagement than recognition from supervisors, particularly in environments like healthcare. This peer-driven validation creates a sense of community and enhances overall engagement.

- **Performance Recognition from My Organisation:**

It encompasses formal acknowledgment by higher management or the company as a whole. This may include awards, promotions, formal appreciation events, or structured recognition programmes. The Expectancy Theory (Vroom, 1964) states that employees are motivated when they believe their efforts will result in desirable rewards. Organisational recognition validates employees' contributions at a broader level, providing motivation to continue aligning their performance with organisational goals. In healthcare, where employees deal with emotionally demanding work, organisational recognition can prevent burnout and sustain long-term engagement. Rhoades & Eisenberger (2002) and Laschinger et al. (2009) further support this by demonstrating that perceived organisational support, which includes recognition, is strongly linked to employee engagement and commitment.

4. Dimension: Job Involvement

Job involvement refers to how deeply employees identify with their work and the extent to which their job becomes part of their self-concept. In healthcare, where the work directly impacts patient well-being, job involvement is a key driver of engagement. Kanungo (1982) explains that employees who are highly involved in their jobs see their work as central to their lives, leading to greater motivation and commitment. This perspective aligns with findings that high involvement contributes to reduced turnover and improved patient care (Collini et al., 2015; Applebaum et al., 2010).

Subdimensions:

- **Motivation with My Work:**

This refers to an individual's intrinsic drive and enthusiasm for performing their job duties. It reflects a deep-seated interest in the tasks at hand and a desire to excel, stemming from

both internal and external factors. The Self-Determination Theory (Deci & Ryan, 2000) posits that motivation is driven by the fulfilment of basic psychological needs, including autonomy, competence, and relatedness. When these needs are met in the workplace, employees experience intrinsic motivation, which enhances their job involvement by making work personally meaningful. In healthcare, where the work is inherently meaningful, intrinsic motivation plays a more significant role than external rewards in fostering long-term engagement (Gagné & Deci., 2005 Hakanen et al., 2006).

- **Optimism with My Work:**

It refers to a positive outlook on one's role and responsibilities, including the belief that one's efforts will lead to successful outcomes. This optimism fosters resilience and a proactive attitude toward work-related challenges. Positive Psychology Theory (Seligman & Csikszentmihalyi, 2000) highlights optimism as a core component of positive psychology, emphasising its role in building resilience and enhancing well-being. Employees who are optimistic about their work are more engaged and willing to take on challenges, which enhances their job involvement (Bakker & Demerouti., 2008; Zito et al., 2016).

5. Dimension: Leadership

Leadership plays a critical role in shaping organisational culture and fostering employee engagement in healthcare. Effective leaders provide vision, support, and direction, aligning organisational goals with employees' values and needs. Bass's Transformational Leadership Theory (1985) explains that leaders who inspire and support their employees create an environment where engagement thrives. In healthcare, transformational leaders contribute to higher job satisfaction and patient care quality (Boamah et al., 2018; Wong & Spence Laschinger, 2010).

Subdimensions:

- **Confidence in the Strategy of My Organisation:**

This refers to employees' belief in the effectiveness, clarity, and future direction of the organisation's strategic goals. When employees trust that their leaders have a sound and achievable plan, they are more likely to align their efforts with organisational objectives, which enhances engagement. Transformational Leadership Theory (Bass, 1985) emphasises that transformational leaders inspire confidence and commitment in their followers by communicating a clear vision and strategic goals. When leaders successfully convey a coherent and motivating strategy, employees feel more secure and engaged in their roles.

When healthcare workers believe in the organisation's direction, they are more likely to remain engaged and committed to its success (Rafferty & Griffin., 2006; Saks., 2006).

- **Communication with Management:**

It involves the clarity, openness, and quality of interactions between employees and leaders. Effective communication fosters trust, reduces ambiguity, and allows employees to voice their concerns and feel heard, which is essential for engagement (Graen & Uhl-Bien., 1995). The Social Exchange Theory (Blau., 1964) suggests that effective communication between leaders and employees creates a reciprocal relationship of trust and support. When management is communicative and accessible, employees are more likely to engage with their work and feel valued within the organisation. In healthcare, where employees often feel disconnected from organisational decisions, strong communication helps bridge the gap and ensures employees feel valued. Tourangeau et al. (2006) and Laschinger et al. (2009) found that healthcare workers who experience strong communication with their supervisors report higher levels of job satisfaction and engagement.

4.3.2 Individual Level

1. Dimension: My Role in My Organisation

This dimension focuses on how employees perceive their role within the organisation and how much autonomy and alignment they feel with organisational goals. In healthcare, having a well-defined role and a sense of trust in decision-making is essential for engagement, as employees must make critical decisions that impact patient care. Spreitzer's Empowerment Theory (1995) highlights the importance of autonomy and trust in fostering employee engagement, particularly in roles that require independent decision-making (Saks, 2006; Goyal & Kaur., 2023).

Subdimensions:

- **Trust and Autonomy in My Organisation:**

These reflect employees' confidence in their organisation as well as the level of independence they have to make decisions and control their tasks. Healthcare employees require a high degree of autonomy to make real-time decisions in clinical settings, which fosters a sense of ownership and accountability. Spreitzer's Empowerment Theory (1995) suggests that autonomy and trust are key drivers of engagement. Laschinger et al. (2001) found that healthcare workers who experience greater autonomy report higher levels of job satisfaction and engagement.

- **Alignment of My Goals with My Organisation's Goals:**

It refers to the degree to which employees feel their personal and professional goals are aligned with the overarching goals of the organisation. When personal goals align with organisational goals, employees are more engaged because they feel their work contributes to a larger mission. In healthcare, where improving patient outcomes is the organisational focus, alignment of goals enhances engagement (West et al., 2014; Wong & Cummings, 2007).

- **Security and Level of Pay:**

These refer to employees' perception of job stability and the adequacy of their compensation. Fair compensation and job security are fundamental to preventing disengagement, particularly in high-stress environments like healthcare (Rhoades & Eisenberger, 2002). Herzberg's Two-Factor Theory (1959) highlights that pay and security are hygiene factors, which, when addressed appropriately, promote engagement. Pillay (2009) found that healthcare professionals who feel underpaid are more likely to disengage and seek employment elsewhere, further emphasising the importance of fair compensation.

2. Dimension: Training and Opportunities

Continuous learning and opportunities for career progression are essential for maintaining engagement in healthcare, where medical practices and technologies evolve rapidly. Becker's Human Capital Theory (1964) posits that investing in employee development leads to higher productivity and engagement, as employees feel more capable and valued. Access to training and growth opportunities in healthcare fosters motivation and commitment (Kyndt et al., 2009; Berta et al., 2013).

Subdimensions:

- **Possibilities of Training:**

It refers to the access employees have to formal and informal learning opportunities within the organisation, including workshops, courses, certifications, and on-the-job training. These opportunities enhance employees' skills, keeping them current in their field and allowing them to perform their jobs more effectively (Bandura, 1986). Healthcare employees who are provided with opportunities for continuous learning and skill development are more likely to remain engaged. Kyndt et al. (2009) and Berta et al (2013)

argue that access to training opportunities is a strong predictor of employee retention and engagement, particularly in fields like healthcare where skills must be continually updated.

- **Opportunities for Career Progression:**

It refers to the availability of career advancement paths and promotional opportunities within the organisation. When employees see a clear path for growth, they are more likely to remain motivated and committed to their roles, as they perceive a future with the organisation (Deci & Ryan., 2000). Vroom's Expectancy Theory (1964) suggests that when employees believe their efforts will lead to career advancement, they are more motivated and engaged.

3. Dimension: Health and Wellbeing

The physical and emotional health of healthcare employees is critical to maintaining engagement, particularly given the high demands of the job. Supporting work-life balance, recognising contributions, and providing resources for stress management are all essential for preventing burnout. (Shanafelt et al., 2015). Greenhaus & Beutell's Work-Life Balance Theory (1985) emphasises the importance of balancing professional and personal responsibilities to maintain long-term engagement.

Subdimensions:

- **Work-Life Balance:**

It refers to the ability of employees to maintain a healthy equilibrium between work responsibilities and personal life. Long working hours and emotionally taxing situations make work-life balance crucial for healthcare employees. Greenhaus & Beutell (1985) suggest that achieving a balance between personal and professional responsibilities is a key factor in preventing burnout and sustaining engagement. Shanafelt et al. (2015) found that healthcare workers who achieve a healthy work-life balance report higher levels of job satisfaction and engagement.

- **Respect by Patients and Colleagues:**

Refers to the sense of appreciation and dignity that employees receive from others in their work environment. The Social Identity Theory (Tajfel & Turner., 1979) posits that individuals derive part of their identity and self-worth from their social interactions. When healthcare workers feel respected by patients and colleagues, it enhances their sense of identity and well-being increasing engagement (Orgambídez-Ramos & de Almeida., 2017).

- **Stress and Stress Management:**

This subdimension refers to the management and reduction of job-related stress through strategies and resources provided by the organisation, such as employee assistance programmes, counselling, and wellness initiatives (Bakker & Demerouti., 2007). Healthcare is a high-demand profession, and without effective stress management, employees are at risk of burnout and disengagement (Laschinger et al., 2009). The Job Demands-Resources Model (Demerouti., 2001) highlights that stress management is essential for maintaining employee engagement in high-pressure environments. Maslach & Leiter (2016) agree that healthcare professionals who have access to stress management resources report lower levels of burnout and higher levels of job satisfaction.

All previously discussed dimensions and subdimensions form the core structure of the theoretical framework for employee engagement. However, it is also important to recognise that employee engagement does not occur in isolation. Psychological threats as well as sociodemographic characteristics, including age, gender, years of experience and staff category, can significantly influence an individual's level of engagement. These variables included in the framework were not conceptualised as core dimensions or subdimensions of employee engagement, but rather as moderators and mediators because unlike dimensions, which are direct components of engagement and represent stable structural features of the engagement experience (e.g., leadership, teamwork, or well-being), moderators and mediators function as influencing variables that affect how strongly or through what pathway these dimensions impact actual engagement outcomes (Einarsen et al., 2011; Johnson & Rea, 2009).

The integration of mediators and moderators into the employee engagement framework is supported by growing recognition in the literature that engagement is shaped by complex, interacting variables rather than linear processes. Multiple scholars have emphasised the limitations of static, one-size-fits-all models and called for frameworks that reflect the dynamic and contextual nature of engagement (Macey & Schneider, 2008; Kahn, 2010). Bakker and Demerouti (2014) argue that to fully understand when, how, and for whom engagement drivers are most effective, it is essential to incorporate moderating variables, such as sociodemographic characteristics, into engagement models. Similarly, Christian, Garza, and Slaughter (2011) highlight the need for mediating mechanisms to explain how organisational practices translate into engagement-related behaviours and outcomes. Rich et al. (2010) further support this view by demonstrating that the impact of different dimensions such as Teamwork or Job Involvement on engagement is often

mediated by psychological threats in the workplace. More recently, Saks and Gruman (2018) have advocated for engagement models that go beyond main effects to include conditional and indirect pathways, reflecting the reality that employee engagement is contingent on both individual differences and situational variables.

The following section will explore these psychological threats and sociodemographic variables in greater detail, outlining their role in shaping the engagement experience.

4.3.3 Mediators: Psychological threats Variables

A mediator is a variable that explains how or why an independent factor affects an outcome, acting as a bridge between cause and effect.

A growing body of research has identified bullying and discrimination as two of the most frequently cited psychological threats acting as mediators in employee engagement frameworks, particularly in the healthcare sector. These behaviours are consistently linked to reduced engagement, impaired teamwork, and emotional exhaustion, undermining the positive effects of organisational and individual engagement drivers. Theoretical models such as Leymann's (1996) Theory of Workplace Mobbing, Social Exchange Theory (Blau, 1964), and Social Identity Theory (Tajfel & Turner, 1979) have been instrumental in explaining how negative interpersonal dynamics, often shaped by broader organisational failures, mediate the relationship between core engagement dimensions like teamwork, leadership, recognition, and wellbeing and actual engagement outcomes. Unlike structural or psychological dimensions of engagement, bullying and discrimination are not inherent to engagement itself; rather, they emerge under specific conditions and disrupt the pathways through which positive engagement factors are expected to function. The following six theories, among the most cited in the literature, illustrate how bullying and discrimination may mediate these relationships, reflecting the need to address such threats in order to sustain engagement within complex, high-pressure healthcare environments.

- **Theory 1:** Bullying mediates the relationship between teamwork and staff engagement, with poor teamwork increasing the likelihood of bullying, which reduces engagement

This hypothesis is grounded in Social Exchange Theory (Blau, 1964). In healthcare settings, teamwork is a crucial factor in ensuring collaboration, psychological safety, and shared responsibility in high-pressure environments. However, ineffective teamwork can create conditions that foster negative workplace behaviours, such as bullying. Leymann's Theory of Workplace Mobbing (1996) suggests that dysfunctional team environments allow bullying to emerge, undermining

psychological safety and eroding trust. As trust deteriorates, toxic behaviours such as bullying disrupt professional relationships, leading to lower engagement, increased emotional exhaustion, and decreased morale among healthcare employees.

- **Theory 2:** Bullying mediates the relationship between health and wellbeing and staff engagement, reducing trust and collaboration.

The Social Interactionist Perspective (Felson & Tedeschi, 1993) explain this theory by emphasising that stress and emotional exhaustion disrupt social cohesion, fostering power imbalances that facilitate bullying behaviours. When healthcare employees experience stress and lack organisational support for their wellbeing, they are more vulnerable to workplace aggression, which directly diminishes their engagement by instilling fear, reducing morale, and limiting their ability to collaborate effectively.

- **Theory 3:** Bullying mediates the relationship between performance recognition and staff engagement, undermining employees' sense of value.

The Workplace Aggression Framework (Neuman & Baron, 1998) provided insights on this hypothesis by illustrating how perceptions of unfair treatment can foster hostile behaviours, such as bullying. Employees who feel overlooked or perceive favouritism in recognition processes may resort to negative workplace behaviours, targeting colleagues they perceive as undeserving of rewards. While direct links between performance recognition and bullying are not widely documented, this hypothesis explores whether inequities in recognition could serve as a catalyst for workplace toxicity, indirectly reducing employee engagement by fostering an environment of resentment and interpersonal conflict.

- **Theory 4:** Discrimination mediates the relationship between leadership and staff engagement, with ineffective leadership fostering discrimination, thereby reducing engagement.

The hypothesis that discrimination mediates the relationship between leadership and staff engagement is rooted in Transformational Leadership Theory (Bass, 1985) and Social Exchange Theory (Blau, 1964). In healthcare, leadership plays a critical role in shaping organisational culture, setting expectations for workplace behaviours, and fostering inclusivity. However, ineffective leadership that fails to address workplace discrimination creates an environment where exclusionary practices thrive, eroding employees' trust and engagement.

- **Theory 5:** Discrimination mediates the relationship between teamwork and staff engagement, eroding collaboration and psychological safety.

The Nienaber and Martins framework (2016) identified teamwork as a key determinant of employee engagement, a perspective also integrated into our theoretical framework as part of the organisational-level dimensions of engagement. However, when teamwork is ineffective, employees may face discrimination based on seniority, professional background, or demographic characteristics, fostering a hostile work environment. Social Identity Theory (Tajfel & Turner, 1979) posits that individuals who experience discrimination within their teams are more likely to develop trust issues and communication barriers, which, in the healthcare context, can lead to reduced engagement and compromised patient outcomes due to impaired collaboration and psychological safety.

- **Theory 6:** Discrimination mediates the relationship between health and wellbeing and staff engagement, reducing organisational support.

The Nienaber and Martins model (2016) also explain this hypothesis. This theory posts that when employees feel supported in their wellbeing, they are more likely to engage meaningfully with their work. However, when discrimination undermines these support structures, employees perceive their work environment as unsupportive, leading to disengagement. This aligns with Psychological Contract Theory (Rousseau, 1995), which states that employees expect a work environment that is respectful, inclusive, and fair and when this expectation is violated through discriminatory behaviours, engagement suffers.

4.3.4 Moderators: Sociodemographic Variables

In addition to psychological mediators, this framework incorporates sociodemographic characteristics, such as age, gender, years of experience, staff category, and professional identity, as key moderators that influence how engagement is experienced across different workforce segments. These variables are not dimensions or subdimensions of engagement, as they do not constitute intrinsic components of engagement itself. Rather, they shape the conditions under which engagement dimensions like leadership, teamwork, wellbeing, or training and opportunities of career progression are more or less effective. Moderators function by influencing the intensity, direction, or salience of relationships between engagement dimensions and outcomes, providing critical insight into why engagement strategies yield uneven effects across diverse staff groups (Baron & Kenny., 1986).

The inclusion of these particular sociodemographic factors is grounded in theoretical evidence from healthcare research. According to Life-Span Development Theory (Baltes., 1987), age reflects employees' changing priorities, such as younger healthcare workers seeking career advancement, whereas older employees may prioritise stability and purpose. Socioemotional Selectivity Theory (Carstensen., 1992) supports that older healthcare professionals are likely to engage more deeply in roles that offer meaningful patient care, making age a critical mediator of engagement. Gender significantly moderates engagement due to the presence of gendered roles and leadership expectations within healthcare. Role Congruity Theory (Eagly & Karau., 2002) suggests that men and women may feel different levels of engagement depending on role expectations. In healthcare, female professionals often fill caregiving roles, which may align with societal gender norms, thus reinforcing engagement through role congruence. Conversely, men in caregiving roles may face unique engagement challenges if these roles conflict with traditional gender norms (Eagly & Karau., 2002; Jenkins & Elliott., 2004; Manion., 2009).

There is also evidence that an employee's position within the organisational hierarchy can moderate levels of engagement. Jaupi and Llaci (2015) found that lower- and middle-tier healthcare staff reported slightly higher engagement levels than consultants, suggesting that role-related expectations, autonomy, and proximity to team-based collaboration may influence how engagement is experienced across professional strata.

Ultimately years of experience has been shown to have a significant moderation value on employee engagement in the healthcare sector, although findings vary regarding the direction of this relationship. Kular et al. (2008) conducted a comprehensive review of the literature and found evidence suggesting that engagement can decline over time, as employees may lose initial enthusiasm. This phenomenon was further supported by Holcombe & Buehler (2018), who reported that engagement was highest among employees with less than a year of tenure, dropped to its lowest among those with 3–5 years of experience, and then increased again. In their findings, employees with over 10 years of experience had engagement levels nearly as high as new employees, indicating a U-shaped relationship where engagement dips mid-career before rising again with extended tenure as employees develop deeper connections to their roles (Jenkins & Elliott., 2004; Laschinger et al., 2001).

The following nine theories, frequently cited in the engagement literature, offer theoretical grounding for understanding how these sociodemographic variables moderate the relationships between core engagement dimensions and employee engagement. Their inclusion allows for a

more differentiated and responsive framework, capable of informing targeted strategies that are sensitive to the lived realities and evolving needs of healthcare employees.

- **Theory 1:** The relationship between training opportunities and staff engagement will be stronger for younger employees (≤ 30 years) than for older employees (> 30 years).

This Hypothesis is based on Expectancy Theory (1964) that emphasises employees are more engaged when they perceive a clear connection between effort and future rewards. Younger employees in healthcare are likely to view training as a stepping stone toward career advancement, whereas older employees, who may have already established their careers, may not derive the same engagement boost from training opportunities.

- **Theory 2:** The relationship between health and wellbeing and staff engagement will be stronger for older employees (> 30 years) than for younger employees (≤ 30 years).

Herzberg's Two-Factor Theory (1959) supports this theory by stating that well-being functions as both a hygiene factor and a motivator is particularly important for employees in later career stages who prioritise job security and long-term health over learning opportunities. Consequently, workplace health initiatives are expected to have a stronger impact on engagement among older healthcare workers.

- **Theory 3:** The relationship between leadership and staff engagement will be stronger for women than for men.

Leadership plays a critical role in employee engagement, but its impact may be more pronounced for women due to workplace inequalities. Research indicates that women respond positively to inclusive leadership styles, particularly Transformational Leadership (Bass, 1985), which emphasises mentorship and empowerment. Leader-Member Exchange (LMX) Theory (Graen & Uhl-Bien., 1995) further posits that when leaders foster trust and inclusivity, women are more likely to engage. Since women in healthcare often encounter structural barriers such as wage disparities and underrepresentation in leadership roles, effective leadership may have a stronger influence on their engagement compared to men.

- **Theory 4:** The relationship between work-life balance and staff engagement will be stronger for women than for men.

Work-life balance is a critical engagement factor, particularly for women who often face greater caregiving responsibilities outside of work. Greenhaus & Beutell's Work-Family Conflict Theory (1985) supported this hypothesis, highlighting that women experience higher levels of work-family conflict, which can negatively affect their engagement. The JD-R Model (Demerouti et al., 2001) also supports this hypothesis, stating that when organisations provide resources that improve work-life

balance, women benefit more significantly, leading to stronger engagement. Consequently, healthcare policies that promote flexible scheduling and work-life integration are expected to have a more substantial impact on women's engagement than on men's.

- **Theory 5:** The relationship between teamwork and staff engagement will be stronger for non-binary employees due to their unique experiences of inclusion.

Non-binary employees often face unique challenges in workplace inclusion, making teamwork a crucial factor in their engagement. Social Identity Theory (Tajfel & Turner, 1979) posits that individuals who feel a sense of belonging in their work environment are more likely to be engaged. Since teamwork fosters inclusivity and mutual support, non-binary employees who experience acceptance within healthcare teams are expected to show higher engagement. Minority Stress Theory (Meyer, 2003) further suggests that individuals from marginalised groups experience additional workplace stress, but positive team environments can mitigate these effects and enhance engagement.

- **Theory 6:** The relationship between teamwork and staff engagement will be stronger for nursing staff than for administrative staff.

Nurses rely heavily on teamwork due to the collaborative nature of patient care, making it a stronger predictor of their engagement compared to administrative staff. Hackman's Team Effectiveness Theory (1987) states that professionals in interdependent roles require strong team cohesion to maintain motivation. Salas et al. (2008) also emphasise that effective teamwork is critical in healthcare settings, impacting both performance and engagement. Given the reliance on interdisciplinary collaboration in nursing, teamwork is expected to have a more pronounced effect on nurses' engagement compared to administrative employees, who may work more independently.

- **Theory 7:** The relationship between health and wellbeing and staff engagement will be stronger for general support staff due to their reliance on workplace health initiatives.

General support staff, such as janitorial and food service employees, often have fewer job-related resources than clinical staff, making them more dependent on organisational health and well-being programmes. Maslow's Hierarchy of Needs (1943) suggests that employees in lower-income roles prioritise basic physiological and safety needs, such as access to healthcare benefits and workplace safety, before seeking professional fulfilment. Since general support staff typically engage in physically demanding roles with fewer career advancement opportunities, workplace health initiatives are expected to play a larger role in their engagement.

- **Theory 8:** The relationship between performance recognition and staff engagement will be stronger for employees with more than five years of experience.

Experienced healthcare employees expect recognition for their sustained contributions, making it a stronger engagement factor for them compared to newer employees. Herzberg's Motivation-Hygiene Theory (1959) identifies recognition as a key motivator, particularly for employees who have achieved job mastery. Employees with over five years of experience are therefore likely to show stronger engagement when they receive meaningful recognition.

- **Theory 9:** The relationship between training opportunities and staff engagement will be stronger for employees with five or fewer years of experience.

New healthcare employees are still developing their skills and adapting to organisational expectations, making training a key driver of engagement for them. Becker's Human Capital Theory (1964) supports this, emphasising that young employees engage more when they view training as an investment in their future career.

In summary, the proposed theoretical framework for employee engagement in healthcare, rooted in the Nienaber and Martins model, offers a nuanced approach by integrating both organisational and individual levels to address the complex, multi-faceted nature of engagement in healthcare. Each level is structured around critical dimensions, subdimensions, mediators and moderators that collectively influence employee engagement and, subsequently, patient outcomes and organisational resilience.

Table 13 summarises the 2 levels, 8 dimensions, 21 subdimensions, 2 mediators, 4 moderators and 21 questions designed to validate this theoretical framework, drawing upon the Nienaber and Martins model and the reviewed literature.

Table 13: Levels, dimensions, subdimensions and questions for measuring Employee Engagement in the Health Sector.

Levels of the Health Employee Engagement framework	Dimensions of the Health Employee Engagement framework	Subdimensions of the Health Employee Engagement framework	Questions	Theoretical Background	Healthcare context
Organisational Level	Pride and Culture	Workplace Conditions	I am satisfied with my work conditions (space, light, comfort)	Schein's Organisational Culture Model Herzberg's Two-Factor Theory	Mannion & Davies, (2018); West and Dawson (2012) Laschinger & Finegan, (2005); Tuckey et al., (2012)
		Workplace Atmosphere	I am satisfied with the workplace atmosphere	Social Identity Theory	Wong & Cummings, (2007); Nembhard & Edmondson, (2006)
		Pride in the Organisation	I feel proud to work for my organisation.	Social Exchange Theory Emotional Engagement Theory	Pride & Ferrell, (1995); Zuckerman & Chafin, (2018)
		Organisational Culture	I value the culture in my organisation.	Schein's Organisational Culture theory	West et al. (2017); Mannion & Davies (2018); Manion, (2009)
	Teamwork	Communication within the team	I believe that communication within my team is strong.	Hackman's Team Effectiveness Theory Team Communication Theory	Salas et al. (2008); Boamah et al., (2018); Barrick et al., (2015) Leonard et al., (2004); Cloutier et al., (2015)
		Alignment between My Objectives and My Team's Objectives	I believe that the members of my team share common objectives	Goal-Setting Theory	Deci & Ryan (2000); West et al. (2014); Wong & Spence & Laschinger (2010)
		Support within the Team	I am satisfied with the support I receive from my team members	Social Support Theory	Laschinger et al. (2001); Goyal and Kaur (2023)
	Performance Recognition	Performance Recognition from My Team	I'm satisfied with the recognition I receive for my performance within my team	Motivation-Hygiene Theory Social Exchange Theory	Rhoades & Eisenberger, (2002); Manion, (2009); Blau (1964); Ariely et al. (2009); Collini et al. (2015); Edmonson (2004)
		Performance Recognition from My Organisation	I'm satisfied with the recognition I receive for my performance from my organisation	Expectancy Theory	Deci & Ryan (2000); Rhoades & Eisenberger (2002); Laschinger et al. (2009)

	Job Involvement	Motivation with My Work	I feel motivated in my current job.	Self-Determination Theory	Collini et al., (2015); Applebaum et al., (2010); Gagné & Deci (2005); Hakanen et al., (2006)
		Optimism with My Work	I feel optimistic about my future within my organisation	Positive Psychology Theory	Luthans et al. (2007); Bakker & Demerouti, (2008); Zito et al., (2016)
	Leadership	Confidence in the Strategy of My Organisation	I believe that my organisation's overall strategy is leading to better outcomes	Transformational Leadership Theory	Boamah et al., (2018); Wong & Spence & Laschinger, (2010); Tourangeau et al. (2006); Rafferty & Griffin (2006); Saks, (2006)
		Communication with Management	I believe that communication between senior management and staff in my organisation is effective	Leader-Member Exchange Theory Transformational Leadership Theory	Saks, (2006); Goyal & Kaur, (2023); Tourangeau et al. (2006); Laschinger et al. (2009)
	Individual Level	Training and Opportunities	Possibilities of Training	Human Capital Theory	Kyndt et al., (2009); Berta et al., (2013)
			Opportunities for Career Progression	Self-Determination Theory Expectancy Theory	McGowan et al. (2013); Tims et al. (2013); Kular et al. (2008)
	Health and Wellbeing	Work-Life Balance	I believe I have a good balance between my private and professional life.	Work-Life Balance Theory	Shanafelt et al. (2015)
		Respect by Patients and Colleagues	I feel I am treated with respect by colleagues/ patients.	The Social Identity Theory	Orgambidez-Ramos & de Almeida (2017)
		Stress and Stress Management	I tend to manage any work-related stress well.	Job Demands-Resources (JD-R) Model	Maslach & Leiter (2016)
	My Role in My Organisation	Trust and Autonomy	The level of autonomy I have in my job is sufficient	Empowerment Theory	Bandura (1986); Bakker & Demerouti (2007); Kyndt et al. (2009)
		Alignment with Organisation Goals	I understand the relationship between my individual objectives and my organisation's objectives.	Goal-Setting Theory Person-Organisation Fit Theory	West et al., (2014); Wong & Cummings, (2007)

		Security and Level of Pay	I feel I have job security, and my level of pay is in correspondence to my skills	Two-Factor Theory	Pillay (2009)
Mediators	Psychological Threat Variables	Bullying	I haven't suffered from bullying in my organisation	Psychological Contract Theory Theory of Workplace Mobbing	Johnson & Rea (2009); Berry et al. (2016); Einarsen et al. (2011); Holman et al. (2010)
		Discrimination	I haven't suffered from discrimination in my organisation	Social Identity Theory	Bond & Haynes (2014); Einarsen et al. (2011); Boamah et al. (2018)
Moderators	Sociodemographic Variables	Age	What is your age?	Life-Span Development Theory Socioemotional Selectivity Theory	Schaufeli et al. (2006); West & Dawson, 2012; Boamah et al., 2018))
		Gender	Are you male, female, other?	Role Congruity Theory	Jenkins & Elliott, (2004); Manion, (2009); Patterson et al. (2010)
		Years of Experience	How long have you been working in the Health Sector in Ireland for?	Social Exchange Theory	Blau (1964); Kular et al. (2008); Holcombe & Buehler (2018); Jaupi & Llaci (2015); Jenkins & Elliott, (2004); Laschinger et al., (2001); Bakker & Demerouti, (2008); Collini et al., (2015)
		Position within the Organisation	What is your staff category?	Role Congruity Theory	Blessing White (2011); Holcombe & Buehler (2018); Jaupi & Llaci (2015)

4.4 Scale for measuring Health Employee Engagement Framework

In developing a robust and context-sensitive framework for evaluating healthcare employee engagement, it was essential to consider not only the dimensions, subdimensions, mediators and moderators of engagement but also how they are measured. As it was previously explained, traditional measurement tools, such as the Gallup Workplace Audit (Harter et al., 2002) and the Utrecht Work Engagement Scale (UWES) (Schaufeli & Bakker, 2003), often rely on Likert-type scales to assess engagement-related constructs. While widely used, these ordinal scales are limited in their ability to account for contextual differences across organisations and are prone to various forms of response bias (Podsakoff et al., 2003). Moreover, the assumption that the distance between response categories is equal, such as the shift from “Agree” to “Strongly Agree”, has been questioned in psychometric literature (Norman., 2010).

In contrast, percentile-based scoring systems have been highlighted in the literature as a more dynamic and context-sensitive approach to measurement. Unlike fixed-point Likert scales, percentile ranks interpret an individual’s engagement level relative to the distribution of responses within a given population. This has important implications for healthcare settings, where traditional scoring may obscure meaningful variation (Schaufeli et al., 2002). A percentile-based approach allows for greater differentiation, enabling organisations to detect shifts in engagement within different performing groups (Norman., 2010).

Furthermore, research has underscored the utility of percentile metrics in making valid comparisons across departments, organisations, or time points (Harzing, 2006). Percentile scores control for differences in response styles and cultural interpretations of scale points, thus offering a more stable and comparable metric across varying contexts. (Schaufeli & Bakker, 2010; Bakker et al., 2011).

The decision to integrate a percentile-based scale into this healthcare-specific engagement framework was therefore grounded in both theoretical and empirical insights. By aligning the framework’s measurement approach with evidence from organisational psychology and psychometric research, it aims to offer a more precise, reliable, and contextually meaningful tool for capturing employee engagement. This choice also complements the theoretical foundations of the framework, which integrates dimensions adapted from Nienaber and Martins’ (2016) model, Schein’s (2010) organisational culture theory, and Hackman’s (1987) team effectiveness principles. Together, these choices support a framework that is not only theoretically grounded but also methodologically equipped to generate actionable insights in complex healthcare environments.

4.5 Conclusions

This chapter proposed a sector-specific, theoretically grounded framework for evaluating employee engagement in healthcare, offering a critical advancement over existing generic models. Drawing on the multi-level structure of Nienaber and Martins (2014), the framework retains the foundational distinction between organisational and individual factors but extends it in scope, depth, and contextual sensitivity. Rather than merely transplanting elements from existing models, the framework redefines key dimensions to reflect the unique psychosocial and operational realities of healthcare settings. For instance, teamwork is repositioned within the organisational level to capture how systemic norms, leadership practices, and institutional culture shape interprofessional collaboration, a feature often underrepresented in generic engagement models.

In addition, the framework broadens the conceptual lens by recognising that engagement is not shaped solely by its structural dimensions and subdimensions but also by the mediating and moderating variables that influence how those dimensions translate into outcomes. The integration of psychological threats, particularly bullying and discrimination, as mediators reflects growing evidence that toxic workplace climates can erode even strong engagement drivers such as leadership and wellbeing. Similarly, the inclusion of sociodemographic variables (e.g., age, gender, staff role, and career stage) as moderators acknowledges that engagement is not experienced uniformly across the workforce.

It is important to clarify why formal theories were developed only for the mediators and moderators, and not for the core dimensions and subdimensions of the proposed framework. The dimensions and subdimensions constitute the structural foundation of the theoretical model. They are treated as established latent constructs, derived from a foundational validated framework (e.g., Nienaber & Martins, 2014), and are widely recognised in the literature as key drivers of employee engagement (Bakker & Demerouti, 2008; Saks, 2006; Schaufeli et al., 2002). These components are conceptualised not as theories but as integral pillars of engagement that have been consistently observed across empirical contexts.

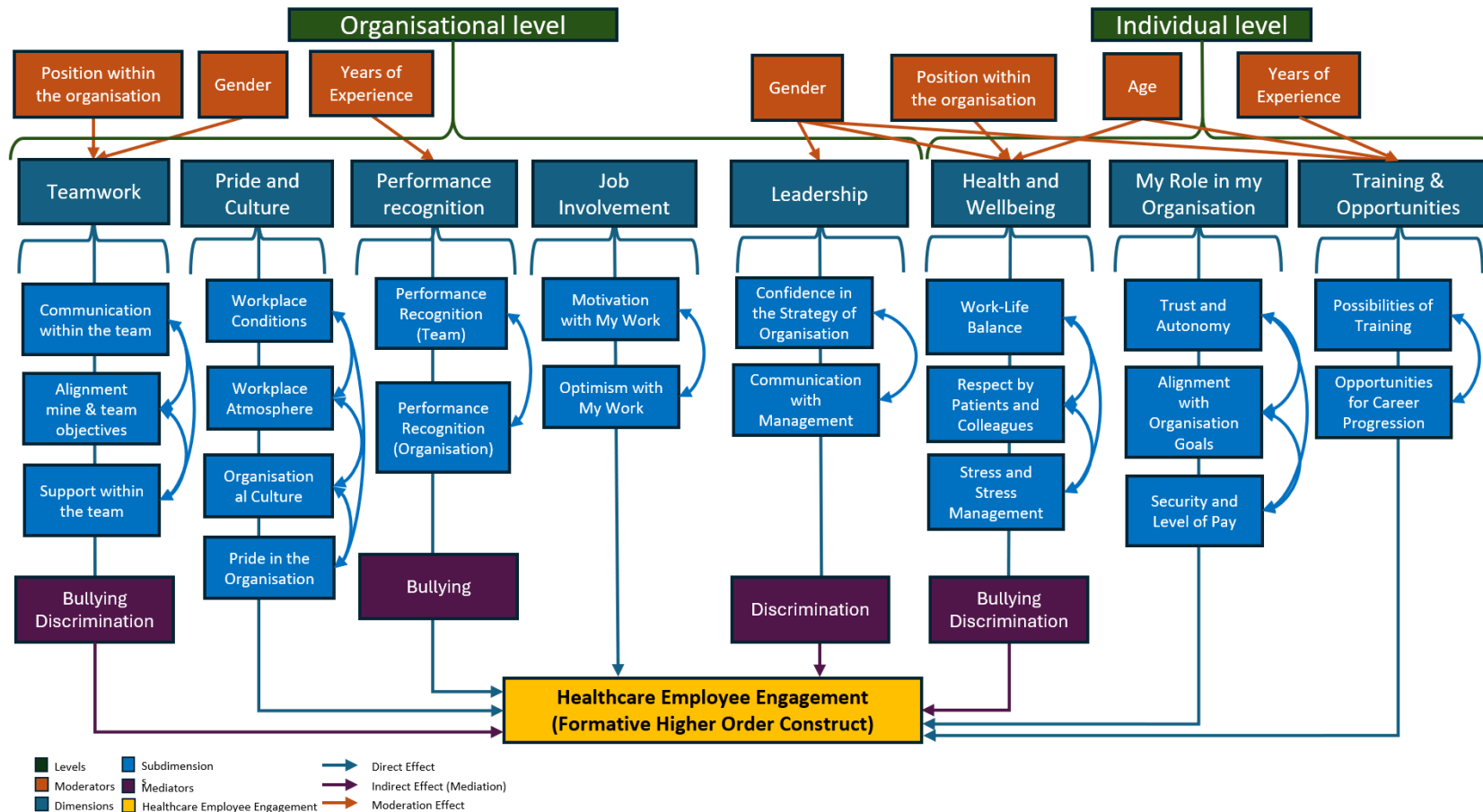
By contrast, mediators and moderators are included in the model to explore how and under what conditions the relationship between these core dimensions and engagement outcomes may vary. They represent contextual and conditional influences that are theoretically plausible but empirically uncertain, requiring formal testing to determine their explanatory or modifying effects (Baron & Kenny, 1986; Frazier, Tix, & Barron, 2004). These relationships will be evaluated, to determine whether they enhance, diminish, or explain the pathways between the core dimensions and overall employee engagement. (Boamah et al., 2018; Johnson & Rea, 2009).

While theories are specifically formulated for the mediators and moderators to test conditional and explanatory pathways, the entire framework, comprising dimensions, subdimensions, mediators,

and moderators, is subject to empirical validation. This is because theoretical coherence alone is not sufficient to establish a framework's measurement validity or psychometric robustness (DeVellis, 2017; MacKenzie, Podsakoff, & Podsakoff, 2011). Even though the core dimensions are not individually theorised, their factorial structure, internal consistency, and contribution to the overall engagement construct must be statistically confirmed. (Hair et al., 2019).

Collectively, the dimensions, subdimensions, mediators, and moderators presented in this chapter form a comprehensive and relational understanding of employee engagement tailored to the healthcare context. This conceptual model is visually summarised in **Figure 12**, which maps out the relationships between all key components. While the framework is theoretically robust and empirically informed, it remains, at this stage, a set of interlinked theories that must be validated through statistical testing. This validation process, undertaken in **Chapter 5**, will assess the reliability, and construct validity of the framework. It will also determine whether the proposed pathways, including moderation and mediation effects, hold in real-world data, thereby establishing the model's empirical legitimacy as a tool for assessing and improving employee engagement in the healthcare sector.

Figure 12: Hypothesised Employee Engagement Framework for Healthcare: Foundations for Empirical Validation



Chapter 5: Empirical Validation of a Healthcare-Specific Theoretical Framework for measuring Employee Engagement

5.1 Introduction and Chapter Overview

Building upon the conceptual and theoretical groundwork established in the preceding chapters, this chapter presents the empirical validation of the proposed framework for measuring employee engagement in the healthcare sector. Chapter 3 outlined the findings of a comprehensive scoping review, which revealed a fragmented and often inadequate conceptualisation of employee engagement, particularly in high-pressure and relationally complex healthcare environments. In response, Chapter 4 introduced a new theoretical framework, adapted from Nienaber and Martins (2014), and tailored specifically to the healthcare context.

The primary aim of this chapter is to subject the proposed framework to rigorous empirical validation. It offers a comprehensive exploration of the 2 levels, 8 dimensions, 21 subdimensions, 2 mediators and 4 moderators that were proposed in the hypothesised Employee Engagement Framework for Healthcare. This involves testing the factorial structure and internal consistency of the core dimensions and subdimensions, as well as evaluating the mediating and moderating effects hypothesised in the previous chapter. Confirmatory factor analysis (CFA), structural equation modelling (SEM), and other statistical techniques are used to assess how well the theoretical model aligns with observed data, and to determine its robustness in capturing the complexity of employee engagement in the healthcare setting.

By validating both the structural and relational components of the model, this chapter provides empirical support for a comprehensive, context-sensitive framework capable of measuring healthcare employee engagement with theoretical precision and practical relevance. The full structure of the hypothesised framework, as illustrated in Figure 13, is evaluated in this chapter to determine whether the proposed dimensions, subdimensions, mediators, and moderators coherently integrate into a validated model. The next chapter will build upon these findings by explaining the results and exploring their practical and theoretical implications.

5.2 Baseline Characteristics of the sample by subdimensions of health employee engagement

After harmonising the YOC datasets and assigning appropriate weights to the variables, the preliminary step involved assessing the baseline characteristics of the sample. This analysis, conducted prior to applying Mirza Rizwan et al.'s empirical and reflective validation framework and subsequent SEM and path analysis, focused on understanding the organisational and individual levels of engagement, alongside the sociodemographic attributes of the respondents.

Female employees constituted 54.0% of the sample, followed by individuals identifying as "Other" at 26.5% and male employees at 19.5%. Employees with more than five years of experience made up the majority (79.5%), with the remaining 20.5% having five years or less in the health sector. The workforce was primarily concentrated in nursing (29.9%), health and social care professionals (25.4%), and management or administrative roles (29.0%), with smaller proportions in general

support (9.3%) and medical or dental roles (6.8%). Alarming, 31% of respondents reported experiences of bullying in the workplace, and 15% reported discrimination, highlighting significant workplace challenges that intersect with engagement dynamics.

At the organisational level, The Pride and Culture dimension presented a mixed level of satisfaction. 12.4% of respondents strongly agreed and 38.9% agreed that they were satisfied with workplace conditions, while 30.2% expressed dissatisfaction. Dissatisfaction was primarily linked to workspace comfort, lighting, and environmental factors, which continue to present challenges for productivity and morale. Workplace atmosphere received moderate satisfaction, with 14.6% strongly agreeing and 41.9% agreeing, though 24.7% of respondents were neutral or dissatisfied. Regarding pride in the organisation, 15.3% strongly agreed and 43.1% agreed that they felt proud to work for their organisation, while 18.6% were neutral or negative, indicating areas where organisational pride could be improved.

The Teamwork dimension reflected strong interpersonal dynamics and cohesion. 22.3% of respondents strongly agreed and 51.4% agreed that they received adequate support from their team members, reinforcing teamwork as a core strength. Alignment with team objectives remained strong, with 16.5% strongly agreeing and 47.9% agreeing. However, communication within the team showed room for improvement, with 18.1% strongly agreeing and 42.7% agreeing, while 26.5% expressed neutrality or dissatisfaction, emphasising the need for more effective communication strategies to enhance team coordination.

The Performance Recognition dimension revealed systemic gaps in acknowledgment and appreciation. Recognition from team members was relatively better, with 7.3% strongly agreeing and 33.5% agreeing, indicating that peer-level acknowledgment remained functional. However, organisational recognition was considerably lower, with only 5.7% strongly agreeing and 25.1% agreeing, while 46.8% disagreed or strongly disagreed, reflecting widespread dissatisfaction with formal recognition mechanisms at the institutional level.

The Job Involvement results presented a mix of motivation and concern over long-term engagement. Enthusiasm for daily tasks remained high, with 27.4% strongly agreeing and 42.3% agreeing that they found their roles engaging. However, optimism about future career prospects was notably lower, with only 12.6% strongly agreeing and 31.1% agreeing that they saw a future in the organisation, while 27.5% expressed outright pessimism, highlighting a disconnect between current job satisfaction and long-term career progression opportunities.

The Leadership dimension showed significant dissatisfaction, particularly in confidence in leadership and strategic direction. Only 6.4% of respondents strongly agreed and 21.5% agreed that they had confidence in their organisation's strategic direction, while 44.7% disagreed. Similarly, communication with management remained a key concern, with 6.9% strongly agreeing and 22.4%

agreeing, while 52.1% expressed dissatisfaction, emphasising the need for greater leadership transparency, communication, and trust-building within the organisation.

At the individual level, results were equally revealing. The Training and Opportunities dimension reflected significant dissatisfaction regarding career progression. Only 4.9% strongly agreed and 23.2% agreed that they had adequate opportunities for career advancement, while 47.3% disagreed or strongly disagreed, highlighting a major gap in professional development. Training opportunities were slightly more favourable, with 7.8% strongly agreeing and 35.9% agreeing, but still left 33.3% dissatisfied, indicating systemic barriers to professional growth that could lead to long-term disengagement.

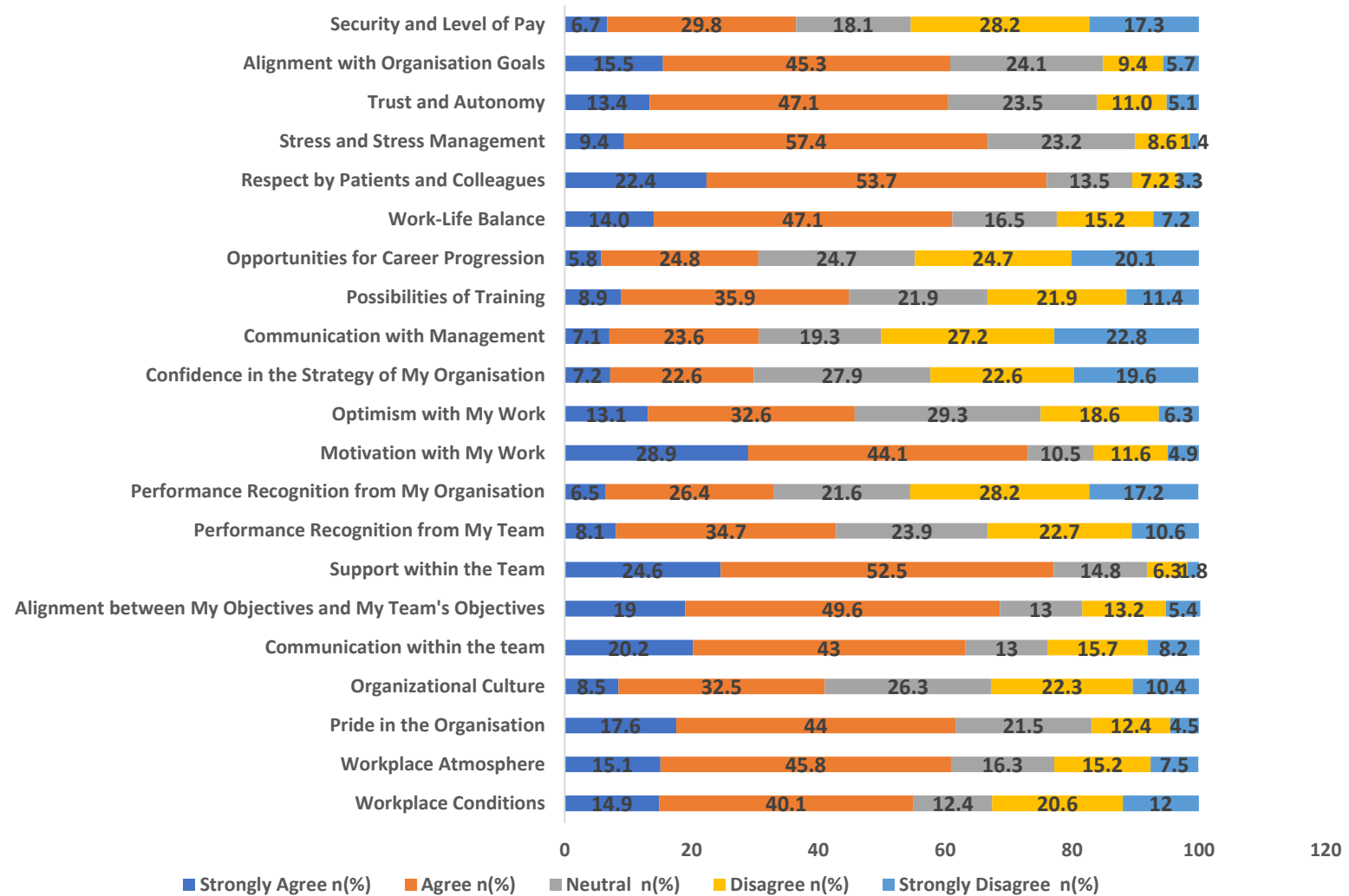
The Health and Wellbeing dimension showed positive results in some areas but also room for improvement. Respect from patients and colleagues emerged as a key strength, with 22.4% strongly agreeing and 53.7% agreeing, suggesting a supportive work culture. Work-life balance received moderate ratings, with 47.1% agreeing, though 22.4% expressed dissatisfaction, highlighting room for improvement in workload management. Stress management was more favourably rated, with 57.4% agreeing that they managed work-related stress well. However, while individual efforts in managing stress appeared effective, additional organisational support is required to ensure sustainable work-life balance and mental well-being.

Finally, My Role in the Organisation dimension showed mixed results. Trust and autonomy received moderately positive ratings, with 13.4% strongly agreeing and 47.1% agreeing that they had sufficient control over their work. However, pay and job security emerged as key concerns, with 45.5% disagreeing or strongly disagreeing that their salary and job stability aligned with their skills and contributions. This dissatisfaction underscored the need for organisations to address compensation concerns and ensure job security, as financial stability plays a critical role in sustaining employee engagement. **(Figure 13) (Appendix 13)**

These findings offered a comprehensive overview of the subdimensions that, according to the literature, were comprised in the employee engagement construct at both the organisational and individual levels. These subdimensions collectively defined workplace dynamics, organisational identity, and trust in leadership, all of which are central to fostering a committed and motivated workforce.

However, before drawing definitive conclusions, it was essential to examine whether these subdimensions could be conceptualised together as part of different dimensions. This required assessing their unidimensionality, indirect effects on engagement and identifying potential moderators that influence these relationships. Specifically, we determined how these factors interact with one another, whether they reinforce or counterbalance their effects, and how external influences such as sociodemographic variables moderate their impact on engagement outcomes.

Figure 13: Baseline characteristics of the sample



5.3 Distribution of the hypothesised subdimensions of Health Employee Engagement

Each subdimension of employee engagement was subjected to formal statistical assessments of normality using the Shapiro-Wilk test and the Kolmogorov-Smirnov test. In every case, the p-values were below 0.05, indicating significant deviations from normality and confirming that none of the distributions followed a normal pattern. These statistical findings provided strong evidence that the dataset was not normally distributed.

The mean values for each subdimension, ranging from 2.15 to 3.37, indicate that overall engagement levels were moderate to high, with most means falling below 3. Given the Likert response scale, where lower values indicate stronger agreement and higher values indicate stronger disagreement, this suggests that respondents generally provided more favourable ratings on most engagement subdimensions. For instance, "Respect by Patients and Colleagues" (Mean = 2.17, SD = 0.97) exhibits a low mean, indicating that a substantial proportion of participants agree that they receive respect in their workplace. Conversely, "Performance Recognition from My Team" (Mean = 3.30, SD = 1.21) has a relatively higher mean, suggesting that responses were more mixed, with some respondents indicating dissatisfaction with recognition levels.

The positive skewness values, ranging from 1.2 to 1.6, confirm that responses are right-skewed, meaning that most respondents provided more favourable engagement scores, with fewer participants selecting higher disagreement values. This suggests that engagement levels were generally positive, with a smaller proportion of participants reporting disagreement. For instance, "Alignment between Objectives" (Mean = 2.38, Skewness = 1.6) and "Work-Life Balance" (Mean = 2.56, Skewness = 1.4) indicate that most participants rated these areas favourably, with fewer extreme negative ratings pulling the tail toward the right.

While many subdimensions reflected moderate to high scores, certain areas emerged as weaker points, indicating room for improvement. These subdimensions had relatively higher mean values, signifying that respondents leaned more toward neutral or disagreement, suggesting weaker engagement-related experiences in these areas.

One of the most concerning areas was "Recognition from My Organisation" (Mean = 3.00, SD = 1.16). Unlike team-based recognition, organisational recognition was rated less favourably, suggesting that employees do not feel adequately acknowledged for their contributions at an institutional level. This aligns with broader findings that highlight gaps in formal recognition systems, which can impact morale and long-term engagement.

Another dimension that showed lower agreement was "Confidence in Strategy" (Mean = 2.67, SD = 1.98), indicating uncertainty about leadership and the organisation's strategic direction. This suggests that many employees may not feel assured about the organisation's long-term vision, which can contribute to disengagement, particularly if leadership communication is lacking.

Similarly, "Opportunities for Career Progression" (Mean = 3.30, SD = 1.21) showed a relatively higher mean, suggesting that employees do not perceive clear pathways for professional growth. This lack of visibility in career advancement opportunities, especially among early- and mid-career professionals seeking progression.

Another area requiring attention was "Communication with Management" (Mean = 3.37, SD = 1.26), which had one of the highest mean scores in the dataset. This indicates that many employees experience barriers in communication with leadership, potentially due to a lack of transparency, accessibility, or responsiveness from management. **(see Table 14)**

Lastly, "Security and Level of Pay" (Mean = 3.20, SD = 1.23) reflects concerns regarding financial stability and job security. While not the most negatively rated, the relatively higher mean suggests that a notable proportion of respondents feel uncertain about their compensation and job stability, which could affect engagement.

The kurtosis values, ranging from 3.5 to 4.6, suggest that responses were not only non-normal but also highly peaked, meaning that respondents tended to cluster around particular values, this reflects a strong consensus among respondents on their engagement-related experiences, despite variability in certain subdomains."

In general, the distribution of subdimension scores suggested that, on average, respondents rated engagement-related experiences favourably, although specific areas such as recognition, leadership communication, and pay presented notable weaknesses.

Table 14: Normality tests results of dimensions of health employee engagement.

Subdimension	Mean of Subdimensions	Standard deviation (SD)	Shapiro-Wilk p-value	Kolmogorov-Smirnov p-value	Skewness	Kurtosis	Normality Assumption
Workplace Conditions	2.80	1.28	0.03	0.02	1.2	3.5	Not Normal
Organisational Culture	2.60	1.15	0.01	0.01	1.5	4.2	Not Normal
Workplace Atmosphere	2.48	1.07	0.02	0.03	1.3	3.8	Not Normal
Pride in the organisation	3.00	1.15	0.02	0.02	1.4	3.6	Not normal
Communication within the Team	2.53	1.21	0.04	0.02	1.4	4	Not Normal
Alignment between Objectives	2.38	1.11	0.02	0.01	1.6	4.5	Not Normal
Support within the Team	2.15	0.90	0.03	0.03	1.2	3.7	Not Normal
Recognition from My Team	3.30	1.21	0.01	0.01	1.5	4.1	Not Normal
Recognition from My Organisation	3.00	1.16	0.02	0.02	1.4	4	Not Normal
Motivation with My Work	2.25	1.13	0.03	0.03	1.3	3.9	Not Normal
Optimism with My Work	2.74	1.12	0.01	0.01	1.5	4.3	Not Normal
Confidence in Strategy	2.67	1.98	0.02	0.02	1.4	4	Not Normal
Communication with Management	3.37	1.26	0.04	0.03	1.6	4.6	Not Normal
Possibilities of Training	2.93	1.19	0.01	0.01	1.3	3.8	Not Normal
Opportunities for Career Progression	3.30	1.21	0.02	0.02	1.5	4.2	Not Normal
Work-Life Balance	2.56	1.13	0.03	0.03	1.4	4	Not Normal
Respect by Patients and Colleagues	2.17	0.97	0.01	0.01	1.6	4.4	Not Normal
Stress and Stress Management	2.37	0.83	0.04	0.04	1.2	3.9	Not Normal
Trust and Autonomy	2.49	1.03	0.02	0.02	1.3	4.1	Not Normal
Alignment with Organisational Goals	2.44	1.03	0.03	0.03	1.5	4.3	Not Normal
Security and Level of Pay	3.20	1.23	0.01	0.01	1.4	4	Not Normal

5.4 Unidimensionality and Internal consistency of the Dimensions of health Employee Engagement.

5.4.1 Principal Component Factor Analysis (PCFA)

The first stage in validating the reflective subdimensions of each latent engagement dimension involved conducting Principal Component Factor Analysis (PCFA). Since each dimension (e.g., Teamwork, Leadership) is conceptualised as a latent variable reflected by its subdimensions, PCFA was used to assess the unidimensionality of each group of subdimensions. This ensures that each subdimension set reliably loads onto a single underlying factor or dimension, consistent with reflective measurement assumptions.

To ensure the appropriateness of factor extraction, an initial examination of sample adequacy was performed. This involved two key statistical tests: Bartlett's Test of Sphericity and the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy, both of which assess the strength of relationships among subdimensions.

Most of the KMO values for subdimensions ranged between 0.75 and 0.88, indicating that the data structure supported factor analysis. Generally, KMO values above 0.80 are considered good, while values between 0.70 and 0.79 are acceptable. In this study, the highest KMO value was observed for "Respect by Patients and Colleagues" (0.88) within the Health and Wellbeing dimension, confirming that this subdimension shares strong communal variance with other subdimensions-related variables. Similarly, "Communication within the Team" (0.85) exhibited a high KMO value, reinforcing its role as a critical factor within Teamwork.

Conversely, "Possibilities of Training" (0.75) had the lowest KMO value among all subdimensions, though still above the acceptable threshold. This suggests that while training contribute to the training and opportunities dimension, they may be influenced by external contextual factors not directly captured within the current model.

Organisational Pride exhibited poor psychometric properties, failing to meet the necessary thresholds for both reliability and validity. Its Kaiser-Meyer-Olkin (KMO) value of 0.41 indicated insufficient sampling adequacy, suggesting that the data associated with this subdimension lacked the required communal variance to support robust factor analysis. A KMO value below 0.60 is generally considered inadequate for factor extraction, and the exceptionally low value of 0.41 confirms that Organisational Pride does not form a coherent or distinct subdimension. Given its inability to meet the established psychometric criteria, this subdimension was excluded from further analysis. **(see Table 15)**

Table 15: Bartlett test and KMO by Subdimensions of Employee Engagement.

Subdimension	Kaiser-Meyer-Olkin (KMO)	Bartlett's Test (p-value)
Workplace Conditions	0.81	0.00020839
Organisational Culture	0.83	0.00033029
Workplace Atmosphere	0.79	0.00092011
Communication within the Team	0.85	0.00095012
Alignment between Objectives	0.84	0.00081708
Support within the Team	0.77	0.0009811
Recognition from My Team	0.8	0.00010863
Recognition from My Organisation	0.82	0.00013748
Motivation with My Work	0.83	0.0008205
Optimism with My Work	0.81	0.00016851
Confidence in Strategy	0.86	0.00071995
Communication with Management	0.84	0.00083323
Possibilities of Training	0.75	0.00071168
Opportunities for Career Progression	0.78	0.00070752
Work-Life Balance	0.87	0.00066684
Respect by Patients and Colleagues	0.88	0.00082392
Stress and Stress Management	0.82	0.0004218
Trust and Autonomy	0.76	0.00026666
Alignment with Organisational Goals	0.83	0.00050319
Security and Level of Pay	0.81	0.00011842

After confirming that the dataset met the necessary assumptions for Principal Component Factor Analysis (PCFA), the next step involved validating the reflective structure of the proposed engagement dimensions.

The decision to retain each dimension was guided by its eigenvalue, which reflects the amount of variance explained by that underlying latent construct. According to Kaiser's criterion, only factors or dimensions with eigenvalues greater than 1.0 were retained, as they explain more variance than an individual observed variable. In this analysis, eight dimensions exhibited eigenvalues ranging from 3.7 to 4.6, supporting their empirical distinctiveness and reinforcing their conceptual relevance in capturing key domains of healthcare employee engagement.

Although this step does not validate the overall engagement construct as a formative model, it provides strong evidence that the reflective subdimensions reliably cluster together within each latent dimension. These latent factors were subsequently used to construct the higher-order formative Employee Engagement Score (EES).

The variance explained by each factor offered additional insight into the strength of each dimension as a standalone construct. "Health and Wellbeing" exhibited the highest variance explained (74%), followed closely by "Leadership" (71%) and "Teamwork" (70%). These results highlight the critical role of these dimensions in shaping how employees experience engagement.

At the lower end, "Training and Opportunities" accounted for 62% of variance, still above the recommended 60% threshold, though slightly lower than other dimensions. This suggests that training-related engagement may be influenced by contextual or external organisational factors that are not fully captured within the current subdimensions.

Collectively, these results support the inclusion of eight latent dimensions in the final model, each formed by multiple validated reflective subdimensions and contributing uniquely to the overall formative structure of healthcare employee engagement. (see Table 16)

Table 16: Principal Component Factor Analysis. Eigenvalues and Variance Explained.

Dimension	Eigenvalues	Variance Explained (%)
Pride and Culture	4.2	68
Teamwork	4.5	70
Performance Recognition	4.1	67
Job Involvement	3.9	65
Leadership	4.3	71
Training and Opportunities	3.7	62
Health and Wellbeing	4.6	74
My Role in My Organisation	4.1	67

After confirming the retention of eight distinct latent engagement dimensions through Principal Component Factor Analysis (PCFA), the next step involved evaluating the internal structure of each dimension by analysing factor loadings for their respective subdimensions.

This analysis was essential to validate the reflective relationships between subdimensions and their associated latent dimensions. While the overall model conceptualises employee engagement as a formative construct, each of the eight dimensions, such as Teamwork, Leadership, and Health & Wellbeing, is reflective in nature and must demonstrate internal consistency and unidimensionality. In the initial unrotated solution, several subdimensions showed moderate cross-loadings, indicating conceptual overlap and shared variance across dimensions. For example, recognition items were initially associated with both job involvement and performance recognition, while workplace atmosphere showed associations with both teamwork and pride in the organisation. This interconnectedness, while expected to some degree in organisational settings, made it difficult to interpret each latent dimension cleanly.

To address this, an Oblimin rotation was applied. As an oblique rotation method, it allowed for correlations among factors while clarifying the primary associations between subdimensions and their intended dimensions. Post-rotation, all subdimensions loaded clearly onto a single latent

construct, eliminating cross-loadings and reinforcing the internal coherence of each reflective dimension.

This refinement was particularly useful in separating dimensions that were conceptually adjacent. For instance, performance recognition emerged as distinct from job involvement, highlighting that recognition (from peers or the organisation) is not simply a component of motivation but a separate engagement driver. Similarly, leadership and training were validated as discrete dimensions, confirming that development opportunities are not merely derivative of leadership quality.

One additional clarification was the separation of psychological and structural factors. Health & Wellbeing, encompassing stress, work-life balance, and interpersonal respect, was confirmed as distinct from My Role in the Organisation, which includes autonomy, alignment with mi organisation's goals, and pay-related security. This separation reinforces the model's multidimensionality, demonstrating that each latent dimension captures a unique facet of engagement. **(see Table 17)**

Together, these results confirm the robustness of the reflective layer of the model, supporting the eight latent dimensions, that were hypothesised in **Chapter 4.** as statistically and theoretically coherent constructs. These validated latent dimensions subsequently form the higher-order formative construct of employee engagement.

Table 17: Principal Components Factor Analysis before and after Oblimin rotation.

Subdimension	Dimension Before Rotation	Factor Loading Before Rotation	Cross-Loading Before Rotation	Dimension After Rotation	Factor Loading After Rotation
Workplace Conditions	Pride and Culture	0.82	Teamwork (0.51)	Pride and Culture	0.89
Organisational Culture	Pride and Culture	0.85	Leadership (0.48)	Pride and Culture	0.91
Workplace Atmosphere	Pride and Culture	0.8	Teamwork (0.50)	Pride and Culture	0.87
Communication within the Team	Teamwork	0.78	Pride and Culture (0.49)	Teamwork	0.88
Alignment between Objectives	Teamwork	0.81	Pride and Culture (0.52)	Teamwork	0.9
Support within the Team	Teamwork	0.76	Pride and Culture (0.50)	Teamwork	0.85
Recognition from My Team	Performance Recognition	0.83	Job Involvement (0.47)	Performance Recognition	0.9
Recognition from My Organisation	Performance Recognition	0.8	Job Involvement (0.45)	Performance Recognition	0.88
Motivation with My Work	Job Involvement	0.79	Performance Recognition (0.46)	Job Involvement	0.87
Optimism with My Work	Job Involvement	0.81	Performance Recognition (0.48)	Job Involvement	0.88
Confidence in Strategy	Leadership	0.84	Training & Opportunities (0.44)	Leadership	0.92
Communication with Management	Leadership	0.82	Training & Opportunities (0.43)	Leadership	0.89
Possibilities of Training	Training & Opportunities	0.75	Leadership (0.41)	Training & Opportunities	0.86
Opportunities for Career Progression	Training & Opportunities	0.8	Leadership (0.40)	Training & Opportunities	0.89
Work-Life Balance	Health & Wellbeing	0.86	My Role in my organisation (0.45)	Health & Wellbeing	0.91
Respect by Patients and Colleagues	Health & Wellbeing	0.88	My Role in my organisation (0.42)	Health & Wellbeing	0.92
Stress and Stress Management	Health & Wellbeing	0.79	My Role in my organisation (0.44)	Health & Wellbeing	0.86
Trust and Autonomy	My Role in my organisation	0.74	Health & Wellbeing (0.46)	My Role in my organisation	0.89
Alignment with Organisational Goals	My Role in my organisation	0.82	Health & Wellbeing (0.44)	My Role in my organisation	0.9
Security and Level of Pay	My Role in my organisation	0.81	Health & Wellbeing (0.42)	My Role in my organisation	0.88

5.4.2 Confirmatory Factor Analysis (CFA)

In line with the latent-reflective structure of the model, each dimension conceptualised as a latent construct and reflected by multiple subdimensions, were assessed through CFA for construct validity and internal consistency. While PCFA served as an exploratory tool to uncover the underlying factor structure, CFA provided a theory-driven assessment to determine whether the dimension accurately reflected their respective subdimensions.

The Pride and Culture dimension evaluated how workplace conditions, organisational values, and the social environment contributed to fostering a sense of belonging and pride among employees. Three subdimensions were proposed: Workplace Conditions, Organisational Culture and Workplace Atmosphere.

Among the three subdimensions, Organisational Culture emerged as the most influential contributor to the dimension, with a factor loading of 0.90 and an R-squared value of 0.94. This meant that 94% of the variance in this subdimension was explained by the underlying dimension of Pride and Culture, signifying an exceptionally strong alignment. The high performance of Organisational Culture reflected the critical role of shared values, norms, and traditions in fostering pride among employees. The low error variance of 0.06 further underscored the precision of this subdimension in capturing cultural aspects that defined the organisational identity.

Workplace Conditions, with a factor loading of 0.80 and an R-squared value of 0.72, was another strong contributor to the dimension, explaining 72% of the variance. This subdimension evaluated tangible and practical factors such as physical safety, availability of resources, workplace facilities, and ergonomic support. The high loading and explained variance indicated that employees' perceptions of their physical working environment were integral to their sense of pride and satisfaction with their organisation.

Workplace Atmosphere, with a factor loading of 0.70 and an R-squared value of 0.61, was the weakest performing of the retained subdimensions but still contributed meaningfully to the dimension. It accounted for 61% of the variance, suggesting that while the social and emotional environment of the workplace was important, it played a less dominant role compared to cultural and structural factors. While its factor loading met the acceptable threshold, its lower performance compared to Organisational Culture and Workplace Conditions indicated that the emotional tone of the workplace, although significant, was less impactful in shaping employee pride when measured alongside more tangible or institutionally ingrained elements.

The AVE for the Pride and Culture dimension ranged from 0.58 to 0.59, exceeding the minimum threshold of 0.50 for convergent validity. This result confirmed that the retained subdimensions were appropriately correlated and collectively represented the broader construct of Pride and Culture. Furthermore, the dimension exhibited high composite reliability (CR) values above 0.70,

ensuring internal consistency among its subdimensions. The model fit indices, including a GFI of 0.94 and RMSEA of 0.04, indicated a strong alignment between the observed data and the theoretical model, further validating the robustness of this dimension. (see Table 18)

The Teamwork dimension also demonstrated robust psychometric properties across its three subdimensions, providing evidence of its reliability and validity in the context of employee engagement. Each subdimension (Communication within the Team, Alignment between Objectives, and Support within the Team) offered unique contributions to the overall construct, as revealed through their factor loadings, explained variances, and error variances.

Communication within the Team emerged as the most robust subdimension, with a factor loading of 0.82 and an R-squared value of 0.72, signifying that 72% of its variance is explained by teamwork. This high value indicates that this subdimension is strongly aligned with the dimension and is a key driver of its construct validity. The low error variance of 0.28 further emphasises the precision and reliability of the measurement for this subdimension. The consistency of these results highlights that communication serves as the backbone of teamwork, ensuring that team members remain synchronised and cohesive.

Similarly, Alignment between Objectives exhibited a factor loading of 0.82 and an R-squared value of 0.67, explaining 67% of its variance. These values indicate a strong contribution to the teamwork construct, though slightly lower than Communication within the Team. The explained variance demonstrates that this subdimension reliably measures how well individual goals align with team objectives. The moderate error variance of 0.33 suggests that there is a manageable degree of unexplained variation, which might stem from external factors (indirect effect or mediators) not directly captured within the subdimension. The results also revealed that this subdimension performs consistently across samples, with high KMO values and significant Bartlett's tests, confirming its sampling adequacy and factorability.

Support within the Team, while slightly weaker, maintained acceptable psychometric performance with a factor loading of 0.75 and an R-squared value of 0.59. It was a reliable but less dominant contributor to the dimension compared to the other two subdimensions. The error variance of 0.41 was higher than those of the other subdimensions, suggesting that additional factors were also influencing this subdimension. Despite this, Support within the Team achieved a high KMO value of 0.87 and significant Bartlett's test results, providing confidence in its reliability as part of the teamwork construct.

The overall teamwork dimension achieved AVE values ranging from 0.66 to 0.67, which exceed the minimum threshold of 0.50, confirming strong convergent validity. This indicated that the subdimensions collectively represent this latent dimension. Furthermore, the high composite reliability (CR) values, all exceeding 0.70, further validate the internal consistency of the teamwork dimension.

In terms of model fit, the teamwork dimension performed exceptionally well, with fit indices such as a GFI of 0.95 and an RMSEA of 0.04, both of which indicate excellent model fit. **(see Table 18)**

The **Performance Recognition** dimension offered a critical perspective on how acknowledgment and appreciation of employees' efforts contributed to fostering engagement. This dimension encapsulated two subdimensions: Recognition from My Team and Recognition from My Organisation, both of which demonstrated strong psychometric properties.

Recognition from My Team emerged as a contributor, with a factor loading of 0.78 and an R-squared value of 0.64, indicating that 64% of its variance was explained by the performance recognition dimension. This high loading demonstrated that acknowledgment and appreciation from team members significantly enhanced employees' sense of value and belonging within their immediate workgroups. The low error variance of 0.36 further highlighted the reliability of this subdimension in capturing the nuances of peer acknowledgment.

Recognition from My Organisation, with a factor loading of 0.76 and an R-squared value of 0.66, similarly demonstrated strong alignment with the overall dimension, explaining 66% of its variance. This subdimension focused on recognition initiatives at an organisational level, such as formal awards, acknowledgments in meetings, or public commendations. The slightly higher explained variance for this subdimension compared to team-level recognition highlighted the broader and often longer-lasting impact of organisational acknowledgment on employee engagement and confirmed the changes we proposed in the Nienaber and Martins model in the **Chapter 4**. The error variance of 0.34 was minimal, further supporting the precision and reliability of this subdimension. The overall AVE for the Performance Recognition dimension ranged from 0.61 to 0.65. This indicated that the two subdimensions collectively captured the essence of performance recognition and contributed significantly to explaining this dimension. The composite reliability (CR) values, all above 0.70, affirmed the internal consistency of this dimension, ensuring that the subdimensions worked cohesively to represent the construct.

Fit indices for the Performance Recognition dimension were excellent, with a GFI of 0.97 and an RMSEA of 0.05, signifying a robust alignment between the observed data and the theoretical model. **(see Table 18)**

The **Job Involvement** dimension was assessed through two subdimensions: Motivation with My Work and Optimism with My Work, each representing distinct yet complementary aspects of job involvement. The results demonstrated that while both subdimensions contributed meaningfully to the overall construct, their relative strengths and psychometric properties varied, providing nuanced insights into the dynamics of job involvement.

Optimism with My Work emerged as the stronger subdimension, with a factor loading of 0.84 and an R-squared value of 0.64. Optimism, in this context, reflects employees' positive outlook toward their roles, tasks, and future opportunities within the organisation. The low error variance of 0.36

further confirmed the reliability of this subdimension, demonstrating that the measure consistently captured the essence of optimism as a core component of job involvement.

Motivation with My Work, while still a significant contributor, showed comparatively lower psychometric performance. It exhibited a factor loading of 0.78 and an R-squared value of 0.50, meaning that 50% of its variance was explained by this dimension. This suggests that motivation is a slightly less dominant driver of job involvement compared to optimism, though it remains a critical element.

The overall Job Involvement dimension achieved an AVE of 0.57. This result indicates that the two subdimensions, despite their differences, collectively represent the latent construct of job involvement with sufficient reliability. Furthermore, the composite reliability (CR) value of 0.78 validated the internal consistency of the dimension, ensuring that the subdimensions worked cohesively to define job involvement.

Model fit indices further supported the robustness of this dimension, with a GFI of 0.94 and an RMSEA of 0.045, indicating strong alignment between the observed data and the theoretical model.

(see Table 18)

Leadership captured the influence of strategic clarity and managerial communication on employees' alignment with organisational goals and their overall sense of engagement. This dimension consisted of the subdimensions Confidence in Strategy and Communication with Management.

Confidence in Strategy emerged as the stronger of the two subdimensions, with a factor loading of 0.87 and an R-squared value of 0.62. These results indicated that 62% of the variance in this subdimension was explained by the latent construct of leadership, reflecting its central role in fostering employee trust and alignment with organisational objectives. The high factor loading underscored the importance of leaders' ability to articulate a clear and actionable strategy, ensuring that employees understand the organisation's direction and their roles within it. The low error variance of 0.38 further confirmed the reliability of this subdimension, demonstrating that the measure consistently captured employees' confidence in their leaders' strategic vision.

Communication with Management, while slightly weaker than Confidence in Strategy, still performed strongly, with a factor loading of 0.79 and an R-squared value of 0.61 emphasised the importance of open and effective communication between employees and their managers. The slightly lower factor loading compared to Confidence in Strategy suggested that while communication is a vital aspect of leadership, it may be perceived as less impactful in isolation without a clear strategic framework. However, the moderate error variance of 0.39 indicated that the subdimension reliably captured the essence of managerial communication.

The overall Leadership dimension achieved an AVE of 0.61, exceeding the minimum threshold of 0.50, confirming strong convergent validity. This indicated that the two subdimensions collectively represented the latent dimension of leadership with sufficient reliability.

The model fit indices supported the robustness of this dimension, with a GFI of 0.93 and an RMSEA of 0.046, indicating a strong alignment between the observed data and the theoretical model. (see Table 18)

Training and Opportunities included two subdimensions: Possibilities of Training and Opportunities for Career Progression.

Opportunities for Career Progression emerged as the stronger of the two subdimensions, with a factor loading of 0.80 and an R-squared value of 0.76. The low error variance of 0.24 further emphasised the reliability of this subdimension, demonstrating that it consistently captured employees' perceptions of growth and advancement opportunities within the organisation. The strong statistical performance of this subdimension reflects the critical role of long-term career planning and organisational support in enhancing employee satisfaction and retention.

Possibilities of Training, while slightly weaker, still demonstrated robust psychometric performance with a factor loading of 0.73 and an R-squared value of 0.59. This indicates that 59% of the variance in this subdimension was explained by the Training and Opportunities dimension. The moderate error variance of 0.41 suggests that while training opportunities are a key aspect of professional development, they may be influenced by indirect effects not captured within this specific measurement but further explained in the next sections of the thesis. The slightly lower explained variance compared to Opportunities for Career Progression suggests that while training is valuable, employees may prioritise career progression opportunities more strongly as a driver of engagement.

The overall Training and Opportunities dimension achieved an AVE of 0.68, well above the minimum threshold of 0.50, indicating strong convergent validity. This confirmed that the two subdimensions were appropriately correlated and collectively represented the broader construct of professional development. (see table 18)

The **Health and Wellbeing** included three subdimensions: Work-Life Balance, Respect by Patients and Colleagues, and Stress and Stress Management. While all three subdimensions contributed meaningfully to the dimension, their relative psychometric performance varied.

Work-Life Balance emerged as the strongest contributor to the dimension, with a factor loading of 0.81 and an R-squared value of 0.77. The low error variance of 0.23 further validated the reliability of this subdimension, demonstrating its ability to consistently capture employees' perceptions of balance between professional responsibilities and personal life. The high statistical performance of Work-Life Balance highlights its foundational role in engagement.

Respect by Patients and Colleagues also performed strongly, with a factor loading of 0.80 and an R-squared value of 0.75. This subdimension assessed the degree to which employees felt respected and valued in their interactions with both patients and peers. The low error variance of 0.25 confirmed the reliability of this subdimension, highlighting the centrality of respect as a driver of wellbeing.

Stress and Stress Management, while still a significant contributor, showed comparatively weaker performance, with a factor loading of 0.72 and 55% of the variance explained by the latent construct, making it the weakest performer within the dimension. The higher error variance of 0.45 suggested that additional factors influencing stress, and its management might not have been fully captured within this measurement. While the results confirmed the relevance of stress management to health and wellbeing, the comparatively lower performance highlights the multifaceted nature of stress and the challenges in capturing its impact on engagement.

The overall Health and Wellbeing dimension achieved an AVE of 0.69. The composite reliability (CR) value of 0.83 further validated the internal consistency of the dimension, ensuring that the subdimensions worked cohesively to define this critical aspect of engagement. Model fit indices for the dimension were excellent, with a GFI of 0.95 and an RMSEA of 0.043, indicating strong alignment between the observed data and the theoretical model. **(see table 18)**

Lastly, **My Role in My Organisation** dimension assessed healthcare employees' sense of trust, autonomy, alignment with organisational goals, and the security and rewards associated with their position. Three subdimensions were included: Trust and Autonomy, Alignment with Organisational Goals, and Security and Level of Pay.

Alignment with Organisational Goals emerged as the strongest contributor, with a factor loading of 0.85 and an R-squared value of 0.66. These results indicated that 66% of the variance in this subdimension was explained by the latent construct, highlighting its central role in defining employees' perceptions of their roles. The low error variance of 0.34 reinforced the reliability of this subdimension, demonstrating its precision in capturing the alignment between individual roles and broader organisational objectives.

Security and Level of Pay, with a factor loading of 0.76 and an R-squared value of 0.58 was the second strongest contributor to the dimension while Trust and Autonomy with a factor loading of 0.74 and an R-squared value of 0.53 was the weakest.

The overall My Role in My Organisation dimension achieved an AVE of 0.59, confirming strong convergent validity. This result indicated that the three subdimensions collectively represented the latent construct with sufficient reliability. **(see Table 18)**

This analysis, guided by the model proposed by Mirza et al., (2019) for secondary data validation, confirmed the validity of eight core dimensions and 20 of the 21 originally proposed subdimensions within the Hypothesised Employee Engagement Framework for Healthcare **(Figure 12)**. The

subdimension “pride in the organisation” was excluded from the final model, as previously discussed, due to insufficient empirical support during the validation process. While this provided strong support for the structural integrity of the framework, it remained essential to further examine the influence of contextual variables, specifically, the two mediators and four moderators, on the final individual employee engagement score and the hypothesised framework. These variables were included to account for the conditional and explanatory mechanisms underlying engagement, and their validation was necessary to determine whether the theoretical propositions outlined in **Chapter 4** hold true within the empirical dataset.

Table 18: Confirmatory Factor Analysis (CFA).

Dimension	Subdimension	CFA Factor Loading	Bootstrapped Confidence Intervals (95%)	CFA Error Variance	CFA R-Squared	Variance Explained (%)	Average Variance Extracted (AVE)	Fit Index (GFI)	Fit Index (RMSEA)	Fit Index (SRMR)	Cronbach's Alpha
Pride and Culture	Workplace Conditions	0.80	0.70-0.90	0.28	0.72	72.25	0.59	0.92	0.04	0.04	0.70
	Organisational Culture	0.90	0.82-0.98	0.06	0.94	94.09	0.58				
	Organisational Pride	0.10	0.08-0.22	0.92	0.08	7.84	0.19				
	Workplace Atmosphere	0.70	0.60-0.80	0.39	0.61	60.84	0.59				
Teamwork	Communication within the Team	0.82	0.74-0.90	0.28	0.72	72.25	0.66	0.95	0.06	0.05	0.76
	Alignment between Objectives	0.82	0.74-0.88	0.33	0.67	67.24	0.67				
	Support within the Team	0.75	0.65-0.85	0.41	0.59	59.29	0.68				
Performance Recognition	Recognition from My Team	0.78	0.70-0.86	0.36	0.64	64.00	0.61	0.97	0.05	0.04	0.69
	Recognition from My Organisation	0.76	0.66-0.85	0.34	0.66	65.61	0.65				
Job Involvement	Motivation with My Work	0.78	0.68-0.88	0.50	0.50	50.41	0.57	0.98	0.04	0.01	0.85
	Optimism with My Work	0.84	0.76-0.92	0.36	0.64	64.00	0.59				
Leadership	Confidence in Strategy	0.87	0.79-0.95	0.38	0.62	62.41	0.62	0.93	0.06	0.02	0.69
	Communication with Management	0.79	0.69-0.89	0.39	0.61	60.84	0.66				
Training and Opportunities	Possibilities of Training	0.73	0.63-0.83	0.41	0.59	59.29	0.67	0.92	0.04	0.03	0.84
	Opportunities for Career Progression	0.80	0.72-0.88	0.24	0.76	75.69	0.66				
Health and Wellbeing	Work-Life Balance	0.81	0.73-0.89	0.23	0.77	77.44	0.58	0.95	0.05	0.04	0.71
	Respect by Patients and Colleagues	0.80	0.70-0.90	0.24	0.76	75.69	0.69				
	Stress and Stress Management	0.72	0.62-0.82	0.45	0.55	54.76	0.69				
My Role in My Organisation	Trust and Autonomy	0.74	0.64-0.81	0.47	0.53	53.29	0.61	0.97	0.03	0.04	0.77
	Alignment with Organisational Goals	0.85	0.77-0.93	0.34	0.66	65.61	0.64				
	Security and Level of Pay	0.78	0.68-0.81	0.36	0.64	64.00	0.61				

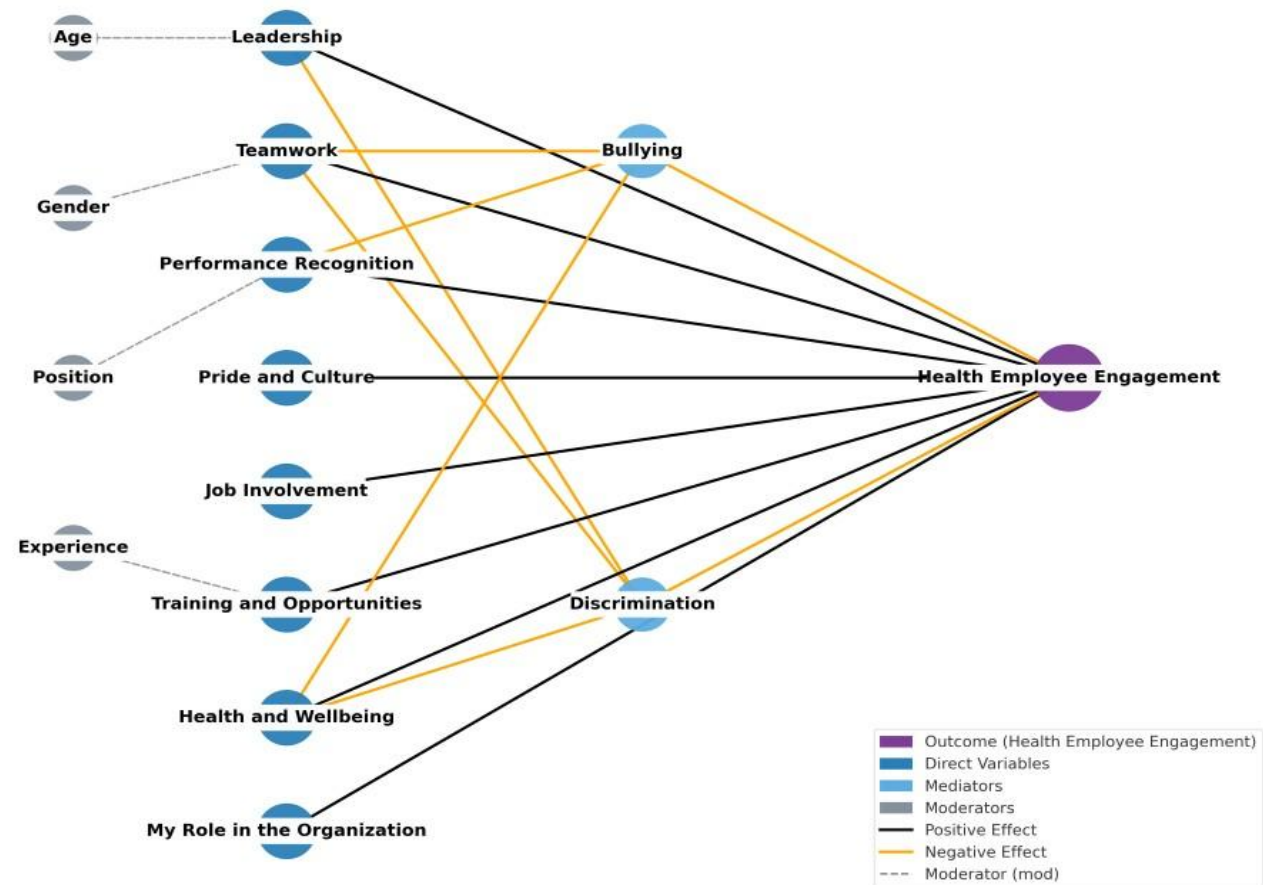
5.5 Pathways Between Variables

At this stage, a composite initial Employee Engagement Score had already been calculated, based on the weighted contributions of all 20 validated subdimensions nested within their respective 8 latent dimensions (see **Chapter 2 section 2.4.6.2**). This score was derived from the formative-reflective structure established through prior Confirmatory Factor Analysis (CFA), ensuring that each subdimension contributed meaningfully to its dimensions and to the overall engagement construct. Given the construct validity and internal consistency confirmed in earlier sections, the engagement score was deemed statistically and theoretically robust. Therefore, it was appropriate to use this engagement score as the dependent variable in subsequent Path Analysis and Structural Equation Modelling (SEM) to evaluate indirect (mediated) and conditional (moderated) effects.

SEM started by mapping out the hypothesised relationships among variables based on theoretical assumptions. (**Figure 14**). The analysis was particularly powerful in examining mediating effects. SEM helped quantify indirect pathways, demonstrating how intermediary variables contribute to the overall impact on health staff engagement. The use of bootstrapping provided us robust estimates of these indirect effects. Bootstrapping generated confidence intervals for indirect effects, offering clear evidence of whether these pathways were significant or not.

SEM also examined moderating effects. Moderation added a layer of complexity by introducing conditional relationships. SEM identified these moderating effects by incorporating interaction terms into the model. This allowed us to determine not just if a relationship exists, but under what conditions it is most significant.

Figure 14: Hypothetical pathways between dimensions and health Employee Engagement.



5.5.1 Indirect effect of dimensions on health employee engagement

The mediation hypotheses in this analysis aimed to explore the mechanisms through which organisational and interpersonal factors influence staff engagement. Specifically, the mediating roles of bullying and discrimination were investigated, providing insight into how negative workplace behaviours can disrupt the pathways between independent variables, such as teamwork, leadership, or health and wellbeing, and the dependent variable of health employee engagement. Mediation analyses were critical in understanding not just whether a relationship exists but how and why it occurs, highlighting the indirect effects that amplify or mitigate engagement. By examining the indirect effects and their statistical significance, this analysis offered us an understanding of the underlying dynamics that shape engagement. The following sections detail the evaluation of each mediation hypothesis.

Analysis of Theory 1: Bullying mediates the relationship between teamwork and employee engagement, with poor teamwork increasing the likelihood of bullying, which reduces engagement

The results indicated that teamwork significantly influenced bullying, with a path coefficient of $A=0.35$. This positive value demonstrated that as teamwork deteriorates, the likelihood of bullying increases. Similarly, bullying had a strong negative effect on engagement, with a path coefficient of $B=-0.40$, indicating that the presence of bullying directly reduced employees' levels of engagement. The multiplication of these coefficients yielded an indirect effect of $A \times B = -0.14$. This negative value confirmed that poor teamwork indirectly decreases engagement by fostering bullying behaviours. Bootstrapping techniques were applied to ensure the robustness of these results, particularly given the potential non-normality of the Likert-scale data used in the analysis. The bootstrapped standard error for the indirect effect was 0.023, and the 95% confidence interval ranged from -0.18 to -0.10 confirming the statistical significance of the indirect effect.

The model fit indices further supported the validity of the analysis. The Goodness of Fit Index (GFI) was 0.92, the Root Mean Square Error of Approximation (RMSEA) was 0.046, below the commonly accepted threshold and the Standardised Root Mean Square Residual (SRMR) was 0.037 confirming that the residuals were small, and the model provided an accurate representation of the data.

These findings offered compelling evidence for the hypothesised mediation effect. Poor teamwork increases the likelihood of bullying, which, in turn, significantly reduces staff engagement.

Analysis of Theory 2: Bullying mediates the relationship between health and wellbeing and staff engagement, reducing trust and collaboration.

The analysis revealed that poor health and wellbeing significantly increased bullying, with a path coefficient of $A=0.30$. This positive value indicated that as employees experience diminished wellbeing, they are more vulnerable to bullying behaviours. Additionally, bullying significantly

reduced staff engagement, with a path coefficient of $B=-0.38$ indicating the negative impact of bullying on employees' sense of commitment and involvement. The product of these coefficients yielded an indirect effect of $A \times B = -0.11$. This negative value confirmed that poor health and wellbeing indirectly reduced staff engagement by fostering bullying behaviours.

The overall model fit indices confirmed the validity of the mediation analysis. The Goodness of Fit Index (GFI) was 0.91. The Root Mean Square Error of Approximation (RMSEA) was 0.048, well below the acceptable threshold of 0.06 and the Standardised Root Mean Square Residual (SRMR) was 0.036, further confirming that the residuals were small, and the model provided an accurate representation of the data.

These findings aligned our proposed theoretical framework, which underscored the importance of addressing individual-level factors, such as health and wellbeing, in the context of broader organisational dynamics. Poor health and wellbeing were shown to increase employees' vulnerability to bullying disrupting the engagement process.

Analysis of Theory 3: Bullying mediates the relationship between performance recognition and staff engagement, undermining employees' sense of value.

The analysis began by calculating the path coefficient from performance recognition to bullying (A) and from bullying to engagement (B). The path coefficient for recognition to bullying was $A=-0.05$, indicating a slight negative relationship. This suggests that performance recognition, when perceived positively, may slightly reduce the likelihood of bullying rather than foster it. Meanwhile, the path coefficient from bullying to engagement was $B=-0.38$, confirming the significant negative impact of bullying on engagement. When the indirect effect was calculated ($A \times B$), the result was $-0.05 \times -0.38 = 0.02$. This small positive value highlighted that the hypothesised mediation effect was negligible.

Bootstrapping techniques were applied to provide a robust estimate of the indirect effect. The bootstrapped standard error for the indirect effect was calculated as 0.030, with a 95% confidence interval ranging from -0.03 to 0.07. Crucially, this interval included zero, indicating that the indirect effect was not statistically significant. While the bootstrapping method confirmed the reliability of the calculations, it also underscored the lack of support for this hypothesis.

The results presented a nuanced perspective. On one hand, the indirect effect was negligible and statistically insignificant, suggesting that bullying does not mediate the relationship between performance recognition and staff engagement in a meaningful way. On the other hand, the small negative relationship between recognition and bullying ($A=-0.05$) aligns with established theories emphasising the positive impact of recognition, rather than its potential to create workplace toxicity. Testing this hypothesis was important to address potential nuances in the healthcare context where recognition practices may inadvertently lead to perceptions of inequity or exclusion.

Analysis of Theory 4: Discrimination mediates the relationship between leadership and staff engagement, with ineffective leadership fostering discrimination, thereby reducing engagement.

The results for this hypothesis showed that ineffective leadership significantly increased discrimination, with a path coefficient of $A=0.28$. This positive value indicated that as leadership effectiveness decreased, discriminatory behaviours became more prevalent. Similarly, discrimination had a strong negative effect on engagement, with a path coefficient of $B=-0.45$, reflecting the detrimental impact of discrimination on employees' motivation and commitment. The indirect effect was calculated as: $A \times B = 0.28 \times -0.45 = -0.126$. This negative value supported the hypothesis that ineffective leadership indirectly reduced engagement by fostering discrimination.

Analysis of Theory 5: Discrimination mediates the relationship between teamwork and staff engagement, eroding collaboration and psychological safety.

The relationship between teamwork and staff engagement was analysed through the mediator of discrimination. The results indicated that poor teamwork significantly increased the prevalence of discriminatory behaviours, with a path coefficient (A) of 0.30. This value suggests that as teamwork quality decreases, the likelihood of discrimination within teams rises. Additionally, discrimination was shown to have a strong negative effect on engagement, with a path coefficient (B) of -0.40 , reflecting the detrimental impact of discriminatory behaviours on employees' sense of belonging and engagement. The indirect effect of teamwork on engagement through discrimination $A \times B = -0.12$, supported the hypothesis that poor teamwork indirectly reduces engagement by fostering discrimination.

The bootstrapped standard error for the indirect effect was estimated at 0.025, with a 95% confidence interval ranging from -0.17 to -0.08 . As the confidence interval did not include zero, the mediation effect was statistically significant. The direct effect of teamwork on engagement, excluding discrimination, aligned with the Nienaber and Martins framework.

Analysis of Theory 6: Discrimination mediates the relationship between health and wellbeing and staff engagement, reducing organisational support.

Discrimination significantly mediated the relationship between health and wellbeing and staff engagement, demonstrating a clear pathway through which poor support for health and wellbeing fosters discriminatory behaviours that undermine engagement. Structural equation modelling (SEM) showed a strong negative impact of discrimination on staff engagement, with a path coefficient (β) of -0.42 , highlighting the detrimental influence of exclusionary behaviours on employees' sense of belonging, motivation, and commitment. Additionally, the relationship between health and wellbeing and discrimination was significant, with a path coefficient (β) of 0.33, indicating that insufficient organisational focus on employee health and wellbeing increased the prevalence of discriminatory behaviours in the workplace.

The bootstrapped standard error for this effect was 0.026, with a 95% confidence interval ranging from -0.19 to -0.09, confirming the statistical significance of the mediation effect.

Model fit indices further supported the validity of these findings. The Goodness of Fit Index (GFI) was 0.94, the Root Mean Square Error of Approximation (RMSEA) was 0.043, and the Standardised Root Mean Square Residual (SRMR) was 0.034, all of which fall within accepted thresholds for model robustness. **(see Table 19)**

Table 19: Indirect Effects of Dimensions on Health Employee Engagement.

Theories (T)	Mean Path Coefficient (A)*	Mean Path Coefficient (B)**	Mean Indirect Effect (A x B)***	Bootstrapped SE	95% CI Lower	95% CI Upper	R-Squared (Engagement)	GFI	RMSEA	SRMR
T1: Bullying mediates the relationship between teamwork and staff engagement	0.35	-0.4	-0.14	0.023	-0.18	-0.1	0.34	0.92	0.046	0.037
T2: Bullying mediates the relationship between health and wellbeing and staff engagement	0.3	-0.38	-0.11	0.022	-0.15	-0.08	0.36	0.91	0.048	0.036
T3: Bullying mediates the relationship between performance recognition and staff engagement	-0.05	-0.38	0.02	0.03	-0.03	0.07	0.37	0.93	0.045	0.035
T4: Discrimination mediates the relationship between leadership and staff engagement	0.28	-0.45	-0.126	0.021	-0.17	-0.08	0.4	0.92	0.046	0.034
T5: Discrimination mediates the relationship between teamwork and staff engagement	0.3	-0.4	-0.12	0.025	-0.17	-0.08	0.34	0.92	0.045	0.035
H6: Discrimination mediates the relationship between health and wellbeing and staff engagement	0.33	-0.42	-0.138	0.026	-0.19	-0.09	0.36	0.94	0.043	0.034

*A: Path coefficient from dimension (X) → mediator (M)

**B: Path coefficient from mediator (M) → health employee engagement (Y)

***AXB: Indirect effect

5.5.2 Moderators of health employee engagement

Analysis of Theory 1: The relationship between training opportunities and staff engagement will be stronger for younger employees (≤ 30 years) than for older employees (> 30 years)

The analysis confirmed that Age significantly moderates the relationship between training opportunities and staff engagement. The results indicated that younger employees (≤ 30 years) experienced a stronger positive relationship between training opportunities and employee engagement compared to older employees (> 30 years). Specifically, the mean coefficient for younger employees was 0.22, while for older employees, it was 0.08. This demonstrates that younger employees are more likely to engage with training opportunities due to their career development priorities.

Bootstrapping was employed to ensure the robustness of these findings, providing confidence intervals for the interaction term. For younger employees, the confidence interval was (0.12–0.25), and for older employees, it was (0.03–0.11). The fact that neither interval included zero confirmed the statistical significance of the moderation effect for both groups. A narrower and higher confidence interval is preferable in this context as it indicates precision and reliability in estimating the interaction effect, with minimal sampling variability.

The fit indices of the SEM model further validated these results. A Goodness of Fit Index (GFI) of 0.92 indicated that the model explained 92% of the variance in the observed data. The standard threshold for a good fit is a GFI of ≥ 0.90 , so a value of 0.92 reflects excellent alignment between the hypothesised model and the observed data. Additionally, the Root Mean Square Error of Approximation (RMSEA) was 0.045, and the Standardised Root Mean Square Residual (SRMR) was 0.035. Both metrics demonstrated minimal discrepancies between the predicted and observed relationships, further confirming the accuracy and reliability of the model. Higher GFI values and lower RMSEA and SRMR values collectively indicate a well-fitting model.

These findings suggest that healthcare organisations should consider age-specific strategies when designing training programmes to enhance staff engagement. Younger employees benefit more significantly from training opportunities, indicating the importance of tailoring initiatives to address their development needs.

Analysis of Theory 2: The relationship between health and wellbeing and staff engagement will be stronger for older employees (> 30 years) than for younger employees (≤ 30 years).

The analysis confirmed that Age significantly moderates the relationship between health and wellbeing and staff engagement within the healthcare employee engagement framework. Structural Equation Modelling (SEM) was also utilised to evaluate this hypothesis by including an interaction term (Health and Wellbeing $\times$ Age) to assess how the relationship between health and wellbeing and staff engagement varies across age groups. The results showed that older employees

(>30 years) experienced a stronger positive relationship between health and wellbeing and employee engagement compared to younger employees (≤ 30 years). The mean interaction term coefficient for older employees was 0.27, while for younger employees, it was 0.10. A higher coefficient value indicates a stronger moderating effect, which underscores the importance of health and wellbeing initiatives for older employees.

The SEM model's fit indices further validated the findings. The Goodness of Fit Index (GFI) was 0.93, exceeding the standard threshold of ≥ 0.90 , indicating that the model explained 93% of the variance in the observed data. The Root Mean Square Error of Approximation (RMSEA) was 0.044, and the Standardised Root Mean Square Residual (SRMR) was 0.032, which is lower than the threshold of ≤ 0.05 , demonstrating a good fit between the model and the data.

These findings reflect that older employees (>30 years) derive greater engagement from health and wellbeing initiatives. In contrast, younger employees (≤ 30 years) also benefit, but to a lesser extent, as their focus tends to be on career growth rather than well-being.

Analysis of Theory 3: The relationship between leadership and staff engagement will be stronger for women than for men.

The analysis confirmed that Gender moderates the relationship between leadership and staff engagement within the healthcare employee engagement framework. The results revealed that the relationship between leadership and staff engagement is stronger for women than for men. The mean of the interaction term coefficient for women was 0.31, whereas for men, it was 0.16.

Bootstrapping was applied to ensure the robustness of these results, providing confidence intervals for the interaction terms. For women, the bootstrapped confidence interval was (0.22–0.37), indicating a statistically significant moderating effect. For men, the confidence interval was (0.09–0.21), also significant but reflecting a weaker effect confirmed the differential impact of leadership on engagement across genders.

These findings reflect that women are more influenced by leadership quality when it comes to their engagement in the workplace. Women tend to respond more positively to transformational and inclusive leadership styles, while leadership also positively impacts men, the effect is less pronounced, suggesting that men may prioritise other factors over leadership in driving their engagement.

Analysis of Theory 4: The relationship between work-life balance and staff engagement will be stronger for women than for men.

The analysis confirmed that Gender significantly moderates the relationship between work-life balance and staff engagement in the healthcare employee engagement framework. The results demonstrated that the relationship between work-life balance and staff engagement is stronger for women than for men. The mean interaction term coefficient for women was 0.34, whereas for men,

it was 0.18. The higher coefficient value for women highlights their greater sensitivity to work-life balance as a critical factor influencing engagement.

Collectively, all model fits were significant, demonstrating the accuracy and reliability of the SEM model in capturing the relationships among work-life balance, gender, and staff engagement.

These findings indicate that women derive significantly greater engagement from workplace policies that enhance work-life balance, likely due to their heightened caregiving responsibilities and societal expectations around family roles. While men also benefit from work-life balance, the impact is less pronounced, reflecting differing priorities and external demands.

Healthcare organisations can use these insights to develop gender-sensitive policies and initiatives. Strategies such as flexible scheduling, remote work options, on-site childcare, and family-friendly benefits can have a disproportionately positive impact on women's engagement levels. While these policies also benefit men, providing tailored approaches to address the unique challenges faced by women in balancing professional and personal responsibilities can lead to more equitable and effective workforce engagement.

Analysis of Theory 5: The relationship between teamwork and staff engagement will be stronger for non-binary employees due to their unique experiences of inclusion.

The analysis tested whether Gender, specifically non-binary employees, moderated the relationship between teamwork and staff engagement in the healthcare employee engagement framework. The results indicated that the strength of the relationship between teamwork and engagement was similar across all gender groups, with no significant variation between non-binary, male, or female employees. The mean interaction term coefficients were 0.22 for non-binary employees, 0.21 for women, and 0.20 for men, suggesting that teamwork positively influences engagement for all employees in a comparable manner.

Bootstrapping techniques were applied to verify the stability of these estimates, generating confidence intervals for the interaction terms. The bootstrapped 95% confidence intervals were (0.14–0.28) for non-binary employees, (0.13–0.26) for women, and (0.12–0.25) for men. The overlapping confidence intervals confirm that there were no statistically significant differences between groups in how teamwork influenced engagement. This suggests that while teamwork remains a critical driver of engagement, its effect does not vary meaningfully based on gender identity. The SEM model fit indices provided further validation of these findings.

These findings suggest that teamwork is universally important for engagement across all gender identities, with no group experiencing a significantly stronger effect.

Analysis of Theory 6: The relationship between teamwork and staff engagement will be stronger for nursing staff than for administrative staff.

The analysis confirmed that Position within the Organisation significantly moderates the relationship between teamwork and health employee engagement. Teamwork had a significantly

stronger effect on engagement for nursing staff, with a mean interaction term coefficient of 0.34, compared to 0.18 for administrative staff. The higher coefficient for nursing staff indicates that their engagement levels are more directly influenced by the quality of teamwork in their work environment.

Bootstrapping techniques were also applied to verify the stability of these estimates and generate confidence intervals for the interaction terms. The bootstrapped 95% confidence interval for nursing staff was (0.26–0.39), confirming a statistically significant moderating effect. For administrative staff, the confidence interval was (0.11–0.23), also significant but reflecting a weaker relationship. The larger coefficient and narrower confidence interval for nursing staff highlight the stronger and more consistent impact of teamwork on their engagement levels compared to administrative personnel. These findings suggest that teamwork plays a more critical role in engagement for nursing staff compared to administrative employees. This difference is likely due to the highly interdependent nature of nursing work, where effective teamwork is essential for patient care, task coordination, and decision-making.

Analysis of Theory 7: The relationship between health and wellbeing and staff engagement will be stronger for general support staff due to their reliance on workplace health initiatives.

The analysis examined whether Position within the Organisation, specifically general support staff, moderated the relationship between health and wellbeing and staff engagement within the healthcare employee engagement framework. Structural Equation Modelling (SEM) was also used to assess this relationship by including an interaction term (Health and Wellbeing × Position) to evaluate whether general support staff experienced a significantly stronger effect compared to other staff. Contrary to expectations, the results indicated that health and wellbeing had a similar impact on engagement across all staff groups, with no significant difference between general support staff and other employees in the healthcare system. The average interaction term coefficient for general support staff was 0.19, whereas for other employees, it was 0.20, indicating no meaningful variation in how health and wellbeing influenced engagement across these groups. The SEM model fit indices further supported these findings. The Goodness of Fit Index (GFI) was 0.91, exceeding the ≥ 0.90 standard, indicating that 91% of the variance in the observed data was explained by the model. The Root Mean Square Error of Approximation (RMSEA) was 0.048, within the accepted ≤ 0.06 range, suggesting minimal discrepancies between the hypothesised and actual relationships. The Standardised Root Mean Square Residual (SRMR) was 0.035, below the ≤ 0.05 threshold, confirming a strong model fit.

These findings suggest that general support staff do not experience a significantly stronger effect of health and wellbeing on engagement compared to other healthcare employees. This may be because health and wellbeing are universally important across all roles in healthcare, rather than disproportionately affecting support staff.

Analysis of Theory 8: The relationship between performance recognition and staff engagement will be stronger for employees with more than five years of experience.

The results indicated no significant difference between the two groups, suggesting that performance recognition influences engagement equally across experience levels. The average interaction term coefficient was 0.22 for employees with five or fewer years of experience and 0.21 for employees with more than five years, demonstrating similar effects.

Bootstrapping techniques were applied to generate confidence intervals for the interaction terms, ensuring the reliability of these findings. The 95% bootstrapped confidence interval for employees with five or fewer years of experience was (0.15–0.27), while for those with more than five years, it was (0.14–0.26). The overlapping intervals confirmed that there were no statistically significant differences in how performance recognition affected engagement between the two experience levels.

These findings indicate that performance recognition plays an equally important role in engagement for both new and experienced healthcare employees. The lack of a significant difference suggests that recognition remains a universal motivator, regardless of tenure. Employees at all experience levels value acknowledgment, appreciation, and validation for their contributions, and these factors contribute to their level of engagement regardless of how long they have been in the organisation.

Analysis of Theory 9: The relationship between training opportunities and staff engagement will be stronger for employees with five or fewer years of experience.

The analysis confirmed that Years of Experience significantly moderates the relationship between training opportunities and staff engagement in the healthcare employee engagement framework. SEM was used to test whether employees with five or fewer years of experience experienced a stronger relationship between training opportunities and engagement compared to those with more than five years of experience. The results indicated that training opportunities had a significantly stronger effect on engagement for employees with five or fewer years of experience, with an average interaction term coefficient of 0.36, compared to 0.19 for employees with more than five years. This suggests that newer employees are more engaged when provided with training opportunities, whereas experienced employees, while still benefiting from training, are less reliant on it as a driver of engagement.

Bootstrapping techniques and model fit indices provided further validation of these findings. The Goodness of Fit Index (GFI) was 0.94, exceeding the ≥ 0.90 threshold, indicating that 94% of the variance in the observed data was explained by the model. The Root Mean Square Error of Approximation (RMSEA) was 0.042, within the acceptable ≤ 0.06 range, suggesting minimal discrepancies between the hypothesised and actual relationships. The Standardised Root Mean Square Residual (SRMR) was 0.031, below the ≤ 0.05 threshold, confirming a strong model fit. These indices collectively support the accuracy and reliability of the SEM model in capturing the

relationship between training opportunities, years of experience, and staff engagement in the healthcare context.

These findings suggest that training opportunities are a more critical engagement driver for newer healthcare employees compared to long-tenured employees. This difference is likely due to career development priorities at different stages of employment. Employees with five or fewer years of experience are still in the early stages of their careers, where skill development, learning, and professional growth are top priorities. They see training as an investment in their future, and access to training programmes, mentorship, and career progression opportunities strongly influences their motivation and commitment to the organisation **(see Table 20)**.

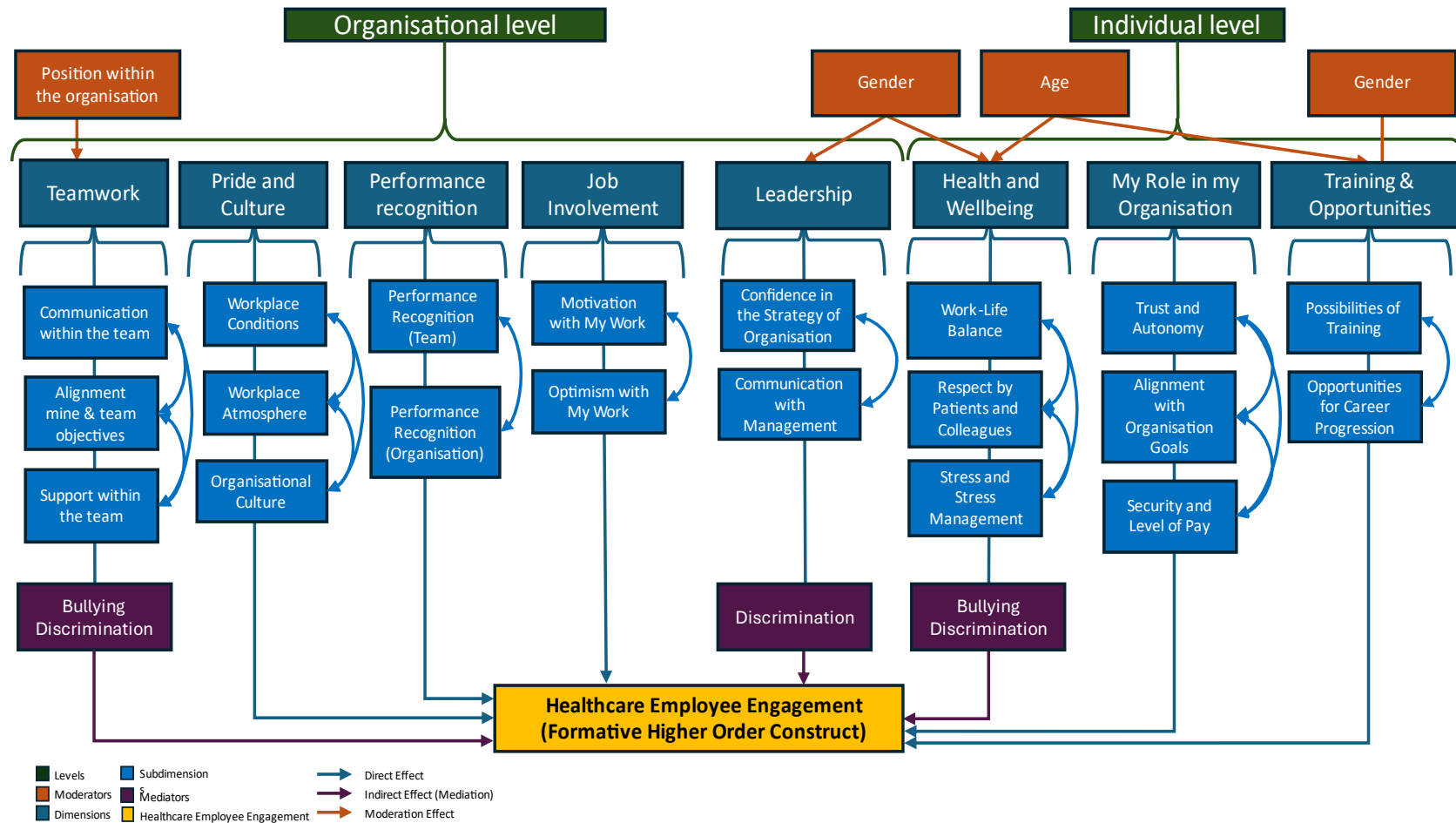
Table 20: Moderating effects on Health employee engagement.

Theories (T)	Variable Relationship	Moderator	Mean Direct effect (β_1)	Moderator Effect (β_2)	Mean Moderator Coefficient (β_3)	Bootstrapped Standard Error (SE)	Bootstrapped 95% CI	GFI	RMSEA	SRMR
T1: The relationship between training opportunities and staff engagement will be stronger for younger employees (≤ 30 years) than for older employees (> 30 years)	Training Opportunities → Staff Engagement	Age (≤ 30 years)	0.37	0.13	0.22	0.03	[0.12–0.25]	0.92	0.045	0.035
		Age (> 30 years)	0.13	0.05	0.08	0.02	[0.03–0.11]	0.92	0.045	0.035
T2: The relationship between health and wellbeing and staff engagement will be stronger for older employees (> 30 years) than for younger employees (≤ 30 years).	Health & Wellbeing → Staff Engagement	Age (> 30 years)	0.45	0.16	0.27	0.04	[0.18–0.32]	0.93	0.044	0.032
		Age (≤ 30 years)	0.17	0.06	0.1	0.02	[0.06–0.14]	0.93	0.044	0.032
T3: The relationship between leadership and staff engagement will be stronger for women than for men.	Leadership → Staff Engagement	Gender (Women)	0.52	0.19	0.31	0.04	[0.22–0.37]	0.92	0.046	0.034
		Gender (Men)	0.27	0.10	0.16	0.03	[0.09–0.21]	0.92	0.046	0.034
T4: The relationship between work-life balance and staff engagement will be stronger for women than for men.	Work-Life Balance → Staff Engagement	Gender (Women)	0.57	0.20	0.34	0.04	[0.26–0.40]	0.93	0.043	0.032
		Gender (Men)	0.30	0.11	0.18	0.03	[0.12–0.23]	0.93	0.043	0.032
T5: The relationship between teamwork and staff engagement will be stronger for non-binary employees due to their unique experiences of inclusion.	Teamwork → Staff Engagement	Gender (non-binary)	0.37	0.13	0.22	0.04	[0.14–0.28]	0.92	0.046	0.034
		Gender (Women)	0.35	0.13	0.21	0.03	[0.13–0.26]	0.92	0.046	0.034
		Gender (Men)	0.32	0.12	0.2	0.03	[0.12–0.25]	0.92	0.046	0.034
T6: The relationship between teamwork and staff engagement will be stronger for nursing staff than for administrative staff.	Teamwork → Staff Engagement	Position (Nurses)	0.57	0.20	0.34	0.03	[0.26–0.39]	0.94	0.042	0.031
		Position (Admin Staff)	0.30	0.11	0.18	0.03	[0.11–0.23]	0.94	0.042	0.031
T7: The relationship between health and wellbeing and staff engagement will be stronger for general support staff due to their reliance on workplace health initiatives	Health & Wellbeing → Staff Engagement	Position (General Support Staff)	0.32	0.11	0.19	0.03	[0.12–0.24]	0.91	0.048	0.035
		Position (Other Staff)	0.33	0.12	0.2	0.03	[0.13–0.26]	0.91	0.048	0.035
T8: The relationship between performance recognition and staff engagement will be stronger for employees with more than five years of experience	Performance Recognition → Staff Engagement	Years of Experience (> 5 years)	0.35	0.13	0.21	0.03	[0.14–0.26]	0.93	0.045	0.032
		Years of Experience (≤ 5 years)	0.37	0.13	0.22	0.03	[0.15–0.27]	0.93	0.045	0.032
T9: The relationship between training opportunities and staff engagement will be	Training Opportunities →	Years of Experience (≤ 5 years)	0.60	0.22	0.36	0.03	[0.28–0.41]	0.94	0.042	0.031

stronger for employees with five or fewer years of experience.	Staff Engagement	Years of Experience (>5 years)	0.32	0.11	0.19	0.02	[0.13–0.24]	0.94	0.042	0.031

This section provided robust empirical support for the final structure of the Hypothesised Employee Engagement Framework for Healthcare. Through mediation analyses, 5 out of 6 proposed theories were confirmed, demonstrating that bullying and discrimination play a significant role in disrupting the engagement process. In parallel, 6 out of 9 moderation hypotheses were supported, revealing how factors such as age, gender, and years of experience conditionally shape the strength of engagement-related relationships. Together, these findings affirmed a validated theoretical framework composed of 8 core dimensions, 20 reflective subdimensions, 2 mediators (bullying and discrimination), and 4 moderators (age, gender, years of experience, and position within the organisation) (**Figure 15**). This multidimensional model captures both the foundational drivers and the contextual influences of healthcare employee engagement. However, to translate this validated theoretical structure into practical application, it is now essential to develop a tool that can measure individual engagement levels within real-world healthcare settings. The next section addresses this need by introducing a composite scoring system that quantifies health employee engagement and enables its implementation in workforce strategy, evaluation, and policy.

Figure 15: Validated Framework for measuring Health Employee Engagement in Ireland



5.6 Final Employee Engagement Score (EES)

The Final Employee Engagement Score (EES) provided a multidimensional understanding of how engagement is shaped at the individual and organisational level. Rather than relying solely on a direct summation of engagement dimensions, this approach accounts for the complex interplay between direct influences (engagement dimensions), indirect influences (mediators such as workplace bullying and discrimination), and contextual variations (moderators such as age, gender, and position within the organisation). The results reveal that engagement is not a static or uniform concept but rather a dynamic construct shaped by both organisational and individual factors.

5.6.1 Engagement Is Not Just a Result of Direct Influences: Workplace Experiences Matter

The Baseline EES, with a mean score of 2.57, represents the foundational level of engagement that would be expected if only on direct contributions from the eight latent dimensions were considered. However, engagement in real-world workplace environments is influenced by more than just these structural elements. The Mediation-Adjusted EES mean (**see Chapter 2 section 2.4.6.4**), which slightly decreased to 2.53, indicates that workplace experiences such as exposure to bullying, discrimination, and recognition processes have a tangible impact on how engaged employees feel. For some employees, the presence of negative mediators, such as high levels of bullying or a lack of fairness in performance recognition, resulted in a decline in engagement. This demonstrates that structural engagement strategies alone are insufficient, and organisations must also consider how employees experience their workplace on a psychological level. Conversely, for those who reported positive workplace experiences, engagement levels were slightly enhanced, showing that supportive workplace environments can act as a buffer against disengagement. This suggests that engagement cannot be fully understood or improved without addressing workplace climate factors that affect employees on a day-to-day basis.

5.6.2 Engagement Varies Across Individuals: Context and Personal Characteristics Shape Outcomes

The next stage of refinement in the engagement score, reflected in the Moderation-Adjusted EES (**see Chapter 2 section 2.4.6.4**), further underscores that engagement is not a one-size-fits-all concept. The mean score decreased slightly to 2.50, but more importantly, the variation in engagement widened. This result highlights the importance of recognising that different employees experience engagement differently depending on their demographic characteristics and occupational roles.

Engagement is not uniform, and interventions that assume all employees respond the same way will likely be ineffective. Instead, organisations should develop segmented engagement strategies that recognise the unique motivators and barriers faced by different groups within the workforce.

5.6.3 The Normalisation Process Ensures Comparability Across Employees

With the Final Normalised EES mean decreasing to 2.05 (see Chapter 2 section 2.4.6.4), the results indicate that engagement scores are well distributed across the workforce, maintaining consistency with the original Likert-scale structure (1–5 range). This final transformation ensured that engagement remains interpretable, avoiding distortions caused by extreme values while preserving the variability introduced by mediation and moderation effects.

Employees who scored closer to 1.00 in the normalised scale are those who benefit from strong leadership, effective teamwork, positive workplace recognition, and low exposure to negative workplace dynamics. These employees represent a highly engaged workforce segment, likely to be more committed, productive, and motivated in their roles. Conversely, those who scored closer to 5.00 experience multiple engagement barriers, such as poor leadership, lack of training opportunities, or workplace stressors such as discrimination and burnout risks. This segment of the workforce is at greater risk of disengagement, reduced job satisfaction, and even turnover, making them a key focus for engagement interventions.

By normalising engagement scores, the measurement framework ensured that engagement remained meaningful and comparable across individuals, enabling HR professionals and policymakers to implement targeted engagement strategies. Without normalisation, engagement scores could be skewed by outliers, making it difficult to distinguish between employees who are naturally engaged and those whose engagement is shaped by workplace influences. (see Table 21)

Table 21: Aggregated Employee Engagement Score (EES).

Metric	Baseline EES	Mediation-Adjusted EES	Moderation-Adjusted EES	Final Normalised EES
Mean	2.57	2.53	2.5	2.05
Standard Deviation	0.79	0.76	0.74	0.72
Minimum	2.1	2.0	1.9	1
Maximum	4.9	4.8	4.7	4.5
25th Percentile	3.02	2.98	2.95	2.8
50th Percentile (Median)	3.58	3.53	3.5	3.1
75th Percentile	4.11	4.05	4	3.65

5.6.4 Health Employee engagement by subgroups

After establishing a structured scale for evaluating employee engagement, the next phase of analysis focused on how engagement levels varied across different demographic and professional groups.

To facilitate meaningful comparisons across demographic and professional groups, engagement scores were categorised into five percentile-based bands. (see Chapter 2 section 2.4.6.5) These categories were calculated using the distribution of the Final Normalised Employee Engagement Scores (EES) across the entire sample. The five bands represent the following ranges: 0–20th percentile (very low engagement), 21–40th percentile (low engagement), 41–60th percentile (moderate engagement), 61–80th percentile (high engagement), and 81–100th percentile (very high engagement). This classification system enabled the identification of engagement disparities. Applying the percentile classification system allowed for a relative comparison of engagement scores, ensuring that differences between groups were contextualised within the broader workforce rather than viewed in isolation. This approach provided a deeper understanding of how factors such as gender, age, healthcare sector, job role, hospital group, years of experience, and patient contact influenced engagement levels, offering insights into disparities that may warrant targeted interventions.

A clear gender disparity emerged, with male employees reporting a mean engagement score of 1.75, placing them in the 61–80th percentile range, which indicates relatively high engagement compared to other groups. In contrast, female employees reported a significantly lower engagement mean of 3.28, placing them in the 0–20th percentile range, the lowest category. This striking difference suggests that female employees may experience more workplace challenges that negatively impact their engagement, whether through heavier workloads, limited career advancement opportunities, or imbalances in leadership representation. Such disparities underscore the need to examine organisational policies and workplace culture to ensure equitable conditions that support engagement across genders.

Age also played a role in engagement differences, with younger employees (≤ 30 years) showing the lowest engagement levels, with a mean score of 3.30 in the 0–20th percentile range. This suggests that younger employees are more likely to experience job insecurity, limited career progression, or difficulties adjusting to the demands of the healthcare sector, leading to lower engagement. In contrast, those over 30 years old exhibited slightly better engagement levels, with a mean score of 2.79, placing them in the 21–40th percentile range. This indicates that experience and tenure contribute to engagement, possibly due to greater job familiarity, career stability, or professional growth over time.

Examining engagement across different healthcare service areas revealed notable variations. Employees working in acute hospitals had a mean engagement score of 3.35, placing them in the lowest percentile category (0-20th percentile). This suggests that high patient loads, long working hours, and emotional exhaustion contribute to significant disengagement in hospital settings. Similarly, employees in community health organisations also fell into the 0-20th percentile, with a mean score of 3.20, indicating comparable challenges related to workload, resource limitations, and administrative burdens. Employees in corporate and national health services, on the other hand, had higher engagement levels, with a mean score of 2.24 (41-60th percentile), reflecting the potential benefits of structured work environments, clearer role expectations, and fewer direct patient-related stressors. However, the lowest engagement levels were observed in the National Ambulance Service, where employees reported a mean score of 3.42, firmly placing them in the 0-20th percentile. Given the high-pressure nature of ambulance work, unpredictable shifts, and frequent exposure to emergencies, these findings align with the expectation that frontline emergency responders are at a heightened risk of disengagement.

Engagement disparities were also evident across staff categories. Medical and dental professionals reported a mean engagement score of 3.30, placing them in the 0-20th percentile, suggesting that despite their specialised expertise, doctors and dentists face significant workload pressures, administrative demands, and work-life balance challenges. Nurses exhibited similarly low engagement levels, with a mean score of 3.31, again in the 0-20th percentile, reinforcing well-documented concerns about staffing shortages, burnout, and high patient-to-nurse ratios. In contrast, health and social care professionals demonstrated much higher engagement levels, with a mean score of 1.78 (61-80th percentile). This suggests that social care roles may provide greater job satisfaction or work-life balance, fostering stronger engagement. Administrative and management staff had a moderate mean engagement score of 2.81 (21-40th percentile), indicating slightly higher engagement compared to frontline healthcare professionals, but still leaving room for improvement.

Across different divisions of healthcare services, distinct patterns in engagement emerged. Employees in older people's services had a mean engagement score of 1.21, placing them in the highest percentile category (81-100th percentile), suggesting that those working in geriatric care may find deep job satisfaction, possibly due to long-term patient relationships and the essential nature of their role. Primary care professionals had a moderate engagement mean of 2.28 (41-60th percentile), while mental health professionals reported a similar mean of 2.26, placing them in the same percentile category. This suggests that mental health work, despite its emotional demands, retains moderate engagement levels. Employees working in functional support and strategic planning roles exhibited some of the highest engagement scores, with mean scores of 1.30 and 1.60, respectively, both placing them in the 81-100th percentile range. This indicates that employees in

roles focused on healthcare system improvements and strategic development may feel more aligned with organisational goals, resulting in higher engagement.

When analysing engagement by type of service, employees in voluntary community health services had a mean score of 2.30 (41-60th percentile), whereas those working in HSE services reported a lower engagement score of 2.79 (21-40th percentile). This suggests that employees in voluntary services may experience greater autonomy or organisational support, leading to slightly higher engagement.

Engagement also varied significantly across hospital groups. Employees in the Children's Hospital Group, Dublin Midlands Hospital Group, Ireland East Hospital Group, and University of Limerick Hospital Group all reported engagement scores below 1.40, placing them in the highest percentile category (81-100th percentile). This suggests that hospitals in these networks may have stronger workplace cultures, leadership structures, or staff retention policies contributing to higher engagement. Conversely, the South/South-West Hospital Group had a lower engagement score of 2.78 (21-40th percentile), indicating that employees in this group experience lower engagement compared to their peers in other hospital networks.

Looking at years of work experience in the healthcare sector, a clear trend emerged, with engagement increasing with tenure. Employees with ≤ 5 years of experience had an engagement score of 1.88 (61-80th percentile), while those with >5 years of experience exhibited a slightly higher engagement score of 1.67 (81-100th percentile). This suggests that familiarity with the job, career stability, and professional growth contribute to sustained engagement over time.

One of the most notable findings was the difference in engagement based on direct patient contact. Employees without patient contact reported a higher engagement score of 1.91 (61-80th percentile), while those with patient contact had a significantly lower engagement score of 2.79 (21-40th percentile). While patient-facing roles can be deeply fulfilling, they are also associated with greater emotional exhaustion, stress, and resource constraints, which likely contribute to lower engagement levels.

Overall, the percentile classification system revealed clear patterns of engagement across different workforce groups. Employees in high-stress, patient-facing roles, such as nurses, doctors, and ambulance staff, exhibited lower engagement, while those in non-clinical, strategic, or longer-tenured roles demonstrated higher engagement. These findings highlight the critical need for targeted engagement strategies to support employees in high-pressure environments while fostering sustainable workforce motivation across the healthcare sector. **(see Table 22)**

The development of the Final Employee Engagement Score (EES) confirmed that healthcare engagement is shaped by direct effects from validated dimensions and subdimensions with the influence of mediators and moderators. The final percentile scale provided a comprehensive and differentiated understanding of engagement across workforce subgroups that reinforces the need

for targeted, context-sensitive strategies to support and sustain engagement across healthcare settings.

Table 22: Health Employee Engagement score by subgroups.

Variable	Category	Mean Engagement Score	Percentiles
Sex	Male	1.75	61-80
	Female	3.28	0-20
	Other	2.77	21-40
Age	<=30	3.30	0-20
	>30	2.79	21-40
Areas of Health Service	Acute Hospitals	3.35	0-20
	Community Health Organisations	3.20	0-20
	Corporate/National Services	2.24	41-60
	National Ambulance Service	3.42	0-20
Staff Category	Medical/Dental	3.30	0-20
	Nursing	3.31	0-20
	Health & Social Care Professionals	1.78	61-80
	Management/Admin	2.81	21-40
	General Support Staff	3.35	0-20
	Patient & Client Care	1.34	81-100
Divisions of Health Care Services	Older People's Services	1.21	81-100
	Primary Care	2.28	41-60
	Social Care	1.75	61-80
	Disability	1.84	61-80
	Mental Health	2.26	41-60
	Functional Support	1.30	81-100

	Strategic Planning and Transformation	1.60	81-100
Type of Services	Voluntary Community Health Service	2.30	41-60
	HSE Service	2.79	21-40
Community Health Organisations (CHO) Areas	CHO Area 1	2.81	21-40
	CHO Area 2	2.78	21-40
	CHO Area 3	1.75	61-80
	CHO Area 4	2.77	21-40
	CHO Area 5	3.29	0-20
	CHO Area 6	2.37	41-60
	CHO Area 7	2.40	41-60
	CHO Area 8	3.35	0-20
	CHO Area 9	2.29	41-60
Hospital Group	Children's HG	1.40	81-100
	Dublin Midlands HG	1.52	81-100
	Ireland East HG	1.48	81-100
	RCSI HG	2.46	41-60
	Saolta University HG	1.77	61-80
	South/South-West HG	2.78	21-40
	University of Limerick HG	1.50	81-100
Years of Work in the Health Sector	<=5 years	1.88	61-80
	>5 years	1.67	81-100
Contact with Patients as Part of Their Work	Yes	2.79	21-40
	No	1.91	61-80

5.7 Conclusions

This chapter marked an essential stage in the thesis by statistically validating and operationalising the hypothesised multidimensional framework for measuring employee engagement in the healthcare sector proposed during **Chapter 4**. Through a rigorous application of Mirza et al (2019) model and theory-driven hypotheses, the analysis demonstrated that engagement is not a singular construct but the outcome of interacting structural, experiential, and contextual components. The validation of eight dimensions and twenty subdimensions confirmed the foundational structure of engagement, while the empirical confirmation of 11 theoretical pathways involving 2 mediators and 4 moderators, drawn from psychological and sociodemographic literature revealed how engagement is shaped by individual differences and workplace realities.

Likewise, the integration of mediation and moderation analyses into the development of the Final Employee Engagement Score (EES) offered practical insights into how engagement manifests unevenly across subgroups. This methodological progression, from theory to validated measurement, represents a significant contribution to healthcare engagement research, providing both a scalable model and a diagnostic tool capable of informing targeted interventions.

However, the utility of a framework is not solely defined by statistical coherence. Engagement is experienced and interpreted within real-world organisational cultures, shaped by values, relationships, and lived experiences. As such, the next chapters adopt the second phase of the explanatory sequential design, drawing on qualitative interviews, focus groups and the integration of quantitative and qualitative data to interrogate how the validated framework is understood, experienced, and challenged by healthcare professionals themselves. This qualitative phase will not only test the model's practical validity but will also highlight the contextual nuances that cannot be captured by numbers alone, thereby supporting the refinement of the framework in future research.

Chapter 6: Understanding the Theoretical Framework for Measuring Healthcare Employee Engagement Through Lived Experiences: A Qualitative Exploration

6.1 Introduction

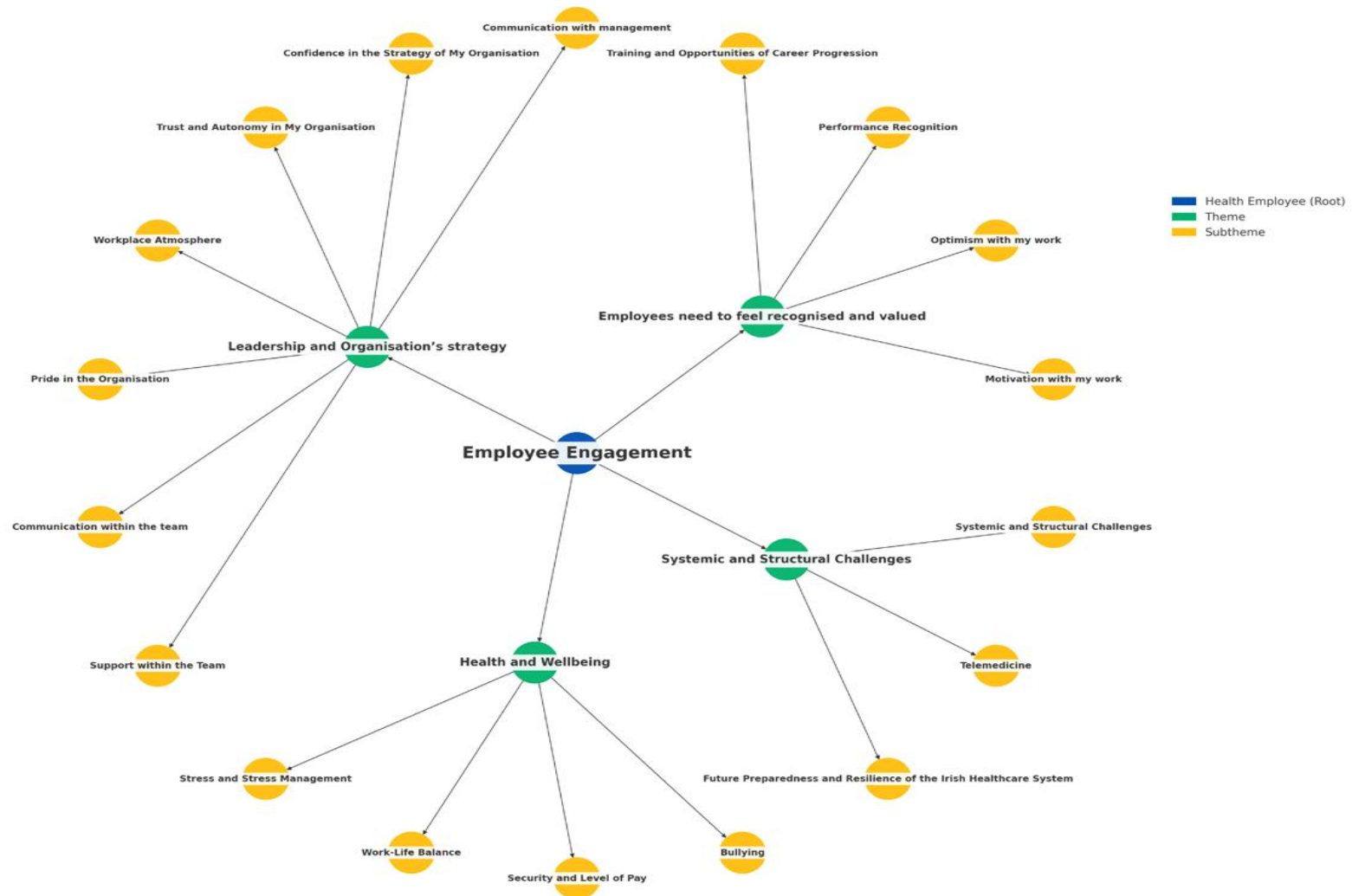
This chapter presents the second phase of the explanatory sequential design, following the quantitative validation and operationalisation of the multidimensional healthcare employee engagement framework. While the previous chapter focused on statistically confirming the structure and pathways of engagement, this phase uses qualitative inquiry to explore how engagement is understood, experienced, and enacted by healthcare workers themselves in their day-to-day professional lives. The aim is to assess the practical validity of the framework, uncover contextual dynamics not visible in quantitative models, and gather insights for future research.

The chapter is structured in two main sections; each aligned with the overarching objectives of the qualitative phase. The first section, **“Current State of Employee Engagement in Ireland,”** presents 3 themes that were derived deductively from the quantitative validated framework in **Chapter 5**, including “Employee’s need to feel recognised and value”, “Leadership and Organisation’s strategy”, and “Health and Wellbeing”. These themes test the real-world relevance of the framework’s existing dimensions by examining whether, and how, they are recognised and experienced by healthcare staff.

The second section, **“Future Directions and Necessary Changes for Engagement and Retention,”** introduces the theme that was generated inductively from the data: “Systemic and Structural challenges”.

This analytical separation between deductive and inductive themes is not arbitrary: it reflects the dual purpose of this qualitative phase, both to explain, confirm the applicability of the previously validated framework and to identify areas where new, unanticipated insights may extend it. Keeping these two logics of analysis distinct helps to clarify which parts of the framework are affirmed by participants, and where gaps, blind spots, or new priorities that need to be explored in future research. The 4 themes and 18 subthemes presented in this chapter were determined following a detailed coding process, as described in **Chapter 2 section 2.2.2.1**. This process ultimately led to the development of the thematic structure that will be discussed here. **(Figure 16)**

Figure 16: Themes and Subthemes for evaluating Employee Engagement in the Irish Healthcare System. Qualitative Phase



The chapter draws on data collected through three role-specific focus groups and two in-depth interviews. These included separate focus groups with nurses, doctors, and healthcare managers, ensuring a range of professional voices were heard, while the two interviews provided more nuanced, individual reflections. The distinction between data sources is important, and their complementary value is made explicit in the analysis. The focus groups enabled the identification of shared patterns and collective tensions within professional cohorts, while the interviews allowed for deeper exploration of individual experiences and personal meaning-making. Throughout this chapter, individual quotes from both sources are presented not as isolated opinions but as illustrations of broader patterns that were discussed in each focus group, either representative of shared concerns or highlighting divergence within these focus groups. Where relevant, the discussion explicitly notes when a view was widely expressed within a particular focus group, or when it stood out as a minority or contrasting voice.

By combining a quantitative validated framework with lived experience, this chapter deepens the understanding of employee engagement in healthcare. It moves beyond statistical associations to foreground the emotional, relational, and systemic dimensions that influence whether staff feel valued, supported, and motivated to remain in the workforce. The qualitative findings presented here also serve as the foundation for the final integration chapter, where both strands of data will be brought together to propose context-specific strategies for improving engagement in practice. These findings will be explained in detail in the below sections.

6.2 Section One Causes of Disengagement in the Irish Healthcare system

6.2.1 First Theme: Employees need to feel recognised and valued

This first theme refers to the employee's fundamental expectation that their contributions, efforts, and achievements are acknowledged and appreciated by their organisations. This theme encompasses the importance of recognition and value in shaping healthcare employees' motivation, optimism, and engagement. Motivation with work, optimism about one's role, performance recognition, and career progression opportunities emerged as key factors influencing how valued employees feel within their organisation.

The selection of Employees Need to Feel Recognised and Valued as a central theme underscores its significance in ensuring a committed, high-performing, and stable healthcare workforce. The data consistently demonstrated that employees who feel acknowledged and supported are more likely to excel in their roles and to remain engaged.

This theme emerged strongly across all focus groups and interviews with particularly rich contributions from Focus Group 3. One participant, FG3/PM11 (Focus Group 3, Participant 11 – Manager), effectively captured the collective sentiment when she reflected: *"It's not just about*

showing up and doing the job... when you're acknowledged for your work, it pushes you to do better. But when there's no recognition, no real career path ... you start wondering, 'Does anyone even notice the effort we put in?'"

The subthemes analysed within this theme included: Motivation with my work, Optimism with my work, Performance Recognition and Training and Opportunities of Career Progression. These subthemes and the data supporting them will be presented below.

- **Motivation with my Work**

The discussions consistently highlighted several factors that either drive or hinder motivation among healthcare staff. Participants frequently pointed to the demanding nature of their work and the lack of meaningful support from management as major obstacles to maintaining motivation.

This issue was particularly emphasised in the second focus group with doctors, where participants collectively described the impact of workplace pressures on their motivation. One participant, FG2/PD6 (Focus Group 2, Participant 6 – Doctor), reflected on this challenge, stating: *"Motivation isn't just about work-life balance; it's about how stressful the job is while you're there. People aren't just leaving for better pay in the private sector; it's also about the work environment and the stressors we face."*

Several participants from the nurses' focus group (FG1) raised concerns about management's efforts to boost motivation, noting that while initiatives were often introduced, they frequently lacked strategic depth or meaningful support from upper leadership. This sentiment was captured by FG1/PN3 (Focus Group 1, Participant 3 – Nurse), who stated: *"People come to us with ideas for change, saying, 'We've been doing this for 20 years, and it's time for something better.' But without real backing, those ideas fade, and so does the motivation to keep pushing for change."* The focus group collectively underscored the importance of management involvement: *"Motivation is directly tied to how much support we get from upper management. If they don't step in and help with the workload or listen to our concerns, any talk of improving motivation feels meaningless."*

This lack of support was further echoed by FG2/PD6, who explained: *"Without support from leadership, any effort to motivate staff falls flat... We can have all the ideas in the world, but without backing from the top, it's hard to implement changes that would actually boost motivation."*

These quotes highlighted a recurring theme in the data: the critical role of leadership in fostering or hindering motivation. Without active involvement and support from management, efforts to enhance motivation and engagement often fail to materialise.

Another key issue affecting motivation was the experiences of healthcare workers in temporary roles. The data revealed that employees in such positions frequently struggle to maintain motivation due to the transient nature of their work. The lack of long-term stability diminishes their incentive to invest in lasting improvements, as they often do not remain in the role long enough to see the impact of their efforts. This challenge was powerfully illustrated during the doctors' focus group (FG2/PD8) that captured this sentiment, stating: *"When you're in a temporary role, especially as a non-consultant hospital doctor, it's hard to stay motivated. You might put in a lot of work to improve things, but if you're gone within a year, you don't see the benefits."*

- **Optimism with my Work**

The discussions revealed a range of perspectives on job optimism among healthcare staff. While some participants remained hopeful about workplace improvements, others expressed frustration with the slow pace of change. Optimism was often tied to leadership engagement, workplace culture, career growth, and systemic improvements, but in their absence, employees struggled to stay positive about their roles.

Some participants, particularly those from the nurses' focus group, found optimism in tangible, visible improvements, noting that even small changes helped maintain hope that things could get better. FG1/PN1 shared how even minor improvements help sustain hope, stating:

"You don't expect everything to change overnight, but when you see small steps being made, like better scheduling or improved communication, it reminds you that progress is possible."

However, participants in the doctors' focus group expressed frustration with the slow-moving reforms and unfulfilled promises that made optimism difficult to sustain. When workplace issues were repeatedly acknowledged but not meaningfully addressed, employees felt increasingly disillusioned. FG2/PD7 captured this sentiment, stating:

"They always talk about things getting better, but real change takes forever. After a while, you stop believing it'll happen in your time here."

For nurses, optimism was not necessarily rooted in tangible improvements but instead served as a coping mechanism to navigate the daily challenges of their roles. They explained that in high-

pressure environments, focusing on positive aspects of the job helped them manage stress and stay engaged. FG1/PN4 reflected on this, stating:

"You have to be optimistic to get through the day. If you focus too much on what's wrong, it gets overwhelming. So, you try to find the good where you can."

Leadership played a critical role in shaping optimism, as employees were more likely to remain hopeful when management was proactive, responsive, and followed through on commitments. FG2/PD6 emphasised this, stating:

"When management actually listens and follows through, it makes you believe in change... but when they're absent or dismissive, you stop expecting things to improve."

Beyond leadership, optimism was also linked to a sense of purpose. Employees who saw clear opportunities for growth and professional recognition felt more invested in their work, whereas those in stagnant roles struggled to remain hopeful. The doctors' focus group expressed concerns about long-term prospects, which was captured by FG2/PD7 who noted:

"It's hard to be optimistic when you don't know where you're going... how can you look forward to the future here?"

Similarly, nurses explained that feeling valued in the workplace was crucial for maintaining optimism. When employees felt that their contributions were recognised, they were more likely to stay engaged, but a lack of appreciation led to detachment. FG1/PN4 reflected on this, saying:

"When you feel like your work actually matters, it's easier to stay optimistic. But when you're just another number on a roster, it's hard to care about what comes next."

This sense of purpose was reinforced by the belief that their efforts were part of something evolving and improving. Mainly doctors described how having a clear direction and seeing momentum in workplace initiatives made it easier to stay hopeful. FG2/PD8 reaffirmed this, stating:

"If you can see where things are going and feel like you are part of something that's improving, it's easier to stay optimistic. But if everything feels stagnant, it's hard to stay motivated."

However, beyond workplace experiences, many participants struggled with optimism due to broader systemic challenges. When employees saw persistent issues across multiple hospitals or departments, their confidence in meaningful reform diminished. This concern was strongly voiced by the managers' focus group (FG3), with FG3/PM11 stating: *"It's not just about our hospital; it's the whole system. When you see the same problems everywhere, it's hard to believe that things will improve anytime soon."*

- **Performance Recognition**

This subtheme explored the significance of acknowledging and rewarding healthcare workers' contributions, which plays a crucial role in maintaining morale and driving high performance. A recurring issue in the discussions was the perceived inadequacy of recognition, with many participants feeling that their efforts were frequently overlooked.

Recognition, in terms of both financial rewards and career advancement, emerged as a critical subject from the data. Across all three focus groups and both interviews, participants consistently expressed frustration about the lack of acknowledgment for their hard work and dedication. This sentiment was particularly evident in the nurses' focus group, where FG1/PN5 noted: *"It's not just about being praised for your daily work; it's about feeling like your efforts are leading somewhere. If there's no acknowledgment of your achievements, you start to wonder why you're putting in all the extra effort."*

However, doctors emphasised that recognition goes beyond bonuses or promotions; it's about feeling appreciated on a human level. They felt that their hard work was taken for granted, leading to disengagement and a decline in motivation.

FG2/PD7 expressed this sentiment:

"We put in so much effort, but it often feels like it goes unnoticed. There's a real lack of recognition for the work we do.... It's not just about the money, it's about feeling valued."

This sentiment was echoed by nurses that remarked:

FG1/PN5: *"You work so hard, going above and beyond, but there's no acknowledgment from the top. It's like no matter what you do, it just goes unnoticed, and that's really disheartening."*

FG1/PN2: *"It's not just about the money... Recognition goes a long way. Even a simple well done or acknowledgment of the work we do would make a huge difference in keeping people motivated."*

The focus groups with doctors also revealed significant frustration regarding the recognition of prior learning and experience. Doctors who graduated in Ireland but spent many years practicing in Australia expressed dissatisfaction with the Irish healthcare system's failure to acknowledge the expertise they had gained abroad. This lack of recognition was frequently cited as a key reason for their reluctance to return to Ireland, as they felt they would essentially be starting their careers from scratch.

FG2/PD7 illustrated this issue:

"I know people who worked for years and came back only to start over at the same level as those with no experience. It's demotivating when experience isn't recognised."

FG2/PD9 echoed this sentiment:

"It's frustrating to have years of experience overseas and then come back here to be treated like you're starting from scratch. It makes you think twice about returning."

Doctors and nurses also pointed out the inconsistency in how recognition is given, with some departments being more consistent in acknowledging hard work than others. This inconsistency led to resentment, especially when employees felt that their peers in other areas were receiving recognition while their own efforts went unnoticed.

FG2/PD6 explained:

"Sometimes it's not about whether recognition exists, but whether it's given fairly across the board. When you see your colleagues in other departments getting recognition and you're left out despite putting in the same effort, it makes you feel undervalued."

Nurses expressed that the lack of recognition for their work not only led to frustration but also affected their psychological wellbeing. Feeling overlooked made some participants question their worth and contribution, leading to decreased motivation and disengagement.

PG1/PN5 shared:

"When you constantly put in hard work and never get any recognition, it starts to mess with your head. You begin to question whether you're doing a good job at all, and that affects your confidence and willingness to keep going."

During the focus group with managers, we asked these same questions. From a managerial perspective, managers recognised the importance of both formal acknowledgment, such as career progression and financial rewards, and informal gestures, like verbal praise.

FG3/PM13 commented:

"We know that recognition isn't just about financial rewards... A simple thank-you can go a long way in boosting morale... Those small, everyday gestures keep people motivated."

FG3/PM15 added:

"We've realised that structured recognition, like funding for innovation and awards, is a great way to keep people engaged. It's not just about rewarding hard work; it's about showing them that their contributions really matter to the organisation."

However, managers also described some of the challenges they face in recognising healthcare staff's performance.

FG3/PM16 explained:

"One of the toughest things about giving recognition is that it's just not built into the system. There isn't really a formal way to acknowledge the day-to-day efforts, and even though we try to offer praise when we can, it often gets lost in the chaos of everything else we're managing."

FG3/PM14 echoed the difficulty:

"It's tough to prioritise recognition when we're juggling tight budgets and heavy workloads. Honestly, it feels like a balancing act most of the time."

Extrinsic motivators were discussed more frequently than intrinsic ones; however, intrinsic factors such as a sense of purpose, professional growth, and meaningful work played a pivotal role in sustaining healthcare workers' engagement despite systemic challenges. Participants from the 3-focus group emphasised that, beyond financial incentives, their motivation was deeply rooted in feeling that their work had impact and purpose. The intrinsic drive to provide high-quality patient care, contribute to positive change, and develop professionally emerged as a fundamental source of motivation.

However, when these intrinsic rewards were overshadowed by a lack of acknowledgment or institutional barriers, motivation began to wane. As FG2/PD8 reflected, *"At the end of the day, we didn't do this job just for the money. We did it because we cared, because we wanted to make a difference. But when the system made it harder and harder. it becomes exhausting."* Similarly, FG1/PN5 explained, *"Knowing that our work is meaningful keep us going, but if we are constantly blocked from growing, we start to lose that drive."*

In conclusion, the discussions revealed that intrinsic motivation thrived in environments where staff felt valued, empowered, and supported. However, when their contributions were ignored or excessive bureaucratic constraints stifled their ability to effect change, even the most dedicated employees found it difficult to sustain their motivation over time.

- **Training and opportunities of career progression**

Throughout the interviews and focus groups, healthcare workers frequently expressed their frustration over inconsistent access to training and limited opportunities for career progression. These challenges were perceived as widespread across the Irish healthcare system, where access to development opportunities varied depending on department, location, or managerial priorities. The absence of a structured framework for career progression left many feeling stagnant in their roles, despite their efforts to grow professionally.

One of the most significant concerns raised was the inconsistency in access to training programmes. Doctors and nurses noted that while some departments made time for regular skill-building sessions, others lacked the resources or staff capacity to facilitate training. These disparities left certain healthcare workers unable to keep up with new developments or enhance their clinical skills. As noted in the doctors' focus group, one participant remarked:

FG2/PD7: "In some units, we had regular training sessions, and it really helped us stay on top of things. It improved our knowledge and, in turn, the quality of care we could provide. But in other departments, training just doesn't happen because there aren't enough staff to cover shifts. If you're in a busy ward, you're left behind."

Nurses also highlighted the struggle of trying to access training due to staff shortages, noting how the lack of support impacted both personal growth and patient care:

FG1/PN3: "You might be scheduled for training or a study day, but if the ward is short-staffed or there's an emergency, you're expected to stay and cover. There's no flexibility. Even when training is available, it's not accessible because we're always needed on the floor."

The lack of structured career progression pathways was equally frustrating for the two participants in the interviews. Despite taking on additional responsibilities and seizing available development opportunities, they felt there were limited avenues for advancement. This perceived stagnation was a source of demotivation, as one interviewed expressed:

I1/PD16: "I've been here for years, and I've taken on extra duties and responsibilities, but it feels like there's no clear path forward. There's no promotion, nothing to show for it. You end up feeling like you're stuck, no matter how hard you work or how much you try to develop your skills."

The other interviewee highlighted that career progression was often limited to certain specialised roles, leaving those in other positions without clear opportunities for advancement.

I2/PN17: *"There are career paths for certain positions, like advanced nurse practitioners or clinical specialists, but for the majority of us, there's nothing. You can take on more work, but there's no promotion or chance for progression unless you're in a specific role. It's frustrating because it feels like your career is at a standstill, and there's no support for moving forward."*

6.2.2 Second Theme: Leadership and Organisational Strategy

This theme refers to the structured approach and guiding principles that leaders implement to steer an organisation toward its goals, enhance performance, and foster a positive work environment. It encompasses decision-making, vision-setting, resource allocation, and policy development, ensuring that organisational objectives align with both employee needs and broader institutional priorities.

The theme of Leadership and Organisational Strategy emerged as a critical determinant in shaping the direction, effectiveness, and morale within healthcare organisations. Participants' experiences underscored the significant impact of leadership practices and organisational design on employee engagement. The analysis demonstrated that when leadership and organisational structures are thoughtfully crafted and effectively implemented, they provide a foundational framework for a positive workplace environment.

The nurses' focus group encapsulated this theme and its subthemes noting:

FG1/PN4: *"There's a huge contrast between what management expects and what's actually happening on the floor. It feels like they have no idea what our day-to-day looks like. When leadership doesn't understand the workload, it's hard to trust their decisions"*

The subthemes identified include Communication with management, Confidence in organisational strategy, Trust and autonomy, Pride in organisational culture, Workplace Atmosphere, Communication within the team and Support within the Team.

- **Communication with management**

This subtheme delved into the direct impact of leadership on staff morale and engagement, uncovering significant challenges in healthcare environments where there is a disconnect between leadership and frontline staff. The analysis revealed that when management's expectations do not align with the realities faced by employees, particularly those on the frontlines, it leads to demotivation, disengagement, and in some cases, a reluctance to speak up about poor practices.

One of the most frequently discussed topics was Effective Leadership, specifically how closely it is tied to open and transparent communication in healthcare. Participants repeatedly stressed that leaders who are actively involved with their teams and understand the day-to-day challenges are far better equipped to make decisions that truly address staff needs. In contrast, when leadership is disconnected from the operational realities, it not only erodes trust but also diminishes staff motivation.

The doctors' focus group articulated this issue clearly:

FG2/PD9: *"Good leadership is about communication. If management doesn't understand the day-to-day struggles, they can't make effective decisions. You need leadership that is present and in touch with what's really happening."*

This sentiment was echoed by the focus group with nurses, who observed:

FG1/PN2: *"There's a lot of talk from the top, but not much listening. It feels like decisions are made without considering what's happening on the ground."*

The consequences of this disconnect were further elaborated by the group adding:

FG2/PN3: *"Employees will lose their motivation if they feel their voices aren't being heard."*

This perception of being unheard created a culture where staff were hesitant to challenge poor practices or raise concerns, often fearing repercussions. Doctors and nurses described an atmosphere of fear, with whistleblowing being seen as particularly dangerous.

FG2/PD7 poignantly remarked, *"There's an intense fear when it comes to speaking up, almost like you're constantly walking on eggshells, worried about the repercussions if you go against the established norms."*

Nurses expanded on this noting:

FG1/PN4: *"...It is a big deal to make claims like that, and people are probably reluctant to do so. In some hospitals, it feels like you can't challenge certain behaviours without facing consequences."*

The link between effective leadership, feedback, and communication was also strongly tied to fostering a collaborative work environment. Doctors noted that when leadership actively seeks input and encourages open dialogue, it motivates staff and enhances engagement.

FG2/PD10 emphasised this point: *"When managers actively seek feedback and are more open to changes, you feel like your voice matters, and that's a huge motivator."*

FG2/PD6 added, *"In our department, they are open and frequently seek our feedback. We fill out monthly surveys on how the service is running, and they even include junior staff."*

- **Confidence in organisational strategy**

Confidence in the organisation's strategic direction emerged as a crucial factor in influencing employee engagement. The data revealed that when employees lacked confidence in the strategy, it led to uncertainty, frustration, and disengagement, particularly following the COVID-19 pandemic.

The significance of having a clear and well-communicated strategy became especially pronounced in the post-COVID environment. Many participants expressed concerns about the lack of direction and the uncertainty that arose once the initial crisis subsided. They emphasised that while the organisation responded effectively during the pandemic, it has since struggled to maintain a cohesive strategic vision. The absence of long-term planning has left employees feeling disconnected and uncertain about the organisation's future, a concern that was strongly echoed in the managers' focus group.

FG3/PM14 shared: *"During COVID, we all knew what we were working towards, but now, it feels like we're lost. There's no clear strategy, and it's hard to stay motivated without that sense of purpose."*

FG3/PM13 added that the solutions adopted during COVID had not translated into sustained strategic direction for the future: *"People didn't leave during COVID because they knew it wasn't the right thing to do, but afterward, there's a sense of 'I've done my part, and now there's nothing new to encourage me to stay.'"*

Doctors also indicated that confidence in the organisational strategy is closely tied to trust in leadership's competence and vision. If staff do not trust leadership to deliver on strategic goals, confidence in the organisation's direction erodes.

FG2/PD3 remarked: *"When the direction is clear, we naturally support it, because ultimately, everything we do is about caring for the patients."*

Nurses further contributed to the discussion by raising concerns about the risks stemming from leadership's failure to effectively communicate the organisation's strategy. Inconsistent articulation of short-term objectives and the absence of a clear long-term vision foster uncertainty among employees, making it challenging for them to align their efforts with the organisation's overall direction

FG1/PN3 pointed out: *"If you were to look up now at the moment in the HSE, what is the strategy for the next 5-10 years? I think you might struggle to find what that is."*

This same concern about the absence of forward-thinking strategies, leading to short-term "troubleshooting" rather than proactive planning, was echoed by managers.

FG3/PM12 stated: *"We need to be able to be horizon scanning... looking 5, 10, 15, 20 years down the line. What is healthcare going to look like, and how do we need to prepare for that?"*

FG3/ PM15 added: *"We are used to in the Irish healthcare system to actually be more firefighting, just fixing the situation as it is at the moment... putting some band-aids on it across the system."*

Another key factor raised by managers was the importance of involving staff in strategic planning to foster a sense of ownership and trust. When employees are engaged in shaping the strategy, they feel more connected to the organisation's goals and are more likely to believe in the strategy's success.

FG3/PM14 noted: *"We're actively changing things, making sure there's more nurse-led innovation coming from the people actually doing the work on the ground and creating strategies which incorporate staff input from all levels of the organisation."*

Managers also emphasised the need for a clear and cohesive strategy to ensure alignment within healthcare organisations. They noted that when staff see a well-defined direction, it fosters greater engagement and motivation. However, they also pointed out the challenges of aligning local strategies with ever-changing national directives.

FG3/PM13 stated: *"We do have good strategy within the hospital, but we're always dependent on national strategy as well... If that keeps moving, that then filters down into confused staff about what we're doing."*

Managers further expressed frustration with the disconnect between strategic goals and the resources provided to achieve them. Unrealistic strategies that lack proper resource allocation were seen as demoralising, leading to disengagement.

FG3/PM11 commented: *"I'm cutting consultants, but I can't get an admin person to actually do the job so the consultant can do the job. Where is the thought process behind that?"*

- **Trust and Autonomy**

The interviews and focus groups revealed several critical issues that undermine trust in healthcare organisations, particularly among frontline staff. Key concerns included a lack of autonomy, pervasive micromanagement, and inequitable resource allocation. Although confidence in an organisation's strategy and trust in its leadership share common ground, both being rooted in perceptions of effective leadership, the analysis uncovered a fundamental distinction. Participants' comments about confidence in the organisation's strategy typically focused on long-term planning

and future goals. In contrast, trust in the organisation was more closely linked to their immediate, day-to-day experiences, specifically the level of autonomy they were granted in their roles. This immediate trust was strongly shaped by how much control and decision-making power participants felt they had within the organisation.

Participants equated their ability to make independent decisions that directly impacted patient care with trust. When this autonomy was denied, it led to frustration and disengagement, particularly among nurses, who were especially vocal about the significance they placed on decision-making authority.

FG1/PN2 reflected this sentiment: *"We're supposed to make decisions on the ground, but every choice we make needs to go through several layers of approval. It's hard to feel trusted when we're not really given the autonomy to act in the best interest of patients."*

FG1/PN1 added the contrasting levels of autonomy experienced during COVID-19, which briefly empowered them to act independently: *"During COVID, we had to reorganise how we ran our clinics, and while it was challenging, it gave us the chance to make decisions quickly and adapt. But once things settled, it felt like that autonomy was taken away again. We went back to waiting for approvals on everything, and that was frustrating because we had proven we could manage effectively during the crisis."*

Micromanagement was another significant factor that mainly doctors and nurses identified as contributing to disengagement. They felt they were constantly monitored, with their work subject to frequent checks, which undermined their sense of trust and autonomy.

FG1/PN3 highlighted this concern: *"We're given tasks, but we're not always trusted to manage our own work. There's constant checking and rechecking, and it feels like we're micromanaged."*

Another nurse added a specific example of how micromanagement played out in practice:

FG1/PN4: *"In our unit, we were tasked with rolling out a new patient care initiative, but every step of the process had to be signed off by multiple managers. We had all the training and knowledge to implement it ourselves, but it was like we weren't trusted to make even small decisions on our own."*

Doctors echoed similar frustrations about the impact of micromanagement on their work environment, often describing it as a source of stress and demoralisation.

FG2/PD9 expressed the emotional toll: *"You feel like no matter what you do, someone's always looking over your shoulder, and it's exhausting. It wears you down mentally."*

FG2/PD11 elaborated on how micromanagement affected their ability to deliver high-quality care: *"We're expected to deliver top-quality care, but when you're that closely supervised, it's hard to focus. You're so stressed about meeting all the little demands that you can't even do your job properly, and that's upsetting."*

Doctors also voiced concerns about the time spent justifying their actions and decisions, which detracted from patient care.

FG2/PD10 noted: *"We're spending too much time explaining why we chose certain treatments instead of focusing on the treatment itself. The paperwork and constant justifications are getting in the way of actually providing quality care."*

Resource allocation emerged as a significant concern in both the doctors' and nurses' focus groups, as well as in the 2 interviews. Participants consistently highlighted a lack of trust between employees and management in this area. The 2 interviewees also expressed concerns about disparities in resource distribution across departments, which contributed to perceptions of inequity and feelings of disengagement

Nurses highlighted the challenge:

FG1/PN3: *"We're told to make do with what we have, but other departments get more resources for the same level of work. It's hard to feel supported when we're constantly struggling."*

FG1/PN4 also emphasised the disconnect between leadership expectations and the resources provided: *"There's a huge contrast between what's expected of us and what we're given to do the job... "*

Finally, the 2 interviewees were very vocal about how their overall engagement with the organisation was hindered by a lack of trust.

I2/PD16 summarised the sentiment: *"It's hard to stay engaged when you don't feel trusted by the organisation. When you're constantly second-guessed or overlooked, you start to question why you should put in the extra effort."*

- **Pride in organisational culture.**

Within the broader theme of Leadership and Organisational Strategy, Pride and Culture emerged as a significant subtheme.

Across the focus groups and interviews, participants frequently referenced a shared commitment to patient care and to "do what's best for the patient" as foundational sources of pride and cultural cohesion among Irish healthcare workers.

Nurses reflected on this shared commitment:

FG1/PN4: *"Nurses here are driven by a strong work ethic, and we all do our best to prioritise patient care, even when the going gets tough."*

FG1/PN2 also noted that while this work ethic is a point of pride, it can also become a challenge: *“Our strong work ethic can sometimes work against us. We always step in and do whatever it takes to give the best care to our patients, but it feels like management takes advantage of it.”*

In general, the participants in the 3 focus groups and 2 interviews expressed a deep sense of pride in their roles, especially during the COVID-19 pandemic. Despite the immense difficulties, they took pride in their ability to adapt, collaborate, and continue delivering high-quality care. Many emphasised the camaraderie that developed among employees during this time, which fostered an even greater sense of pride in what they were able to achieve together.

FG1/PN3 stated: *“The teamwork we developed during COVID brought us together. We were all focused on doing what’s best for the patients, and that’s something we were all proud of.”*

However, while this strong culture of commitment is a source of pride, it also presents challenges, particularly when high expectations lead to stress and burnout. The same dedication that drives healthcare workers to excel can become overwhelming when compounded by systemic pressures and a lack of adequate support. This perspective was greatly voiced in both Focus Groups 1 and 2.

FG2/PD9 remarked: *“While we have a strong culture of dedication, the pressure to consistently meet those high standards can be quite overwhelming.”*

FG1/PN4 expanded: *“The problem is, we care so much about our patients that we push ourselves to the limit. But the hospital take advantage of that, expecting us to keep going no matter how stretched we are. It’s no surprise people burn out.”*

Another critical element that emerged from the data was the role of leadership in fostering pride. Participants noted that transparent, communicative, and supportive leaders contribute to a positive organisational culture where employees feel valued. This, in turn, enhances their sense of pride in their work and the organisation. However, opinions on leadership were divided in the different focus groups.

Focus group 2, constituted by doctors, generally felt that their leaders were more open to feedback, which contributed to a sense of pride and ownership in their work. FG2/PD7 shared: *“The managers here actually ask for our feedback, which is pretty shocking! But honestly, it makes a big difference. When you feel like your opinion matters, it’s way easier to feel proud of the work and maybe even the place we work, too!”*

However, Focus Group 1, comprised of nurses, frequently expressed that their dedication and commitment were being exploited, a sentiment that stood in stark contrast to the experiences of doctors, who generally reported feeling valued, respected, and heard in their professional roles.

Lastly, in relation to pride in organisational culture, a recurring topic in the focus group 1 and 2 was the abuse of power by senior staff, particularly within the hierarchical structures of hospital settings. Doctors described environments where dismissive or demeaning behaviours by those in authority were not only common but often tolerated as part of the organisational culture. FG2/PD9 reflected on this dynamic, stating: *"Incivility is an issue in certain places in the country, with senior figures like big surgeons who think they're untouchable. There's a culture where they get away with unpleasant behaviours."*

- **Workplace Atmosphere**

Within healthcare organisations, the workplace atmosphere emerged as a crucial factor shaping employees' experiences and overall engagement. Across interviews and focus groups, participants consistently described how cultural norms, expectations, and leadership practices influenced their daily work, professional identity, and long-term commitment to the organisation. While a strong, cohesive workplace culture fostered collaboration and resilience, many participants also highlighted challenges related to role clarity, expectations, and systemic pressures that shaped their responsibilities.

A recurring theme was the tension between professional expectations and organisational constraints, particularly in defining the scope and boundaries of roles within the healthcare system. Many participants, mainly nurses, felt that their actual responsibilities often extended far beyond their formal job descriptions, with additional duties being informally assigned based on staffing shortages, workplace norms, or hierarchical expectations rather than structured decision-making. FG1/PN5 reflected on this frustration, stating:

"We all have job descriptions, but in reality, we're constantly doing more than what's written down. You take on extra responsibilities because the system expects you to, not because it's actually part of your role."

FG1/PN7 added: *"A lot of the time, we're filling in the gaps.... doing admin work, chasing things up, organising patient flow. But that's not what we trained for and it's frustrating"*

Doctors also raised concerns about how the workplace atmosphere reinforced hierarchical expectations, making it difficult for junior doctors to question additional responsibilities that were imposed without formal support. In some cases, this resulted in a workplace dynamic where junior

staff members felt obligated to take on extra duties, even when they were not appropriately resourced to do so.

FG2/PD8 illustrated this issue, explaining:

"There's this unspoken rule that you just do what needs to be done, even if it's not technically your job, it becomes part of it, and you don't even question it after a while, even when it's completely unsustainable."

- **Support Within the Team**

Support within the team emerged as a critical factor influencing healthcare workers' ability to navigate the pressures of their roles. Participants consistently described peer support as an essential buffer against stress, burnout, and organisational inefficiencies. While many professionals struggled with role ambiguity and systemic pressures, they frequently found comfort in their immediate team, particularly among their own professional groups, such as nurses supporting nurses or doctors supporting doctors.

One of the strongest themes in the discussions was the sense of solidarity and shared responsibility within nursing teams. Many nurses in the focus group 1 described their colleagues as both emotional and professional support systems, emphasising that teamwork was often the only thing that got them through the most challenging shifts.

FG1/PN2 reflected on this, stating:

"When things get crazy, we barely need to talk, it's like we're in sync...we just know what needs to happen. I know my team has my back when I'm drowning in work. That kind of teamwork is what gets us through those insane shifts."

FG1/PN1 added:

"Our teamwork is the best.... we always support each other as family."

However, while intra-professional support served as a vital source of strength, nurses predominantly reported challenges in receiving adequate support from leadership and other professional groups like doctors. Many felt that senior staff and management lacked a clear understanding of the realities of frontline workloads, which contributed to feelings of frustration, isolation, and ultimately, disengagement.

FG1/PN3 described this frustration, stating:

"We work as a team, but sometimes it feels like management doesn't see what we actually do. The only people who really understand what we go through are the ones beside us."

In some cases, this lack of external support increased pressure within teams, as nurses had to compensate for limited resources or unclear decision-making from leadership.

FG1/PN4 noted this strain, stating:

"We're expected to manage with what we have, even when it's not enough. That means we rely on each other even more, but there's a breaking point where that's not sustainable."

Beyond everyday peer support, team flexibility played a pivotal role in cultivating resilience, particularly during crises. Many participants highlighted the COVID-19 pandemic as a defining period that illustrated their team's ability to rapidly adjust and effectively support one another under extreme circumstances. This topic was mainly highlighted in the 2 interviews.

I2/PD16 captured this sentiment, stating:

"One of the most extraordinary things during COVID was our team's flexibility.... and despite the challenges, we showed how effectively we could adjust and support each other when it mattered most."

While strong team dynamics helped alleviate workplace stress, mainly nurses cautioned that excessive reliance on peer support could also be a double-edged sword. Unspoken expectations to "step up" when others were struggling sometimes led to overwork and burnout, as professionals felt an obligation to take on additional responsibilities to support their team.

FG1/PN6 shared how this pressure could sometimes become overwhelming, stating:

"We help each other because that's what we do, but sometimes you're so exhausted, and you just wish there was more support from above instead of always having to rely on each other to keep things going."

- **Communication Within the Team**

Effective communication within healthcare teams influenced how well professionals collaborated, problem-solved, and coordinated patient care. Nurses and doctors highlighted both the strengths and weaknesses of team communication, noting that while intra-professional communication (within the same professional groups) was generally strong, inter-professional communication (between different professional groups) was often hindered by hierarchy, unclear expectations, and fragmented workflows.

One of the primary concerns was the rigid hierarchical structure embedded within healthcare teams, which often limited open dialogue and collaboration.

FG1/PN5 captured this frustration, stating:

"It's really frustrating because, in theory, we're supposed to work as a team, but your ideas or insights about a patient often get overlooked because the doctors or senior staff are the ones making all the decisions. It makes you feel like your contributions don't really matter, and that affects how comfortable you feel in sharing your thoughts."

Junior doctors echoed this sentiment, highlighting the imbalance in decision-making authority

FG2/PD6 echoed this sentiment, emphasising the lack of consultation with junior doctors:

"There's this unspoken rule in healthcare that the senior staff always have the final say, no matter what... The junior members don't really get consulted. It's frustrating because we're the ones spending the most time with the patients. It creates a real disconnect between the levels."

Beyond hierarchical challenges, inter-professional communication gaps further complicated teamwork. While doctors and nurses recognised the importance of collaboration across disciplines, they often described the reality as fragmented and disjointed.

FG2/PD9 compared the experience to working on separate teams rather than as a unified unit, stating:

"It's like we're all on the same team but playing separate games..... it feels like we're having different conversations or no conversation at all. We're doing the same work but in a way that feels disconnected, and it creates a lot of unnecessary differences in patient care."

This lack of communication often resulted in increased workloads, with nursing participants reporting that they were left to take on additional responsibilities.

FG1/PN3 noted:

"There are times when no one tells us what's happening with a patient until the last minute. We're left scrambling to catch up because no one thought to loop us in. Sometimes we end up repeating tasks that were already done, which just adds to our workload."

Despite these systemic communication challenges, focus groups 1 and 2 as well as both interviews, highlighted moments where effective communication was critical for patient care, particularly in emergency situations or high-pressure environments. However, many felt that these positive moments were not consistently replicated in day-to-day operations due to bureaucratic barriers, siloed workflows, and a lack of structured communication channels.

FG1/PN4 captured this contrast, stating:

"In emergencies, everything falls into place...we communicate clearly, support each other, and work seamlessly as a team. But once the pressure's off, we go back to silos and red tape. That same level of coordination just disappears in everyday situations."

6.2.3 Third Theme: Health and wellbeing

Health and Wellbeing was a pivotal theme throughout the focus groups and interviews, encompassing key subthemes such as Stress and Stress management, Work-life balance, Job Security and Level of pay and Bullying

FG1/PN5 summarised this theme when noted: *"It's tough to even think about physical or mental health when the workload is so overwhelming. there are days when we barely get a chance to sit down, let alone take a proper break. You finish one shift and you're already worrying about the next one. We're constantly being pushed, and it feels like there's no time or space to look after ourselves"*

- **Stress and Stress Management**

The interviews and focus groups offered valuable insights into the stressors affecting healthcare workers in Ireland, as well as the strategies they use to manage this stress. This topic sparked particularly active discussion across all three focus groups. Notably, even managers, who had taken a more reserved stance on other subthemes were especially vocal when it came to employee stress and stress management. Participants consistently emphasised the toll of excessive workloads, limited support, and broader systemic challenges. These factors not only heightened personal stress levels but also had a direct impact on employee engagement and the quality of patient care.

One of the most mentioned causes of stress among participants was the overwhelming workload, which was further exacerbated by chronic staffing shortages. Nurses and doctors expressed that the demands placed upon them were often unrealistic, leading to burnout and exhaustion.

FG1/PN1 explained the weight of this burden: *"We're constantly overworked, and with the staff shortages, it's like we're expected to do more than what's possible. It's exhausting, and it wears you down."*

This sentiment was echoed by with FG2/PD7 noting: *"With reduced staffing levels, we simply don't have the time. It's stressful because you feel like you're always falling short."*

The emotional toll of stress was another theme that emerged throughout the interviews. Participants from the 2 interviews and nurses' focus group described feelings of burnout, exhaustion, and diminished morale. The combination of overwhelming workloads and insufficient

support led to reduced employee engagement and growing concerns about the quality of patient care.

FG1/PN5 shared the personal impact: *"I'm completely burnt out. The constant pressure and barely getting any rest are really messing with my mental health. Just the other day, I was so exhausted I almost missed something important for a patient. It's hard to do your best when you're this stressed out. Honestly, it's demoralising because you know you could be doing better if things weren't so difficult all the time."*

I1/PN17 added: *"It's draining, physically and mentally. You come in already tired, and the workload just keeps piling up. Some days, I feel like I'm just going through the motions, not because I don't care, but because I'm completely overwhelmed."*

Despite these challenges, many participants highlighted peer support as a critical way to cope with the stress. The camaraderie among colleagues, especially nurses, provided emotional relief in navigating their daily work.

FG1/PN1 emphasised this camaraderie: *"Honestly, just grabbing a cup of tea and chatting with colleagues is what keeps me sane in the hospital. They're the only ones who really get what you're going through, and it makes such a difference"*

Another nurse added:

FG1/PN3 added: *"We try to lighten the mood whenever we can, sharing a laugh or just being there for each other. It doesn't solve the issues, but it definitely helps us make it through the day."*

Some managers were perceived as unsupportive in helping staff manage stress, yet the focus groups with managers also revealed that they, too, face significant pressures, which ultimately affect their ability to support their teams. Managers expressed feeling overwhelmed by the sheer volume of responsibilities, acknowledging that their own stress levels often trickled down to staff. As one manager (FG3/PM12) shared, *"It's tough to stay focused and help the team when no matter how hard I try, there's always another pile of tasks waiting. It feels like I'm constantly putting out fires."*

The data also revealed that systemic changes are necessary to effectively manage stress in the Irish healthcare system. Participants pointed out that quick fixes, like temporary hires or shifting workloads to already overstretched staff, were not sustainable in the long run. This issue was strongly emphasised during the managers' focus group.

FG3/PM13 noted: *"We are dealing with the same issues as every other hospital in Ireland. The truth is, we are asking our nurses to handle way too many patients. Other countries have clear limits on how many patients a nurse can be responsible for, especially in critical care, but we are left to*

struggle with an outdated system that has not caught up. It's not just a hospital problem; it is a national one. Without real changes from the top, like proper staffing regulations, we are going to keep burning people out, and it's only going to get worse."

The persistent stress and lack of effective stress management strategies had broader implications for both employee engagement and staff retention. Nurses voiced concerns about the sustainability of their roles, given the constant pressure and limited support they experienced.

FG1/PN4 expressed her frustration: *"Some days, I honestly wonder how much longer I can keep going. It's not about not caring, it's that the stress makes it so hard to keep up that motivation."*

Doctors echoed these concerns, further adding:

FG2/PD9: *"We're losing really good people because they just can't handle the pressure anymore. It's not that they don't love the job, it's just that they can't keep up with the demands and stress. If nothing changes, it's only going to get worse. I've seen a couple of nurses leave recently who'd been here for years, but they couldn't take the constant strain anymore."*

Managers also warned about the long-term consequences for the healthcare system across Ireland: FG3/PM14: *"It's not just this hospital; this is an issue across the country. We're not given the resources we need, and it's pushing people out of the profession. There's no clear plan from the government to fix this either. If Ireland doesn't invest in healthcare soon, we're going to see even more staff leaving."*

This burden was further intensified by the COVID-19 pandemic, as healthcare workers faced unprecedented pressures in their roles. Participants shared their struggles with maintaining their mental health amidst the increasing demands, uncertainty, and constant fear surrounding the pandemic.

One participant from the nurses' focus group (FG1/PN4) vividly described the mental strain during the peak of the pandemic, reflecting the all-consuming worry that dominated daily life: *"It wasn't just the exhaustion from the long shifts; it was the constant fear. You were always worrying about getting sick or bringing the virus home to your family. It wore us down mentally and physically."*

Doctors echoed these sentiments, emphasising the relentless pressure they experienced:

FG2/PD8: *"During COVID, it felt like we had no breathing room. Every day was a battle, and you just kept going because you had to, but you never really got a chance to recover."*

This sense of never-ending strain became a common theme, as healthcare workers pushed through exhaustion with little opportunity for respite. In response to these challenges, various strategies for psychological support were introduced during the pandemic. These ranged from formal counselling

services offered by hospitals to informal peer support systems among staff. While many participants in the focus groups expressed gratitude for the introduction of mental health resources, there were mixed feelings about their accessibility and effectiveness.

One of the nurses (FG1/PN3) shared a positive experience with formal counselling services: *“Our hospital offered counselling services during the height of the pandemic, and I found it really helpful. It gave me a space to talk about what I was going through, and it made a difference in how I coped.”*

However, in general nurses and doctors highlighted the practical difficulties of accessing these services, especially given the demands of long shifts.

FG2/PD9 remarked: *“They had mental health support, but with the way our shifts were, it was nearly impossible to make use of it. We were so busy; you just didn’t have time for anything extra.”*

While these efforts were appreciated, nurses voiced concerns about the short-term nature of the mental health support provided during the crisis. Some pointed out that as the pandemic eased, access to these services faded, even though the emotional and psychological impacts of COVID-19 were, for many, at their peak. FG1/PN5 highlighted this issue, saying: *“There were counselling services during COVID, but now that things have settled down a bit, it feels like they’ve disappeared. But the traumas haven’t gone away, so we still need that support.”*

Doctors echoed this situation and stressed the need for sustained mental health services:

FG2/PD7: *“The stress didn’t end when the pandemic slowed down. If anything, we’re dealing with the aftermath now. We need ongoing mental health support, not just crisis intervention.”*

Both focus groups and interviews also pointed to the crucial role of leadership in fostering a culture where mental health is prioritised. They felt that creating an environment where staff could seek help without fear of judgment or repercussions was essential. FG1/PN3 underscored the importance of leadership in setting this tone: *“Service and hospital managers really need to set the tone when it comes to mental health. People should feel like they can ask for help without worrying about being judged or facing any backlash. It’s about making sure mental health is a real priority, not just something we talk about once in a while.”*

- **Bullying**

Throughout data analysis, I found little information on bullying and discrimination, despite these variables being identified as mediators of employee engagement in the quantitative findings. One of the key limitations likely stems from the composition of the participant sample. While targeted participants were included, the majority were Irish and identified as white, which may have restricted the diversity of perspectives on these issues. Additionally, the cultural sensitivity and

stigma surrounding topics like bullying and discrimination could have further contributed to the scarcity of open discussion on the matter.

Although participants used the term 'bullying,' it was typically in reference to situations they had observed rather than personally experienced. Their comments often focused on what should be done in cases where someone suffers from bullying, rather than recounting their own encounters. This suggests that, while bullying is recognised as a workplace issue, it is more frequently discussed in hypothetical or third-party terms.

Bullying was mainly brought up in the doctors' focus group, not as a personal experience, but in relation to how difficult it can be to support someone close who is going through it, especially when the perpetrator holds a senior position. FG2/PD7 commented: *"Usually, if someone I know feels they're being bullied, I'd recommend going to a senior staff member. But when the person displaying that behaviour is a consultant, it gets complicated because you're supposed to turn to them for advice, even though they're the one causing the issue."*

Another key finding in the analysis was the role of cultural sensitivity and stigma in limiting open discussions about bullying. While participants described instances of inappropriate behaviour, the reluctance to name it as "bullying" suggests that the topic remains somewhat taboo. As FG2/PD7 observed: *"I think it probably has improved with increasing awareness in society. Sometimes things happen that make people really uncomfortable, but no one wants to put a label on it . There probably is still overt bullying.....you just sort of learn to keep your head down and not make a fuss"*

- **Work-Life Balance**

In both our interviews and focus groups, the theme of work-life balance emerged as a significant concern for healthcare professionals. Many participants detailed the immense challenges of managing personal and professional responsibilities within such a demanding field. The fast-paced nature of healthcare, long and unpredictable shifts, and the emotional intensity of their work were all consistently identified as key factors contributing to the difficulty in maintaining a healthy balance between work and personal life.

One of the most frequently mentioned challenges to maintaining work-life balance was the long and often unpredictable shifts that healthcare professionals are required to work. Nurses and doctors noted that the length and intensity of their shifts left them physically and emotionally exhausted, with little time or energy to dedicate to personal activities or rest.

FG1/PN3 captured this feeling: *"The shifts have improved but have their own challenges... covering absence shifts is a big issue... it puts a lot of stress on people, and we end so tired that once we're at home, we only want to sleep"*

The emotional intensity of healthcare work, particularly in settings where professionals are regularly exposed to patient suffering and life-threatening situations, was another theme that frequently arose. Doctors shared how this emotional burden, compounded by the physical demands of their jobs, left them feeling overwhelmed, ultimately affecting their mental health.

FG2/PD8 shared: *"You take your work home with you, even if you're not physically there. It's hard to just switch off and leave everything behind."*

The emotional toll of the COVID-19 pandemic was especially highlighted by nurses, who noted its lasting impact not only on their work-life balance but also on their families.

FG1/PN4 shared the fear and emotional burden of working during the pandemic, which extended beyond the workplace and affected their personal life: *"During COVID, we were looking at Italy and seeing nurses dying over there. My mom was crying before I would go in, thinking I was going to come back sick, but I was more focused on my patients. That really took a toll"*

Another challenge identified in the interviews was the lack of flexibility in healthcare professionals' schedules. The nature of shift work, combined with the unpredictability of patient care demands, often left little room for adjusting schedules to accommodate personal needs or events. Doctors were particularly outspoken on this matter.

FG2/PD6 voiced their frustration with the rigidity of their work schedule: *"There's just no flexibility. If something comes up in your personal life, it's really hard to make time for it. You're expected to prioritise work no matter what."*

Another doctor (FG2/PD4) echoed this concern, emphasising the additional strain caused by out-of-hours responsibilities: *"As a woman, the on-call out-of-hours rotas are very challenging, and there's absolutely no regard taken for childcare or personal time"*

On-call responsibilities also contributed significantly to work-life imbalance for nurses. The unpredictability of being on-call, combined with the stress of potentially being called into work at any time, created an ongoing tension that made it difficult to fully relax during off-hours.

FG1/PN4 described the experience as follows: *"Even when you're off, you're never really off. You're always waiting for that phone call, and it's hard to really unwind or make plans."*

This challenge was further compounded by the growing reliance on digital communication tools, particularly WhatsApp. Doctors highlighted how these platforms have increasingly blurred the lines between work and personal life, contributing to a culture of constant availability. As a result, many found it difficult to fully disengage from work responsibilities, even during off-duty hours. As FG2/PD7 explained:

“Previously, all communications would have been to your pager, which is annoying at times, but now you’re constantly contactable on these WhatsApp groups. Even when you’re off, you’re getting messages, and you can mute the group, but it’s still popping up on your screen.”

Another doctor (FG2/PD8) echoed this concern:

“It’s usually seniors or people in authority calling you, so you feel forced to respond, even when you’re off-duty.”

The imbalance between work and personal life also had a noticeable impact on participants' relationships with family and friends. Nurses, doctors and managers mentioned feeling guilty about the amount of time they spent away from loved ones or being unable to attend important personal events due to their demanding work schedules.

FG1/PN5 shared: *“You miss out on so much. Family gatherings, birthdays, just normal day-to-day moments. It makes it really hard to stay connected to the people you care about.”*

- **Security and Level of Pay**

The focus groups and interviews highlighted several interconnected themes surrounding pay levels and job security, both of which were closely linked to employee engagement and overall job satisfaction. Participants consistently emphasised the profound effect these factors had on their morale, ability to perform their roles effectively, and long-term commitment to their organisations. One of the most prominent concerns raised was the inadequacy of pay in reflecting the growing responsibilities of healthcare workers, particularly nurses. Many nurses felt that their compensation failed to account for the increasing complexity and workload inherent in their roles. FG1/PN3 explained, *“We’re the ones running the clinics, coordinating care, and taking on all the extra tasks, but our pay doesn’t reflect that. It feels like we’re doing the work of two people.”*

FG1/PN4 echoed this sentiment, highlighting the discrepancy between their growing duties and stagnant compensation: *“We’re doing more than ever, both in terms of patient care and administrative duties, but the pay hasn’t kept pace.”*

This frustration was particularly evident when nurses compared their responsibilities to those of other healthcare professionals, such as doctors. Several participants pointed out the disparity

between their roles and those of their medical counterparts, noting that they often had to juggle both clinical and administrative duties without receiving adequate compensation.

FG1/PN5 shared: *"I often find myself doing things like booking appointments or managing records, when my focus should really be on patient care. It's frustrating because we're paid as nurses, but we're doing admin work to, things doctors never have to do, and they're paid so much more."*

In addition to concerns over pay, the issue of job security emerged as a key theme, particularly in the context of the post-COVID healthcare environment. Many participants expressed a deep sense of insecurity regarding their long-term employment prospects and financial stability. Ongoing structural changes within the healthcare system, combined with the lack of clear communication from management, left many junior doctors feeling uncertain about the future of their roles.

FG2/PD6 remarked: *"There's always talk of restructuring, and it makes you wonder whether your job is safe. It's hard to feel secure when you don't know what's coming next."*

The combination of inadequate pay and job insecurity had a profound impact on the morale and engagement of healthcare workers. Long-serving staff, in particular, expressed a sense of disillusionment over the lack of progression in both pay and career development.

One nurse (FG1/PN3), who had been in the same role for over a decade, described this frustration: *"I've been in the same role for over 10 years, and there's never been any real discussion about improving our pay. We take on more responsibilities, constantly upskill, but the salary stays the same. After a while, you stop expecting anything to change, and it affects how motivated you are."*

Doctors also highlighted the negative impact of job insecurity on engagement, particularly in the context of the frequent rotations and temporary contracts that many healthcare workers face:

FG2/PD7: *"The way the system is designed, we're constantly rotating between hospitals. You might work hard to improve things, but by the time any change happens, you're already gone. It feels like there's no point in getting too involved because there's no long-term security, and that definitely impacts how engaged people are."*

6.3 Future Directions and Necessary Changes to Ensure Engagement and Retention of Healthcare Staff in Ireland

The latter section of the findings centred on inductive themes that emerged organically during the qualitative phase of the research. Unlike the first part of the qualitative analysis, which was primarily deductive and aligned closely with themes identified in the earlier quantitative phase, this section delved into new insights that were uncovered through a deep examination of the interview and focus group data. These emergent themes provided a richer understanding of the issues facing

healthcare workers, going beyond the scope of the initial hypotheses derived from quantitative findings.

However, it is important to emphasise that both phases of the qualitative analysis (deductive and inductive) are interconnected. While the deductive analysis helped validate and expand on the patterns already established in the quantitative data, the inductive analysis shed light on previously unrecognised factors that should be addressed in future research on this topic.

6.3.1 Four Theme: Systemic and structural Challenges

Emerging inductively from the qualitative data, the theme of “Systemic and Structural Challenges” reflects the pervasive inefficiencies and organisational shortcomings that impact the overall functioning of the healthcare system. While this theme was not originally part of my validated quantitative Theoretical Framework for measuring Health Employee Engagement (**Chapter 5**), I chose to explore it separately due to its broader structural focus and the distinct and inductive insights it offered.

Fragmented structures, outdated processes, and a lack of cohesive leadership were the primary challenges raised by participants in both the focus groups and interviews under this theme. These systemic issues were seen as major contributors to operational inefficiencies and diminished staff morale. Many healthcare workers voiced frustration with the system’s reactive approach where short-term fixes are often prioritised over sustainable, long-term solutions, leaving critical problems unresolved. Managers were particularly vocal within this theme, emphasising the urgent need for structural reform within the Irish healthcare system.

FG3/PM14 summed up the frustration, stating: *“We’re constantly battling a system that’s stuck in the past, and instead of addressing the root problems, they keep making piecemeal changes that don’t fix anything in the long run.”*

- **Systemic and Structural Challenges**

Through our interviews and focus groups, healthcare professionals consistently highlighted systemic inefficiencies that have persisted over time, compounded by the COVID-19 pandemic.

One of the most pressing issues raised specifically by nurses was the fragmentation of services across the healthcare system. This fragmentation not only disrupted the continuity of care but also led to significant disparities in service delivery across different hospitals and units. A participant described the stark differences they had observed between departments:

FG1/PN4: *"There's a huge disparity... for example, in memory units, it's very poor compared to cardiovascular or neurology units, which have a huge number of Advanced Nurse Practitioners"*

This disparity generated considerable frustration, as the inconsistencies in patient care between well-resourced and under-supported units became increasingly evident." Some hospitals and units enjoyed the benefit of extensive resources, while others were left struggling with limited support, resulting in uneven patient outcomes. One nurse shared their perspective:

FG1/PN2: *"In some hospitals, they seem to have an abundance of resources, while others are constantly struggling. There are places where you have a whole team of people handling tasks, and then others where one person is doing everything, including what should be someone else's job."*

A prevailing sentiment throughout the focus groups and interviews was that the lack of a standardised, national framework for healthcare significantly worsened disparities across the system. Decision-making around patient care and resource allocation was frequently left to individual consultants or institutions, resulting in inefficiencies, and added pressure on healthcare staff. Mainly doctors voiced their frustration with the inconsistency in service delivery:

FG2/PD9: *"It really comes down to what consultant is interested in whatever area it is and how they choose to run the service. One hospital might have a very comprehensive service, while another only offers basics like a scan, and then you're sent back to your GP."*

Many doctors also highlighted the systemic resistance to long-term reform within the Irish healthcare system. Even when changes were introduced, they were often reactionary, prompted by crises such as the COVID-19 pandemic, and quickly abandoned once the immediate pressure subsided. This rigidity, they noted, hindered meaningful progress and allowed long-standing systemic issues to persist unaddressed. Reflecting on this, several doctors shared the following observations:

FG2/PD6: *"During COVID, we reorganised and saw some positives. For example, we streamlined how clinics were run to minimise the number of people waiting around. It actually made the system more efficient, and we could see the positive impact on patient flow. But now everything is back to how it was before."*

FG2/PD8 also noted: *"We made a lot of adjustments during COVID19, and for a while, it felt like we were finally making progress. Processes were smoother, patient care was more streamlined, and it seemed like a better system overall. But as soon as the crisis was over, everything went back to the way it was before, as if none of the improvements mattered."*

This failure to sustain changes after initial efforts was a recurring theme in the interviews, reflecting a broader issue of reforms being introduced with optimism but quickly abandoned or not fully implemented. Doctors and nurses shared specific examples where initiatives showed promise but were not integrated into the system for long-term improvement.

FG2/PD8: *"A while back, they introduced a new protocol for speeding up patient discharges to free up beds. Initially, it worked really well, patients were leaving faster, and it seemed like the pressure on the wards was easing. But after the initial push, the extra staff they brought in were reassigned, and the whole system just went back to its old, slow pace. Now, it's chaotic again, and we're back to scrambling for beds."*

FG1/PN4: *"We had a trial where they assigned us more healthcare assistants to help with non-nursing tasks like paperwork and patient transport. It made a noticeable difference; we were finally able to focus more on clinical care. But after a few months, the project ended, and they didn't renew it. It was frustrating because we saw how much it improved our workload, but the system didn't commit to making it permanent."*

A key issue contributing to the resistance to change, according to the participants, was the failure of Irish healthcare institutions to engage in meaningful organisational learning. Lessons learned during times of crisis were often disregarded once the immediate crisis ended, resulting in missed opportunities for sustained improvement. Managers expressed their frustration:

FG3/PM16: *"Irish organisations usually fail when it comes to institutionalising new practices learned during times of crisis. Rather than using the pandemic as an opportunity to drive long-term reforms, the healthcare system reverted to its old, familiar, and inefficient practices."*

- **Telemedicine**

The emergence of telemedicine during the COVID-19 pandemic brought significant changes to healthcare delivery, presenting both opportunities and challenges. Participants in the focus groups and interviews shared a range of perspectives on the benefits and limitations of telemedicine, with particular emphasis on its impact on patient care and the healthcare system as a whole.

Frontline workers, particularly doctors and nurses in the focus groups, were the most vocal on this topic, given their direct and extensive exposure to telemedicine during the pandemic. They acknowledged that it played a critical role in sustaining patient care under restrictive conditions. By enabling remote consultations, telemedicine reduced the risk of infection while allowing continuity of care. It was also seen as a valuable tool for managing workloads and maintaining patient communication. Their perspectives on this subtheme included the following

FG2/PD7: *"We were able to adapt to a virtual world, and that has somewhat transferred to healthcare. Telemedicine allowed us to care for chronic disease patients remotely, set up virtual hubs and clinics, and still provide patient care without exposing them to unsafe environments."*

FG1/PN3: *"During COVID, we used iPads on the wards for video calls between families and patients. This technology really opened our eyes to the potential of telemedicine"*

While telemedicine offered clear benefits, these frontline workers also highlighted the significant challenges it presented. One key issue was the additional workload telemedicine created, especially in settings where patients had to be contacted by phone or video call multiple times. As doctors explained:

FG2/PD10: *"Telemedicine can be useful, but it also adds to the workload. You're expected to see extra patients, sometimes three or four more per clinic, and often, they don't answer the phone. You have to call multiple times, which can really slow things down"*

Another concern was the limited effectiveness of telemedicine in complex cases, where face-to-face consultations were still necessary:

FG2/PD9: *"Telemedicine works for simple follow-ups or giving test results, but for more complex issues, it doesn't work well. Often, we end up seeing the same patients in person later on because the virtual consultation wasn't enough. It ends up being double the work."*

Nurses also raised concerns about the lack of formal training in telemedicine, which added to the challenges of integrating this technology into their workflows. One nurse expressed their frustration with the rapid adoption of telemedicine without sufficient preparation:

FG1/PN2: *"We never had any formal training in telemedicine. It was just introduced quickly during COVID, and we had to figure it out as we went along. I think we have learned a lot, but there's still so much more we could have done with proper guidance."*

- **Future Preparedness and Resilience of the Irish Healthcare System**

While much of the discussion in the focus groups and interviews centred on commonly cited areas such as technology and collaboration, several participants, particularly from the managers' and doctors' focus groups, introduced new perspectives on resilience within the Irish healthcare system. These insights shed light on less obvious, yet crucial elements that could help enhance the system's capacity to withstand future crises. Key areas highlighted include the decentralisation of decision-making, adaptive supply chain management, strengthening public health infrastructure, and improving staff retention.

Managers expressed that resilience in the Irish healthcare system could be significantly improved if decision-making processes were completely decentralised. During the COVID-19 pandemic, local hospital units frequently had to make critical decisions quickly, without waiting for national-level directives. They felt that this autonomy improved responsiveness and allowed for more tailored solutions to address the unique challenges of each hospital. Managers reflected on this shift, stating:

FG3/PM11: *"One of the best things that happened during COVID was that we weren't waiting for every directive from the top. We had more freedom to make decisions locally, and it worked. We could adapt to what was happening on the ground, and that made us more effective."*

Another essential element of resilience, according to them, was the need for an adaptive supply chain management system. During the pandemic, shortages of Personal Protective Equipment (PPE) and other critical supplies exposed vulnerabilities in Ireland's ability to respond quickly to spikes in demand. Managers felt that future preparedness would require a more flexible approach to resource allocation, with local hospitals having more control over supplies to avoid such shortages.

FG3/PM11: *"The supply was one of the biggest issues during COVID. We couldn't get PPE when we needed it because everything was controlled centrally. If each hospital had more control over its own supplies during a crisis, we could be better prepared for sudden spikes in demand."*

Doctors also pointed to the need to strengthen health infrastructure at the community level as another essential area for building long-term resilience. While hospitals remained the focal point during the pandemic, they felt that community health services, particularly those related to health education and preventive care, were significantly underutilised. Strengthening these services was seen as a way to reduce pressure on acute care settings and improve population health outcomes in future crises.

FG2/PD7 reflected: *"We've always focused so much on hospitals, but during COVID19, we saw how important community-level care is"*

Another doctor echoed this, emphasising that a robust primary care system could prevent many hospital admissions by managing patients' needs at the community level

FG2/PD6: *"A lot of what ends up in hospitals could be handled in the community if primary care had better resources. GPs are stretched thin, so patients get sent to hospitals for things that could have been managed earlier or closer to home. We need to invest in primary care if we want to reduce the pressure on hospitals."*

However, while this was the prevailing sentiment across both focus groups, some managers and doctors acknowledged that strengthening primary care alone would not be sufficient to fully address the underlying challenges. They cautioned that both primary care and hospital capacities must be expanded in tandem to ensure that the healthcare system could distribute its workload effectively.

PM14: *"We can't just shift everything to primary care and expect it to fix the system. Primary care needs more resources, but so do hospitals. We need to invest in both so that the workload is distributed properly, and patients are getting the care they need in the right place."*

Another critical issues that were highlighted in this subtheme was the relationship between staff retention and the resilience of the Irish healthcare system. Mainly doctors and nurses pointed out that high staff turnover rates and workforce shortages were weakening the system's ability to respond to crises and maintain high-quality care. Losing experienced staffs was seen as a major threat to the system's future preparedness.

FG2/PD10: *"We're losing experienced staff left and right, and it's a huge problem. These are people who have been through crises and know how to handle them. If we keep losing them, we'll struggle to deal with the next big emergency."*

Nurses and doctors also expressed frustration over the HSE recruitment freeze which, although no longer in effect, has been replaced by ongoing restrictions that continue to cap recruitment. Many viewed this as a short-sighted, cost-saving measure that exacerbated an already fragile healthcare system. Given the ongoing workforce pressures, participants felt the freeze had increased their workload, undermined the quality of care, and diminished the system's capacity to respond to future challenges. The overwhelming sentiment was that the Irish healthcare system, particularly after COVID-19, desperately needs investment and long-term planning rather than short-term cost-cutting measures.

FG1/PN3 captured this frustration: *"The recruitment freeze is completely counterproductive. We're already short-staffed, and instead of addressing the issue, they're making it worse to save money. The system is barely holding together as it is, and without new staff, we're being pushed to the limit."*

FG2/PD7 added: *"It feels like they're just trying to cut costs in the short term, but at what price? The system is weak enough as it is, and if the government doesn't invest in staffing now, how are we supposed to handle another crisis like COVID? We need more people, not fewer."*

6.4 Conclusions

This chapter represents a critical analytical layer within the overall study, offering an in-depth qualitative examination of the lived experiences and perceptions of healthcare professionals in Ireland regarding employee engagement. The combined use of focus groups and interviews enabled a multidimensional understanding of engagement processes, with findings that both reinforce and explain the validated Theoretical Framework for measuring Health Employee Engagement developed earlier in the thesis. **(Chapter 5)**

The interviews largely confirmed the subthemes and themes identified in the focus groups, rather than offering substantial contrast or contradiction. This consistency across methods provided me reassurance that the narratives captured in the focus groups were not primarily shaped by groupthink or social desirability pressures. Instead, the alignment suggests that the perspectives shared were robust and widely shared across roles and settings. The interviews added depth in subthemes such as training and opportunities of career progression and trust and autonomy but did so in a way that reinforced, rather than undermined, the thematic structure developed from the focus group data.

The findings also revealed important areas of convergence and divergence across the professional focus groups. All three shared a strong commitment to patient care and voiced common frustrations with structural inefficiencies, communication breakdowns, and a perceived lack of long-term strategic vision. However, there were clear role-based differences in how engagement was experienced and prioritised. Nurses were especially vocal about issues related to emotional labour, disproportionate workloads, and limited recognition, often framing their concerns in terms of fairness and support. Doctors, on the other hand, emphasised bureaucratic constraints and a diminishing sense of professional autonomy, expressing a need for greater involvement in decision-making. Managers, while often aligning with frontline staff on structural challenges, tended to frame these issues at a systems level, focusing on governance, policy restrictions, and resource limitations. The qualitative analysis of the data played a pivotal role in explaining and contextualising the validated theoretical framework. While the framework was empirically tested and statistically validated using quantitative methods, this chapter gave voice to the human realities behind each of its latent dimensions and subdimensions. Dimensions such as leadership, recognition, role clarity, teamwork, and training opportunities were not only supported by the data, but their operational mechanisms were illuminated, demonstrating how they function in practice, under what conditions they are strengthened or undermined, and how staff perceive their importance in shaping daily work life.

Notably, the emergence of an inductive theme “Systemic and Structural Challenges” highlighted the limits of the original framework and pointed to the need for ongoing future refinement. Although

not part of the validated model, this theme consistently surfaced across professional groups and data sources, demonstrating its salience as a contextual force that shapes the experience of engagement across all dimensions.

In sum, this chapter not only reinforced the empirical validity of the proposed theoretical framework but also deepened my understanding of the underlying mechanisms through which engagement is fostered or hindered in real-world healthcare settings. The next chapter, in which qualitative and quantitative findings will be integrated using Pillar Integration Process, will allow for a deeper understanding of the framework's practical utility in guiding evidence-based interventions, informing workforce planning, and supporting system-level reform within the Irish healthcare context.

**Chapter 7: Advancing a Validated Framework for
Healthcare Employee Engagement: Integrating
Quantitative Evidence and Qualitative Insights.**

7.1 Introduction

This section presents the integrated analysis that deepens and contextualises the interpretation of the validated employee engagement framework developed for the Irish healthcare system. The quantitative model, comprising eight core dimensions: Pride and Culture, Teamwork, Performance Recognition, Job Involvement, Leadership, Training and Opportunities, My Role in the Organisation, and Health and Wellbeing, along with two key mediating variables (Bullying and Discrimination) and four significant moderating factors (Age, Gender, Years of Experience, and Position within the Organisation) was statistically validated and offered a robust foundation for measuring engagement **(Figure 15)**.

Complementing this validated structure, the qualitative component of the study introduced four overarching themes: Leadership and Organisational Strategy, The Need to Feel Recognised and Valued, Health and Wellbeing, and Systemic and Structural Challenges **(Figure 16)**. These themes provided critical explanatory depth to the quantitative validated model by illuminating the lived experiences, perceptions, and structural barriers encountered by healthcare professionals.

7.2 Bridging Perspectives: Integrating Quantitative Structure and Qualitative Meaning in Healthcare Employee Engagement

As part of the Pillar Integration Process (PIP), the first step involved systematically organising the quantitative data. The quantitative phase provided measurable insights into workplace conditions, leadership effectiveness, teamwork, career progression, and overall engagement levels. These data, as explained before, was structured into eight primary engagement dimensions, 20 subdimensions and additionally moderating and mediating variables that were included to identify subgroup variations, allowing for a more nuanced interpretation of employee engagement trends across different healthcare roles and organisational structures.

The second phase of the integration process involved the alignment of qualitative data from focus groups and interviews, structured in 4 themes and 17 subthemes, followed by a detailed comparative analysis to examine how findings from both methodological strands converged, diverged, or complemented one another. **(see Table 23)** This systematic integration allowed for a deeper exploration of engagement dynamics, ensuring that statistical patterns were not interpreted in isolation but were contextualised within the lived experiences of healthcare professionals.

Through this integration process, ten distinct engagement pillars emerged, encapsulating the key themes that structured and connected both the quantitative and qualitative findings. The first eight pillars primarily reflect deductive alignment, offering a deeper, context-rich explanation of the validated engagement framework by synthesising the corresponding elements from both strands of data. These pillars illustrate how the dimensions validated through quantitative analysis are experienced and interpreted by healthcare workers in practice. In contrast, the final two pillars

represent inductive insights, themes that emerged exclusively from the qualitative data and were not captured by the quantitative model. The ten pillars include:

- The Paradox of Commitment: Balancing Dedication, Pride and Systemic Strain
- The Collaboration Divide: Navigating Hierarchies and Fragmented Teamwork
- The Recognition Gap: Unacknowledged Performance Recognition and Its Impact on Engagement
- Unfulfilled Potential: Job Involvement and the Struggle for Long-Term Commitment
- Leadership in Crisis: The Struggle Between Strategy and Reactive Management
- Stalled Growth: The Barriers to Training and Career Progression in Healthcare
- The Hidden Cost of Care: The Erosion of Health and Well-being in Healthcare Workers
- Navigating Uncertainty: The Struggle for Role Clarity and Job Security in Healthcare
- Digital Transformation and Telemedicine
- Restructuring of Healthcare System and the Shift Toward Primary Care

The integration of quantitative and qualitative findings in this study revealed both notable alignments and critical contradictions, offering a deeper and more nuanced understanding of employee engagement within the Irish healthcare system. In many instances, the two datasets were mutually reinforcing, with qualitative insights providing contextual depth to quantitative patterns, strengthening the validity of identified trends. Survey data often reflected broad levels of engagement or dissatisfaction, and qualitative findings elaborated on these patterns by revealing the lived experiences, structural barriers, and organisational dynamics that influenced healthcare employees' perceptions.

However, the integration process also exposed areas where the two datasets either presented conflicting perspectives or where one dataset provided greater complexity than the other. These divergencies often emerged in areas of subjective experience, where numerical trends suggested one interpretation, while qualitative narratives painted a more complex picture. For instance, while the quantitative data provided structured, aggregated insights qualitative findings frequently highlighted variability in how these issues were experienced across different professional roles and organisational levels. In some cases, quantitative data suggested moderate satisfaction with particular aspects of engagement, yet qualitative accounts described underlying frustrations, systemic inefficiencies, and the day-to-day realities of working within an overstretched healthcare system.

For example, while the survey data provided a broad assessment of how employees rated leadership effectiveness, qualitative narratives revealed significant variation in how leadership was experienced across different roles and hierarchical levels. Frontline staff (nurses and doctors) often expressed discontent with reactive decision-making and limited upward communication, whereas managerial perspectives tended to emphasise strategic constraints and resource limitations that influenced leadership choices. This disconnect highlighted the influence of professional position on engagement perceptions, suggesting that employee engagement is not a monolithic construct but rather one that is shaped by role, responsibilities, and organisational positioning.

Additionally, certain themes emerged exclusively from qualitative narratives, highlighting structural and cultural challenges that were not explicitly captured in the survey data. These aspects were often implicit but not directly quantified, underscoring the limitations of relying solely on numerical indicators to capture the complexities of employee experiences.

Similarly, certain mediating factors identified in the quantitative analysis lacked direct qualitative corroboration. For example, discrimination emerged as a significant mediator in the statistical models, yet qualitative participants did not explicitly frame their experiences in these terms, suggesting that such issues may be experienced but not openly articulated within workplace discussions. Likewise, bullying, identified as a significant negative influence on engagement in the quantitative findings, was described more subtly in the qualitative narratives, often discussed in the context of how supporting others affected by it, rather than as a direct personal experience. This divergence highlights the influence of stigma and perception in shaping how workplace challenges are reported and understood, reinforcing the need for methodological complementarity in engagement research.

7.2.1 Pillar 1: The Paradox of Commitment: Balancing Dedication, Pride and Systemic Strain

The Pride and Culture dimension in healthcare employee engagement revealed a fundamental paradox. While many healthcare professionals expressed a deep sense of commitment and dedication to their work, they simultaneously reported growing frustration with their work environment. Quantitative data reflected this tension, as 32.7% of participants reported that they did not benefit from the culture in their organisation (mean = 2.48), and 22.7% found their workplace atmosphere unpleasant (mean = 2.60). While employees took pride in their roles, they frequently highlighted systemic inefficiencies, resource constraints, and cultural expectations that placed unsustainable pressure on them. One participant (FG1/PN2) encapsulated this dilemma, stating: *“While we have a strong culture of dedication, the pressure to consistently meet those high standards can be quite overwhelming.”*

A particular example emerged in perceptions of workplace conditions. Quantitative findings suggested that 32.6% of employees were dissatisfied with their work environment (mean = 2.80), including factors such as space, light, and comfort. However, qualitative data painted an even starker picture, revealing that these issues extended beyond physical discomfort to structural deficiencies that directly hindered work efficiency. Employees described chronic resource shortages, understaffing, and logistical inefficiencies, which made even routine tasks needlessly difficult. One participant (FG1/PN3) highlighted this disparity by noting, *“In some hospitals, they seem to have an abundance of resources, while others are constantly struggling. There are places where you have a whole team of people handling tasks, and then others where one person is doing everything, including what should be someone else’s job.”*

Further emphasising this disparity between engagement and systemic conditions, qualitative accounts from employees during the COVID-19 pandemic illustrated how temporary adaptations led to operational improvements that were later abandoned. While some participants noted that hospital reorganisation during the crisis resulted in more efficient workflows, they also expressed frustration that these improvements were not sustained once the immediate emergency had passed.

Beyond physical working conditions, the broader workplace atmosphere also revealed tensions between professional dedication and institutional culture. Quantitative data indicated that a portion of the workforce felt disengaged from their organisation's culture, despite their strong work ethic. Qualitative findings further explored why this disconnect existed, highlighting the emotional demands placed on employees, the expectation of unwavering commitment, and the absence of reciprocal support from leadership. Employees often felt that their dedication was taken for granted rather than actively nurtured. One participant (FG1/PN4) summarised this workplace expectation, stating, *“There’s this unspoken rule that you just do what needs to be done, even if it’s not technically your job. It becomes part of the culture, and you don’t even question it after a while, even when it’s completely unsustainable.”*

The contrast between organisational pride and workplace strain was particularly evident in the gap between employees’ expectations and the realities of their working conditions. Many healthcare professionals expressed a strong sense of pride in the collective culture of commitment that characterises the Irish healthcare system. However, this same culture often carried an implicit expectation to persevere through adversity, frequently at the expense of personal well-being. This tension was reflected in the quantitative data, where 37% of respondents reported dissatisfaction with aspects of organisational support and working conditions. As one participant noted:

PG1/PN3: *“While we have a strong culture of dedication, the pressure to consistently meet those high standards can be quite overwhelming.”*

7.2.2 Pillar 2: The Collaboration Divide: Navigating Hierarchies and Fragmented Teamwork

The Teamwork dimension in healthcare employee engagement highlighted a fundamental contradiction, while employees recognised the importance of collaboration, their ability to work cohesively was frequently undermined by hierarchical structures and a lack of shared objectives. Quantitative findings suggested significant disparities in team communication, with 23.9% of participants reporting that communication within their team was weak (mean = 2.53). However, qualitative responses provided a deeper understanding of the underlying barriers to effective teamwork, particularly the influence of rigid hierarchies on decision-making and workplace dynamics. Employees described an environment where hierarchies dictated whose voices were heard, often creating a sense of disconnect between senior and junior staff. As one participant put it, FG2/PD6 *“There’s this unspoken rule in healthcare that the senior staff always have the final say, no matter what... the junior members don’t really get consulted. It’s frustrating because we’re the ones spending the most time with the patients... It creates a real disconnect between the levels.”*

One of the most persistent frustrations across both datasets was the perception that teamwork in healthcare was more of a formality than a reality. While quantitative data reflected dissatisfaction with communication and coordination, qualitative findings revealed why these issues persisted in daily practice. Many employees expressed frustration with hierarchical decision-making, where senior staff dominated discussions, leaving frontline workers feeling undervalued.

This disconnect between different levels of staff further contributed to challenges in team alignment and coordination. Quantitative data indicated that 18.6% of employees felt their team lacked common objectives (mean = 2.38), and qualitative insights reinforced this misalignment. Employees described a workplace where teams worked toward the same broad goals but did so in fragmented ways, leading to inefficiencies in patient care. One participant described this misalignment, stating, FG1/PN3: *“When doctors come in to do a procedure, they just do their part and leave, but for us nurses, we handle everything, from prepping the patient to cleaning up after. It’s frustrating because we’re supposed to be working together, but sometimes it feels like the load is really uneven.”*

Despite these challenges in communication and coordination, some employees reported positive aspects of teamwork, particularly in high-pressure environments. Quantitative findings showed that only 8.1% of participants reported a lack of team support (mean = 2.15), suggesting that while

teamwork structures were flawed, they remained a key factor in engagement. Qualitative narratives echoed this sentiment, with some employees describing a strong sense of team cohesion during chaotic shifts. One participant (FG1/PN4) emphasised this resilience, stating, *“When things get crazy, we barely need to talk, it’s like we’re in sync. We just know what needs to happen.... I know my team has my back when I’m drowning in work. That kind of teamwork is what gets us through those insane shifts.”*

However, the relationship between teamwork and workplace culture introduced subtler challenges to employee engagement. While some employees thrived in supportive team environments, others experienced workplace dynamics that, while not overtly hostile, fostered incivility and exclusion. The impact of poor teamwork on engagement was reflected in quantitative data, which indicated that dysfunctional team interactions contributed to workplace bullying (indirect negative effect = - 0.14). These patterns were further reinforced by qualitative accounts, which portrayed an intimidating and hierarchical atmosphere in which power imbalances discouraged open communication and eroded mutual respect. **(see Table 23)**

While no qualitative accounts explicitly referenced discrimination, participants frequently described rigid hierarchies and informal workplace norms that contributed to exclusionary practices. Junior staff and those in lower-status roles often felt unheard, undervalued, or sidelined in decision making processes. An unspoken expectation to defer to senior colleagues, deeply embedded within traditional team structures, was seen to undermine genuine collaboration and diminish opportunities for engagement. This dynamic made it difficult for some employees to voice concerns, share ideas, or feel fully integrated within their teams.

The relationship between teamwork and engagement was also influenced by occupational roles, with quantitative data indicating that the link between teamwork and engagement was stronger for nursing staff than for administrative staff (mediator effect = 0.34). Qualitative narratives supported this, as nurses frequently described a strong work ethic and a collective commitment to patient care, even in the face of structural challenges. One nurse highlighted this collective ethos, stating, FG1/PN4: *“There’s a strong work ethic among nurses, our teamwork is the best and we always try to do what’s best for the patient.”*

Overall, the integration of quantitative and qualitative findings revealed that teamwork is a critical but fragile component of healthcare engagement. While some employees experienced strong team cohesion, others faced significant barriers to collaboration due to hierarchical structures, misalignment of goals, and inconsistent communication.

7.2.3 Pillar 3: The Recognition Gap: Unacknowledged Performance Recognition and Its Impact on Engagement

The Performance Recognition dimension exposed a significant gap between the effort employees invested in their work and the level of recognition they received, particularly at the organisational level. While many healthcare workers demonstrated unwavering dedication to their roles, they often felt that their contributions were neither adequately acknowledged nor rewarded, leading to feelings of frustration, invisibility, and disengagement. This disconnect was reinforced by quantitative findings, which indicated that 45.3% of employees were dissatisfied with recognition from their organisation (mean = 3.00), while 33.3% reported dissatisfaction with recognition from their immediate team (mean = 3.30). However, qualitative data did not provide specific insights into recognition within teams.

However, performance recognition from the organisation was a key area of concern, with 45% of employees expressing dissatisfaction in the quantitative data, a finding that was also echoed and further explained in the qualitative phase, where many healthcare professionals expressed that, despite consistently going beyond their expected duties, their efforts were rarely acknowledged in meaningful ways by their organisation. One participant (FG1/PN5) voiced their frustration, stating, *"You work so hard, going above and beyond, but there's no acknowledgment from the top. It's like no matter what you do, it just goes unnoticed, and that's really disheartening."* Many felt that their contributions were simply expected rather than actively recognised, reinforcing a sense of disengagement and diminishing motivation over time.

One of the major sources of frustration was the absence of structured mechanisms for recognition, which created a system where acknowledgment was inconsistent, arbitrary, and often dependent on individual managers rather than institutional policy. While some employees received informal appreciation from colleagues, this was seen as insufficient in compensating for the lack of formalised, organisation-wide recognition initiatives. Employees frequently expressed that they were unsure whether their efforts would ever be acknowledged, leading to a growing sense of disillusionment and detachment from their roles. The inconsistency in recognition practices also led to perceptions of unfairness, with employees observing that some departments or individuals received acknowledgment while others were overlooked, regardless of effort or contribution. One participant (FG3/PM12) illustrated this concern, stating, *"One of the toughest things about giving recognition is that it's just not built into the system. There isn't really a formal way to acknowledge the day-to-day efforts, and even though we try to offer praise when we can, it often gets lost in the chaos of everything else we're managing."*

Additionally, employees highlighted how recognition was often linked to factors unrelated to performance, such as managerial discretion, department-specific policies, or workplace politics, rather than being tied to objective performance metrics or contributions to patient care. This lack of transparency contributed to a perception that recognition was not necessarily merit-based, making employees feel that their professional growth was beyond their control. Some workers noted that even when managers or supervisors made efforts to acknowledge individual contributions, the chaotic nature of the healthcare environment often meant that such efforts were overshadowed by daily operational demands, further reinforcing the feeling that recognition was neither a priority nor an embedded part of the organisational culture. One participant (FG1/PN3) explained, *“Sometimes it’s not about whether recognition exists, but whether it’s given fairly across the board. When you see your colleagues in other departments getting recognition and you’re left out despite putting in the same effort, it makes you feel undervalued.”* Employees expressed that recognition should be structured, predictable, and equitable, rather than left to managerial discretion or personal biases.

Despite the broader dissatisfaction with recognition, some employees noted that structured acknowledgment programmes, particularly those linked to innovation or professional excellence, had a positive impact on engagement. Formal initiatives that provided institutional recognition for exceptional contributions, such as awards or funding for professional development, were seen as valuable motivators. Employees who had experienced these forms of structured recognition expressed that such initiatives not only rewarded individual effort but also reinforced a sense of belonging and purpose within the organisation. However, these instances were described as sporadic rather than an integral part of the workplace culture, highlighting the need for more systematic and equitable recognition mechanisms. **(see Table 23)**

7.2.4 Pillar 4: Unfulfilled Potential: Job Involvement and the Struggle for Long-Term Commitment

The Job Involvement dimension in healthcare employee engagement revealed a fundamental tension between employees' dedication to their roles and their long-term optimism about career stability. While many employees were deeply committed to their work and driven by a strong sense of professional responsibility, they simultaneously struggled with feelings of uncertainty about their future within the healthcare system. Quantitative findings showed that 16.5% of employees were not motivated by their current jobs (mean = 2.25), and 25.5% lacked optimism about their future in their organisation (mean = 2.74). This disconnect between day-to-day engagement and long-term

career prospects led to feelings of frustration, stagnation, and disengagement, particularly among employees in temporary roles or positions with unclear advancement pathways.

A recurring theme in both quantitative and qualitative findings was the difficulty of sustaining motivation in roles that felt unstable or lacked clear progression opportunities. Employees expressed a strong willingness to contribute, yet this dedication was frequently undermined by a lack of job security and the perception that their efforts did not have long-term impact. For many, particularly non-consultant hospital doctors and early-career professionals, the transient nature of their contracts meant that investing in systemic improvements or long-term initiatives felt futile. Employees described experiences where they had worked to introduce changes or improve workflows, only to leave before seeing the benefits of their efforts. One non-consultant hospital doctor (FG2/PD8) described this frustration, stating, *“When you’re in a temporary role, especially as a non-consultant hospital doctor, it’s hard to stay motivated. You might put in a lot of work to improve things, but if you’re gone within a year, you don’t see the benefits.”* This instability led to a cycle of disengagement, where individuals hesitated to invest deeply in their work due to the uncertainty of their professional trajectory.

The aftermath of the COVID-19 pandemic further illustrated the challenges of maintaining job involvement in an unpredictable healthcare environment. During the height of the crisis, many employees remained deeply committed to their roles, driven by a strong sense of duty and collective responsibility. However, once the immediate crisis subsided, motivation declined, particularly for those who felt that organisational leadership failed to acknowledge their efforts or provide new incentives to stay engaged. Some employees described how they had remained in their roles throughout the pandemic out of a moral obligation to their patients and colleagues, but once the situation stabilised, they began reconsidering their long-term commitment to the organisation. **(see Table 23)**

A significant barrier to long-term engagement was the perceived disconnect between employee contributions and institutional responsiveness. Participants reported that while many individuals within the system had innovative ideas for improving healthcare delivery, there was a lack of structural support to implement these changes. Some described repeated attempts to advocate for improvements, only to find that without leadership backing, these initiatives ultimately faded away. As one nurse (FG1/PN3) noted, *“People come to us with ideas for change, saying, ‘We’ve been doing this for 20 years.’ But without real backing, we can’t do nothing”*. This lack of follow-through eroded motivation, as employees became disillusioned with the idea that their efforts could lead to

meaningful change. Quantitative data supported this sentiment, with 42.2% of employees expressing doubt that their organisation's strategy would lead to better outcomes (mean = 2.67).

7.2.5 Pillar 5: Leadership in Crisis: The Struggle Between Strategy and Reactive Management

The Leadership dimension in healthcare employee engagement exposed critical weaknesses in strategic planning, communication, and organisational vision. While quantitative data highlighted widespread dissatisfaction with leadership effectiveness, with 42.2% of employees expressing doubts that their organisation's strategy would lead to better outcomes (mean = 2.67), qualitative responses provided deeper insights into the underlying reasons for this discontent. Employees described leadership as reactive rather than visionary, with decision-making processes that were heavily focused on immediate crisis management rather than long-term workforce engagement and systemic improvement. One manager (FG3/PM15) summarised this sentiment, stating, *"We are used to in the Irish healthcare system to actually be more firefighting rather than looking ahead....we need strategic leadership that not only deals with current issues but also plans for the future."*

One of the most consistent themes emerging from both quantitative and qualitative findings was the perception that healthcare leadership prioritised short-term problem-solving over sustainable, future-oriented strategy. Employees frequently expressed frustration with the absence of a clear, long-term vision for the healthcare system, which left them feeling uncertain about the trajectory of their work and the broader institutional direction. Many described a sense of disconnection between frontline realities and executive decision-making, where leadership appeared detached from daily operations and staff concerns. Another manager (FG3/PM12) captured this frustration, noting, *"If you were to look up now at the moment in the HSE, what is the strategy for the next 5-10 years? I think you might struggle to find what that is."*

The aftermath of the COVID-19 pandemic further reinforced these challenges. While employees felt a strong sense of collective purpose and direction during the crisis, this clarity dissipated once the immediate emergency subsided. Many described how the urgency of the pandemic had temporarily streamlined workflows and created a more coordinated leadership approach, yet these improvements were not sustained in the post-pandemic period. Employees felt that once the crisis ended, leadership reverted to old patterns of short-term decision-making without integrating the lessons learned during the pandemic. One manager (FG3/PM14) reflected on this, stating, *"During COVID, we all knew what we were working towards, but now, it feels like we're lost. There's no clear strategy, and it's hard to stay motivated without that sense of purpose."* The loss of a clear organisational focus left many struggling to find renewed motivation in their roles.

The disconnect between leadership priorities and frontline realities emerged as a key driver of disengagement. Quantitative findings indicated that half of employees (50%) believed communication between senior management and healthcare staff was ineffective (mean = 3.37). Qualitative narratives further explained why this breakdown in communication occurred, with employees describing top-down leadership structures that prioritised issuing directives rather than fostering dialogue with frontline workers. Employees felt excluded from decision-making processes, particularly in matters directly affecting their work. Many described a healthcare system where leadership was largely removed from the realities of patient care, making high-level decisions without incorporating the voices of those delivering frontline services. **(see Table 23)**

Leadership practices also played a significant role in reinforcing workplace inequities, further contributing to disengagement among certain groups of employees. Quantitative findings indicated that ineffective leadership contributed to discrimination, with an indirect negative effect on employee engagement (-0.13). While qualitative data did not provide explicit references to discrimination, employees described unequal treatment in how leadership engaged with different staff groups. Some employees felt overlooked based on their professional role, tenure, or department, reinforcing feelings of exclusion and disengagement. **(see Table 23)**

The gendered impact of leadership practices was also evident, with quantitative data showing that the relationship between leadership and engagement was stronger for women than for men (moderator effect = 0.31). Some employees described disparities in leadership opportunities, where male colleagues appeared to have an easier time advancing in leadership roles, while women had to repeatedly prove themselves before receiving the same recognition. One female participant (FG2/PD6) reflected on this, stating, *“Male colleagues seem to have an easier time being promoted, while women have to prove themselves repeatedly... You always feel like you have to work twice as hard to be noticed.”*

7.2.6 Pillar 6: Stalled Growth: The Barriers to Training and Career Progression in Healthcare

The Training and Opportunities dimension in healthcare employee engagement highlighted a stark disconnect between employees' aspirations for professional growth and the structural barriers that impeded their ability to access meaningful training and career progression. Quantitative data indicated that 33.3% of employees were dissatisfied with the availability of training opportunities (mean = 2.93), while 44.8% were dissatisfied with career progression opportunities (mean = 3.30). These findings suggested that while employees valued professional development, systemic

constraints, such as understaffing, lack of structured career pathways, and inequitable access to training, hindered their ability to advance. Qualitative findings further reinforced this frustration, as employees described a system where training availability was inconsistent and largely dictated by staffing shortages rather than structured planning.

Health employees expressed frustration that access to professional development was not based on merit or career planning but was instead shaped by operational constraints. Those working in busier wards or departments with high patient loads often found it nearly impossible to attend training sessions, as their presence was required for shift coverage and daily patient care. Others noted that while training opportunities were theoretically available, they were not practically accessible due to last-minute cancellations or expectations to remain on duty during scheduled training times. One nurse (PG1/PN3) illustrated this challenge, stating, *“You might be scheduled for training or a study day, but if the ward is short-staffed or there’s an emergency, you’re expected to stay and cover. There’s no flexibility. Even when training is available, it’s not accessible because we’re always needed on the floor.”*

The lack of structured career progression pathways further exacerbated feelings of stagnation and disengagement, particularly for employees who had invested several years in their roles without seeing tangible opportunities for advancement. Quantitative data showed that dissatisfaction with career progression was higher than dissatisfaction with training, suggesting that while some employees could access professional development, these opportunities did not necessarily translate into upward mobility. Qualitative findings provided deeper insights into the emotional toll of this stagnation, as employees described feeling trapped in their current positions, with little guidance on how to move forward. Many expressed that career pathways were clearly defined for certain specialised roles, such as advanced nurse practitioners or clinical specialists, but remained vague or non-existent for the majority of employees. **(see Table 23)**

The impact of these barriers was particularly pronounced among early-career employees, who initially expressed optimism about professional development but quickly became disillusioned when faced with the reality of unstructured mentorship and limited training pathways. Quantitative findings indicated that the relationship between training opportunities and engagement was stronger for younger employees (≤ 30 years) (moderator coefficient = 0.22), as well as for those with five or fewer years of experience (mediator effect = 0.36). However, qualitative responses highlighted that younger staff, despite their enthusiasm, struggled to find structured opportunities to develop their skills and advance their careers. Many described a sense of frustration at the lack of formal mentorship programmes, which left them navigating their careers with little institutional

support. This lack of guidance diminished engagement over time, as employees realised that their initial excitement for professional growth was not being matched by concrete opportunities within the organisation. **(see Table 23)**

Another critical issue emerging was the lack of recognition for prior experience, particularly among employees who had gained skills abroad before returning to the Irish healthcare system. Employees who had worked internationally expressed frustration at being placed in the same roles as less experienced colleagues upon their return, with little acknowledgment of the expertise they had acquired elsewhere. The failure to integrate prior experience into career progression models meant that returning professionals often had to restart their careers at lower levels than expected, leading to dissatisfaction and disengagement. **(see Table 23)**

7.2.7 Pillar 7: The Hidden Cost of Care: The Erosion of Health and Well-being in Healthcare Workers

The Health and Well-being dimension in healthcare engagement revealed a workforce struggling to balance professional demands with personal well-being, as employees faced high levels of stress, burnout, and a lack of workplace flexibility. Quantitative findings indicated that 22.4% of employees were dissatisfied with their work-life balance (mean = 2.56), 10% struggled with stress management (mean = 2.37), and 10.5% reported feeling disrespected by colleagues and patients (mean = 2.17). These figures underscored the chronic strain healthcare professionals faced, which was further explored in the qualitative findings, where employees described feeling both physically and emotionally drained, with little opportunity to recover due to staffing shortages, inflexible schedules, and the expectation to always be available.

One of the most pervasive issues affecting well-being was the chronic lack of work-life balance, which left employees unable to fully disconnect from work, even during their time off. Many described a constant state of being on-call, which prevented them from fully unwinding, making personal plans, or maintaining meaningful relationships outside of work. The quantitative data confirmed this, with nearly a quarter of employees reporting dissatisfaction with their ability to balance personal and professional life. Qualitative insights reinforced how this imbalance shaped their daily experiences, as employees described the unrelenting pressure of being contacted outside of working hours and the difficulties of maintaining family and social commitments. Many expressed that even when they were technically off duty, they remained mentally preoccupied with work, anticipating the possibility of being called in at short notice. This constant state of vigilance contributed to feelings of exhaustion, resentment, and long-term disengagement. **(see Table 23)**

The physical and emotional toll of workload pressures further exacerbated stress and burnout, as employees reported feeling perpetually overworked, with limited access to rest and recovery. Quantitative findings indicated that 10% of employees struggled with managing their stress levels, while qualitative data provided deeper insight into how this stress manifested in their daily lives. Employees described being expected to manage excessive workloads, particularly in the context of staffing shortages, which placed additional strain on those who remained. Many felt that they were continuously required to take on more responsibilities than were realistically manageable, leading to chronic exhaustion and an increasing sense of demoralisation. Some even expressed concerns about the potential for patient safety risks, as overwork and fatigue impaired their ability to perform at their best. **(see Table 23)**

The lack of workplace flexibility further compounded these challenges, particularly for female employees, who often struggled to balance professional responsibilities with personal obligations, such as childcare. Employees described a rigid scheduling system that offered little accommodation for personal needs, making it difficult to adjust work commitments in response to unexpected life events. Quantitative data confirmed that the impact of work-life balance on engagement was stronger for women than for men (moderator effect = 0.34), reinforcing the gendered disparities in how workplace policies affected employees. Many female employees expressed frustration with the inflexibility of on-call schedules, which they felt failed to account for caregiving responsibilities. **(see Table 23)**

Despite these significant challenges, some employees acknowledged that mental health support initiatives, particularly those introduced during the COVID-19 pandemic, had been beneficial. However, these resources were often inaccessible due to workload demands, making it difficult for employees to take advantage of them. Employees described a paradox where support systems were technically available but were impractical to use due to the pressures of daily work. Many noted that while counselling services and well-being programmes were introduced during periods of heightened stress, the reality of shift schedules, patient care demands, and staffing shortages meant that they rarely had time to utilise these resources. **(see Table 23)**

7.2.8 Pillar 8: Navigating Uncertainty: The Struggle for Role Clarity and Job Security in Healthcare

The My Role in My Organisation dimension in healthcare engagement revealed a workforce grappling with a lack of autonomy, unclear job expectations, and significant job insecurity. While quantitative findings indicated that 16.1% of employees felt they lacked autonomy, 15.1% believed

their objectives were misaligned with organisational goals, and 45.5% did not feel their job security or salary reflected their responsibilities, qualitative responses provided responses on the frustration and uncertainty employees faced daily. (see Table 23)

One of the most consistent themes emerging from the findings was the lack of trust in employee decision-making, leaving workers feeling constrained in their ability to provide care efficiently. Quantitative data showed that 16.1% of employees felt they lacked sufficient autonomy, and qualitative responses illustrated how rigid approval structures contributed to this frustration. One nurse (FG1/PN2) captured this concern, stating, *"We're supposed to make decisions on the ground, but every choice we make needs to go through several layers of approval. It's hard to feel trusted when we're not really given the autonomy to act in the best interest of patients."* Another nurse (FG1/PN1) reinforced this point, describing how the temporary autonomy granted during the pandemic was quickly revoked: *"During COVID, we had to reorganise how we ran our clinics, and while it was challenging, it gave us the chance to make decisions quickly and adapt. But once things settled, it felt like that autonomy was taken away again. We went back to waiting for approvals on everything, and that was frustrating because we had proven we could manage effectively during the crisis."* These responses demonstrated how healthcare workers thrived when given the ability to make decisions but felt stifled when bureaucratic layers prevented them from exercising professional judgment.

The disconnect between employees' roles and organisational expectations further contributed to disengagement, with 15.1% of employees reporting that their objectives were misaligned with those of their organisation. Qualitative responses highlighted how this misalignment left employees feeling stretched thin, performing multiple responsibilities beyond their primary roles. One nurse (FG1/PN3) captured this frustration, stating, *"There's a huge contrast between what management expects us to do and what's realistic on the floor. Without clear roles, we end up doing everything, and it's exhausting. It's hard to stay focused when you're constantly being pulled in different directions."*

The most striking issue emerging from this dimension was job insecurity and the disconnect between pay and responsibilities, with 45.5% of employees expressing dissatisfaction with both their job stability and salary. Employees described feeling without corresponding financial recognition or assurances about long-term employment. One respondent expressed this frustration (FG1/PN3), stating, *"We're the ones running the clinics, coordinating care, and taking on all the extra tasks, but our pay doesn't reflect that. It feels like we're doing the work of two people."* Another employee (FG2/PD6) highlighted the unpredictability of job stability, stating, *"There's always talk of*

restructuring, and it makes you wonder whether your job is safe. It's hard to feel secure when you don't know what's coming next."

7.2.9 Pillar 9-Pillar 10: Digital Transformation and the Restructuring of Healthcare – Telemedicine and the Shift Toward Primary Care

We did not find any quantitative data related to these last two pillars, and most of the insights emerged during the qualitative phase of this thesis. However, the findings underscore that the introduction of telemedicine during the COVID-19 pandemic presented both opportunities and challenges, with employees expressing divided perspectives on its long-term viability. While some viewed telemedicine as a valuable tool for enhancing patient access, others felt it increased their workload rather than alleviating pressures. The absence of clear guidelines for integrating telemedicine into daily workflows led many employees to struggle with balancing virtual consultations alongside existing responsibilities, resulting in inefficiencies and frustration. Although telemedicine had the potential to support decentralised care, employees emphasised that technology alone was insufficient without broader structural reforms to the healthcare system. **(see Table 23)**

Similarly, the need for restructuring the healthcare system, particularly by shifting resources toward primary care, remained a pressing concern among employees. Many highlighted how the over-reliance on hospital-based care placed excessive strain on resources, leading hospitals to manage cases that could have been addressed in community settings. However, employees were sceptical about whether meaningful restructuring would take place, citing a history of policy discussions with little tangible change. While there was broad consensus that strengthening primary care could help alleviate hospital overcrowding, employees lacked confidence in leadership's ability to implement sustainable, long-term reforms that would address the root causes of inefficiencies in healthcare service delivery. **(see Table 23)**

Table 23: Joint Display of Quantitative and Qualitative Findings.

Quantitative Data	Quantitative Dimensions/Subdimensions, Mediators and Moderators	Pillar Building Themes	Qualitative Categories Theme/Subtheme	Qualitative Codes
32.6% of the participants weren't satisfied with their work conditions (space, light, comfort) (mean=2.80) No quantitative data	Pride and Culture/Workplace Conditions	Pillar 1: The Paradox of Commitment: Balancing Dedication, Pride and Systemic Strain	Systemic and Structural Challenges/ Systemic and Structural Challenges	FG1/PN3: "In some hospitals, they seem to have an abundance of resources, while others are constantly struggling. There are places where you have a whole team of people handling tasks, and then others where one person is doing everything." FG1/PN2: "During COVID, we reorganised and saw some positives. For example, we streamlined how clinics were run to minimise the number of people waiting around. It actually made the system more efficient".
22.7% of the sample did not find their workplace atmosphere was pleasant (mean=2.60)	Pride and Culture/Workplace Atmosphere		Leadership and Organisational Strategy /Workplace Atmosphere	"There's this unspoken rule that you just do what needs to be done, even if it's not technically your job. It becomes part of the culture and you don't even question it."
32.7% of the participants did not benefit from the culture in their organisation (mean=2.48)	Pride and Culture/Organisational Culture		Leadership and Organisational Strategy /Pride in Organisational Culture	"While we have a strong culture of dedication, the pressure to consistently meet those high standards can be quite overwhelming."
23.9% of the participants did not believe the communication within their team was strong (mean=2.53)	Teamwork/ Communication within the Team	Pillar 2: The Collaboration Divide: Navigating Hierarchies and Fragmented Teamwork	Leadership and Organisational Strategy /Communication within the Team	FG2/PD6: "There's this unspoken rule in healthcare that the senior staff always have the final say, no matter what... the junior members don't really get consulted."
18.6% of the participants did not believe the members of their teamwork had common objectives (mean=2.38)	Teamwork/ Alignment between Team Objectives			FG1/PN3: "When doctors come in to do a procedure, they just do their part and leave, but for us nurses, we handle everything, from prepping the patient to cleaning up after...we're supposed to be working."

8.1 % of the sample did not feel the support within their teamwork (mean=2.15)	Teamwork/ Support within the Team	Pillar 3: The Recognition Gap: Unacknowledged Performance Recognition and Its Impact on Engagement	Leadership and Organisational Strategy /Support within the team	FG1/PN4: "When things get crazy, we barely need to talk, it's like we're in sync. We just know what needs to happen.... I know my team has my back."
Poor teamwork was a significant contributing factor to bullying within teams, which in turn negatively impacted healthcare employee engagement (indirect effect: - 0.14)	Mediator/Bullying and teamwork		Health and Wellbeing/Bullying	FG2/PD8: "You see how some people are treated, spoken and ignored in the team by consultants, especially if they're juniors... you can see it affecting their confidence and wellbeing."
Poor teamwork contributed to discrimination within the teams, which negatively impacted healthcare employee engagement (indirect effect: - 0.12)	Mediator/Discrimination and teamwork			We found no qualitative data about this
The relationship between teamwork and staff engagement was stronger for nursing than for administrative staff (mediator effect=0.34)	Moderator/Position within the organisation and teamwork		Position within the organisation and teamwork	FG1/PN4: "There's a strong work ethic among nurses; our teamwork is the best and we always try to do what's best for the patient."
33.3% weren't satisfied with the recognition of their performance they received from their team (mean=3.30)	Performance Recognition/ Recognition from My Team			We found no qualitative data about this
45.3% weren't satisfied with the recognition of their performance they received from their organisation (mean=3.00)	Performance Recognition/ Recognition from My Organisation		Employees need to feel recognised and valued/ Performance Recognition	FG1/PN5: "You work so hard, going above and beyond, but there's no acknowledgment from the top" FG1/PN3: "Sometimes it's not about whether recognition exists, but whether it's given fairly across the board. When you see your colleagues in other departments getting recognition and you're left out despite putting in the same effort, it makes you feel undervalued."

				FG3/PM13: "We've realised that structured recognition, like funding for innovation and awards, is a great way to keep people engaged" FG3/PM12: "One of the toughest things about giving recognition is that it's just not built into the system. There isn't really a formal way to acknowledge the day-to-day efforts...."
16.5% were not motivated about their current jobs (mean=2.25)	Job Involvement/ Motivation with My Work	Pillar 4: Unfulfilled Potential: Job Involvement and the Struggle for Long-Term Commitment	Employees need to feel recognised and valued/ Motivation with my work	FG2/PD8: "When you're in a temporary role, especially as a non-consultant hospital doctor, it's hard to stay motivated. You might put in a lot of work to improve things, but if you're gone within a year, you don't see the benefits." FG1/PN3: "...we have been doing this for 20 years, and it's time for something better.' But without real backing, those ideas fade, and so does the motivation to keep pushing for change."
25.5% were not optimistic about their future in their organisations (mean=2.74)	Job Involvement/ Optimism with My Work		Employees need to feel recognised and valued/ Optimism with My Work	FG2/PD6: "When management actually listens and follows through, it makes you believe in change... but when they're absent or dismissive, you stop expecting things to improve."
42.2% did not believe their organisation's overall strategy will lead to better outcomes (mean=2.67)	Leadership/Confidence in Organisational Strategy	Pillar 5: Leadership in Crisis: The Struggle Between Strategy and Reactive Management	Leadership and Organisational Strategy /Confidence in Organisational Strategy	FG3/PM15: " We are used to in the Irish healthcare system to actually be more firefighting rather than looking ahead....we need strategic leadership that not only deals with current issues but also plans for the future." FG3/PM14: "During COVID, we all knew what we were working towards, but now, it feels like we're lost. There's no clear strategy, and it's hard to stay motivated without that sense of purpose." FG3/PM12: "If you were to look up now at the moment in the HSE, what is the strategy for the next 5-

				10 years? I think you might struggle to find what that is."
50% did not believe the communication between healthcare staff and senior management was effective (mean 3.37)	Leadership/Communication with Management		Leadership and Organisational Strategy /Communication with Management	FG1/PN2: "There's a lot of talk from the top, but not much listening. It feels like decisions are made without considering what's happening on the ground."
Ineffective leadership practices contributed to workplace discrimination among healthcare employees, which, in turn, led to a decline in employee engagement (indirect effect = -0.13)	Mediator/Discrimination and Leadership			No qualitative Data
The relationship between leadership and staff engagement was stronger for women than for men. (Moderator effect=0.31)	Moderator/Gender and leadership		Workplace Inequities	FG2/PD6: "Male colleagues seem to have an easier time being promoted, while women have to prove themselves repeatedly...."
33.3% were not satisfied with their opportunities of training (mean 2.93)	Training and Opportunities/ Possibilities of Training	Pillar 6: Stalled Growth: The Barriers to Training and Career Progression in Healthcare	Employees need to feel recognised and valued/ Training and Opportunities of career progression	FG1/PN3: "You might be scheduled for training or a study day, but if the ward is short-staffed or there's an emergency, you're expected to stay and cover..."
44.8% were not satisfied with their opportunities of career progression (mean=3.30)	Training and Opportunities/ Opportunities for Career Progression			I2/PN17: "There are career paths for certain positions, like advanced nurse practitioners or clinical specialists, but for the majority of us, there's nothing....there's no promotion or chance for progression unless you're in a specific role." FG2/PD7: "If we don't start providing real career progression.... we're going to keep losing people. You can't build a strong system on constantly shifting ground."
The relationship between training opportunities and staff	Moderator/Age and training and Opportunities		Unstructured Training for younger employees	FG2/PD9: "Many of us who are early in our careers are excited for opportunities to grow, but if there's no

engagement was stronger for younger employees (≤ 30 years) (Moderator Coefficient=0.22)				structured mentorship, it becomes frustrating...it feels like you're stuck in place"
The relationship between training opportunities and staff engagement was stronger for employees with five or fewer years of experience. (mediator effect=0.36)	Moderator/Years of experience and training and Opportunities		Lack of recognition for prior experience	FG2/PD7: "I know people who was in Australia after graduated and came back only to start over at the same level. It's demotivating when experience isn't recognised."
22.4 % believe they don't have a good balance between their private and professional life (mean=2.56)	Health and Wellbeing/Work-Life Balance	Pillar 7: The Hidden Cost of Care: The Erosion of Health and Well-being in Healthcare Workers	Health and Wellbeing/ Work-life balance	FG1/PN4: "Even when you're off, you're never really off. You're always waiting for that phone call, and it's hard to really unwind or make plans." FG1/PN5: "You miss out on so much. Family gatherings, birthdays, just normal day-to-day moments. It makes it really hard to stay connected to the people you care about."
The relationship between work-life balance and staff engagement will be stronger for women than for men. (Moderator effect=0.34)	Moderator/Gender and Work-life balance		Gender and Work-life balance	FG2/PD4: "As a woman, the on-call out-of-hours rotas are very challenging, and there's absolutely no regard taken for childcare or personal time"
10.5% did not feel respected by their patients and colleagues (mean=2.17)	Health and Wellbeing/Respect by Patients and Colleagues		Leadership and Organisational Strategy/ Support within the team	"As someone lower down the chain, it can feel intimidating to speak up, especially if you're going against what a senior doctor or consultant has said."
10% of the sample didn't manage well their level of stress (mean=2.37)	Health and Wellbeing/Stress and Stress Management		Health and Wellbeing/ Stress and Stress Management	FG1/PN1: "We're constantly overworked, and with the staff shortages, it's like we're expected to do more than what's possible. It's exhausting, and it wears you down." FG1/PN5: "I'm completely burnt out. The constant pressure and barely getting any rest are really messing with my mental health. Just the other day, I was so exhausted I almost missed something important for a patient. It's hard to do your best when you're this stressed out. Honestly, it's demoralising because you

				know you could be doing better if things weren't so difficult all the time." FG2/PD9: "They had mental health support, but with the way our shifts were, it was nearly impossible to make use of it. We were so busy; you just didn't have time for anything extra."
Deteriorating health and well-being within the organisation contributed to higher instances of workplace bullying, which, in turn, led to a decline in healthcare employee engagement (Indirect effect=-0.15)	Mediator/Bullying and Health Wellbeing		Bullying and Health Wellbeing	No qualitative data
Poor health and well-being within the organisation contributed to discriminatory practices, which in turn weakened healthcare employee engagement (Indirect effect=-0.4)	Mediator/Discrimination and Health and Well being			No qualitative Data
The relationship between health and wellbeing and employee engagement was stronger for older employees (>30 years) (moderator effect=0.27)	Moderator/Age and Health and wellbeing		Age and Health and wellbeing	FG2/PD6: "I'm just constantly exhausted. It feels like no matter how much sleep I get; I'm always running on empty. Consultants seem to handle it better, but for us, it's just <u>go</u> , go, go with no break."
16.1% did not believe the autonomy they had in their jobs was enough (mean=2.49)	My Role in My Organisation/ Trust and Autonomy	Pillar 8: Navigating Uncertainty: The Struggle for Role Clarity and Job Security in Healthcare	Leadership and Organisational Strategy/ Trust and Autonomy	FG1/PN2: "We're supposed to make decisions on the ground, but every choice we make needs to go through several layers of approval. It's hard to feel trusted when we're not really given the autonomy to act in the best interest of patients." FG1/PN1: "During COVID, we had to reorganise how we ran our clinics, and while it was challenging, it gave

				us the chance to make decisions quickly and adapt. But once things settled, it felt like that autonomy was taken away again. We went back to waiting for approvals on everything, and that was frustrating because we had proven we could manage effectively during the crisis."
15.1% considered their objectives and their company's objectives were misaligned (mean=2.44)	My Role in My Organisation/ Alignment with Organisational Goals		Leadership and Organisational Strategy/ Workplace Atmosphere	FG1/PN3: "There's a huge contrast between what management expects us to do and what's realistic on the floor. Without clear roles, we end up doing everything..."
45.5% did not feel they had job security, and their level of pay was in concordance with their skills (mean=3.20)	My Role in My Organisation/ Security and Level of Pay		Health and Wellbeing/Security and Level of Pay	FG1/PN3: "We're the ones running the clinics, coordinating care, and taking on all the extra tasks, but our pay doesn't reflect that. It feels like we're doing the work of two people." FG2/PD6: "There's always talk of restructuring, and it makes you wonder whether your job is safe. It's hard to feel secure when you don't know what's coming next."
No quantitative data		Pillar 9: Digital Transformation and the- Telemedicine	Systemic and Structural Challenges/Telemedicine	FG2/PD10: "Telemedicine can be useful, but it also adds to the workload. You're expected to see extra patients, sometimes three or four more per clinic, and often, they don't answer the phone. You have to call multiple times, which can really slow things down."
No quantitative data		Pillar 10: Restructuring of Healthcare and the Shift Toward Primary Care	Systemic and Structural Challenges/ Future Preparedness and Resilience of the Irish Healthcare System	FG2/PD6: "A lot of what ends up in hospitals could be handled in the community if primary care had better resources. We need to invest in primary care if we want to reduce the pressure on hospitals."

7.3 Conclusions

The integration of quantitative dimensions with rich qualitative insights provided a comprehensive and multidimensional understanding of the validated framework for measuring employee engagement in the Irish healthcare system. Crucially, it not only confirmed the strength of the proposed framework but also revealed key areas for future research and refinement.

The convergence between most quantitative and qualitative findings across the eight validated engagement dimensions, as well as the mediating and moderating variables offered strong empirical support for the framework's credibility. For instance, dissatisfaction with performance recognition, leadership, and teamwork emerged consistently across both strands, reinforcing the reliability and contextual relevance of these dimensions. These points of alignment confirmed that the model captures the structural and organisational conditions that underpin engagement in practice.

However, in several cases, the quantitative data presented a flattened or partial view, where mean scores masked uneven experiences shaped by hierarchy, profession, and perceived voice. For example, while leadership effectiveness appeared moderately rated in the survey data, qualitative narratives exposed deep fractures where reactive management, communication silos, and lack of strategic direction disproportionately impacted frontline staff. Rather than undermining the validated framework or its dimensions, these insights expanded and deepened it, demonstrating the vital role of qualitative data in unpacking the lived dynamics beneath aggregate trends.

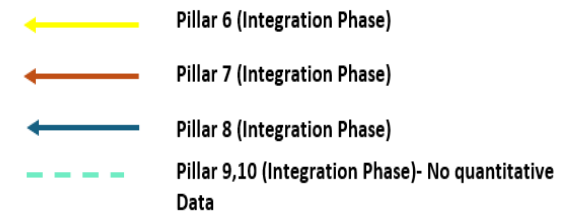
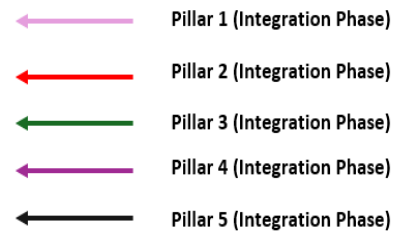
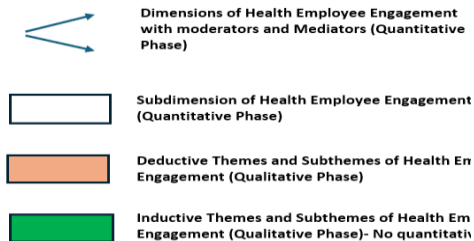
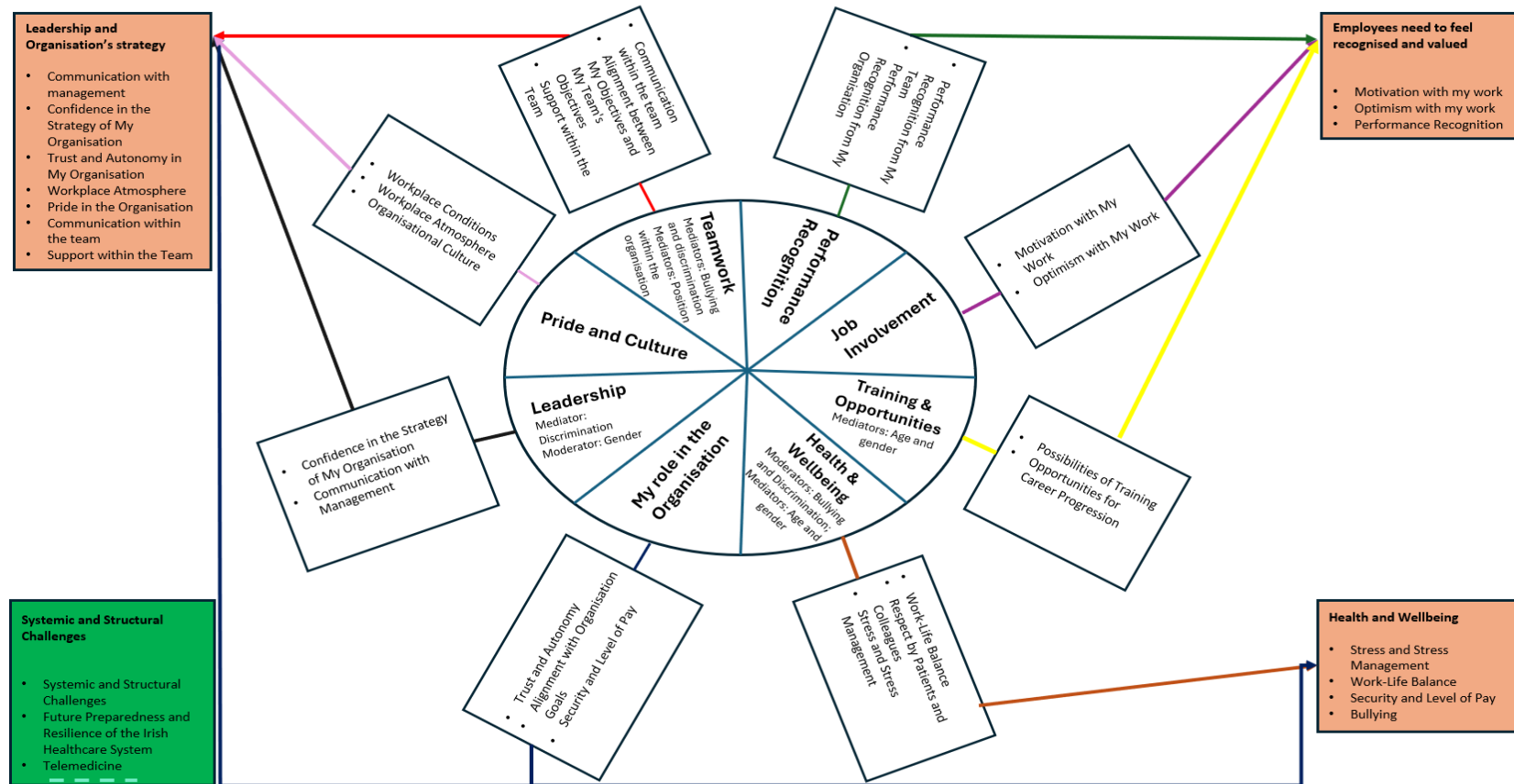
In addition, the integration process brought forward inductive themes that fell outside the validated quantitative structure but were nonetheless critical to understanding disengagement. Issues such as digital transformation, systemic inefficiencies, and the broader theme of future preparedness and resilience of the healthcare system were not captured in the original quantitative validated framework but emerged strongly in interviews and focus groups. These findings signal the need to explore and validate these themes in future iterations of the framework.

The pillar integration process thus served a dual function: it validated the model's robustness while simultaneously exposing areas requiring refinement and future research. It showed that employee engagement is not only a function of individual or organisational attributes, but also of relational dynamics. The explanatory pillars point to engagement as both a measurable construct and a socially constructed experience.

Figure 17 presents a visual summary of this integrated model. At its centre is the validated engagement framework, surrounded by the qualitative themes that explain and extend its meaning. The ten explanatory pillars are positioned as bridges between the two, capturing mainly deductive insights. This integrative structure not only enhances the framework's interpretive power but also offers a dynamic tool for informing policy, leadership development, and workforce strategy in the Irish healthcare context.

The next chapter builds upon these findings by situating the framework within the broader scholarly literature, critically comparing it to existing models of employee engagement and exploring its theoretical and practical implications.

Figure 17. Validated Healthcare Employee Engagement Framework with Integrated Qualitative Themes and Explanatory Pillars.



Chapter 8: “A Critical Discussion of Employee Engagement in Irish Healthcare: Synthesising Psychometric Evidence with Sector-Specific Insights”

8.1 Introduction: Advancing a Validated Framework for Employee Engagement in Irish Healthcare

In the discussion that follows, the validated framework for measuring employee engagement in the healthcare setting (**Figure 15**) is critically examined. This analysis addresses key gaps in the existing literature on health employee engagement and investigates the mechanisms through which engagement is either fostered or undermined within the Irish healthcare system. Particular attention is given to the eight validated engagement dimensions, as well as the mediating and moderating variables that shape engagement outcomes across different workforce segments. In addition, it draws on insights from the qualitative analysis and the Pillar Integration Process to inform future refinement of the framework and guide further research on healthcare employee engagement. (**Figure 17**) Finally, the discussion considers the broader implications of this theoretical framework for public health policy, offering guidance for evidence-based decision-making, strategic resource allocation, and the development of interventions designed to foster a more resilient and motivated healthcare workforce.

8.2 Reframing Employee Engagement: Conceptual Ambiguities, Systemic Barriers, and the Irish Healthcare Imperative.

The literature reviewed in this thesis affirms the increasing prominence of employee engagement (EE) as a driver of both organisational performance and staff well-being (Kahn., 1990; Saks., 2006; Macey & Schneider., 2008). Yet, across academic, managerial, and policy domains, engagement remains an elusive and inconsistently defined construct (Bailey et al., 2017). This lack of conceptual alignment is not simply a matter of semantics; rather, it shapes how engagement is theorised, measured, and enacted within organisations. As Schaufeli and Bakker (2004) argue, engagement should not be reduced to the absence of burnout but instead recognised as a distinct psychological state characterised by vigour, dedication, and absorption. However, prevailing models, such as the IPSOS framework employed in Irish healthcare surveys (Health Service Executive., 2020), often fall short of capturing this multidimensionality, indicating a methodological as well as conceptual gap. Findings from this thesis suggest that engagement in the Irish healthcare system is deeply embedded within a context marked by chronic underfunding, workforce strain, and fragmented governance (Burke et al., 2021; Houses of the Oireachtas Committee on the Future of Healthcare, 2017). These systemic challenges, historically shaped by austerity measures (Thomas et al., 2013) and the emigration of skilled professionals (Humphries et al., 2015), have been further intensified by the COVID-19 pandemic (Farrell et al., 2021). While the Sláintecare reforms seek to address such inefficiencies through regionalisation, decentralisation, and people-centred care (Department of Health., 2017), their translation into everyday organisational practice remains uneven. The qualitative evidence points to a persistent policy-practice gap, where the rhetoric of engagement is

acknowledged in official documents but insufficiently operationalised in ways that are visible or meaningful to frontline staff (World Health Organization., 2020).

Importantly, this thesis reframes engagement not as a dependent outcome of organisational improvement, but as a prerequisite for meaningful system reform and workforce resilience (Shuck et al., 2017). In doing so, it engages critically with global comparative datasets, such as the ISR Employee Engagement Index (ISR., 2006), Hofstede's cultural dimensions (Hofstede., 2001), and the Steelcase Global Report (Steelcase., 2016), to illustrate how macro-level drivers, such as national culture, labour policy, and economic stability, intersect with micro-level workplace experiences. While such factors are known to shape engagement in complex ways (Schaufeli., 2013; Meyer et al., 2012), they appear insufficiently integrated into engagement strategies in Irish healthcare, which remain heavily influenced by imported tools and metrics.

The analysis also reveals the limitations of these imported models in capturing the sector-specific realities of healthcare work, including emotional labour (Brotheridge & Grandey., 2002), ethical dilemmas (Ulrich et al., 2007), and intrinsic psychosocial stressors (Hall., 2004). For example, dominant measurement approaches such as the IPSOS framework tend to prioritise performance metrics over relational and psychological dimensions (Health Service Executive., 2020). This imbalance risks obscuring critical drivers of engagement, reducing both the diagnostic utility of engagement data and its value for targeted intervention (Bailey et al., 2017).

While the Sláintecare initiative represents an ambitious step toward systemic reform (Department of Health., 2017), its potential impact on engagement is mediated by enduring political, organisational, and communicative constraints (Burke et al., 2021). The data suggest that without concurrent reforms in leadership practices (Alimo-Metcalfe & Alban-Metcalfe., 2008), recognition structures (Brunetto et al., 2013), and organisational culture (Schein., 2010), engagement will remain fragile. Recent patterns of workforce attrition, via emigration (Humphries et al., 2015) and professional burnout (Montgomery et al., 2019), further underscore the system's vulnerability, reinforcing the necessity of this robust, contextually grounded engagement framework (Shuck et al., 2017).

8.3 Conceptual Fragmentation and Instrumentation Misfit: Reassessing Engagement Frameworks for Healthcare Contexts

From the perspective of this thesis, the coexistence of organisational, individual, and multidimensional conceptual traditions in the engagement literature is less a sign of theoretical richness and more an indicator of a field that has yet to resolve its own epistemological foundations (Schaufeli et al., 2002; Saks, 2006; May et al., 2004). The fact that these traditions largely operate in parallel rather than in dialogue has concrete consequences: it produces frameworks that are internally coherent but externally incompatible, making their integration into practice, particularly

in complex systems like healthcare, fragmented and inconsistent. Organisational accounts that prioritise loyalty and discretionary effort (Hewitt, 2001; Brunetto et al., 2013) risk reducing engagement to compliance and output, while individual-centred perspectives emphasising psychological vitality (Harter et al., 2002; Maslach et al., 2001) can overlook the structural and cultural constraints that shape everyday work. Models that attempt to combine these perspectives (Macey & Schneider, 2008; Cha, 2007) often appear conceptually promising, but their limited empirical operationalisation in high-pressure, interdependent environments like healthcare suggests that theoretical integration does not automatically translate into practical applicability.

For healthcare, this theoretical fragmentation is not an abstract academic concern, it is a practical barrier. When engagement is conceptually porous and overlaps with constructs like job satisfaction, organisational commitment, or burnout (Burton et al., 2017; Parker & Griffin, 2011), measurement tools risk capturing these adjacent constructs rather than engagement itself. This has direct implications for the validity of the evidence base underpinning organisational decision-making. Widely used instruments such as the Utrecht Work Engagement Scale (Schaufeli & Bakker, 2003) and Gallup Q12 (Harter et al., 2002), while methodologically robust in their intended contexts, were developed for generic workplaces and rarely adapted for healthcare-specific conditions (Rothman & Rothman, 2010; Viljevac et al., 2012). Their limited sensitivity to the emotional labour, ethical demands, and interprofessional complexities of healthcare work (Brotheridge & Grandey, 2002; Ulrich et al., 2007) creates what Shuck (2011) describes as instrumentation misfit. This is especially problematic for frontline healthcare staff facing sustained systemic strain and chronic emotional exhaustion (Maslach & Leiter, 2016), as the dimensions most critical to their engagement may remain invisible in standard survey data.

The stance taken in this thesis is that such misalignment is not a marginal methodological issue but a structural flaw that undermines the effectiveness of engagement strategies. If employee engagement is to function as a lever for organisational resilience in healthcare, it must be conceptualised and measured in ways that reflect the sector's unique pressures, cultural architecture, and relational dynamics (Bakker & Demerouti, 2007; Hakanen et al., 2006). This calls for moving beyond retrofitting generic models and, instead, developing frameworks whose content validity is grounded in healthcare realities (West & Dawson, 2012). This was my foundational rationale for building a new, evidence-based, Ireland-specific healthcare engagement framework in this study.

Central to the framework is a deliberate positioning within a multidimensional stance, reflecting the conviction that employee engagement in healthcare cannot be reduced to a single level, driver, or outcome. Here, engagement is assumed to be a dynamic, context-dependent psychological state characterised by vigour, dedication, and absorption (Schaufeli & Bakker, 2004), sustained through the interplay of individual, relational, and organisational conditions (Kahn, 1990; May et al., 2004).

This definition deliberately incorporates both the affective or individual dimensions (e.g., training and opportunities, role in the organisation) and the structural or organisational factors (e.g., leadership, pride and culture, workplace atmosphere) (Saks, 2006; Bailey et al., 2017). Adopting a multidimensional approach allows the framework to reconcile insights from the separate organisational, individual, and integrated them while avoiding the conceptual reductionism that limits much of the existing measurement practice. The accompanying scale operationalises this stance by ensuring each dimension and subdimension is measured in a way that reflects healthcare-specific realities, thereby aligning theoretical conceptualisation and framework development with measurement practice, an alignment that is rarely achieved in current engagement tools (Viljevac et al., 2012; Shuck, 2011).

8.4 A Psychometrically Validated, Healthcare-Specific Framework for Measuring Employee Engagement: Advancing Beyond Generic Models Through Contextual, Structural, and Measurement Innovation.

The healthcare-specific employee engagement (EE) framework developed in this thesis emerged from the recognition that sector-agnostic models, while theoretically robust, can obscure the systemic and relational dynamics that shape engagement in healthcare settings. The Nienaber and Martins (2014, 2016) framework offers a valuable scaffold for understanding engagement as a multilevel construct; however, its universalist design presupposes a degree of organisational homogeneity that is rarely, if ever, encountered in healthcare. Hospitals, primary care networks, and community services operate as complex adaptive systems (Plsek & Greenhalgh, 2001), where engagement is neither uniformly generated nor uniformly sustained. Here, engagement is not a static attribute of the individual or the organisation; rather, it is a negotiated state, constantly recalibrated in response to shifts in workload, resource availability, policy directives, and interprofessional relationships (West & Dawson, 2012; Wong & Cummings, 2007).

In this light, the multidimensionality of Nienaber and Martins is preserved, but the axes of analysis are reweighted to reflect the healthcare reality. Engagement emerges from an interlocking set of individual and organisational conditions that must be examined together if interventions are to have lasting impact (Kahn, 1990; Schaufeli & Bakker, 2004). This aligns with calls in the engagement literature to integrate micro- and macro-level determinants (Saks, 2006; Bailey et al., 2017) yet operationalises this integration in a way that directly engages with the healthcare system's distinctive tensions between autonomy and control, collaboration and hierarchy, and emotional labour and procedural standardisation.

In addition to refining employee Nienaber and Martin's model, this framework contributed to improving the measurement of employee engagement in healthcare, particularly when compared to the IPSOS model. The IPSOS model, previously used to assess workforce engagement in Ireland,

primarily emphasised four engagement pillars: work environment, job fulfilment, organisational pride, and advocacy (IPSOS., 2020). While these pillars provided general insights, they lacked the specificity needed to capture the unique pressures of healthcare work, particularly concerning professional autonomy constraints and health and wellbeing. Although the IPSOS model identified organisational pride and advocacy as engagement drivers, the new developed framework underscored leadership accountability and professional development as more critical factors in sustaining engagement within healthcare settings. Moreover, while the IPSOS model treated engagement as a static component, engagement in my healthcare framework was found to be inherently dynamic, influenced by institutional support structures and career progression opportunities.

Another distinction between this framework and the IPSOS model is the validation of the model. The IPSOS model was validated on standardised engagement surveys designed for cross-industry application. While effective for identifying general trends, these surveys often failed to address healthcare-specific engagement barriers. By contrast, this framework, was created and validated utilising the HSE surveys, providing a more nuanced and contextualised understanding of engagement.

8.4.1 Framework development and theoretical contribution

8.4.2 Validating a Multidimensional Healthcare Engagement Framework: Structural Confirmation, Mediated Pathways, and Context-Sensitive Measurement Innovation”

The successful confirmatory factor analysis (CFA) of the eight reflective dimensions: Pride and Culture, Teamwork, Performance Recognition, Job Involvement, Leadership, Training and Career Progression, Role Clarity, and Health and Wellbeing, confirms the construct validity of the core framework and its relevance to the Irish healthcare workforce. Internal consistency, model fit indices, and inter-factor correlations provide strong empirical support for the multidimensionality of engagement, as conceptualised in this context. This aligns with prior work in engagement research, which increasingly recognises engagement as a latent construct with multiple, interrelated reflective dimensions rather than a singular or unidirectional phenomenon (Schaufeli & Bakker, 2004; Saks, 2006; Shuck, 2011).

The thesis goes beyond measurement validation to examine predictive and causal pathways through the use of structural equation modelling (SEM), mediation, and moderation testing. The statistically significant mediation effects of bullying and discrimination, operationalised as psychological threats, offer a mechanism-based explanation of how engagement can be eroded even when structural supports are present. These findings echo the stressor strain outcome paradigm of occupational health psychology (Demerouti et al., 2001) and align with recent engagement literature highlighting

the role of hostile work climates in undermining engagement (Leiter & Maslach, 2014; Laschinger et al., 2013).

Similarly, moderation analyses reveal that sociodemographic variables such as gender, professional role, and contract status influence the strength and direction of engagement-related pathways. These findings support the idea that engagement is not uniformly experienced across a workforce but is shaped by positional and identity-related vulnerabilities, a feature often neglected in traditional models (Kahn, 1990; Gonzáles-Romá et al., 2006). In practical terms, these findings suggest the need for differentiated strategies in engagement interventions that account for occupational inequality and diversity.

The thesis also created a novel scale measurement for evaluating employee engagement. Traditional engagement models often rely on aggregated workforce-wide averages, which obscure critical variations between different professional subgroups (Schaufeli., 2013; Bakker & Demerouti., 2017). By employing a percentile-based approach, this study provided a more granular assessment of engagement disparities, illustrating how engagement levels fluctuate across different workforce segments rather than assuming uniformity.

This scale reinforced the view that employee engagement is a dynamic, multidimensional construct rather than a fixed individual trait, as evidenced by variations in engagement percentiles across workforce segments, career stages, and institutional structures. The findings demonstrated that engagement is highly context-dependent, with lower engagement scores observed among younger employees, female healthcare workers, and frontline staff, while senior professionals and employees in corporate roles report higher engagement. These disparities indicate that engagement is not an intrinsic characteristic of employees but rather a function of workplace conditions, professional autonomy, and institutional support (Schaufeli., 2013; Bakker & Demerouti., 2017). Additionally, engagement fluctuates across career trajectories, as seen in the lower percentile rankings of early-career employees compared to those with greater experience, suggesting that engagement evolves in response to professional development opportunities, leadership structures, and exposure to workplace challenges (Saks., 2006; Maslach & Leiter., 2016). Similarly, engagement differed based on job responsibilities, with those in direct patient care roles displaying lower engagement percentiles than their non-patient-facing counterparts, a pattern that aligns with research on emotional labour and burnout in high-stress professions (Demerouti et al., 2001). These findings challenged traditional engagement models that assume a static workforce-wide experience, (Bakker et al., 2014; Schaufeli et al., 2002) instead supporting the argument that engagement is shaped by an interplay of systemic, organisational, and career-stage factors. By utilising percentile-based analysis across workforce subgroups, this research provided empirical evidence that engagement is not a fixed state, but an evolving process shaped by structural and professional realities.

8.5 Integrative Interpretation: How Qualitative Insights Deepened and Contextualised the Eight-Dimension Framework

The quantitative analysis found 8 dimensions linked to health employee engagement, with mediation effects tied to bullying and discrimination and moderation effects tied to economic and sociodemographic variables. The qualitative phase, however, explained why this relationship existed culminating in an integrated explanatory framework for healthcare employee engagement. The following section discuss how the psychometrically derived dimensions were further enriched through qualitative insights and outlines potential directions for future research on the topic.

8.5.1 Pride and Culture as a Driver of Engagement: A Context-Dependent Factor

Pride in one's profession has traditionally been framed as a positive contributor to engagement, with research suggesting that strong professional identity fosters motivation, commitment, and resilience (Bakker & Demerouti, 2017). However, findings from this study challenge this assumption, demonstrating that pride alone does not sustain engagement in healthcare settings. Instead, when institutional support is lacking, pride can become a mechanism for sustained overcommitment, emotional exhaustion, and ultimately disengagement. This insight was particularly significant because it directly challenged the Nienaber and Martins (2016) model, which conceptualises pride as an inherently reinforcing engagement factor. While the model acknowledges engagement as multidimensional, it does not fully account for how unsupported pride can lead to disengagement, particularly in high-demand healthcare environments. Our developed Health Employee Engagement Framework built upon this limitation by positioning Pride and Organisational Culture as an engagement dimension, but, unlike Nienaber and Martins (2016), it recognises the interrelationships between workplace conditions, workplace atmosphere, and organisational culture as critical subdimensions influencing the final impact of pride on engagement.

The focus group data revealed that healthcare employees frequently feel that their intrinsic motivation and professional dedication are taken for granted by their organisations. Employees described an unbalanced psychological contract, where they continue investing high levels of effort despite receiving minimal institutional support. This aligns with Schaufeli's (2013) research, which argues that sustained engagement cannot exist without reciprocal organisational support. Similarly, findings from Trinchero, Brunetto, and Borgonovi (2019) highlight that intrinsic motivation can become a liability rather than an asset when employees work in under-resourced environments. This one-sided expectation of commitment leads to an environment where overwork is normalised, and disengagement becomes a protective response rather than an individual failure. These findings directly challenge engagement models that assume employees remain engaged simply because they identify with their profession. Instead, our study suggested that pride must be actively nurtured by the organisation, not just assumed as a static engagement factor.

A key tension in the findings was that pride in work does not necessarily translate into a positive work experience. Employees remained committed, but often experienced frustration, exhaustion, and disillusionment, particularly when their efforts were not matched with meaningful institutional investment. These emotional and psychological strains were not experienced in isolation but were strongly influenced by three key subdimensions: workplace conditions, workplace atmosphere, and organisational culture. Workplace conditions, such as staffing levels, resource availability, and workload balance, significantly impacted employees' ability to feel pride in their work, as inefficiencies and shortages directly affected patient care and professional fulfilment. Workplace atmosphere was another determining factor, when workplace relationships were positive, pride acted as a sustaining engagement factor, but in environments marked by hierarchy, exclusion, or workplace hostility, pride was often undermined rather than reinforced. Organisational atmosphere shaped the extent to which pride translated into long-term engagement, as many participants described their institution as prioritising efficiency over employee well-being, reinforcing the perception that commitment was expected but not reciprocated. The interaction between these three subdimensions ultimately determined whether pride served as a reinforcing mechanism for engagement or became a precursor to exhaustion and disengagement. This study's findings align with Maslach and Leiter's (2016) burnout framework, which posits that high commitment without adequate resources increases employees' risk of emotional exhaustion.

8.5.2 Teamwork: Collaboration Hindered by Hierarchical Structures

Teamwork revealed a complex and uneven reality when analysed through the dimensions of communication, alignment of objectives, and team support. While these elements should ideally function as reinforcing mechanisms that enhance collaboration, findings from this study suggested that their effectiveness is moderated by professional positioning within the organisation. Communication within the team, rather than being an open and participatory process, was frequently constrained by positional authority, with senior staff dominating decision-making while junior employees, particularly nurses and administrative staff, experienced limited influence in shaping team discourse. This asymmetry led to fragmented information-sharing, where frontline staff were expected to follow directives without contributing their insights, reinforcing a disconnect between those making decisions and those executing them. This finding is consistent with Edmondson (1999), who highlighted that psychological safety in teams is essential for open communication, yet hierarchical cultures often restrict lower-status employees from speaking up. Similarly, West et al. (2014) found that healthcare settings frequently operate within rigid hierarchical structures that suppress open dialogue and information exchange.

The quantitative data from this study suggests that the impact of this disconnect was most pronounced for administrative and non-clinical staff, whose roles positioned them outside the core

framework of team-based decision-making, leading to weaker engagement with team objectives. The stronger relationship between teamwork and engagement among nurses compared to administrative staff highlighted this discrepancy, while nurses relied on peer-based communication for operational coordination and emotional support, administrative staff remained functionally peripheral, limiting their sense of team cohesion. These findings aligned with Nembhard and Edmondson (2006), who found that lower-status team members often struggle to gain recognition in healthcare settings, reinforcing professional stratification within teams. However, this lack of inclusivity in teamwork also enabled workplace mistreatment to persist in unspoken ways, as bullying and discrimination were rarely mentioned by participants but were reflected in descriptions of exclusion, dismissiveness, and intimidation within team settings. This aligns with research by Einarsen et al. (2020), which describes bullying in professional hierarchies as frequently manifesting through exclusionary practices rather than overt hostility. Employees in lower-status roles reported feeling unheard and unable to challenge authority, while those in positions of power controlled both the flow of communication and the degree of respect granted within team interactions.

Similarly, the alignment between individual and team objectives was highly dependent on role expectations and institutional recognition of contributions, shaping the extent to which employees felt engaged or alienated from their teams. For nursing staff, alignment was often strengthened through informal peer support, particularly in high-pressure environments where collaboration became essential for maintaining patient care. This aligns with Drach-Zahavy and Somech (2010), who found that collaborative nursing environments foster stronger alignment between individual and team goals, improving engagement and reducing burnout. However, for lower-status employees and those in administrative roles, alignment was more performative than substantive, as their objectives were often shaped by bureaucratic constraints rather than integrated into team-based goals. When alignment was weak, teamwork became a mechanism of control rather than collaboration, where employees adhered to imposed structures rather than engaging in mutually reinforcing partnerships. This reflects Salin's (2003) argument that workplace hierarchies often institutionalise power imbalances, limiting employees' ability to negotiate their roles within teams. This was further exacerbated by the invisible barriers to team support, where power differentials dictated who could expect assistance and who was left to navigate workplace challenges alone. While nurses described teamwork as a protective mechanism, shielding them from the pressures of understaffing and high workloads, other employees, often described teamwork as a theoretical ideal rather than an experienced reality. Hoel et al. (2010) similarly found that employees who lacked institutional support were more likely to disengage from teamwork, as they perceived their contributions to be undervalued.

As highlighted in the quantitative findings, bullying and discrimination functioned as hidden mediators within these processes, subtly influencing who received support and who was left excluded. Employees in more vulnerable roles described pressure to conform, intimidation in challenging senior decisions, and implicit exclusion from key team dynamics, yet these were rarely labelled as outright mistreatment, reflecting the extent to which these experiences have been normalised in hierarchical healthcare environments. This echoed Hutchinson et al. (2010), who found that bullying in healthcare settings often operates through informal exclusion and intimidation, making it difficult to identify and address explicitly. This reality challenged the assumption that teamwork inherently fosters engagement; instead, it underscores that its impact is highly contingent on communication equity, shared goal setting, and access to reciprocal support. When these conditions are absent, teamwork ceases to be a unifying force and instead becomes a site of exclusion, reinforcing workplace hierarchies and structural inequalities, where discrimination and bullying operate not as overt acts, but as unspoken organisational norms that shape who belongs and who does not.

8.5.3 Performance Recognition and the Disparities of Engagement: Organisational and Team-Level Acknowledgment

Findings from this thesis suggested that Performance recognition in Irish healthcare operates within a fragmented framework, where acknowledgment is contingent on who delivers it, how it is expressed, and whether it translates into tangible professional rewards. While team-level recognition functioned as an informal but essential mechanism for maintaining morale, particularly among frontline staff, organisational recognition was described as inconsistent, insufficient, or entirely absent. This aligns with research by Kossek et al. (2011), which emphasised that while social recognition within teams fosters resilience, it is not a substitute for structured institutional validation. Without formalised recognition mechanisms at the organisational level, healthcare employees risk feeling expendable rather than integral to the workforce, reinforcing patterns of disengagement and professional dissatisfaction (Eisenberger et al., 1997).

The disparity between peer-based and organisational recognition was particularly striking in how it shaped perceptions of fairness, professional growth, and career progression. According to our qualitative findings, employees frequently described their daily efforts as invisible to management, particularly in non-clinical and administrative roles, where contributions were less visible despite being essential to healthcare operations. The absence of structured recognition mechanisms led to widespread frustration, with employees perceiving that their contributions were taken for granted, particularly when working beyond contracted hours or taking on additional responsibilities. These findings resonate with Deci and Ryan's (2000) self-determination theory, which posits that recognition fulfils a fundamental psychological need, and its absence leads to diminished intrinsic

motivation. Furthermore, the qualitative data suggested that the failure to recognise performance at the institutional level contributes to a culture of disengagement, where employees see little incentive to invest additional effort. This aligns with Bailey et al. (2017), who argue that healthcare engagement is closely linked to perceptions of fairness in recognition and reward structures. In contrast, employees who reported experiencing meaningful acknowledgment from their organisation, whether through professional development opportunities, promotions, or even verbal recognition from leadership, expressed significantly stronger engagement and organisational loyalty.

8.5.4 Job Involvement: A Workforce Committed to the Present but Disengaged from the Future

Job involvement in healthcare was shaped by a deep commitment to daily tasks yet undermined by uncertainty, frustration, and emotional exhaustion when considering the sustainability of that engagement over time. The data revealed a workforce that remained motivated by the immediate demands of their roles but increasingly disconnected from any long-term vision of their professional future. This dynamic aligns with Schaufeli et al. (2006), who argue that job involvement can be maintained in the short term by personal dedication, but its long-term sustainability is contingent on conditions that reinforce optimism and provide ongoing reinforcement for that motivation.

The tension between motivation with work and optimism about work was evident in both the quantitative and qualitative findings, with employees frequently expressing high levels of personal dedication but diminishing confidence in their ability to maintain that engagement. Many participants described finding deep meaning in their work, particularly in team-based collaboration, yet simultaneously feeling fatigued and unsupported. This finding is consistent with Deci and Ryan's (2000) self-determination theory, which posits that while intrinsic motivation is a powerful driver of engagement, it cannot be sustained indefinitely without external validation and structural support. The quantitative phase of the study reinforced this discrepancy, employees rated their motivation with their work relatively high, yet their optimism about work was considerably weaker, suggesting that while engagement is being maintained in the present, confidence in its future trajectory is significantly eroded (Mixed Methods Chapter., 2023)

The disconnect between motivation and optimism was particularly evident in the way employees described their day-to-day responsibilities versus their expectations of the healthcare system as a whole. Many participants expressed a deep emotional investment in their roles yet described a growing cynicism toward the broader organisational structures within which they worked. This echoed findings from Maslach and Leiter (2016), who argue that burnout is often not the result of work intensity alone, but rather the consequence of sustained effort without adequate reinforcement, leading employees to gradually detach from their roles despite their initial enthusiasm. The focus group discussions further highlighted this dissonance, with employees

describing their motivation as stemming from personal values rather than any sense of institutional encouragement.

The lack of optimism about work was not simply an abstract feeling of disillusionment but was actively shaping workplace behaviours, with many employees describing how their initial engagement had transformed into a more transactional, survival-oriented approach, a shift that aligns with Bakker and Demerouti's (2017) job demands-resources model, which suggests that when employees lack optimism, they begin to disengage as a self-protective mechanism.

This fragile engagement dynamic was particularly evident in discussions about emotional exhaustion, where employees expressed concerns about their ability to maintain their current level of commitment indefinitely. This is consistent with Hobfoll's (1989) conservation of resources theory, which posits that employees can sustain high involvement for only as long as their personal and professional resources are replenished; once depletion sets in, engagement declines, even in the presence of strong intrinsic motivation. The quantitative and qualitative data further supported this conclusion, showing that while employees remained committed to their work, many expressed a lack of faith in the system's ability to support their engagement in the long run.

Taken together, these findings complicated traditional understandings of job involvement, suggesting that commitment to work is a fluid process shaped by the balance between intrinsic motivation and external reinforcement. While healthcare employees in this study remained optimistic and motivated in their current roles, their growing disillusionment about the sustainability of that engagement raised critical questions about how institutions can better support long-term workforce well-being. If healthcare institutions continue to rely on intrinsic motivation as the primary driver of engagement, they risk fostering a workforce that remains committed to the present but increasingly detached from any long-term vision of their professional future, a reality that has profound implications for both employee well-being and the long-term stability of the healthcare sector.

8.5.5 Leadership: A Disconnect Between Strategy and Frontline Realities

There was a significant divide between leadership's intended role as an enabler of engagement and employees' actual experiences of leadership in the Irish healthcare system. While leadership should ideally provide strategic clarity and transparent communication, results indicate that confidence in leadership's strategy is fragile and unevenly distributed across professional groups, and communication with management is frequently perceived as hierarchical, fragmented, and lacking inclusivity. These findings align with research by Schaufeli (2013), who argues that leadership's effectiveness in engagement is contingent on its ability to provide consistent, credible, and reciprocal communication, rather than simply issuing directives from a position of authority.

Confidence in the organisation's strategy emerged as a significant subdimension of leadership, yet findings suggest that while employees recognise the necessity of strategic direction, they often perceive it as detached from frontline realities. Participants frequently described a disconnect between leadership decisions and the lived experiences of staff, reinforcing a top-down approach where strategy is developed in isolation from those responsible for its execution. This aligns with Mintzberg's (1994) critique of strategic planning in bureaucratic systems, which posits that top-down leadership often results in policies that are poorly implemented due to a failure to incorporate frontline insights. Employees expressed concerns that leadership decisions were often reactive rather than proactive, leading to inconsistent implementation and uncertainty about long-term priorities. The qualitative findings further support this disconnect, with lower confidence in workplace strategies and policies among employees in high-pressure roles such as nursing and administrative staff, suggesting that these groups felt the least informed about or aligned with leadership's long-term vision.

A key moderator shaping perceptions of leadership was gender, with female employees reporting lower confidence in leadership compared to their male counterparts, particularly regarding their ability to influence or engage with strategic decisions. This aligns with Eagly and Carli's (2007) research, which highlights that women in hierarchical workplaces often face greater structural barriers to participation in leadership processes, limiting their sense of agency in shaping strategic direction. While men were more likely to report some level of confidence in leadership decisions, women expressed greater scepticism about leadership's ability to implement meaningful change, reinforcing findings from Ibarra et al. (2013), who argue that gendered power dynamics in leadership contribute to disparities in perceived legitimacy and influence. These differences were also reflected in communication with management, where female employees described greater difficulty in accessing leadership channels and receiving recognition for their contributions, further reinforcing the gendered nature of leadership accessibility in healthcare settings.

Communication between employees and management, the second key leadership subdimension, was described as largely unidirectional, with management controlling information flow rather than facilitating reciprocal dialogue. Employees frequently reported that communication from leadership lacked transparency, was often filtered through multiple bureaucratic layers, and failed to provide clarity on key organisational decisions. This supports Tourish and Robson's (2006) argument that hierarchical communication structures in large organisations often result in information being diluted or selectively shared, leading to employee disengagement and frustration. The qualitative data further reinforced this issue, with many employees expressing concern that management only engaged with frontline staff when addressing crises like Covid19 pandemic rather than as part of an ongoing collaborative dialogue. This is consistent with Detert and Burris (2007), who found that

organisations with rigid hierarchies often fail to establish upward feedback channels, limiting employees' ability to voice concerns and propose solutions.

Mediators such as bullying and discrimination further shaped how employees experienced leadership communication, with marginalised groups reporting higher levels of exclusion from leadership interactions and decision-making processes. While the words "bullying" and "discrimination" were rarely used explicitly in participants' descriptions, as was previously commented, the qualitative data indicated patterns of exclusion, dismissiveness, and subtle intimidation that prevented certain employees from engaging with leadership in a meaningful way. This aligns with Einarsen et al. (2020), who describe organisational power structures as a key enabler of covert workplace mistreatment, where exclusionary practices reinforce disengagement and limit employees' access to leadership influence. Employees in lower-status roles, particularly administrative staff, reported feeling unheard or overlooked by management, with some expressing fear of retribution when challenging leadership decisions. This reinforces findings by Hutchinson et al. (2010), who argue that bullying in hierarchical organisations often manifests not as overt aggression but as systemic exclusion from decision-making processes.

Taken together, these findings highlighted a significant gap between leadership's intended function as a driver of engagement and employees' actual experiences of leadership in practice. While confidence in the organisation's strategy and communication with management were crucial for sustaining engagement, findings suggest that these elements are frequently weakened by practices of bullying and discrimination and moderated by gender differences. Leadership is a direct driver of engagement, however, its impact, is highly contingent on the quality of communication and strategic direction.

8.5.6 Training and Career Progression: The Diminishing Pathway to Growth

Training and career progression in the Irish healthcare sector emerged as pivotal dimension influencing employee engagement, yet their impact is highly contingent on structural, organisational, and individual-level moderators. Training and Opportunities for Career Progression, while theoretically designed to facilitate professional growth and long-term retention, are experienced in practice through an uneven and stratified reality that is shaped by age, years of experience, and the institutional constraints governing access to these opportunities. The evidence from the qualitative findings underscored that while training is often framed as a universal mechanism for professional development, its actual implementation is fraught with disparities that mirror broader organisational failures.

Possibilities of Training were considered essential for enhancing professional competencies, improving service delivery, and fostering engagement among healthcare workers. However, the extent to which training opportunities were perceived as meaningful and accessible was

significantly moderated by factors such as age and years of experience. Younger employees, often in the early stages of their careers, exhibit a heightened interest in professional development initiatives, viewing training as a stepping stone for future advancement. This aligns with Schaufeli et al. (2006), who suggest that early-career professionals prioritise skill acquisition and upward mobility. Conversely, employees with more years of experience frequently report diminishing returns from training opportunities, as their career paths may have already reached a plateau or lack clearly defined advancement routes.

Opportunities for Career Progression were similarly shaped by age and years of experience, with career trajectories evolving differently across professional lifespans. Early-career employees tended to focus on accumulating credentials and securing promotions, whereas mid-career and senior employees faced bottlenecks due to rigid organisational structures or a lack of lateral mobility. This phenomenon echoed findings from Schaufeli et al. (2006), who suggested that engagement levels fluctuate over time depending on the perceived attainability of career goals. When experienced employees perceived career progression as increasingly unattainable, engagement diminished, reinforcing a cycle of professional stagnation and disengagement.

Moreover, there is a significant tension between the availability of structured training programmes and the practical realities of accessing them in healthcare settings. While some organisations offered formal career development initiatives, systemic barriers such as staffing shortages, inflexible scheduling, and competing clinical demands often rendered these opportunities inaccessible. This misalignment between institutional offerings and employees' ability to participate underscored a critical flaw in traditional models of career progression that treat professional development as a static factor rather than a dynamic and evolving process.

This framework argued that career progression is inherently fluid and continuously shaped by the opportunities that are offered in your work environment. In high-demand fields such as healthcare, engagement is not solely derived from the existence of training programmes but from the ability of employees to actively pursue and integrate professional growth opportunities into their daily work lives. When career progression is perceived as attainable, through accessible training and fair promotion pathways, it reinforces engagement by instilling a sense of purpose, competence, and long-term commitment to the organisation. These findings are aligned with research on Self-Determination Theory (Deci & Ryan., 2000), which emphasised the importance of competence, and relatedness in sustaining engagement.

In our healthcare engagement framework engagement was not simply about having opportunities for advancement but about ensuring that those opportunities were realistically accessible and aligned with employees' professional aspirations. A key implication of this perspective is that organisations must offer structured training programmes but also removing systemic barriers that prevent employees from fully engaging in career development. This may involve adjusting staffing

models to allow protected time for learning, integrating career progression discussions into performance management, and creating more flexible pathways for skill development that accommodate the unpredictable nature of healthcare work.

8.5.7 Role in the Organisation: The Limitations of Rigid Hierarchies

The role an employee occupies within an organisation was shaped by the intersection of trust and autonomy, alignment with organisational goals, and security through fair compensation and stable employment conditions. This study revealed that while employees often begin their careers with a strong professional identity and commitment to their roles, the organisational structures surrounding trust, goal alignment, and security actively influence the sustainability of this engagement. Unlike traditional models that assume an employee's role is fixed and engagement is a byproduct of individual motivation, the findings suggest that engagement is continuously negotiated through employees' experiences with autonomy, strategic alignment, and perceived fairness in employment conditions and the impact these factors have on the employee's role.

Trust and autonomy emerged as a fragile yet essential foundation for engagement. While employees who felt trusted to exercise professional judgment and autonomy in their roles described higher levels of engagement, this experience was not universal. Many participants reported structural constraints that limited their ability to make decisions, particularly in environments with rigid hierarchies and micromanagement practices. This finding is consistent with research by Deci and Ryan (2000), who emphasise that autonomy is a core psychological need for sustaining engagement. However, in the healthcare setting examined in this study, autonomy was frequently undermined by organisational bureaucracy, excessive managerial oversight, and a lack of trust from leadership. For frontline healthcare workers, particularly doctors and nurses, the perception that decisions were made at higher levels without their input led to a disconnect between their professional expertise and the organisational structures dictating their work.

The erosion of autonomy was compounded by inconsistent trust in employees' professional capabilities and participants frequently described situations where their expertise was overlooked. This finding aligns with previous research on psychological safety in organisations (Edmondson., 1999), which emphasises that trust in employees fosters engagement, while an absence of trust leads to disengagement and defensive work behaviours.

The extent to which an employee's role aligned with organisational goals also played a critical role in shaping engagement. Engagement theories often assume that employees naturally align with their organisation's mission, but the findings in this thesis suggest that this alignment is not automatic, it is actively constructed through communication, leadership clarity, and institutional culture. Employees who perceived their work as meaningfully contributing to broader

organisational objectives described a stronger sense of engagement, while those who felt their efforts were isolated from strategic priorities often experienced detachment and frustration.

The alignment between personal and organisational goals was also affected by organisational consistency. Employees expressed that when strategic priorities shifted unpredictably, engagement suffered, as individuals struggled to see how their roles fit into an evolving organisational vision. This finding supported research by Locke and Latham (2002), who argue that goal-setting theory relies on clarity and stability to sustain engagement. However, in environments where communication was unclear or where goals were inconsistently implemented, employees often withdrew, viewing engagement as an unsustainable investment of effort in an organisation that lacked a coherent trajectory. For many employees, the ability to align with organisational goals was less about formal mission statements and more about day-to-day decision-making transparency, particularly how resources were allocated, how strategic decisions impacted frontline staff, and whether leadership actions reflected stated priorities.

Security and level of pay were also pivotal, not as passive background conditions, but as active subdimensions of engagement. While some models conceptualise pay as an extrinsic motivator with limited long-term impact on engagement, the findings of this study suggested that employees who believed that their organisation provided stable contracts, fair compensation structures, and transparent promotion opportunities were significantly more engaged than those who perceived arbitrary pay disparities, contract precarity, or stagnant wage progression.

Pay satisfaction was not merely about the absolute amount earned but about the perceived fairness of compensation structures. Employees who felt that pay discrepancies reflected favouritism, opaque decision-making, or misaligned organisational priorities described greater disengagement, irrespective of their salary level. This aligns with Adams' (1963) Equity Theory, which posits that employees compare their inputs (effort, experience, contributions) with their outputs (pay, benefits, career progression) and adjust engagement accordingly. Where compensation was perceived as fair and consistent with effort and expertise, engagement was reinforced. However, in organisations where pay was misaligned with workload, experience, or responsibility, employees described a diminished sense of investment in their roles, often seeing engagement as an irrational commitment to an organisation that did not reciprocate their contributions.

Job security played a similarly decisive role in engagement. While some employees were willing to tolerate high workloads or challenging conditions like Covid19 if they believed their positions were stable, those in temporary or precarious roles reported significantly lower engagement. The uncertainty of contract renewals, budget-driven layoffs, or restructuring measures created an environment where employees felt disengaged, not because they lacked professional commitment, but because they viewed long-term investment in the organisation as risky. This finding is reflected in Kalleberg's (2011) research on precarious work, which emphasises that job security directly

influences psychological commitment to an organisation. Employees who lacked security often described engagement as a privilege of permanent staff rather than an accessible reality for all employees.

8.5.8 Workforce Wellbeing: Engagement as an Unmet Institutional Responsibility

The well-being of healthcare employees is influenced by work-life balance, respect from patients and colleagues, and the management of stress. However, these dimensions do not function in isolation; rather, they are mediated by gender, age, workplace discrimination, and experiences of bullying. This study's findings revealed that well-being is not merely an individual concern but is deeply embedded in organisational structures and workplace atmosphere. The interaction between these factors determines whether well-being serves as a facilitator of engagement or, conversely, as a site of disengagement and emotional exhaustion.

Work-life balance emerged as a critical yet elusive factor in employee well-being. While theoretically recognised as essential for engagement (Demerouti et al., 2001), the healthcare context presented structural barriers that make achieving balance particularly challenging. Employees reported that systemic understaffing, unpredictable work hours, and excessive workloads made it nearly impossible to establish a clear boundary between professional and personal life. This aligned with findings by Bakker and Demerouti (2007), who argue that high job demands, when unaccompanied by adequate resources, erode employees' ability to maintain well-being.

The Covid19 pandemic intensified existing struggles and introduced new stressors in relation to work life balance. Employees reported unrelenting work schedules, emergency redeployments, and staff shortages. The pandemic forced many employees into sustained periods of overwork with no possibility of rest or decompression, leading to chronic stress and emotional exhaustion. The introduction of well-being initiatives in their organisations such as resilience training and structured peer support groups, was intended to mitigate these effects, but these programmes were frequently inaccessible to those most in need. Participants described an inherent contradiction: while they were encouraged to access mental health and well-being resources, their workloads made participation impossible. This paradox is reflective of the broader issue of institutional symbolic effort in workplace well-being programmes, where support mechanisms exist in theory but are not functionally integrated into work structures (West et al., 2020).

Work-life balance was not experienced uniformly across demographic groups, with gender playing a significant mediating role. Female employees, particularly those with caregiving responsibilities, described experiencing a double burden, balancing the emotional and physical demands of clinical work with domestic responsibilities. This aligned with research by Mauno et al. (2015), which found that gendered expectations in healthcare workplaces exacerbate work-life conflict for women. Furthermore, age also mediated the experience of work-life balance, with younger employees

reporting greater struggles in managing professional and personal responsibilities due to the expectation of longer working hours and the belief, intimated through organisational culture, that they needed to prove their commitment to their careers.

Respect from patients and colleagues emerged as another key determinant of well-being. While respect is often framed as a universal workplace value, findings suggested that it is experienced asymmetrically, influenced by hierarchical structures, role expectations, and workplace culture.

Senior staff, particularly physicians, were more likely to receive professional deference, while nurses, administrative employees, and lower-status healthcare workers often reported being dismissed or having their contributions undervalued. This dynamic is consistent with findings by Nembhard and Edmondson (2006), who argue that hierarchical cultures in healthcare restrict psychological safety, particularly for those in lower-status positions. This lack of respect was not only an interpersonal issue but had tangible consequences for engagement, as employees who felt undervalued were less likely to participate in workplace initiatives or contribute to decision-making. Stress and stress management emerged as a central but paradoxical theme in employee well-being. The findings suggested that its impact was significantly influenced by the presence or absence of organisational support. Employees who had access to structured coping mechanisms, such as peer support networks, manageable workloads, and effective leadership, reported being able to navigate workplace stress without it leading to disengagement. However, in environments where these resources were lacking, stress became a driver of emotional exhaustion. This supports the Job Demands-Resources (JD-R) model proposed by Bakker and Demerouti (2007), which emphasises that job stressors lead to burnout only when employees lack sufficient resources to cope.

The role of bullying by patients or colleagues in mediating stress and well-being cannot be understated. Employees who experienced bullying were significantly more likely to report disengagement. Moreover, workplace bullying did not function independently but often intersected with other psychological threats like discrimination, reinforcing the argument that bullying is not just an individual problem but an organisational symptom (Hutchinson et al., 2010).

Age and experience emerged as moderators in the stress-engagement relationship. Younger employees were more likely to report stress due to role ambiguity and lack of professional support. This aligned with research by Schaufeli and Bakker (2004), which found that early-career healthcare professionals are at a higher risk of burnout due to a lack of autonomy and institutional support. Older employees, while still experiencing stress, often described greater resilience, derived from institutional knowledge, professional networks, and established workplace credibility.

Ultimately, employee well-being was not an individual trait but a negotiated experience, shaped by systemic, social, and institutional factors. Work-life balance, respect, and stress management do not exist in isolation; rather, they interact dynamically, mediated by gender, discrimination, bullying, and age. When well-being was actively reinforced employees were more likely to remain engaged.

However, when these conditions were absent, well-being became a site of disengagement, where stress, exclusion, and work-life imbalance eroded professional commitment. Organisations that fail to address these structural determinants risk creating environments where well-being is precarious, and engagement is unsustainable. Rather than viewing well-being as an individual responsibility, healthcare institutions must acknowledge their role in shaping the conditions that determine whether employees thrive or disengage.

8.5.9 Telemedicine: The Double-Edged Sword of Digital Transformation

Telemedicine and healthcare system restructuring were qualitative inductive themes that emerged during our focus groups and interviews. While our qualitative data collection occurred after the COVID-19 pandemic, the quantitative component relied on pre-pandemic HSE workforce surveys from 2016 and 2018, as access to the most recent waves of these surveys was unavailable. As a result, quantitative measures of engagement did not capture the impact of digital transformation and structural healthcare changes that emerged in response to the pandemic.

The emergence of telemedicine as a dominant mode of healthcare delivery introduced some controversies, particularly within the Irish healthcare system. While digital transformation promised to enhance accessibility and efficiency, focus group discussions revealed that telemedicine has functioned as both a facilitator and a barrier to engagement. For healthcare professionals, the implementation of telemedicine has been characterised by unequal access, administrative burdens, and the erosion of traditional clinical relationships, leading to an ambivalent perception of its role in improving care delivery. These findings aligned with existing literature, which highlights both the benefits and unintended consequences of telehealth expansion (Greenhalgh et al., 2020).

The adoption of telemedicine accelerated during the COVID-19 pandemic, but the transition was largely reactive rather than strategic, designed to manage crisis conditions rather than implement sustainable long-term reforms. Participants expressed frustration that telemedicine was introduced without adequate training, infrastructural support, or clear guidelines on its integration into existing workflows.

This resonates with research by Shaw et al. (2018), which warns that digital health interventions often exacerbate disparities when implemented without a well-defined strategic plan. In the Irish healthcare context, the lack of standardised protocols has created inconsistencies in the use of telemedicine across different specialties, with some clinicians benefiting from increased flexibility while others struggle with technological barriers, patient resistance, and added administrative tasks. One of the most significant concerns raised by participants was the erosion of patient-provider relationships, particularly in specialties where non-verbal cues and in-person interactions are critical for diagnosis and therapeutic rapport. While telemedicine has increased efficiency in administrative consultations and routine follow-ups, many clinicians reported a decline in diagnostic accuracy and

patient engagement when assessments were conducted remotely. This is consistent with findings by Caffery et al. (2017), who argue that while telemedicine improves access, it risks compromising the qualitative depth of patient-clinician interactions, particularly in cases where physical examinations are necessary.

Moreover, the shift to digital consultations exacerbated health inequities, as vulnerable patient populations, including the elderly, those with lower digital literacy, and individuals in rural areas, faced disproportionate barriers to accessing care. This digital divide was widely acknowledged by focus group and interviews participants, many of whom noted that patients who struggled with technology were often left without adequate alternatives. This mirrors the findings of Kruse et al. (2018), who cautioned that telemedicine could reinforce rather than alleviate healthcare disparities when digital literacy is assumed rather than actively supported.

At an organisational level, telemedicine contributed to increased administrative burdens, as clinicians were required to balance both in-person and virtual consultations, often without additional staffing or scheduling adjustments. Many participants expressed frustration that while telemedicine was framed as a tool for efficiency, it has, in some cases, resulted in longer work hours and increased documentation requirements. This finding aligned with research by Nouri et al. (2020), who highlighted the unintended consequences of digital transformation, particularly when technology is layered onto pre-existing structural inefficiencies rather than used to address them directly. The mishandling of telemedicine is not just compounding other system failures but is also a clear indicator of deeper structural inefficiencies within the healthcare system. Rather than serving as a solution to longstanding issues, its implementation has exposed and magnified pre-existing weaknesses, particularly in workforce planning, administrative burden, and service integration.

However, despite these limitations, there was broad agreement that telemedicine, when properly implemented, has the potential to improve both patient access and work-life balance. Several participants acknowledged that digital consultations have provided much-needed flexibility, particularly for patients with chronic conditions who previously faced logistical barriers to routine follow-ups. This reinforces the argument by Fatehi et al. (2020), who emphasise that telemedicine should not be viewed as a replacement for traditional care, but as a complementary tool that enhances patient-centred service delivery.

8.5.10 Restructuring the Healthcare System: A Shift Toward Primary Care.

The broader theme of healthcare system restructuring was also a dominant focus in participant discussions, particularly regarding the shift toward a primary-care-centred model. The pandemic amplified long-standing systemic inefficiencies, forcing many healthcare workers to confront the urgent need for decentralisation and investment in community-based care. Participants widely

agreed that the hospital-centric model currently dominating the Irish healthcare system is unsustainable, with overburdened emergency departments and specialist services struggling to manage a patient load that could be alleviated by a strengthened primary care infrastructure. This is consistent with research by Kringos et al. (2013), who argue that strong primary care systems lead to better health outcomes, reduced hospitalisations, and more cost-effective healthcare delivery. Despite the consensus on the need for restructuring, there were concerns regarding the disproportionate burden placed on general practitioners (GPs) without corresponding structural support. While policymakers have increasingly advocated for primary care expansion, many clinicians argued that the current system lacks the necessary workforce, funding, and infrastructural investments to make this shift viable. This finding reflects the conclusions of Van Weel and Kidd (2018), who warned that merely shifting responsibilities to primary care without ensuring adequate resources risks exacerbating provider burnout and patient dissatisfaction. Moreover, participants highlighted that healthcare restructuring must go beyond merely reallocating patient flow, it requires a fundamental rethinking of how healthcare is delivered and incentivised. While there was strong agreement that primary care must be equipped with better digital health tools and expanded multidisciplinary teams to effectively manage patient needs, without over-reliance on hospitals, some clinicians emphasised that hospital conditions must also be improved in parallel. They argued that shifting care to the community should not come at the expense of addressing persistent issues within hospital settings, such as workforce shortages, overcrowding, and resource limitations. Without simultaneous investment in both sectors, there is a risk of simply redistributing strain rather than alleviating it. This perspective aligns with Bodenheimer and Sinsky (2014), who argue that sustainable healthcare reform must be grounded in team-based, patient-centred models rather than mere service reallocation, ensuring that both primary and secondary care systems are strengthened concurrently to support long-term improvements in patient outcomes.

8.6 Advancing Workforce Engagement in the Irish Health System: Practical Applications of the Validated Framework

The healthcare-specific employee engagement (EE) framework developed and validated in this thesis offers a timely and actionable contribution to Ireland's ongoing health system reform efforts. It addresses long-standing fragmentation in engagement practice, replacing generic survey instruments with a rigorously validated, contextually grounded model. This is particularly important in the Irish public healthcare sector, which has been grappling with retention crises for over a decade (Thomas et al., 2016; Houses of the Oireachtas, 2018). Engagement has often been narrowly operationalised through top-down staff surveys, producing limited strategic insight or actionable levers for intervention. The present framework transcends these limitations by offering a

multidimensional structure that maps directly onto the institutional realities, psychological conditions, and career experiences of Irish healthcare workers.

Importantly, this framework allows the Health Service Executive (HSE) and other health employers to move beyond a reactive stance, where engagement is monitored rather than cultivated, to a proactive strategy that targets system-level and psychosocial levers. For example, the identification of "Leadership" and "Role Clarity" as critical engagement drivers enables targeted investment in management training and transparent communication protocols, areas long identified as deficient within the HSE (Devine et al., 2020). Similarly, by including "Performance Recognition" and "Training and Career Progression" as validated dimensions, the framework provides specific focus points for strengthening staff retention policies, a key goal of the Sláintecare strategy.

The model's integration of both structural dimensions and mediators or moderators of engagement also aligns with Ireland's commitments to build a people-centred health system, as outlined in Sláintecare (Department of Health, 2019). For instance, incorporating "Health and Wellbeing" as a central dimension brings to the fore the psychological burden and emotional labour borne by healthcare workers, issues historically marginalised in institutional planning. Through this lens, engagement is not merely a by-product of functioning systems but a diagnostic indicator of institutional integrity. Implementing this framework as part of regular workforce monitoring would allow real-time identification of disengagement hotspots, particularly in frontline or under-resourced sectors, and enable localised responses that address root causes rather than superficial symptoms.

Moreover, the percentile-based engagement scoring system developed in this study provides a sophisticated alternative to blunt averages. It reveals within-group disparities that are especially pertinent in Ireland's stratified healthcare system, where agency staff, early-career professionals, or minority groups often face unique structural barriers. Using such granular data for planning purposes, particularly in tandem with workforce planning units, would make visible the hidden inequities in career experiences and enable equity-informed interventions.

8.7 Towards a Future-Oriented Engagement Model, Extending Validation and Addressing Inductive Gaps

While this thesis has produced a robust, empirically validated EE framework tailored to the Irish healthcare context, its development represents a foundation rather than a finalised endpoint. Not all qualitative insights, especially those that emerged inductively, could be directly integrated into the confirmatory or model due to limitations in available quantitative data.

Future research must therefore extend validation efforts to encompass key inductive themes, particularly those relating to "Future preparedness and resilience of the Irish healthcare system." Participants repeatedly framed their engagement in terms of whether the system demonstrated

strategic foresight and adaptability. This conceptual linkage between engagement and organisational resilience echoes recent global literature that frames employee engagement not just as a function of workplace conditions, but also as a response to how systems manage uncertainty, demonstrate vision, and include frontline staff in forward planning (Barasa et al., 2018; Gilson et al., 2017). Within the Irish context, where the health service has faced chronic under-resourcing, recruitment gaps, and structural reform fatigue, this anticipatory dimension is particularly critical (Burke et al., 2021; Houses of the Oireachtas, 2023). As such, future research should prioritise the operationalisation and empirical testing of future preparedness within healthcare engagement frameworks.

Equally critical is the need for external validation of the framework using a different and independent sample, ideally across multiple service delivery regions. While the current sample was representative of the national workforce in terms of demographics and roles, broader validation would enhance the framework's generalisability and ensure its robustness in dynamic and post-pandemic environments. Importantly, future studies could test the model's responsiveness to system shocks (e.g., workforce strikes, digital transitions, or leadership turnovers), helping to assess its utility as a monitoring and diagnostic tool over time.

Finally, the incorporation of the validated engagement framework into national workforce data infrastructures, such as those managed by the HSE Human Resource (HR) division or through Sláintecare's implementation monitoring system, would be a critical translational step. Embedding engagement tracking into routine performance dashboards could offer real time intelligence about the psychosocial health of the system and help move engagement metrics from the periphery to the core of healthcare planning and reform.

Chapter 9: Conclusion, Limitations, and Recommendations

9.1 Conclusions

A Novel Framework bridging theory and context in the measurement of Irish Healthcare Engagement.

This doctoral research has critically examined employee engagement (EE) within the Irish healthcare system, developing and validating a contextually grounded, multidimensional engagement framework. Through extensive quantitative and qualitative methodologies, this thesis has addressed critical gaps in existing engagement literature and instrumentation and advanced a nuanced understanding of EE as shaped by systemic, organisational, and individual factors.

The thesis critiqued existing engagement frameworks, identifying significant conceptual and measurement misalignments. Generic instruments like the IPSOS model and Utrecht Work Engagement Scale lack the precision needed for healthcare contexts. They overlook key psychosocial dimensions such as psychological threats and institutional accountability, essential for understanding healthcare workforce engagement.

The quantitatively validated framework addressed these gaps by introducing significant theoretical innovations, indicating that healthcare employee engagement is a complex, dynamic, and multidimensional construct that cannot be understood in isolation from the organisational, structural, and professional contexts in which it is embedded. While traditional models often assume engagement to be a stable individual characteristic, the findings of this research confirm that engagement is continuously shaped by workplace conditions, career progression trajectories, leadership practices, and institutional responses to workforce needs. Rather than viewing engagement as a static outcome, this study has shown that it fluctuates in response to changing professional experiences, systemic constraints, and evolving job expectations.

Qualitative data substantially enriched and supported the quantitative findings, emphasising the importance of evaluating each dimension of the validated Health Employee Engagement Framework not only from a statistical standpoint but also through an interpretive lens that explains their relevance to measuring engagement within the healthcare system. These insights revealed the profound complexity and interdependence of engagement dimensions. Pride, traditionally considered universally positive, emerged as potentially detrimental when institutional support is inadequate. Teamwork was exposed as frequently undermined by hierarchical barriers, diminishing engagement particularly among lower-status roles. Performance recognition emerged as unevenly distributed, affecting perceptions of fairness and organisational loyalty. Job involvement, although initially strong, appeared fragile, threatened by organisational cynicism and inadequate structural support. Leadership was critically identified as a significant engagement driver yet often detached from frontline realities. Training and career progression were shown to be essential yet inconsistently accessible, highlighting structural barriers significantly affecting employee optimism

and long-term commitment. The role within the organisation emerged as dynamically influenced by trust, autonomy and job security, which were regularly undermined by rigid hierarchies. Finally, health and wellbeing were found to be deeply intertwined with systemic and organisational conditions. Moreover, bullying and discrimination emerged as pervasive mediators across these relationships, influencing how employees experience and respond to their work environments.

The integration of qualitative and quantitative findings provided deeper insight, revealing that engagement is not equally accessible to all employees within the healthcare system. The thesis revealed clear stratifications in engagement levels based on age, years of experience, gender, and position within the organisation. While some healthcare professionals reported sustained engagement due to strong leadership support, career advancement opportunities, and recognition of their contributions, others, particularly those in lower-status roles and women in male-dominated environments, frequently encountered barriers to engagement that were deeply embedded in hierarchical workplace structures. These disparities indicate that engagement is not simply a matter of individual motivation or professional dedication but is instead conditioned by the degree to which employees are included in decision-making, offered opportunities for growth, and recognised for their contributions. Without systemic interventions to address these inequities, engagement will remain a privilege for some rather than an attainable state for all employees.

Another key conclusion emerging from the integration of my quantitative and qualitative data is that employee engagement in healthcare is fundamentally dependent on the organisation's capacity to respond effectively to workforce needs and contextual challenges. Employees do not remain engaged indefinitely due to intrinsic motivation alone; rather, engagement must be actively sustained through institutional support, workforce policies, and leadership practices that prioritise transparency, fairness, and professional development. When engagement-supporting mechanisms are absent, employees may initially continue to perform their roles out of professional dedication, but over time, disillusionment, frustration, and burnout lead to disengagement. This research provided clear evidence that engagement is an outcome of reciprocal investment, when employees perceive that their dedication is valued and supported, they remain engaged, but when organisations fail to provide tangible recognition, resources, or career pathways, engagement erodes.

This need for ongoing institutional responsiveness underscores that employee engagement is not a fixed state, but a fluid and evolving process shaped by organisational actions over time. This challenges traditional engagement models that assume employees are either engaged or disengaged at a fixed point in time, reinforcing the argument that engagement must be managed as an evolving organisational process rather than measured as a singular outcome.

According to my research, no single dimension can independently sustain or diminish healthcare engagement. The findings demonstrated that all dimensions interact to shape overall engagement

outcomes. A supportive team environment, for instance, could compensate for leadership shortcomings to a certain extent, but without structural mechanisms to support opportunities of career progression and workplace well-being, engagement remained precarious. Isolated interventions that focus solely on leadership development or career progression without addressing workload intensity, psychological safety, or professional autonomy will fail to produce sustained improvements in engagement.

The integration and qualitative phase also generated several inductive themes. Notably, telemedicine and the ongoing restructuring of healthcare towards a primary care model emerged as significant developments, highlighting the profound impact of recent structural transformations and underscoring the importance of incorporating these shifts into future employee engagement assessments.

Shaping Public Health Policy: What a Validated Health Employee Engagement Framework and Percentile-Based Scale Offer the Irish Healthcare System

This thesis developed and validated a measurement employee engagement scale tailored to the Irish healthcare sector, addressing the sector-specific complexities that shape engagement in the country.

This validated scale was essential for identifying workforce disparities, as it allowed for a more precise differentiation of engagement levels between professional categories, gender groups, career stages, and workplace divisions. The percentile-based engagement measurement approach further strengthened its applicability by revealing engagement stratifications that would have otherwise remained hidden in aggregated survey data.

Furthermore, this study demonstrated that accurately measuring employee engagement is a foundational prerequisite for improving it. Without a reliable, theoretically grounded, and empirically validated framework, as the one developed in this thesis, paired with a scale tailored to the realities of the Irish healthcare workforce, engagement interventions risk being poorly aligned with staff needs, resulting in ineffective or unsustainable workforce strategies. This enables future initiatives to move beyond assumption-driven planning and toward evidence-informed strategies designed to foster long-term retention, intrinsic motivation, and employee engagement.

At the national level, the implications are far-reaching. Health system leaders, including the Health Service Executive (HSE), the Department of Health, and national workforce planning bodies, are now equipped with a validated framework that can be embedded into existing performance management systems, workforce surveys, and strategic reform agendas. This represents a shift away from generic satisfaction metrics and top-down dashboards, toward a more nuanced, multidimensional, and healthcare-specific understanding of engagement. Institutionalising this framework within national data infrastructures, such as the Sláintecare implementation monitoring system would facilitate the real-time tracking of engagement levels across services, early detection

of disengagement hotspots, and rigorous evaluation of workforce interventions and organisational reforms.

Moreover, the framework's integration into policy architecture supports more equitable and targeted workforce planning. The percentile-based engagement scoring system developed in this study enables tailored interventions that address structural inequities in engagement experiences and ensures that reforms are inclusive, responsive, and sustainable. By positioning engagement as a proxy for institutional responsiveness and system integrity, this framework allows leaders to assess not only whether employees are engaged, but whether the healthcare system is enabling that engagement through fair, transparent, and supportive conditions.

In sum, this research equips the Irish health system with a theoretically robust, empirically validated, and practically applicable engagement framework. It transforms employee engagement from an aspirational concept into a measurable, manageable, and policy-relevant construct central to delivering sustainable workforce development, operational effectiveness, and high-quality, patient-centred care in the post-pandemic era.

9.2 Limitations of the study

While this study provided a comprehensive, contextually embedded analysis of employee engagement in the Irish healthcare sector, several limitations must be acknowledged. These limitations, while inherent to the research process, were mitigated where possible through methodological rigor and a triangulated approach. However, they also present opportunities for further research to refine and expand upon the findings presented in this thesis.

- **Constraints in Quantitative Data Availability**

One of the most significant limitations was the absence of recent, post-pandemic quantitative data from the Health Service Executive (HSE) surveys. The quantitative component of this research relied on engagement data from the 2016 and 2018 HSE surveys, as access to the most recent waves of these surveys was unavailable. As a result, several inductively generated themes from the qualitative phase, particularly those concerning digital transformation, systemic inefficiencies, and the broader concept of future preparedness and resilience of the Irish healthcare system, were not reflected in the quantitative validation of the engagement framework.

To partially address this limitation, the qualitative phase of the thesis explored these inductive themes in depth, capturing post-pandemic engagement dynamics through focus groups and interviews with healthcare employees. Nevertheless, future research should integrate post-pandemic data to ensure the validated framework remains responsive to emerging systemic challenges and the evolving needs of the healthcare workforce.

- **Challenges with Weighting the Quantitative Data Due to Low Response Rates**

Another key limitation of this study was the low response rate in the HSE engagement surveys, which necessitated the generation of statistical weights to ensure representativeness across workforce subgroups. Given that the survey was self-reported and voluntary, participation rates varied across different professional categories and demographic groups, introducing potential response biases. Employees who were either highly engaged or significantly disengaged may have been more motivated to participate, while those with moderate engagement levels or neutral workplace experiences may have been underrepresented. This response pattern posed challenges in ensuring that the findings reflected the true distribution of engagement across the workforce.

The uneven participation rates across different occupational categories made it necessary to generate weighting adjustments to correct for imbalances in representation. Certain workforce segments, such as administrative and support staff, had lower response rates compared to clinical professionals, leading to potential distortions in overall engagement distributions. Additionally, as disengaged employees are more likely to opt out of organisational surveys, there remained a risk that the study underestimated the extent of workforce disengagement, since those who were least engaged may have actively chosen not to participate in the survey process.

To mitigate these limitations, the study employed statistical weighting techniques to adjust for differential response rates, ensuring that the quantitative data provided a more accurate reflection of workforce-wide engagement patterns. The use of percentile-based engagement stratification allowed for a more granular, subgroup-specific interpretation of engagement levels, rather than relying solely on workforce-wide averages, which could have masked critical disparities. Additionally, qualitative data collection was integrated to complement the quantitative findings, capturing insights from employee different groups of employees.

Despite these efforts, response weighting does not fully eliminate the possibility of residual biases, particularly in cases where non-respondents share systematically different engagement experiences from those who participated. Future research should explore alternative data collection methodologies, such as randomised workforce sampling or institutional-level engagement tracking, to mitigate the challenges associated with self-reported, voluntary survey participation. Longitudinal engagement tracking could further enhance the robustness of findings by examining changes in engagement levels over time, reducing the reliance on cross-sectional self-reported data.

- **The Limitations of Cross-Sectional Data in Capturing Engagement as a Fluctuating Process**

This study found that employee engagement is a fluid and evolving process, shaped by career trajectories, institutional support mechanisms, and fluctuating workloads. However, due to the cross-sectional nature of the data collection, the research was unable to track these fluctuations empirically over time. Engagement was assessed at two single points, meaning that while qualitative narratives offered insight into how engagement had shifted across careers, the study could not directly measure these temporal changes using longitudinal tracking.

To partially address this limitation, the study harmonised HSE "Your Opinion Counts" (YOC) datasets from 2016 and 2018 and implemented a percentile-based engagement scoring framework. This approach allowed for a more nuanced and subgroup-sensitive analysis of engagement levels, moving beyond aggregate workforce-wide averages to capture variations across demographic and occupational subgroups. However, the analysis remained cross-sectional in nature. Future research should build on this foundation by employing longitudinal datasets that track individuals across multiple time points. This would enable a more dynamic and temporally grounded understanding of engagement trajectories, capturing how engagement evolves over time in response to career progression, organisational change, or external pressures.

- **Limitations of Secondary Data Use and Internal Validation Procedures**

The use of secondary data, while offering significant breadth and real-world relevance, introduced methodological challenges related to potential duplicate entries across survey cycles. Since the HSE "Your Opinion Counts" (YOC) surveys are anonymous and conducted biennially, there is a possibility that some respondents participated in both the 2016 and 2018 cycles.

To mitigate this issue, the study carefully harmonised the datasets and conducted extensive data cleaning and variable alignment procedures to ensure consistency across survey years. Although perfect deduplication was not possible due to the absence of unique identifiers, data structuring and filtering techniques were employed to minimise redundancy and preserve the integrity of subgroup comparisons. The decision to retain both years was grounded in the need to strengthen statistical power and maximise construct variance across healthcare roles, locations, and demographic profiles.

To further enhance the robustness of parameter estimates and account for non-normality, particularly in complex mediation and moderation models, the study employed bootstrapping techniques within the Structural Equation Modelling (SEM) framework and the Path analysis. Bootstrapping allowed for the generation of robust standard errors and confidence intervals, providing a more reliable basis for interpreting the indirect and conditional effects within the engagement model.

In addition, the study utilised both Principal Component Factor Analysis (PCFA) and Confirmatory Factor Analysis (CFA) within the same dataset to iteratively explore and then test the factor structure of employee engagement. This reflective-empirical validation strategy was guided by Mirza et al.'s (2019) framework and supported by the need to derive and verify a new model specific to the Irish healthcare context. While this approach ensured internal consistency and construct validity, it also poses a risk of model overfitting due to the absence of an external validation sample. To mitigate this, multiple goodness-of-fit indices were reported, and theoretical consistency with qualitative findings was used to reinforce the model's credibility.

- **Representation Imbalances Across Healthcare Subgroups in Qualitative data**

While this study sought to capture a diverse range of perspectives across different healthcare roles, certain professional categories were underrepresented in the qualitative phase, particularly non-clinical staff. Given that these employees often experience engagement differently from frontline healthcare workers, their lower representation may have resulted in an incomplete picture of engagement disparities within the sector.

Support staff often operate in workforce environments where decision-making autonomy is more constrained, and where engagement may be driven by different institutional and professional dynamics compared to clinical roles. While this study highlighted hierarchical workplace structures as a key determinant of engagement, further research is required to examine how engagement strategies can be tailored for non-clinical healthcare professionals.

To mitigate this limitation, qualitative data collection included multiple rounds of participant validation, ensuring that emerging themes were representative of the broader workforce. However, future research should place greater emphasis on targeted sampling strategies for technical, and

operational healthcare employees, ensuring that their engagement experiences are given greater visibility in workforce studies.

- **The Risk of Response Bias in Qualitative Data**

Qualitative methodologies, particularly focus groups and interviews, are susceptible to response bias, where participants may modify or censor their responses based on perceived social desirability, workplace power dynamics, or organisational scrutiny. (Krueger & Casey., 2015) Given the hierarchical nature of healthcare workplaces, some employees, especially junior staff and those in lower-status roles, may have been reluctant to discuss negative engagement experiences openly, particularly if they feared professional repercussions.

To address this limitation, I incorporated multiple confidentiality measures, including anonymised transcripts and participant-coded data, to encourage honest and open responses. Additionally, efforts were made to diversify focus group compositions, ensuring that participants were grouped in ways that minimised hierarchical imbalances holding separate focus groups for managers, doctors and nurses, thereby fostering psychological safety during discussions. Despite these efforts, certain sensitive engagement themes, including discrimination, bullying, exclusion from leadership, and perceived inequities in career progression, remained challenging to elicit from participants.

9.3 Recommendations for Future Research and Policy Interventions

This thesis has demonstrated that employee engagement in healthcare is a complex, dynamic, and mediated phenomenon, shaped by organisational hierarchies, leadership structures, workforce well-being, professional recognition, and systemic constraints. The findings underscore the urgent need for healthcare organisations and policymakers to adopt a holistic, evidence-based approach to workforce engagement, recognising that engagement is not static but rather fluctuates in response to evolving institutional conditions, career progression opportunities, and structural workforce challenges. The following recommendations offer strategic directions for both future research and policy interventions, emphasising the necessity of targeted, long-term engagement strategies rather than fragmented, short-term solutions.

- **Addressing Workplace Disparities with Tailored Engagement Strategies**

A key recommendation from this study is that healthcare organisations must move beyond generic, one-size-fits-all engagement strategies and instead develop tailored interventions that account for variations in position within the organisation, years of experience, and workforce demographics. Addressing these disparities requires a comprehensive workforce strategy that ensures equitable access to leadership development programmes, transparent career progression pathways, and institutional mechanisms that foster inclusivity in decision-making processes. Ensuring that all employees have a voice in shaping institutional policies, rather than engagement being dictated by top-down leadership structures, is essential for fostering a culture of sustainable workforce commitment.

- **Wellbeing Initiatives**

This thesis also reinforced the critical link between well-being and engagement, confirming that employee engagement cannot be sustained in environments where workforce well-being is compromised. Participants frequently cited workplace stress, unmanageable workloads, and lack of institutional support for mental health as primary drivers of disengagement. Many well-being initiatives introduced during the COVID-19 pandemic were either temporary or inaccessible due to staffing shortages and inflexible work schedules, leading to a sense of organisational neglect. Moving forward, well-being must be embedded as a fundamental dimension of health employee engagement, rather than being treated as an isolated workforce intervention with no structural impact. Healthcare organisations must commit to long-term investments in well-being programmes, ensuring that all employees have access to mental health support, structured workload management interventions, and sustainable work-life balance policies. Addressing the role of workplace discrimination and bullying, which were found to be hidden mediators of disengagement, is also critical, requiring confidential reporting mechanisms, anti-harassment initiatives, and leadership accountability in fostering inclusive workplace environments.

- **Leadership**

The findings of this study highlighted that leadership is one of the most significant dimensions of engagement, with hierarchical decision-making structures often undermining workforce motivation and commitment. Many employees reported low trust in leadership, limited access to senior decision-making channels, and a sense that institutional policies were reactive rather than strategically designed to support engagement. To address this, healthcare organisations must implement leadership training programmes that prioritise engagement-oriented management practices, including participatory decision-making, transparent communication, and psychologically safe workplace cultures. Leaders should be evaluated not only on operational performance metrics but also on their ability to foster an engaged workforce, with engagement indicators incorporated into leadership assessments. Furthermore, hierarchical workplace cultures should be restructured to encourage distributed leadership models, where employees at all levels of the organisation are empowered to participate in institutional governance, workforce planning, and decision-making bodies.

- **Primary Care and Systemic Coordination**

One of the most pressing structural reforms needed to support engagement in the Irish healthcare system is the shift toward a primary care-centred model, a theme that emerged from this study. The findings indicated that the over-reliance on acute hospital services places excessive strain on healthcare professionals, leading to workforce exhaustion, disengagement, and inefficiencies in patient care delivery. Many participants argued that a stronger, more integrated primary care system could alleviate the burden on hospital-based staff, improving both engagement and patient outcomes by ensuring that healthcare services are delivered at the appropriate level of care. Policymakers must prioritise investment in primary care infrastructure, workforce expansion in community health services, and better coordination between hospital and primary care providers. Additionally, general practitioners (GPs) and community-based professionals must be included in engagement strategies and employee engagement surveys, as their roles will become increasingly central in the restructured healthcare system. Ensuring that primary care professionals receive adequate institutional support, career development opportunities, and leadership recognition is critical to maintaining their engagement and motivation within the evolving healthcare landscape.

- **Institutionalisation of Engagement Measurement and Policy-Linked Measurement and Action**

Another critical recommendation is the refinement and institutionalisation of employee engagement measurement practices across the Irish healthcare system, both at the organisational and national levels. This study developed and validated a sector-specific engagement framework and percentile-based scale designed to capture the complex dimensions shaping engagement among Irish healthcare workers. This scale should be systematically integrated into routine

measurement for monitoring workforce engagement not only within individual healthcare organisations but also embedded into national data infrastructures such as the HSE's performance systems and the Sláintecare implementation monitoring framework. Engagement tracking must not be treated as a one-time or annual assessment, but rather as an ongoing institutional process that enables real-time responsiveness and continuous improvement. Future research should prioritise longitudinal tracking methodologies that monitor how engagement levels fluctuate over time, capturing the effects of career transitions, policy shifts, and organisational restructuring. Additionally, the outcomes of this scale should be directly embedded into policy decision-making processes, ensuring they actively inform leadership practices, workforce planning, and organisational culture initiatives rather than remaining an isolated diagnostic tool with no tangible impact on institutional reforms.

In conclusion, this study has provided a comprehensive, sector-specific framework for understanding and improving employee engagement in the Irish healthcare system. However, ensuring sustained engagement requires ongoing institutional commitment, adaptive policymaking, and a shift away from rigid engagement models that fail to capture the complexities of healthcare work. Moving forward, engagement strategies must be context-sensitive, responsive to workforce disparities, and embedded within broader structural reforms in healthcare leadership, workforce well-being, and the transition to primary care-centred service delivery. By treating engagement as a dynamic, institutionally mediated process, this research underscored the urgent need for system-wide reform that recognise engagement as a fundamental determinant of workforce stability, healthcare service quality, and long-term professional commitment.

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Appendix

Appendix 1: Questions in HSE surveys

1. ID
2. I feel proud to work for my organisation
3. I feel valued and recognised by my organisation
4. I value the culture in my organisation
5. I am happy in my job
6. Team members where I work have a set of shared objectives
7. My team works effectively together
8. Communication is good within my team
9. I am able to make suggestions to improve the work of my team/department
10. I look forward to going to work
11. I am enthusiastic about my job
12. I have clear planned goals and objectives for my job
13. My personal targets/objectives for my job are realistic
14. I am trusted to do my job
15. I am able to make suggestions to improve the work of my team/department
16. I have all the equipment support and resources I require to do my job correctly
17. I am satisfied with the quality of care I give to patients/service users
18. I feel that my role makes a difference to patients/service users
19. Overall, how satisfied are you with your job at the present time?
20. The recognition of my performance
21. The support I get from my line manager
22. The support I get from my work colleagues
23. The opportunities I have to use my skills
24. The level of responsibility I have in my job
25. Job security
26. My level of pay
27. The extent to which my organisation values my work
28. The opportunity to express my own ideas in my job
29. The level of autonomy I have in my job
30. My right to be represented by my trade union
31. How motivated do you feel in your current job?
32. "I am happy in my job"?
33. How optimistic are you about your own future within your organisation?
34. Care of patients/service users is the top priority in my organisation
35. I would recommend my organisation as an employer to a friend or family member
36. If a friend or relative needed treatment/service I would be happy with the standard
37. I intend to be working in my organisation in two years' time
38. My organisation gets the best out of me
39. Do you feel that the overall service level in your organisation is improving?
40. Do you believe in the overall strategy of your organisation?
41. Communication between the senior management in my organisation and staff is effective
42. Senior managers in my organisation act on staff feedback
43. I have confidence in the decisions made by the senior management in my organisation
44. I am involved in decisions that affect me in my work
45. I go beyond what is normally required in my job for my organisation to succeed
46. I understand the relationship between my individual objectives and my organisation
47. I endorse my organisation's overall strategy and direction
48. The opportunities that exist for upward communication in my organisation
49. The quality of internal communication in my organisation
50. I have one-to-one meetings with my line manager to discuss my individual objectives
51. My line manager communicates well with the team

52. My line manager delegates effectively
53. My line manager motivates me to perform at the highest levels
54. My line manager is fair and equitable
55. My line manager gives me clear feedback on my work
56. My line manager actively listens to my ideas and suggestions
57. My line manager asks for my opinion before making decisions that affect my work
58. My line manager supports me to improve quality where I work
59. My physical working conditions (space, light, comfort, etc.)
60. The workplace atmosphere
61. The balance between my private & professional life
62. My workload
63. The respect with which I am treated by colleagues
64. The respect with which I am treated by patients/service users
65. I feel that my level of stress sometimes affects my work
66. I believe the source of my stress is work-related
67. I tend to manage any work-related stress well
68. I am aware of facilities where I work that provide support to staff experiencing
69. At my work I always persevere even when things do not go well
70. How do you rate your overall health currently?
71. My organisation clearly demonstrates its interest in staff health and wellbeing
72. My organisation continuously tries to support a healthy lifestyle among its staff
73. My line manager takes a positive interest in my health and wellbeing
74. My organisation provides me with opportunities to improve my skills
75. My organisation is good at developing staff to their full potential
76. I receive the training that helps me to do my job properly
77. I know how to access the training that I need
78. My job gives me a sense of personal fulfilment
79. The opportunities for training
80. My opportunities for career progression
81. Discrimination - Patients/Service users their relatives or other members of the family
82. Discrimination - Manager/Team leader or other colleagues
83. On what grounds have you experienced discrimination? – Ethnic background (Country)
84. On what grounds have you experienced discrimination? – Gender (Male/Female)
85. On what grounds have you experienced discrimination? - Religion
86. On what grounds have you experienced discrimination? – Sexual orientation
87. On what grounds have you experienced discrimination? - Civil status
88. On what grounds have you experienced discrimination? - Trade Union activity
89. On what grounds have you experienced discrimination? - Disability
90. On what grounds have you experienced discrimination? - Age
91. On what grounds have you experienced discrimination? - Member of Traveller Community
92. On what grounds have you experienced discrimination? – Family status (Pregnancy)
93. On what grounds have you experienced discrimination? - Position/Employment status
94. On what grounds have you experienced discrimination? - Nepotism/"Who knows who"
95. On what grounds have you experienced discrimination? - Illness/Sick leave based
96. On what grounds have you experienced discrimination? - Personality/Characteristics
97. On what grounds have you experienced discrimination? – Physical appearance
98. On what grounds have you experienced discrimination? - Skills/Ability-based
99. On what grounds have you experienced discrimination? - Managerial-based/Hierarchy
100. On what grounds have you experienced discrimination? - Education/Qualifications
101. On what grounds have you experienced discrimination? - Where I live/Travel distance
102. On what grounds have you experienced discrimination? - Background/Inequality

103. On what grounds have you experienced discrimination? - Voice my opinion
104. On what grounds have you experienced discrimination? – New Staff/new to the job
105. On what grounds have you experienced discrimination? - Lack of communication
106. On what grounds have you experienced discrimination? – Job application/Description
107. On what grounds have you experienced discrimination? - Colleagues/Workmates
108. On what grounds have you experienced discrimination? – Working conditions
109. On what grounds have you experienced discrimination? – Not applicable
110. On what grounds have you experienced discrimination? - Other
111. On what grounds have you experienced discrimination from patients/service users
112. On what grounds have you experienced discrimination from a manager/team leader?
113. Are you aware of the Dignity at Work Policy for Health Service 2009?
114. Have you been trained or briefed on the Dignity at Work Policy for the Health Service?
115. Have you been trained or briefed on the Dignity at Work Policy for the Health Service?
116. Experienced bullying/harassment - Patients/service users their relatives or other
117. Experienced bullying/harassment - Manager/Team leader or other colleagues
118. Witnessed bullying/harassment - Patients/service users their relatives or other
119. Witnessed bullying/harassment - Manager/Team leader or other colleagues
120. Subject to bullying/harassment - Patients/service users their relatives or other
121. Subject to bullying/harassment - Manager/Team leader or other colleagues
122. Do you have any long-term condition which causes you substantial difficulties at work?
123. Have you been provided with any form of reasonable accommodation in the workplace?
124. I have witnessed bullying and/or harassment in my organisation in the past 2 years
125. I have been subject to assault verbal or physical in my organisation in the past
126. My organisation encourages staff to report errors near misses or incidents
127. My organisation treats staff who are involved in an error or incident
128. Staff are given feedback about changes made in response to reported errors
129. In which of the following areas of the health sector do you mainly work in?
130. Please select from the list below the hospital you mainly work in.
131. Please select from the list below the hospital group you mainly work in.
132. What is your staff category?
133. In which of the following Community Health Organisations (CHO) areas do you main
134. Please select from the list below the County you mainly work in.
135. And do you mainly work for a HSE Service or for a Voluntary Community Health Service
136. Please select from the list below the hospital/agency you mainly work in.
137. In which of the following Divisions do you mainly work in?
138. Do you work in the Primary Care Reimbursement Service?
139. What is your staff category?
140. In which of the following Divisions do you mainly work in?
141. What is your staff category?
142. In which of the following areas do you mainly work in?
143. What is your role/grade?
144. Are you...? (gender)
145. Which group includes your age?
146. What is your contract type?
147. How long have you been working in the Health Sector in Ireland for?
148. Are you responsible for managing others?
149. Do you have direct face-to-face contact with patients as part of your job?
150. Do you have any long-term (including episodic) condition?
151. Have you been provided with any form of reasonable accommodation in the workplace?

Appendix 2: Summarised data of HSE surveys 2016 and 2018

Components	Subcomponents	Questions
1 My organization	Pride and Culture	Q1a, Q1c, Q16a, Q16b
	Teamwork	Q2a, Q2c, Q4d, Q6c
	Performance recognition	Q1b, Q6a, Q6h
2 Leadership	Strategy confidence	Q12, Q13c, Q13g
	Communication	Q13a, Q13b, Q14a, Q14b
3 Line Management	Communication	Q15b, Q15f, Q15g, Q15h
	Support	Q15a, Q15c, Q15d, Q15i
4 Training and Opportunities	Training and Progression	Q20a, Q20b, Q20c
	Training and opportunities	Q3a, Q3b, Q19b, Q19c
5 Health and Wellbeing	Health and Wellbeing	Q18a, Q18b, Q18c
	Stress & Stress management	Q17a, Q17c, Q17b
6 My Job	Satisfaction	Q5, Q8, Q19e
	Motivation	Q3a, Q3b, Q7
	Optimism & Advocacy	Q9, Q10b, Q10d
7 My role	Trust and Autonomy	Q6d, Q6e, Q6i, Q6j
	Goals and Objectives	Q4a, Q4b, Q4e, Q13f
	Security and pay	Q6k, Q6f, Q6g
8 Standard of Care and Service	Quality	Q10a, Q10c, Q10e
	My role	Q4f, Q2b
	Near Misses & Incidents	Q25a, Q25c, Q25b

Append 3: Initial email to potential participants in focus groups.

Dear ()

We are contacting you about an ongoing piece of research in TCD Centre for Health Policy and Management. The HRB-funded RESTORE research programme examines the key challenges facing the Sláintecare reform programme and evaluates strategies to facilitate its effective and thorough implementation in a complex adaptive system. One aspect of this research explores the experiences and perspectives of health staff and health managers on staff engagement in their organisations and their insights on how to boost health staff engagement in Ireland.

If you are interested and willing to participate in a 1-hour interview, we will follow up with more detailed information about the topic, as well as arranging a time and location that best suits your schedule.

I look forward to hearing from you

Kind regards

Append 4: Participant Information Leaflet

Name of Study: Barriers to resilience among healthcare staff in Ireland in the post-austerity period:

Site	Trinity College Dublin
Principal Investigator(s), Primary Supervisor and CoInvestigator(s)	Dr Arianna Almirall Sanchez (PI) Centre for Health Policy and Management, Trinity College Dublin, 3-4 Foster Place, Dublin 2 Email – aalmiral@tcd.ie Phone – 0877381499 Prof Steve Thomas (Primary Supervisor) thomassd@tcd.ie Dr Padraic Fleming (CI) - padraic.fleming@tcd.ie Prof Emer Mc Gowan (CI) MCGOWAEM@tcd.ie Prof Richard Layte (CI) layter@tcd.ie Ms Catherine O'Donoghue (CI) - Catherine.O-Donoghue@tcd.ie Dr Liz Farsaci (CI) FARSACIL@tcd.ie
Study Organiser/ Sponsor (if applicable)	Health Research Board
Data Controllers	Trinity College Dublin
Data Protection Officer	Data Protection Officer Secretary's Office Trinity College Dublin Dublin 2

You are being invited to take part in a research study that is being conducted in the Centre for Health Policy and Management by Dr Arianna Almirall Sanchez at Trinity College Dublin . Before you decide whether or not you wish to take part, you should carefully read the information provided below. Ask Dr Arianna Almirall Sanchez or his colleagues (listed above) any questions you might have. Please take your time to make your decision.

This leaflet has four main parts:

Part 1 – The Study

Part 2 – Data Protection

Part 3 – Costs, Funding and Approval

Part 4 – Future research and further Information

Part 1 – The Study

1.1 Why is this study being done?

- To explain, provide depth and understanding of the outcomes obtained after reanalysing the HSE surveys on staff engagement “Your opinion Counts” (YOC) during the quantitative phase of the project.
- To explore the experiences and perspectives of health staff and health managers on staff engagement in their organisations and their insights on how to boost health staff engagement in Ireland.

The research will examine key challenges after the post austerity period for keeping engaged with your health organisations and the main burdens on staff.

1.2 Why have I been invited to take part?

You have been invited to take part in this study because you were a key player and/or decision maker within the health system (Doctors, nurses, policy makers) during the post -austerity period (2008 financial crisis) and have worked in the Irish Health system for more than 5 years.

We plan to interview around 24 people comprised in 3 different focus groups linked to the results obtained from the health staff survey “Your opinion counts” (4 participants per focus group). The hospitals where the focus groups will be organised are St James Hospital (3 focus groups) and Tallaght University Hospital (3 focus groups)

- First Focus Group: Doctors with different types of genres
- Second Focus Group: Nurses with different types of genres
- Third Focus Groups: Hospital Managers/ Policy makers

1.1 Do I have to take part? Can I withdraw?

Participation in this study is completely voluntary. You do not have to take part in this study if you do not wish to. If you decide not to take part, it won't affect your current or future collaborations with the Centre for Health Policy and Management or any associated collaborations with Trinity College Dublin or the research team. You can change your mind about taking part in the study and opt out at any time even if the study has started. If you decide to opt out, it won't affect your relationship with the research team or the wider TCD community. You don't have to give a reason for not taking part or for opting out. If you wish to opt out, please contact Dr Arianna Almirall Sanchez, Principal Investigator by emailing aalmiral@tcd.ie or by phoning 0877381499. Dr Almirall will be able to answer any questions you have or simply confirm your withdrawal from the study. If you decide to take part, you will be asked to give your consent to participation and you will be provided with a copy of the group interview transcript. Codenames will be used to identify participants in the transcript, and you will be informed of your codename. You will be given the opportunity to make additions or clarifications to the transcript or withdraw your data fully from the study.

1.2 How will the study be carried out?

If you decide to take part, you will participate in a group discussion (focus group discussion). The focus group will be facilitated by the Principal Investigator and participants will be health professional or health managers from your workplace. The focus group will take approximately one hour and will take place in your workplace. With your permission, the focus group will be audio and video recorded using Zoom. This is to allow the researcher to revisit the conversation after the focus group has ended and notes will be taken. Topics discussed in the focus group will include communication within your organisation, training and career progression, gender equality, implementation of Sláintecare program.

1.3 What will happen to my data?

Each participant will be assigned a codename. A document (code key) will be compiled which details the names and codenames of all participants. This code key will be kept in a locked filing cabinet in a locked office in the Trinity Centre for Health Policy and Management.

You will be asked to provide several types of data when taking part in this study.

- Any personal information (Name, email address) will be stored on a password protected excel spread sheet that will be stored on a dedicated, secure TCD OneDrive folder.
- The consent form, which you will be asked to complete, will be scanned, and stored on a dedicated, secure TCD OneDrive folder. The hard copy will be shredded and securely disposed of. The scanned copy will be kept for 10 years, in line with TCD data protection policies.
- The video-audio recording will be transferred to a dedicated secure OneDrive folder. It will then be permanently deleted from the Dictaphone.
- The conversation will be manually transcribed by one of the research team and then all potentially identifying information will be removed. You will be sent the transcript (with identifying information removed) and given the opportunity to make additions, amendments, or withdrawals as you see fit. Once all participants have approved the transcript, the transcript will be finalised. The audio-recording will then be destroyed, and the transcript will be the official record of the focus group.
- Once the transcript has been anonymised, it will be uploaded into an analysis software package (NVivo), along with all the other interview transcripts, where it will be analysed to identify important and recurring themes. All transcription and analysis files will be password protected and stored on a secure, dedicated OneDrive folder in Trinity College Dublin.
- Once the information has been analysed, the key messages will be written up into a report. Results will be presented at conferences and published.
- Some quotations from the focus groups may be used in these publications, but only when complete anonymisation is possible and when confidentiality can be assured. Where information could be attributed to you, based on your unique position or perspective (for example), such quotations will not be used in any publications. On the contrary, if you would like to have your name and position associated with your interview transcript and subsequent quotations, you will be given this option, which will be explicitly captured in the consent form.
- The core research team, as listed on page one, will have access to the files on a need's basis.

The anonymised data will be stored on the Trinity College Dublin (TCD) OneDrive system. The data will be stored for a minimum of seven years after completion (in line with TCD's Code of Research Conduct) and will be deleted from the system after that period has elapsed. The anonymised data gathered will only be available to members of the research team.

1.4 Are there any benefits to taking part in this research?

Taking part in this study will not directly benefit you. However, research performed with the information that you and other interviewees provide may help us to better understand health staff engagement in Ireland and the effective implementation of Sláintecare. Your contribution will therefore help develop evidence-based strategies for policy makers in government to enhance satisfaction of the staff with their organisations and resilience of the Irish health care system.

1.5 Are there any risks to me or others if I take part?

There are some risks associated with your participation in this study. The greatest risk is associated with the collection, handling, and storage of the information you provide. All necessary steps will be taken to protect the information you provide, in line with all current TCD, data protection and GDPR guidelines.

Identification: All steps will be taken to ensure confidentiality is upheld, through data anonymisation (removal of all potentially identifiable information) and by only using quotations that are of a generic nature, with no risk of being directly linked to you.

1.6 Will I be told the outcome of the study?

Participants will be sent a copy of the final study report if they indicate that they would like to receive it. Likewise, the results of the study will be reported in policy briefs, articles, PhD theses and disclosed at scientific conferences. No information which reveals your identity will be disclosed.

Part 2 – Data protection

Consent forms, the code key and the pseudo-anonymised transcripts (identifying details removed and codenames used) will be kept on a password protected computer in Trinity College Dublin. The pseudonymised data will be kept for seven years on Trinity College Dublin (TCD) OneDrive system after this time the data will be destroyed. Only the research group will have secure access to study data using unique username and password. Confidentiality will be ensured by entering data with the study codename instead of participant names. The risk to data privacy is low. The pooling of participant results for publication means that dissemination of results will not identify individuals.

2.1 What will happen to my personal data?

Minimal personal data will be collected and will only be used for the purpose of providing project information and following up with results, if requested. Your personal data will not be used for any other purposes and will not be shared unless explicit permission is sought and provided.

The conversation will be manually transcribed by one of the research team and then all potentially identifying information will be removed. The video-audio files and transcription files will be stored securely on a TCD approved dedicated site.

Identifiable information that is contained within audio files and transcripts will be available for you to review and after this review process is complete, the transcripts will be anonymised. Non-anonymised transcripts then be permanently deleted. Audio files will be securely stored in a dedicated OneDrive folder until they are permanently deleted at the end of the study. Should you wish to review the audio files or transcripts, these will be shared using an encrypted file sharing tool and passwords to access these files will be sent separately (by text message).

Trinity College Dublin is the data controller of all research data gathered and as such, very stringent data protection and GDPR processes and procedures are in place.

2.2 Who will access and use my personal data as part of this study?

Principal Investigator Dr Arianna Almirall Sanchez, Primary Supervisor Prof Steve Thomas and Coinvestigators will access (or have access to) to your personal data, the video-audio files and the transcripts.

2.3 Will my personal data be kept confidential? How will my data be kept safe?

Your privacy is important to us. We take many steps to make sure that we protect your confidentiality and keep your data safe. Here are some examples of how we do this:

- All team members have completed training in data protection and GDPR.
- A minimum amount of personal data will be stored, for the purpose of facilitating communication.
- All electronic files with personal data or research data will be password protected and kept in a secure, dedicated OneDrive folder in TCD.
- No data will be kept on portable devices.
- All research data will be anonymised before analysis or reporting of research findings.

However, if something did go wrong, we would notify the TCD data protection officer as soon as the breach was discovered. As with any data breaches, the data protection officer (DPO) will assess the risk associated with the breach and the breach will be reported to data commissioner when deemed necessary. This will be done within 72 hours of becoming aware of the breach. It is highly unlikely that a data breach associated with this research would pose a risk to your rights or freedoms. However, the DPO will make that assessment and if they determine the breach to be reportable, you will be notified without delay. You will be informed of the steps and corrective measures that have been put in place to protect those rights, and any additional steps you can take to protect yourself.

2.4 What is the lawful basis to use my personal data?

Data will only be collected and used in this study to the extent needed to achieve the aims. In this event the data gathered in this survey is of a non-personal nature. By law, (1) we can use your personal information for scientific research (2), in the public interest (3). This research is carried out on the basis of consent (4), and an appropriate consent process will be in place.

- 1 The European General Data Protection Regulation (GDPR)
- 2 Article 9(2) (j))
- 3 Article 6(1)(e)
- 4 Articles 6 1 (a) and 9 2 (a)

2.5 What are my rights?

You have the right to access, request changes or withdraw your data until the transcript is finalised. The transcript of the focus group discussion (with all potentially identifying comments removed) will be finalised once all participants have been given the opportunity to make changes to it. For further information regarding your data rights, you can contact the study Principal Investigator, Arianna Almirall Sanchez (aalmiral@tcd.ie) or Trinity College Dublin, Data Protection Officer, Secretary's Office, Trinity College Dublin, Dublin 2, Ireland. Email: dataprotection@tcd.ie. Website:

www.tcd.ie/privacy.

Part 3 – Costs, Funding and Approval

2.1 Has this study been approved by a research ethics committee?

Yes, this study received the approval from TCD's ethics committee and from TUH and St James hospital's ethics committee.

2.2 Will it cost me anything if I agree to take part?

No, it will not cost you anything to take part. There is no payment for taking part either.

2.3 Will the results study be used for commercial purposes?

The results will not be used for commercial purposes.

2.4 Who is organising and funding this study?

This research is being conducted in the Centre for Health Policy and Management, Trinity College Dublin. The research is funded by the Health Research Board. However, the Health Research Board has no role in the design and conduct of the study, data collection, data management, data analysis and interpretation of the collected data.

PART 4 – Future research and further information

4.1 Will I be contacted again?

Participants will be sent a copy of the pseudo-anonymised transcript to review. Participants will be asked on their consent form if they are interested in receiving the results of the study. A note will be made in the code key of the participants who do want to see the final results and these participants will receive a copy of the final report via email.

4.2 Who should I contact for information or complaints?

If you have any concerns or questions, you can contact:

- Principal Investigator: Arianna Almirall Sanchez, Centre for Health Policy and Management, Trinity College Dublin, 3-4 Foster Place, Dublin 2., email: aalmiral@tcd.ie, Phone: 0877381499
- Data Protection Officer, Trinity College Dublin: Data Protection Officer, Secretary's Office, Trinity College Dublin, Dublin 2, Ireland. Email: dataprotection@tcd.ie. Website: www.tcd.ie/privacy.
- Under GDPR, if you are not satisfied with how your data is being processed, you have the right to lodge a complaint with the Office of the Data Protection Commission, 21 Fitzwilliam Square South, Dublin 2, Ireland. Website: www.dataprotection.ie.

Appendix 5: Preliminary notes made during the early iterations of familiarisation with the data.

1. **Staff Burnout and Overwork:** Healthcare staff are experiencing significant burnout due to overwhelming responsibilities and insufficient support. They are often required to perform tasks beyond their primary duties, leading to exhaustion. This finding is linked to their Trust and Autonomy, Organisational Culture and Stress and Stress Management, which were identified as subdimensions of employee engagement during the quantitative analysis phase.
2. **Engagement and Disengagement:** Participants highlighted factors contributing to disengagement among healthcare staff, including unrealistic expectations from management, limited opportunities for professional development, and a lack of recognition for their efforts. These findings are connected to Training, Opportunities for Career Progression and Performance Recognition—subdimensions of employee engagement identified in the quantitative analysis.
3. **Lack of Support:** Healthcare staff often face unclear role definitions, frequently taking on tasks that should be handled by other support staff. There is also a perception that management is disconnected from the realities of frontline work, resulting in inadequate support for them. These issues relate to the subdimensions of Employee Engagement, such as Communication with Management, and Support from My Manager, as identified in the quantitative analysis.
4. **Inconsistent Resources and Policies:** There is a notable disparity in resource allocation and policy implementation across different hospitals and departments. While some areas are well-supported, others struggle, leading to inequities in patient care. This finding emerged from an inductive approach and was not previously identified in the quantitative phase, relating to the Structure of the Organisation.
5. **Impact of COVID-19:** The pandemic has exacerbated existing challenges, with healthcare staff facing increased pressure, inadequate psychological support, and inconsistent COVID-19 policies. The discussions also touched on the emotional toll of the pandemic on healthcare workers. Stress and Stress Management is the subdimensions of employee engagement, corresponds to these findings in the quantitative analysis.
6. **Need for Structural Changes:** Participants expressed the need for systemic changes within the healthcare system, including better salaries for nurses, more support staff, improved management practices, and standardised policies across the healthcare sector. However, there is a lack of trust that these changes will occur soon. These findings are the result of both inductive and deductive approaches, categorised under the Structure of the Organisation as an inductive observation, and also relate to Confidence in Organisational Strategy, a subdimension of employee engagement identified during the quantitative phase.
7. **Ego and Politics in Healthcare:** The discussions revealed how ego and internal politics among healthcare professionals and management can influence decisions and policies, often to the detriment of patient care and staff well-being. This issue is linked to Organisational culture, a subdimension of EE identified during the quantitative phase of the analysis.
8. **Emotional and Mental Health Support:** There is a recognised need for enhanced mental health support for healthcare staff, particularly considering the trauma experienced during the COVID-19 pandemic. Stress and Stress Management, a subdimension of employee engagement, corresponds to this finding in the quantitative analysis.

9. **Post-COVID Exhaustion and Burnout:** Participants highlighted the persistent fatigue and burnout among healthcare workers resulting from the demands of the COVID-19 pandemic and the increased workload. This has led to frustration and disengagement. These findings are linked to Stress and Stress Management, a subdimension of employee engagement identified during the quantitative analysis.
10. **Challenges in Communication and Strategy:** There was widespread concern about poor communication within organisations and across the broader healthcare system. The absence of a clear and cohesive strategy post-COVID has led to confusion and frustration among staff, exacerbating feelings of disengagement. These findings are linked to Communication with Management and Confidence in the strategy of my organisation, subdimensions identified in the quantitative phase of the research.
11. **Innovation and Future Preparedness:** The participants emphasised the importance of innovation and forward-thinking in healthcare, particularly in relation to horizon scanning and preparing for future healthcare delivery. However, there is frustration over the lack of national support and strategic direction for these initiatives. These findings primarily stem from the inductive approach of the research and relate to the Future Preparedness and Resilience of the Irish healthcare system.
12. **Staff Retention and Well-being:** The discussion highlighted the need for better strategies to retain and engage staff, including more accessible training and well-being programs. The lack of time and resources for professional development was identified as a significant barrier to staff satisfaction and retention. These findings are mainly associated with the Retention of Healthcare Staff, and Training and Opportunities for Career Progression. The first topic emerged as an inductive observation, while the latter two were identified as subdimensions of employee engagement during the quantitative analysis.
13. **Fragmentation and Lack of Cohesion in the Healthcare System:** Participants noted the fragmented nature of the Irish healthcare system, with significant challenges in harmonising health information systems across different hospitals. This fragmentation leads to inefficiencies and misses opportunities for improvement. These findings were derived from an inductive approach and were not previously identified in the quantitative phase, relating to the Structure of the Organisation.
14. **Reflection and Learning from COVID-19:** There was concern that, while some positive changes from the COVID-19 response have persisted, the system has largely reverted to its previous slow pace, missing opportunities to learn from and build on the successes of the pandemic response. These findings are primarily related to the inductive approach of the research, focusing on the Future Preparedness and Resilience of the Irish healthcare system.
15. **Importance of Teamwork and Communication:** The significance of teamwork within the organisation was emphasised, particularly concerning doctors' experiences. Communication was identified as a key factor in engagement, with participants highlighting the need for clear and consistent communication within departments. These findings are linked to Communication within the team and Support within the Team subdimensions of employee engagement identified in the quantitative phase of the research.

Appendix 6: Institutional Ethics Approval Letter for the Quantitative Phase. Trinity College Dublin



Coláiste na Tríonóide, Baile Átha Cliath
Trinity College Dublin

Ollscoil Átha Cliath | The University of Dublin

Prof Steve Thomas
Centre for Health Policy & Management
3-4 Foster Place
Trinity College Dublin
Dublin 2

26 November 2021

Re: RESTORE: Towards Dynamic Resilience in Health System Performance and Reform

Application 03E/2021/10

Dear Steve,

Thank you for your submission of the above proposal to the HPM/CGH REC.

The REC has given ethical approval to the proposed study.

Yours sincerely,

A handwritten signature in blue ink, appearing to read 'J. O'Mahony'.

Dr James O'Mahony
Chair of the HPM/CGH REC

Appendix 7: Institutional Ethics Approval Letter for the Qualitative Phase. Trinity College Dublin



Coláiste na Tríonóide, Baile Átha Cliath
Trinity College Dublin
Ollscoil Átha Cliath | The University of Dublin

Arianna Almirall-Sanchez
Centre for Health Policy & Management
3-4 Foster Place
Trinity College Dublin
Dublin 2

3 November 2023

Re: Barriers to resilience among healthcare staff in Ireland in the post-austerity period

Application 2536

Dear Arianna,

Thank you for your submission of the above proposal to the HPM/CGH REC.

The REC has given ethical approval to the proposed study.

Yours sincerely,

A handwritten signature in black ink that reads "Bridget Johnston".

Dr Bridget Johnston
Chair of the HPM/CGH REC

Bainistíocht agus Beartas Sláinte
3-4 Plás Foster,
Colaiste na Tríonóide,
Baile Átha Cliath,
Ollscoil Átha Cliath,
Baile Átha Cliath 2, Éire.

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3-4 Foster Place,
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Dublin 2,
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Appendix 8: Ethics Approval Letter. Joint Research Ethics Committee of Tallaght University Hospital and St. James's Hospital



**Tallaght
University
Hospital**

An Academic Partner of Trinity College Dublin

Ospidéal
Ollscoile
Thamhlachta



Research Office

Project ID: 4138

Dr Arianna Almirall Sanchez,
Trinity College Dublin

Dr. Arianna Almirall Sanchez, Prof Steve Thomas, Trinity College Dublin/Centre for Health Policy and Management

Approval Date: 21 December 2023

Submission Number: 3210

Submission Title: Barriers to resilience among healthcare staff in Ireland in the post-austerity period
Submission Date: 24.Nov.2023 15:16

Dear Dr Almirall Sanchez,

On behalf of the Chair and members of the SJH/TUH Joint Research Ethics Committee I wish to inform you that your study has received **FULL APPROVAL**. Your study can now proceed.

The following comments were made:

Title	Comment
1.2.4.1 Please supply the SJH Research and Innovation number.	Must be registered. Please register before beginning the study. This is an internal requirement of SJH
2.2.3 Is there Indemnity in place for all non-TUH researchers?	Yes, TCD have insurance
3.1.1.1.4 Please provide details of the Lead Co-Investigators at each site for the study	Sadhbh O'Neill is not a Co-I.

Appendix 8 (continuation): Ethics Approval Letter. Joint Research Ethics Committee of Tallaght University Hospital and St. James's Hospital (Continuation).

Document Type	File Name	Date	Version
Participant Information Leaflet	Appendix 1 Participant information leaflet (1)	21.Nov.2023	first
Participant Consent Form	Appendix 2 Participant consent form	21.Nov.2023	first
Survey/Questionnaire	Focus group agenda and questionnaire	21.Nov.2023	first
Default	Appendix 3 and 3a Gatekeeper information leaflet & consent form	21.Nov.2023	first
Default	TCD DPIA	21.Nov.2023	first
Principle Investigator C.V.	Arianna Almirall Sanchez. Curriculum Vitae Arianna Almirall Sanchez	21.Nov.2023	first
Interview Script	Interview script	21.Nov.2023	first
Telephone Script	Telephone script	21.Nov.2023	first

Please note that ethical approval for this study is only active under the following conditions:

1. *Applicants must submit an annual report for ongoing projects.*
2. *Applicants must submit an end of study declaration/end of study report upon completion of the study.*
3. *All adverse events must be reported to the JREC.*
4. *All changes (minor and substantial) to documentation/study must be submitted to the JREC using the amendment request form and the changes must be tracked/highlighted clearly. Approval from the JREC is required before implementation of the changes.*

It is the responsibility of the researcher/research team to ensure all aspects of the study are executed in compliance with the General Data Protection regulation (GDPR), Health Research Regulations and the Data Protection Act 2018.

Yours sincerely,

Dr Sadhbh O'Neill

Research Ethics & Clinical Trials Manager,

SJH/TUH Joint Research Ethics Committee

The SJH/TUH Joint Research and Ethics Committee operates in compliance with and is constituted in accordance with the European Communities (Clinical Trials on Medicinal Products for Human Use) Regulations 2004 & ICH GCP guidelines.

Appendix 9: Articles by methodological design and year of publication

General Characteristics	No. (n=155)	%
Countries		
Netherlands	30	19.4
UK	19	12.3
Italy	4	2.6
Spain	7	4.5
Albany	2	1.3
Poland	2	1.3
Finland	2	1.3
Germany	2	1.3
EEUU	38	24.5
Canada	4	2.6
New Zealand	2	1.3
Jamaica	2	1.3
South Africa	6	3.9
China	27	17.4
South Korea	2	1.3
Turkey	2	1.3
Multi-national	4	2.6
Year		
2000-2010	86	55.4
>2011	69	44.5
Type of Study		
Systematic review	10	6.5
Scoping review	12	7.7
Mixed Methods	3	1.9
Cross-sectional	65	41.9
Multilevel Analysis	15	9.7
Literature Review	41	26.5
Metanalysis	9	5.8

Appendix 10. Definitions of employee engagement

Authors	Definitions	Category
Kahn (1990)	The harnessing of organization members' selves to their work roles; in engagement, people employ and express themselves physically, cognitively, and emotionally during role performances	Employee engagement as a multifaceted construct
May et al. (2004)	How the organization's members devote themselves to work, including not only cognition, but also the flexible application of emotions and behaviours	
Wellins & Concelman (2005)	A mixture of commitment, loyalty, productivity, and ownership	
Saks (2006)	The combination of knowledge, emotion and behaviour related to the individual's role performance	
Cha (2007)	Employee's active involvement in work and the state of full physiology, cognition, and emotion that accompanies the work engagement, including three dimensions: work engagement, organizational recognition, and sense of work value	
Bakker (2011)	A positive, highly awakened emotional state with two features: energy, and involvement	
Macey & Schneider (2008)	A wide-ranging term which contains different types of engagement (traits engagement, psychological state engagement, behavioural engagement)	
Soane et al. (2012)	A work-role focus, activation and positive affect.	
Xu et al. (2013)	Employees' organizational identity, work attitude, mental state, responsibility effectiveness	
Xiao & Duan (2014)	Employees' initiative, loyalty, effectiveness, recognition and commitment	
Liu (2016)	Employees' organizational identity, dedication, absorption, vigor, pleasant harmony	Employee engagement as multifaceted construct
Frese (2008)	Function of positive affectivity (for engagement) given the changing nature of the world of work.	

Appendix 10. Definitions of employee engagement (Continuation)

Hewitt Consulting (2001)	The extent how employees are willing to stay in the company and work hard for the company, including three elements: say, stay and strive	Employee engagement as a dedicated willingness (Organisational Approach)
Towers Consulting (2001)	Degree of willingness and ability of employees to help companies succeed, including rational and sensuous engagement	
Xie (2006)	A sense of professional responsibility, including hard work, dedicated to the company, loyal to the boss, and self-confidence	
Masson et al. (2008)	Link engagement to the organisational level not to the work level	
Schaufeli et al. (2002)	A positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption	Employee engagement as a positive state of mind (Individual Approach)
Harter et al. (2002)	The individual's involvement and satisfaction with as well as enthusiasm for work	
Zeng & Han (2005)	Having a long-lasting, positive emotional and motivational state of awakening their work, ready to devote themselves to work at any time, and are accompanied by pleasant, proud, and encouraging experiences during work	
Maslach et al. (2001)	The opposites of three features of burnout: energy, participation, and effectiveness	Employee engagement as the opposite of burnout
Schaufeli & Bakker (2004)	The opposites of two features of burnout: vigor and Dedication	
González-Romá et al. (2006)	The opposite of cynicism of burnout: dedication	
Demerouti et al. (2010)	Independent of burnout: vigor	

Appendix 11. Theoretical frameworks of employee engagement.

Levels	References in the healthcare context	Theoretical Background	Employee Engagement theory that were referenced	Definition of the employee engagement theory
Organisational Level	Bakker, A. B., & Demerouti (2008); Bakker, A. B., & Demerouti (2017); Bakker, A. B., & Oerlemans (2016); Bae, S. H., & Yoon (2017); Burton et al. (2017); Collini et al. (2015); Schaufeli, W. B., & Bakker (2010); Schaufeli, W. B., & Bakker (2013); Schaufeli, W. B., Bakker, & Van Rhenen (2009); Aiken, Sloane, & Bruyneel (2014); Albrecht (2012); Applebaum et al. (2010); Nahrgang et al. (2011); Nahrgang, Morgeson, & Hofmann (2011)	Bakker et al. (2003)	Job Demands-Resources (JD-R) Model	This model posits that job demands (e.g., workload, emotional stress) and job resources (e.g., support, autonomy) shape employee engagement and well-being, where demands may lead to burnout if resources are insufficient to cope.
	Boamah et al. (2018); Wong, C. A., Spence Laschinger, & Cummings (2010); Laschinger, Wong, & Grau (2013); Yukl & Mahsud (2010); Seppälä & Mauno (2015)	Bass (1985)	Transformational Leadership Theory	This theory highlights leaders who inspire, challenge, and motivate employees through a vision and supportive environment, often enhancing

				employee engagement and satisfaction.
	Rousseau (2004)	Rousseau (1995)	Psychological Contract Theory	Psychological contracts are unspoken expectations between employees and employers, perceived fulfilment or breach impacts engagement and loyalty.
	Allen, Braithwaite, & Sandall (2016); Brunetto et al. (2013) Cascio (2014)	Levinson (1965); Masterson et al. (2000) Eisenberger et al. (1986); Saks (2006)	Social Exchange Theory	This theory describes workplace relationships as exchanges where mutual benefits lead to higher engagement and commitment
	Allen et al. (2016); Marks & Mirvis (2001) Morgeson & Humphrey (2006); Morrison (2014); Bae & Yoon (2017); King's Fund. (2012); West & Dawson (2012); Barrick et al. (2015)	Schein, 2010	Organisational Culture Theory	Organisational culture shapes employee behaviour, attitudes, and engagement through shared values, norms, and beliefs, fostering a sense of belonging.
	Rafferty & Griffin (2006); Jones & Gates (2007); Manion (2009); Aronson & Gustafsson (2005); Wilkinson & Marmot (2003);HERO (2014); Arena et al. (2013); Holman & Totterdell (2010); Chaplain (2006); Flynn & Irvin (2006); Micheli & Pavlov (2011)	Schein, 2010	Workplace Environment and Safety Theories	These theories focus on the impact of a safe and supportive work environment on employee engagement and overall well-being, particularly in high-risk sectors like healthcare.
	Boon et al. (2011)	Kristof, A. L. (1996)	Person-Organisation Fit Theory	This theory holds that alignment between individual and organisational values

				boosts job satisfaction, engagement, and retention
Team Level	Lin & Peng (2010); Bell & LaValle (2010); Van Tuin et al. (2020)	Bandura, A. (1997)	Collective Efficacy Theory	This theory suggests that a group's shared belief in its abilities influences motivation, engagement, and performance, especially within teams
	Edmondson (2004); Wong & Cummings (2007); Huber (2010) Tuckey, Bakker, & Dollard (2012); Cottingham et al. (2015); Dutton & Ragins (2007); Goyal & Kaur (2023)	Kozlowski, S. W. J., & Ilgen, D. R. (2006)	Team Dynamics and Engagement	Team dynamics, including trust, communication, and collaboration, significantly affect collective and individual engagement
	Griffin & Clarke (2011); Lipscomb et al. (2002); Halbesleben & Buckley (2004); Wilcox & Cameron (2004)	Cohen & Wills, (1985)	Social Support Theory	This theory emphasises that support from colleagues and supervisors buffers stress and enhances engagement and resilience
Individual Level	Hakanen & Schaufeli (2012) Brown & Duguid (2001); Barbier, Dardenne, & Hansez (2012); Evans & Mathur (2005); Page & Vella-Brodrick (2009); Berta et al. (2013)	Deci & Ryan, (2000)	Self-Determination Theory	This theory posits that autonomy, competence, and relatedness are core needs, and when fulfilled, they lead to higher engagement and motivation
	Xanthopoulou et al. (2007) Yanchus et al. (2017); Van Steenbergen & Ellemers (2009); Zacher & Frese (2018); Rattray & Jones (2007); Roelen et al. (2008); Ferreira & De Mello (2013); Othman et al.	Demerouti et al. (2001)	Personal Resources in the JD-R Model	Personal resources (e.g., resilience, optimism) act as buffers against job demands, enhancing engagement by improving coping ability

	(2014); Pandzic & Hadziahmetovic (2022); Ferguson et al. (2012); Warr (2007); Parker & Martin (2009); Jenkins & Elliot (2004)			
	Gagné, M., & Deci, E. L. (2005) Van den Broeck, A., Vansteenkiste, M., De Witte, H., & Lens, W. (2008) Trépanier, S. G., Fernet, C., & Austin, S. (2013) Deci, E. L., & Ryan, R. M. (2008); Vansteenkiste, M., Neyrinck, B., Niemiec, C. P., Soenens, B., De Witte, H., & Van den Broeck, A. (2007)	Khan (1990)	Needs-Satisfaction Framework	Psychological theory that posits individuals are most motivated and engaged when three basic psychological needs are met: autonomy (the need to feel in control of one's actions), competence (the need to feel effective and capable), and relatedness (the need to feel connected to others).
	Hayes et al. (2014) Dugan & Barnes-Farrell (2020); Ford & Tetrick (2011); Zis et al. (2014); Zito et al. (2016); Swanson & Champine (2017); Cloutier et al. (2015)	Ajzen, I. (1991)	Theory of Planned Behaviour	This theory suggests that employee intentions towards engagement are influenced by attitudes, norms, and perceived control over work
	Chen et al. (2014); Hudson (2000) Maslach & Leiter (2016); Maslach & Leiter (2009); Leiter & Maslach (2014); Van Dierendonck & Jacobs (2012); Garrosa et al. (2010) Faragher et al. (2013); Zuckerman & Chafin (2018); Eley, Eley, & Rogers-Clark (2010);	Maslach, C., & Leiter, M. P. (1997).	Burnout as the opposite of Engagement	Burnout is often seen as the opposite of engagement, with low energy and detachment contrasting with vigor and dedication in engaged employees

	Patton (2015); Laschinger et al. (2013); Hall, Doran, & Pink (2008); Hayes, Douglas, & Bonner (2014); Griffith & Clarke (2011); Evans & Bell (2015); Taipale et al. (2011)			
Multidimensional frameworks	Keyko, K., Cummings, G. G., Yonge, O., & Wong, C. A. (2016); Simpson, M. R. (2009); Brunetto, Y., Teo, S. T., Shacklock, K., & Farr-Wharton, R. (2012).	Macey & Schneider, (2008)	Behavioural, State and Trait engagement.	Engagement should be considered at both the individual and the organisational levels, as the organisational level influences engagement at the unit and individual levels.
	Boamah, S. A., Spence Laschinger, H. K., Wong, C., & Clarke, S. (2018); Van Bogaert, P., Kowalski, C., Weeks, S. M., Van Heusden, D., & Clarke, S. P. (2013); Cummings, G. G., & Estabrooks, C. A. (2003)	Nienaber & Martins (2014)	7 Dimensions framework	Seven components representing the individual characteristics, team/department, and organisational levels.

Appendix 12: Scales for measuring Employee Engagement

Author(s)	Purpose of the study/ Measuring Instrument	Dimensions	Method/Analysis	Key Findings
Developing engagement measurement instruments				
Schaufeli et al, 2002, 2006	UWES identified three sub-dimensions of engagement: vigour, dedication, absorption; characteristics of engagement are more persistent and pervasive affective-cognitive psychological state'	17 item scale • Vigour (6), • Dedication (5), • Absorption (6) Nine item scale • Vigour (3), • Dedication (3), • Absorption (3)	Confirmatory factor analysis; Multiple- group confirmatory factor analysis	Confirmed UWES (17 and nine item scales) validity and reliability as a representative instrument of engagement in multinational cultural contexts and samples
May et al., 2004	To test Kahn's (1990) conceptualisation of engagement by examining the determinants and mediating effects of three psychological conditions (meaningfulness, safety and availability) on engagement at work	• Psychological engagement (13) • Psychological meaningfulness (6) • Psychological safety (3) • Psychological availability (5) • Job enrichment (15) • Work role fit (4) • Rewarding co-worker relations (10) • Supportive supervision relations (10) • Co-worker norm adherence (3) • Resources (8) • Self-consciousness (3) • Outside activities (11)	Questionnaire; path analysis	Among the three psychological conditions, meaningfulness displays the strongest relation to engagement. The relationships of job enrichment and work role fit to engagement are partially mediated by psychological safety. Model developed: Path-analytic framework of engagement.
Barnes & Collier, 2013	To contribute to the developing literature on work engagement by studying antecedents, outcomes and measurement, specifically in a services environment	Use existing measures to construct a 42-item instrument: Work engagement Service climate (5) Job satisfaction (4) Affective commitment Adaptability (5) Career commitment (6)	Questionnaire; Structural equation modelling	Empirical evidence that service climate, job satisfaction and affective commitment influence work engagement. Work engagement is conceptualised as a multidimensional higher order construct

Robinson et al., 2007	Employee Engagement Index is used in private sector organisational surveys to measure overall engagement	Includes the dimensions: • Satisfaction • Advocacy • Commitment • Discretionary effort	• Composite index from organisational surveys • 5-point Likert scales • Means or weighted averages	Higher scores on the index correlate with stronger organisational commitment, lower intent to quit, and greater discretionary effort. The Index is often used to monitor engagement trends and assess the impact of HR or leadership interventions.
Harter et al., 2002	Gallup Workplace Audit (Q12): to measure actionable engagement elements linked to performance	12 items (Q12), covering: • Role clarity • Recognition • Development • Mission alignment • Peer relationships • Feedback • Learning opportunities	Questionnaire. • Likert-type items • Item Response Theory (IRT) • Multilevel modelling • Correlation with performance metrics	Higher engagement scores were associated with improved productivity, customer loyalty, reduced turnover, and better safety outcomes. Engagement was conceptualised as a latent construct derived from perceptions of work conditions and psychological fulfilment
Validating engagement measurement instruments				
Storm & Rothman, 2003	Self-report questionnaire to assess work engagement (UWES)	Work engagement scale – UWES (24 items consisting of vigour, dedication, and absorption)	Structural equation modelling	Structural equation modelling confirms a three-factor model of work engagement consisting of vigour, dedication and absorption.
Balducci, Fraccaroli & Schaufeli, 2010	Validating the nine-factor UWES (Italian)	Vigour Dedication Absorption	Multiple-group confirmatory factor analyses	The Italian version of the UWES-9 behaves consistently with its original Dutch version
Christian et al, 2011	To test the model of Macey and Schneider (2008)	Autonomy Task variety Task significance Feedback Transformational leadership Conscientiousness Positive affect Work engagement Task performance Contextual performance	Meta-analytic path modelling (The data suggest that Macey and Schneider's [2008] assertion appears to have merit: rather than being merely a blend of "old wines", engagement also has characteristics of "new wines".)	The path model suggests that task variety and task significance appear to be related to engagement. They found tentative evidence that leadership is related to work engagement and work engagement is related to job performance.

Mills et al., 2012	Validating UWES 17- and nine item scale	Vigour Dedication Absorption	Exploratory factor analysis; confirmatory factor analysis	Supports a multifactorial conceptualisation of the construct
Viljavec et al., 2012	Investigated validity of UWES and May et al. 2004 scale measuring engagement	UWES (Vigour, dedication, and absorption) May et al. 2004 (Cognitive, emotional and physical)	Questionnaire; Confirmatory factor analysis and structural equation modelling	Some evidence for convergent, discriminant and predictive validity was found for both scales, although neither showed discriminant validity with regard to job satisfaction. Overall, the three factors of the UWES performed slightly better across analyses than the three factors from the May, Gilson and Harter (2004) measure.

Appendix 13: Baseline Characteristics of the sample

Dimension	Subdimensions	Strongly Agree n(%)	Agree n(%)	Neutral n(%)	Disagree n(%)	Strongly Disagree n(%)
Pride and Culture	Workplace Conditions	5776 (14.9)	15576 (40.1)	4829 (12.4)	8017 (20.6)	4680 (12.0)
	Workplace Atmosphere	5869 (15.1)	17815 (45.8)	6351 (16.3)	5910 (15.2)	2933 (7.5)
	Pride in the Organisation	6850 (17.6)	17111 (44.0)	8341 (21.5)	4814 (12.4)	1762 (4.5)
	Organizational Culture	3317 (8.5)	12629 (32.5)	10229 (26.3)	8665 (22.3)	4038 (10.4)
Teamwork	Communication within the Team	7836 (20.2)	16700 (43.0)	5071 (13.0)	6092 (15.7)	3179 (8.2)
	Alignment between Objectives	7370 (19.0)	19210 (49.6)	5065 (13.0)	5136 (13.2)	2097 (5.4)
	Support within the Team	9560 (24.6)	20392 (52.5)	5765 (14.8)	2446 (6.3)	715 (1.8)
Performance Recognition	Recognition from My Team	3151 (8.1)	13483 (34.7)	9295 (23.9)	8835 (22.7)	4114 (10.6)
	Recognition from My Organisation	2542 (6.5)	10273 (26.4)	8408 (21.6)	10974 (28.2)	6681 (17.2)
Job Involvement	Motivation with My Work	11242 (28.9)	17132 (44.1)	4066 (10.5)	4525 (11.6)	1913 (4.9)
	Optimism with My Work	5097 (13.1)	12683 (32.6)	11404 (29.3)	7242 (18.6)	2452 (6.3)
Leadership	Confidence in Strategy	2802 (7.2)	8791 (22.6)	10857 (27.9)	8798 (22.6)	7630 (19.6)
	Communication with Management	2743 (7.1)	9159 (23.6)	7515 (19.3)	10593 (27.2)	8868 (22.8)
	Possibilities of Training	3476 (8.9)	13939 (35.9)	8506 (21.9)	8517 (21.9)	4440 (11.4)

Training and Opportunities	Opportunities for Career Progression	2243 (5.8)	9627 (24.8)	9599 (24.7)	9606 (24.7)	7803 (20.1)
Health and Wellbeing	Work-Life Balance	5456 (14.0)	18313 (47.1)	6396 (16.5)	5920 (15.2)	2793 (7.2)
	Respect by Patients and Colleagues	8692 (22.4)	20860 (53.7)	5246 (13.5)	2805 (7.2)	1275 (3.3)
	Stress and Stress Management	3643 (9.4)	22308 (57.4)	9024 (23.2)	3340 (8.6)	563 (1.4)
My Role in My Organization	Trust and Autonomy	5207 (13.4)	18314 (47.1)	9122 (23.5)	4258 (11.0)	1977 (5.1)
	Alignment with Organisational Goals	6016 (15.5)	17620 (45.3)	9366 (24.1)	3672 (9.4)	2204 (5.7)
	Security and Level of Pay	2607 (6.7)	11576 (29.8)	7028 (18.1)	10958 (28.2)	6709 (17.3)