

**Happiness at Work and Cyber Ostracism as Independent Drivers of  
Innovation in Remote and Hybrid Work Environments**

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### Abstract

The digital transformation of work has fundamentally altered innovation dynamics, yet organisations struggle to maintain creative capacity while navigating remote work complexities. This quantitative cross-sectional study examined relationships between happiness at work (HAW), innovative work behaviour (IWB), and cyber ostracism among 101 experienced hybrid and remote workers. Through hierarchical regression analysis, the study tested whether positive emotional states translate into innovation across three phases (generation, promotion, and implementation), and whether digital exclusion disrupts these pathways through psychological resource depletion versus structural barrier mechanisms.

The findings revealed a compelling dual pathway model that challenged conventional theoretical assumptions. HAW demonstrated robust predictive power across all innovation phases ( $\beta = .503$ , 22.5% unique variance), confirming positive organisational scholarship principles extend to virtual contexts. Unexpectedly, cyber ostracism did not moderate the HAW-IWB relationship ( $\beta = .039$ ,  $p = .677$ ), suggesting that psychological resource depletion operates independently, rather than conditionally. However, cyber ostracism exerted substantial different negative effects ( $\beta = .384$ , 14.2% unique variance), indicating that structural barriers denying information access and communication channels represent the primary impediment. These additive effects demonstrate that happiness and inclusion constitute parallel necessities for innovation. Organisations should simultaneously cultivate employee well-being and eliminate digital exclusion as complementary rather than alternative strategies, providing foundational evidence for managing innovation in virtual contexts.

**Keywords:** Happiness at work, innovative work behaviour, cyber ostracism, remote work, hybrid work

### **Plagiarism Declaration**

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other University. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

**Kerisha Govender**

3 November 2025

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## **Chapter 1: Background to Research Problem**

### **1.1 Introduction**

Scholarly interest continues to remain strong regarding how positive emotional states, particularly happiness at work (HAW), influence employee outcomes, such as innovative work behaviour (IWB), in organisational settings. Research has examined content factors that explore how positive states drive creativity in traditional workplaces, presentation factors that investigate how organisational culture facilitates these links, and process factors that encompass resource conservation mechanisms potentially disrupt these dynamics (Espasandín-Bustelo et al., 2020; Ghadi, 2024). Collectively, this substantial body of work has generated significant insights into HAW and IWB relationships within traditional organisational settings.

However, whether these well-established relationships translate to digitally mediated environments remains a compelling empirical question. The rapid transformation of work arrangements has created urgent challenges for both theoretical and practical applications. By 2024, remote and hybrid arrangements had achieved widespread adoption, accompanied by substantial organisational investments in digital collaboration infrastructure (Owl Labs, 2024; Duan et al., 2023). Nevertheless, digital collaboration barriers and concerns regarding the maintenance of innovation capacity in distributed settings persist across organisations. Research indicates that cyber ostracism—the perception of being ignored or excluded in digital communication—can significantly impact innovative performance in virtual work environments, whilst organisations report ongoing challenges fostering psychological safety necessary for innovation in digital contexts (Yang et al., 2022; Gao et al., 2024). This convergence creates both theoretical urgency to examine whether established HAW-IWB mechanisms translate effectively to virtual contexts and practical urgency to provide evidence-based guidance for organisations navigating digital transformation.

The purpose of the study is to examine the HAW-IWB relationship within remote and hybrid work environments as the primary theoretical contribution, whilst investigating the role of cyber ostracism through both its potential to moderate this relationship and its direct effects on innovation. HAW and its relationship with IWB are positioned as the primary theoretical focus, examined through the positive organisational scholarship (POS) paradigm. The study extends HAW theory to virtual contexts by testing whether established mechanisms operate similarly in digitally

mediated environments, whilst introducing cyber ostracism as a novel construct that operates through the dual mechanisms of direct resource depletion and moderation of positive dynamics. Innovation is disaggregated across idea generation, promotion, and implementation phases to assess how these dynamics operate across different innovation demands. This investigation provides evidence-based guidance for organisations navigating digital transformation whilst addressing the pressing business need to maintain employee well-being and innovative capacity in distributed teams.

These challenges form the theoretical and practical foundations of the research problem are discussed in the following sections.

## **1.2 Research Problem**

The study addresses critical gaps at the intersection of positive organisational scholarship, digital workplace dynamics, and innovation management. Although substantial evidence supports the HAW-IWB relationship in diverse traditional settings (Popescu & Mourão, 2024; Li & Shen, 2022), its applicability to virtual environments remains empirically untested. Three critical gaps emerge in the existing literature.

### ***1.2.1 Gap 1: POS Assumptions in Digital Environments***

Positive organisational scholarship assumptions regarding happiness driving positive outcomes lack systematic testing in digitally mediated environments where social embeddedness foundations may not translate directly from traditional settings. This unexamined assumption challenges POS assumptions of upward spirals, as digital mediation may fundamentally alter or invert these spirals into downward resource drains. The mechanisms through which positive emotions generate organisational benefits—namely cognitive broadening, resource building, and social connection—may require substantial reconsideration when interactions occur primarily through digital interfaces rather than face-to-face contact (Aboramadan & Kundi, 2022; Santos De Souza & Chimenti, 2024). Whether HAW operates similarly as a driver of IWB in virtual contexts as it does in traditional co-located environments remains an empirical question requiring systematic investigation.

### ***1.2.2 Gap 2: Cyber Ostracism as Boundary Condition and Independent Barrier***

Digital stressors such as cyber ostracism may disrupt innovation through two mechanisms that remain under-examined in the literature. Most critically for this study, cyber ostracism may moderate the HAW-IWB relationship by depleting the psychological resources through which happiness translates into innovation,

representing a key boundary condition for POS paradigm in virtual contexts (Yang et al., 2022; Lutz, 2022). Whilst research has examined how organisational stressors undermine positive emotions in traditional settings, cyber ostracism's unique characteristics of subtlety, persistence, and technological mediation may create novel disruption patterns not captured by existing theory. Conservation of resources (COR) theory suggests that cyber ostracism depletes psychological resources necessary for translating happiness into innovation, yet this moderating effect remains empirically untested in digital contexts (Hobfoll et al., 2017; Zhang et al., 2022).

Additionally, cyber ostracism may directly impair IWB by creating structural barriers that prevent innovation regardless of employees' happiness levels. Unlike psychological resource depletion that disrupts happiness-innovation pathways, these structural barriers operate through exclusion from digital communication networks, information flows, and collaborative spaces essential for innovation processes in virtual work environments (Ain et al., 2023). This direct pathway represents an alternative hypothesis explored as a secondary contribution, as cyber ostracism constitutes a relatively new phenomenon that is described but not well understood in academic literature.

### **1.2.3 Gap 3: Phase-Specific Effects Across the Innovation Process**

Treating IWB as a unitary construct obscures how the HAW-IWB relationship and cyber ostracism effects may vary across innovation's distinct phases: idea generation, promotion, and implementation. These phases exhibit different cognitive demands, social requirements, and resource dependencies (Jia et al., 2021; Aggarwal et al., 2021; Mascareño et al., 2021), suggesting that both the strength of HAW-IWB relationship and cyber ostracism's potential to moderate or directly influence innovation may manifest differently at each stage. Despite theoretical reasons to expect differential effects, no research has systematically examined how the HAW-IWB relationship operates or how cyber ostracism's direct and moderating influences vary across innovation phases in remote contexts. This gap limits both theoretical understanding and practical guidance regarding where digital inclusion interventions may yield the greatest benefits for innovation, and where happiness-promoting initiatives may demonstrate the strongest effects.

## **1.3 Research Objectives**

The study addresses four interrelated objectives that directly respond to identified theoretical gaps. First and most importantly, the HAW-IWB relationship is

tested in remote and hybrid work settings to determine whether mechanisms established in traditional contexts operate similarly in digitally mediated environments. This is the primary theoretical contribution of the present study.

Second, cyber ostracism is investigated as a moderator of the HAW-IWB relationship to determine whether psychological resource depletion from digital exclusions disrupts the translation of positive emotional states into innovative behaviours, thereby testing a critical boundary condition for POS paradigm.

Third, these main effects and moderating relationships are disaggregated across idea generation, promotion, and implementation phases to assess whether the HAW-IWB relationship varies in strength and whether cyber ostracism's moderating influence differs based on the social requirements and resource demands of each phase.

Fourth, as an alternative hypothesis, cyber ostracism's direct effect on IWB is examined to establish whether structural exclusion from digital infrastructure independently impairs innovation beyond psychological interaction with happiness.

Together, these objectives provide a comprehensive examination of how positive and negative dynamics interact to shape innovation in virtual work environments, with clear priority given to testing the established HAW-IWB relationship in new contexts whilst exploring cyber ostracism's multiple potential pathways of influence.

An examination of the study's significance and contribution is required to contextualise these objectives.

## **1.4 Significance and Contribution**

The study offers both theoretical advancements and practical applications as detailed in the following subsections.

### **1.4.1 Theoretical Contributions**

The study makes two primary theoretical contributions, with a third supplementary contribution.

#### **Primary Contribution 1: Extending HAW-IWB Theory to Hybrid Contexts.**

The first contribution tests whether the established HAW-IWB relationship, extensively validated in traditional co-located settings (Popescu & Mourão, 2024; Li & Shen, 2022), translates to hybrid and remote work environments. By examining this relationship, the study provides critical evidence for POS paradigm's boundary conditions in the digital age. Whether the relationship operates similarly in hybrid contexts has profound implications for organisations investing substantially in

remote work infrastructure (Owl Labs, 2024; Duan et al., 2023) and for theoretical understanding of how positive emotions drive organisational outcomes when social interaction is fundamentally altered by technology.

**Primary Contribution 2: Cyber Ostracism as a Novel Construct with Dual Mechanisms.** The second contribution introduces cyber ostracism as a relatively new phenomenon that remains poorly understood despite apparent prevalence in remote work (Yang et al., 2022; Becker et al., 2022). The study provides among the first systematic empirical evidence of cyber ostracism's dual potential mechanisms, psychological moderation and structural barriers, as a critical boundary condition for POS paradigm.

**Supplementary Contribution: Phase-Specific Innovation Effects.** The third contribution disaggregates relationships across idea generation, promotion, and implementation phases, revealing where the HAW-IWB relationship demonstrates greatest strength and where cyber ostracism's influence, whether moderating or direct, proves most pronounced. This granular analysis enables targeted theoretical development and practical interventions focused on stages in which dynamics demonstrate greatest influence.

#### **1.4.2 Practical Contributions**

The practical significance flows directly from the two main theoretical contributions. For individual managers leading virtual teams, the findings provide evidence-based guidance for designing digital communication practices. If the HAW-IWB relationship operates similar in virtual contexts, organisations can confidently invest in happiness-promoting initiatives for distributed teams. If cyber ostracism is moderated through psychological depletion, managers must prioritise psychological support and inclusion as preconditions. If cyber ostracism directly impairs innovation through structural barriers, digital exclusion prevention becomes a distinct priority requiring specific infrastructure interventions.

At the organisational level, the study offers strategic insights for digital transformation initiatives. Understanding how investments in remote work technologies influence the fundamental relationship between employee well-being and innovation becomes essential for maximising return on investment. The phase-specific findings enable targeted interventions at points in the innovation process where they are most needed and most likely to prove effective.

For human resources practitioners, the study provides evidence for developing new approaches to employee engagement, inclusion, and innovation

management in virtual environments. Traditional HR practices designed for co-located teams may require significant modifications to address the unique challenges and opportunities of remote work. The study offers specific guidance for identifying and mitigating cyber ostracism risks whilst fostering conditions that enable happy employees to contribute innovatively.

### **1.5 Research Scope and Delimitations**

The study focused on remote and hybrid workers across multiple industries and countries, examining three specific constructs: HAW, IWB, and cyber ostracism in distributed work contexts (see Section 1.6 for operational definitions). Workers without dominant online interactions were excluded by design, as cyber ostracism by definition requires digital communication contexts. This delimitation ensures construct validity by measuring cyber ostracism among those who can actually experience it, though generalisability to office-dominant hybrid workers is limited.

Temporally, a cross-sectional design captured participant experiences during a three-month data collection period. Whilst this approach enabled efficient data collection across global time zones, the single-point measurement limited insights into how relationships might evolve over time.

Methodologically, the study relied on self-report measures administered through online surveys. Whilst this approach proved necessary for reaching globally distributed participants and measuring subjective experiences such as happiness and perceived ostracism, it introduced potential limitations including social desirability bias, common method variance, and cultural differences in response styles. These limitations were addressed through careful instrument design, multiple validation procedures, and statistical controls, as detailed in Chapter 4.

The study focused on knowledge workers in roles requiring creativity, problem-solving, and collaboration, aligning with the theoretical emphasis on roles where IWB demonstrates greatest salience. This scope decision limits generalisability to manufacturing, service, or other roles where innovation may be less central or differently structured.

### **1.6 Definition of Terms**

**Cyber ostracism:** The perception of being ignored, excluded, rejected, or marginalised in digital communication and collaborative environments (Yang et al., 2022). Cyber ostracism manifests through behaviours such as exclusion from digital communication (email, messaging, video calls), delayed or absent responses to digital outreach, marginalisation in virtual meetings, reduced visibility in online

collaborative spaces, and digital silent treatment. Unlike traditional ostracism, cyber ostracism is mediated by technology and may be more ambiguous due to the potential for technical or scheduling explanations for exclusionary behaviours.

***Happiness at work (HAW):*** A multidimensional construct, often considered a synonym with “well-being,” representing an employee’s overall positive emotional state derived from their work experience, encompassing three core components: (a) job satisfaction, which represents the cognitive evaluation of work conditions and outcomes; (b) work engagement, which encompasses the emotional and psychological involvement in work activities; and (c) affective commitment, which reflects the emotional attachment to the organisation and its goals (Fisher, 2009; Stankevičiūtė et al., 2021). In virtual contexts, HAW specifically includes positive emotions derived from digital work interactions, virtual team membership, and remote work arrangements.

***Innovative work behaviour (IWB):*** The deliberate generation, promotion, and implementation of novel and useful ideas, processes, products, or procedures by individuals within their work roles, teams, or organisations (Janssen, 2000; Scott & Bruce, 1994). IWB is conceptualised as a three-stage process: (a) idea generation, which involves the creation of novel and potentially useful ideas; (b) idea promotion, which encompasses building support and coalitions for ideas through influence and persuasion; and (c) idea implementation, which transforms ideas into concrete applications, processes, or products. In virtual contexts, IWB includes innovations specifically adapted to or enabled by digital work environments.

***Remote and hybrid work:*** Work arrangements in which employees perform their primary job duties outside traditional organisational premises for at least 50% of their work time, relying predominantly on digital technologies for communication, collaboration, and task completion. This definition encompasses fully remote work (100% outside traditional office), hybrid remote work (primarily work remotely with limited in-office presence), and location-dependent work (digital nomadism), but excludes occasional teleworking or emergency remote arrangements.

### **1.7 Theoretical Framework Preview**

The study advances HAW theory by examining its relationship with IWB in digital contexts, drawing on three complementary theoretical perspectives. Positive organisational scholarship provides a paradigmatic foundation for understanding how positive emotional states create upward spirals of well-being and performance (Cameron et al., 2003). Within the POS paradigm, broaden-and-build theory

specifically explains how positive emotions expand cognitive repertoires and build enduring psychological resources (Fredrickson, 2004). Social exchange theory explains the reciprocal mechanisms through which positive work experiences translate into discretionary innovative behaviours (Cropanzano et al., 2003). Conservation of resources theory addresses potential disruptions by explaining how cyber ostracism may deplete psychological and informational resources necessary for maintaining happiness and engaging in innovation (Hobfoll et al., 2017; Zhang et al., 2022).

This theoretical integration creates a comprehensive model capable of explaining both positive dynamics—how HAW drives IWB through cognitive broadening and reciprocal exchange—and negative disruptions—how cyber ostracism directly impairs IWB and moderates the HAW-IWB relationship through resource depletion and structural barriers. Whilst POS provides the positive psychological foundation for understanding why happiness matters in organisations, the specific mechanisms examined (cognitive flexibility, intrinsic motivation, and social exchange) draw on granular theories that explain how happiness translates into IWB and how digital stressors may disrupt these processes.

### **1.8 Organisation of the Report**

The remainder of this paper is organised as follows. Chapter 2 provides a comprehensive literature review examining HAW, IWB, and cyber ostracism in virtual contexts through the integrated theoretical framework outlined in Section 1.7, synthesising theoretical and empirical foundations and identifying critical research gaps that build upon the problems outlined here. Chapter 3 formalises the research questions and hypotheses that operationalise the conceptual model, directly addressing the identified gaps. Chapter 4 details the research methodology, including research design, sampling procedures, measurement instruments, and analytical techniques. Chapter 5 presents results of the statistical analyses. Chapter 6 discusses the findings in relation to existing theory and explores their theoretical implications. Chapter 7 concludes the report with a synthesis of key findings, restatement of contributions, practical implications for organisations and managers, study limitations, and final recommendations for research and practice.

## Chapter 2: Literature Review

### 2.1 Introduction and Organisational Framework

This literature review examines the theoretical and empirical foundations underlying the relationship between happiness at work (HAW), innovative work behaviour (IWB), and cyber ostracism in virtual work environments. The review is organised thematically to systematically build from foundational concepts to complex interactions, ensuring direct alignment with the research questions and hypotheses established in Chapter 1.

Table 1 illustrates how each major section contributes to addressing specific research objectives whilst identifying critical gaps in the existing literature that the study addresses.

**Table 1**

*Literature Review Structure Mapped to Research Objectives and Theoretical Gaps*

Section	Key Topics Covered	Links to Research Objectives	Theoretical or Empirical Gaps Identified
HAW in Virtual Contexts	Definition, dimensions, outcomes, remote work applications	Objective 1: HAW-IWB relationship in virtual settings	Limited empirical testing of HAW mechanisms in digitally mediated environments
IWB and Innovation Processes	Multi-phase innovation model, HAW-IWB linkages, virtual collaboration challenges	Objective 1: HAW-IWB relationship in virtual settings; Objective 3: Phase variations	Insufficient understanding of how digital environments affect innovation processes and phase-specific dynamics
Cyber Ostracism	Conceptualisation, manifestations, psychological impacts	Objective 2 & 4: Moderating and direct effects; Objective 3: Phase variations	Lack of research on cyber ostracism's dual mechanisms: psychological disruption and structural barriers to innovation

This organisational structure ensures systematic development of the two primary theoretical contributions addressed primarily in Sections 2.2-2.3 and understanding cyber ostracism's dual potential mechanisms addressed in Section 2.4 and integrated in Section 2.5.

## **2.2 Happiness at Work: Foundations and Virtual Applications**

### **2.2.1 Conceptual Foundations**

HAW represents a multifaceted construct that has evolved significantly since its initial conceptualisation in positive psychology research. Contemporary definitions recognise HAW as encompassing both hedonic aspects (pleasure and positive affect) and eudaimonic aspects (meaning, purpose, and flourishing) within the work context (Kashdan et al., 2008; Stankevičiūtė et al., 2021). This multidimensional nature distinguishes HAW from simpler constructs such as job satisfaction, positioning it as a comprehensive indicator of employee well-being that captures both emotional and cognitive evaluations of work experiences.

The three-dimensional structure of HAW has been subject to considerable theoretical and empirical validation. Research has identified three core dimensions that consistently emerge across cultural contexts: positive affect and emotional well-being derived from work activities; cognitive satisfaction with work conditions and relationships; and meaningfulness and purpose found in work contributions (Stankevičiūtė et al., 2021; Fitriana et al., 2022). These dimensions operate synergistically, with positive affect providing the emotional foundation for cognitive evaluations whilst meaningfulness provides the deeper psychological foundation for sustained happiness (Negri et al., 2021).

### **2.2.2 HAW Outcomes: From Individual Well-Being to Organisational Performance**

The relationship between HAW and various organisational outcomes has been extensively documented across multiple meta-analyses and systematic reviews. Lyubomirsky et al.'s (2013) analysis established that happy individuals demonstrate superior performance across numerous domains including creativity, productivity, and social relationships.

The mechanisms underlying HAW's positive effects operate through multiple pathways. Cognitive mechanisms include increased cognitive flexibility, broadened attention to opportunities, improved problem-solving capacity, and greater willingness to consider novel approaches (Liu & Wang, 2014). Motivational mechanisms encompass higher intrinsic motivation, increased persistence in the face of obstacles, greater willingness to take risks, and enhanced goal-directed behaviour (Ghadi, 2024). Social mechanisms involve improved relationship quality, increased helping behaviour, enhanced communication effectiveness, and greater influence and persuasion ability (Alshaabani et al., 2021).

### **2.2.3 HAW in Virtual Work Contexts: Opportunities and Challenges**

The transition to remote work has created a natural experiment in how contextual factors influence employee happiness, revealing both unique opportunities and novel challenges. Remote work offers several advantages that can enhance HAW. Increased autonomy over work schedules and environments allows employees to structure their days according to personal preferences and peak productivity periods (Manninen et al., 2023). Elimination of commuting time provides additional time for personal activities, family, and recovery. Flexibility in work location enables individuals to choose environments that best support their work preferences and life circumstances. Access to global employment opportunities allows individuals to find roles that better match their skills and interests without geographical constraints (Becker et al., 2022).

Conversely, remote work also introduces specific challenges that can undermine HAW. Social isolation represents the most frequently cited concern, with remote workers reporting feelings of loneliness that negatively impact their work satisfaction (Toscano & Zappalà, 2020). The blurring of work-life boundaries, whilst offering flexibility, can also create difficulties in psychological detachment and recovery, leading to increased stress and burnout (Yang et al., 2023; Palumbo et al., 2020).

Communication challenges in virtual environments add another layer of complexity. The reduced richness of digital communication, delays in feedback, and increased potential for misunderstandings can create frustration and uncertainty that undermine positive work experiences (Wang et al., 2020; Camp et al., 2022). Additionally, the increased cognitive load required to manage multiple digital communication platforms and navigate virtual collaboration tools can create digital fatigue, a specific form of exhaustion that directly impacts emotional well-being (Jamal et al., 2021).

Cultural factors introduce additional complexity to HAW in virtual context. Individuals from collectivist cultures may experience greater challenges maintaining happiness in remote work due to reduced social connection and group belonging, whilst those from individualist cultures may find remote work more naturally aligned with their values of autonomy and self-direction (Zhang, 2021). However, these cultural effects may be moderated by organisational culture and virtual team management practices, suggesting that organisations have considerable control over how cultural differences influence virtual work experiences.

These HAW foundations in virtual context establish the basis for the study's primary contribution: testing whether the established HAW-IWB relationship operates under these altered conditions.

## **2.3 Innovation Work Behaviour: Processes and Virtual Manifestations**

### ***2.3.1 Theoretical Foundations and Multidimensional Conceptualisation***

IWB has emerged as one of the most critical predictors of organisational adaptability and long-term success, particularly in rapidly changing business environments. The construct is theoretically grounded in creative research but extends beyond mere idea generation to encompass the full spectrum of activities required to translate novel concepts into organisational value (Janssen, 2000; Scott & Bruce, 1994).

The most widely accepted conceptualisation views IWB as a multi-stage process comprising three distinct but interrelated processes. Idea generation involves the recognition of problems or opportunities and the development of novel and potentially useful solutions. This phase is largely cognition and may be relatively independent of social factors, drawing primarily on individual creativity, domain knowledge, and problem-solving capabilities (Dumas et al., 2024; Erwin et al., 2022). Idea promotion represents the social influence phase of innovation, where individuals build coalitions, secure resources, and gain organisational support for their ideas. This phase is inherently social and political, requiring skills in persuasion, networking, and stakeholder management (Mascareño et al., 2021). Success in idea promotion often determines whether innovative ideas advance to implementation or remain merely interesting concepts. Idea implementation involves transforming approved ideas into concrete organisational changes, including developing prototypes, conducting pilots, scaling solutions, and integrating innovations into organisational processes. This phase requires both technical skills and continued social coordination as innovations are refined and adapted based on organisational feedback (Ozer & Zhang, 2021).

This multidimensional conceptualisation has important implications for understanding how HAW and cyber ostracism might differentially affect innovative processes. Whilst some factors may influence all phases equally, others may demonstrate phase-specific effects that require more nuanced theoretical and empirical analysis. The disaggregation across phases is particularly important for the study's third objective, as the HAW-IWB relationship may vary in strength across

phases, and cyber ostracism's potential moderating or direct effects may be most pronounced at certain stages.

### ***2.3.2 The HAW-IWB Relationship: Theoretical Mechanisms and Empirical Evidence***

One of the most robust findings in positive organisational research links HAW to IWB, with multiple theoretical mechanisms explaining this connection and substantial empirical support across diverse contexts. This relationship represents the primary focus of the study. This theoretical foundation for this relationship draws primarily from broaden-and-build theory, which posits that positive emotions expand individuals' thought-action repertoires and build psychological resources that enhance performance (Fredrickson, 2004; Surachartkumtonkun et al., 2023).

Several specific mechanisms explain how HAW enhances IWB. Cognitive mechanisms include increased cognitive flexibility enabling consideration of diverse perspectives and unconventional solutions, enhanced attention to opportunities that might otherwise go unnoticed, improved problem-solving capacity through more systematic and creative approaches, and greater willingness to consider novel approaches rather than defaulting to established routines (Liu & Wang, 2014). Motivational mechanisms encompass higher intrinsic motivation driving engagement with challenging creative tasks, increased persistence in the face of obstacles and setbacks inherent in innovation, greater willingness to take calculated risks necessary for pursuing novel ideas, and enhanced goal-directed behaviour sustaining effort through lengthy innovation processes (Ghadi, 2024). Social mechanisms involve improved relationship quality facilitating collaboration and knowledge exchange, increased helping behaviour supporting colleagues' innovative efforts, enhanced communication effectiveness in articulating and promoting ideas, and greater influence and persuasion ability in building coalitions for innovation (Alshaabani et al., 2021).

The strength of the HAW-IWB relationship appears to be moderated by several contextual factors. Organisational support for innovation, psychological safety, and resource availability all strengthen the relationship, whilst time pressure, risk aversion, and bureaucratic constraints weaken it (Al-Shami et al., 2023). These findings suggest that happiness alone is insufficient for driving innovation; supportive organisational conditions are necessary to translate positive emotions into innovative action.

**The HAW-IWB Relationship as Primary Theoretical Focus.** Whilst mechanisms linking HAW and IWB are well-established in traditional settings, their operation in hybrid and remote environments constitutes the study's primary theoretical contribution. The transition from co-located to digitally mediated work fundamentally alters the social embeddedness, spontaneous interaction, and rich communication that underpin many HAW-IWB mechanisms (Yang et al., 2022).

Testing whether cognitive broadening, intrinsic motivation, and social exchange mechanisms function similar when interactions occur primarily through screens rather than face-to-face contact addresses a critical boundary condition for positive organisational scholarship (POS) paradigm. Several factors unique to virtual environments may either amplify or attenuate these mechanisms. The increased autonomy and flexibility associated with remote work may enhance intrinsic motivation and thus strengthen happiness-innovation linkages through greater control over work processes and reduced workplace distractions (Manninen et al., 2023). Conversely, the reduced social interaction and increased digital fatigue may weaken the social mechanisms through which happiness typically supports idea promotion and implementation, as building coalitions and influencing stakeholders becomes more difficult through digital channels whilst depleting cognitive and emotional resources (Lim & Ratan, 2024). Recent evidence suggests complex patterns: Becker et al. (2022) and Nwankpa and Roumani (2024) determined that remote workers' happiness was more strongly related to self-directed performance outcomes compared to collaborative performance outcomes, suggesting that virtual work may channel happiness into individual rather than team-based effectiveness.

### ***2.3.3 IWB Challenges in Virtual Environments***

The transition to virtual work has created both opportunities and challenges for IWB, fundamentally altering how innovation processes unfold within organisations. Virtual environments present structural challenges to innovation processes. Spontaneous idea sharing, which often occurs through informal interactions in traditional workplaces, becomes more difficult when interactions are scheduled and mediated by technology (Bhatti et al., 2024). The serendipitous encounters that often spark innovative thinking (overhearing conversation, observing different work processes, or engaging in unplanned discussions) are largely eliminated in virtual environments (Lee & Lee, 2023; Macchi & De Pisapia, 2024).

Collaborative innovation faces particular challenges in virtual settings. Building consensus around innovative ideas typically requires reading social cues, managing group dynamics, and facilitating rich discussions, all of which are more difficult in video conferences or asynchronous digital communication (Macchi & De Pisapia, 2024; Saad & Agogu , 2023). The reduced psychological safety often reported in virtual teams may also inhibit the risk-taking necessary for both generating and promoting innovative ideas (Chai & Park, 2022).

However, virtual environments also create unique opportunities for innovation. Access to diverse global talent and perspectives may enhance idea generation by bringing together individuals who would never interact under traditional geographic constraints (Chatterjee et al., 2022). Digital collaboration tools can facilitate rapid prototyping, version control, and iterative development in ways that may be superior to traditional face-to-face processes (Chierici et al., 2020; Wu & Kane, 2021). The documentation and transparency inherent in digital communication may also benefit innovation by creating clearer records of idea development and reducing the information asymmetries that sometimes impede innovation in traditional settings. Additionally, asynchronous communication may benefit individuals who need time to process information and develop ideas, potentially democratising participation in innovation processes (Lenz et al., 2024).

## **2.4 Cyber Ostracism: Conceptualisation, Mechanisms, and Impact**

### **2.4.1 Defining and Understanding Cyber Ostracism**

Cyber ostracism represents a novel form of social exclusion that has emerged as digital communication technologies have become central to workplace interaction. Unlike traditional ostracism, which operates through physical presence and face-to-face interaction, cyber ostracism is mediated by technology and operates through the deliberate or perceived exclusion of individuals from digital communication networks (Yang et al., 2022). This construct is central to the study's second primary contribution, as cyber ostracism remains poorly understood despite its apparent prevalence in remote work environments.

The conceptual boundaries of cyber ostracism require careful delineation to distinguish it from related phenomena such as cyber bullying, social loafing, or simple communication failures. Williams (2006) defines ostracism as "being ignored and excluded, often without excessive explanation or explicit negative attention," (p. 429) and cyber ostracism extends this definition to digital environments whilst maintaining focus on exclusion rather than active aggression. This distinction is

important because the psychological mechanisms underlying exclusion differ from those involved in direct confrontation or abuse.

Cyber ostracism manifests through various behaviours in virtual work contexts: systematic exclusion from email communications or digital messaging threads, consistent failure to respond to digital communications within reasonable timeframes, exclusion from virtual meetings or video calls without justification, reduction in virtual “visibility” through decreased mentions or acknowledgments in digital platforms, marginalisation in collaborative digital workspaces or project management systems, and deliberate overlooking of contributions in digital forums or shared documents (Yang et al., 2022).

The ambiguous nature of cyber ostracism creates unique psychological challenges. Unlike face-to-face ostracism, where intent may be clearer through nonverbal cues, cyber ostracism involves uncertainty about whether the exclusion is deliberate or simply reflects technical issues, scheduling conflicts, or communication preferences. This ambiguity may intensify the psychological impact by creating additional cognitive burden as individuals attempt to interpret exclusionary experiences (Lutz, 2022). The permanence and visibility of digital communication also distinguish cyber ostracisms from traditional forms. Email threads, chat histories, and meeting recordings create persistent evidence of exclusion that may be reviewed repeatedly, potentially amplifying psychological impact. Additionally, exclusion in digital environments may be visible to broader audiences than traditional ostracism, creating additional layers of social threat and embarrassment.

#### ***2.4.2 Psychological Mechanisms: Resource Depletion and Moderation Pathway***

The psychological impact of cyber ostracism operates through mechanisms that provide theoretical grounding for its potential role as a moderator of the HAW-IWB relationship, one of two conceptually distinct mechanisms examined in the study. Fundamental human needs theory suggests that ostracism threatens four basic psychological needs: belonging, self-esteem, control, and meaningful existence (Williams, 2009). Cyber ostracism appears to threaten these same needs but through digital rather than physical mechanisms, with potentially amplified effects in virtual contexts where digital communication constitutes the primary form of social connection.

The need for belonging is threatened when individuals perceive themselves as excluded from digital communication networks that define their work community

(Williams, 2009). Research indicates that remote workers who experience cyber ostracism report significantly higher levels of loneliness and social isolation compared to those who experience traditional workplace ostracism, suggesting that digital exclusion may be particularly potent in context where digital connection is the primary form of social engagement (Wang et al., 2023; Yang et al., 2022).

Self-esteem threats emerge when cyber ostracism is interpreted as reflecting personal inadequacy, incompetence, or social undesirability (Lutz, 2022). The documentation inherent in digital communication may amplify these threats by providing concrete evidence of exclusion that can be reviewed and re-experienced. Additionally, the professional context of most cyber ostracism means that exclusion may be interpreted as reflecting work competence rather than just social desirability, potentially creating more severe self-esteem impacts.

Control needs are threatened when individuals cannot influence their inclusion or predict when exclusion might occur. The asynchronous nature of much digital communication can exacerbate control threats by creating uncertainty about response timing and communication expectations (Lenz et al., 2024). Unlike face-to-face situations where individuals can actively seek inclusion through physical presence or direct approach, cyber ostracism may be more difficult to address directly.

The need for meaningful existence is threatened when cyber ostracism conveys that an individual's contributions, opinions, or presence are not valued by the work community. In virtual environments where recognition and acknowledgment must be explicitly communicated rather than conveyed through physical presence, the absence of such communication may be particularly threatening to perceptions of meaningful existence (Williams, 2009).

**Psychological Resource Depletion as Moderation Mechanism.** These psychological need threats create resource depletion that may moderate the HAW-IWB relationship by consuming cognitive and emotional capacity that would otherwise enable happy employees to translate positive emotions into innovative behaviours. When employees experience threats to belonging, self-esteem, control, and meaningful existence through cyber ostracism, the cognitive and emotional resources that happiness typically channels towards innovation are consumed by managing exclusion experiences. The intrinsic motivation that happiness typically generates may be undermined by threats to self-esteem and meaningful existence that reduce perceptions that innovative contributions will be recognised or valued.

The social reciprocity through which happiness translates into discretionary innovative effort may be disrupted by threats to belonging and relationship damage that eliminate the exchange relationships through which reciprocity operates (Williams, 2009).

This psychological resource depletion mechanism operates by disrupting pathways through which the primary HAW-IWB relationship functions, potentially creating boundary conditions where even highly happy employees struggle to innovate when simultaneously managing psychological distress from digital exclusion (Yang et al., 2022). Even employees experiencing high HAW possess finite cognitive and emotional resources. When cyber ostracism consumes these resources through need threats and exclusion-related distress, fewer resources remain available for the cognitive broadening, intrinsic motivation, and social engagement that enable innovation. This creates moderation: the HAW-IWB relationship weakens not because happiness disappears, but because the psychological pathways through which happiness operates are disrupted by resource depletion.

#### ***2.4.3 Structural Mechanisms: Resource Denial and Direct Barrier Pathway***

Beyond psychological resource depletion, cyber ostracism's organisational consequences extend to creating structural barriers that may impair innovation independent of psychological states, representing the second conceptually distinct mechanism examined in the study. Unlike the psychological resource depletion that may moderate the HAW-IWB relationship by disrupting internal processes, structural barriers operate by eliminating access to external infrastructure. In virtual work environments where digital communication constitutes the primary infrastructure for collaboration, information exchange, and coordination, exclusion from these digital networks creates tangible obstacles to innovation (Jones et al., 2009; Zhang & Zhao, 2025).

**Informational Resource Denial and Innovation Barriers.** Information access barriers represent the most direct structural impediment to innovation in virtual context. Idea generation requires exposure to diverse perspectives, problem-relevant knowledge, and environmental scanning that occurs primarily through digital communication channels in remote work. When employees are systematically excluded from email threads, messaging groups, or digital forums, they lose access to the informational inputs necessary for identifying problems and developing

solutions, regardless of their creativity, happiness, or motivation (Louati & Hadoussa, 2021).

**Communication Channel Denial and Promotion Barriers.** Communication channel barriers directly impede idea promotion, which requires building coalitions, influencing stakeholders, and securing resource commitments through persuasion and social influence—activities that occur primarily through digital communication platforms in remote work (Mascareño et al., 2021). When employees are excluded from virtual meetings, overlooked in collaborative platforms, or experience systematic non-response to digital communications, they lack the communication access necessary for promoting ideas regardless of their persuasive skills, social capital, or happiness levels (Louati & Hadoussa, 2021). Ideas cannot be promoted to stakeholders one cannot reach.

**Collaborative Infrastructure Denial and Implementation Barriers.** Collaborative coordination barriers prevent idea implementation, which requires sustained coordination with colleagues, feedback loops for iteration, resource mobilisation, and stakeholder alignment—activities that rely on ongoing digital interaction and virtual teams (Mascareño et al., 2021). When employees experience marginalisation in project management systems, exclusion from collaborative workspaces, or reduced visibility in digital platforms, they lack the coordination infrastructure necessary for implementation regardless of their technical skills, persistence, or happiness. Innovation implementation in distributed teams requires alignment across multiple stakeholders, iterative feedback incorporation, and resource coordination that cannot occur without digital collaborative platforms (Mascareño et al., 2021).

**Distinguishing Structural from Psychological Mechanisms.** The critical distinction between structural barriers and psychological resource depletion lies in their causal pathways and independence from individual states. Psychological resource depletion, examined as moderation mechanism, operates by consuming cognitive and emotional resources that would otherwise enable happiness to drive innovation, weakening the HAW-IWB relationship at high ostracism levels. Employees may maintain high happiness but struggle to leverage it for innovation because their psychological resources are consumed managing exclusion experiences.

Structural barriers, examined as direct effect mechanism, conversely, operate by eliminating access to tangible infrastructure through which innovation occurs in

virtual environments. Employees may maintain high happiness, high motivation, and intact psychological resources, yet still be unable to innovate because they are excluded from the communication networks, information flows, and collaborative spaces where innovation activities occur.

This conceptual distinction has important theoretical implications for examining the study's second contribution. If cyber ostracism operates primarily through psychological resource depletion, it functions as a moderator creating boundary conditions for POS paradigm. If it operates primarily through structural barriers, it functions as an independent digital-age stressor. If both mechanisms operate simultaneously (as conservation of resources theory suggests), comprehensive theoretical frameworks addressing both dynamics become necessary (Hobfoll et al., 2017; Zhang et al., 2022).

#### ***2.4.4 Cultural Variations in Cyber Ostracism Sensitivity***

Whilst the study does not empirically examine cultural variations due to scope constraints (see Chapter 4), the theoretical importance of cultural context in globally distributed teams warrants brief consideration for future research directions. Cross-cultural research reveals significant variations in how cyber ostracism is experienced, interpreted, and responded to across different cultural contexts, with important implications for understanding both psychological and structural mechanisms in globally distributed virtual teams. Individuals from collectivist cultures, typically deriving more of their self-concept from group membership and social relationships, report stronger negative emotional reactions to cyber ostracism compared to those from individualistic cultures (Zhang, 2021).

Power distance orientations also influence cyber ostracism experiences. In high power distance cultures, exclusion by higher-status employees may be interpreted as particularly threatening because it signals not just social rejection but also authority-based devaluation. Conversely, in low power distance cultures, cyber ostracism may be more likely to be challenged directly rather than accepted passively (Ferris et al., 2016). Furthermore, high context cultures that rely heavily on implicit communication and social cues may be more vulnerable to cyber ostracism because digital communication inherently reduces contextual information, whilst low context cultures that favour explicit communication may be somewhat protected.

However, these cultural effects may be moderated by organisational culture and virtual team management practices, suggesting that organisational interventions can help protect all employees regardless of cultural background.

## **2.5 Theoretical Integration: HAW-IWB Through POS, SET, and COR Lenses**

### **2.5.1 Positive Organisational Scholarship as Overarching Paradigm**

HAW-IWB relationships provide the primary theoretical focus, examined through POS as an overarching paradigm. POS represents a paradigm shift from traditional organisational research that focused primarily on problems, deficits, and dysfunction toward systematic investigation of positive processes, attributes, and outcomes (Cameron et al., 2003; Donaldson & Ko, 2010). The core assumptions of POS align closely with the study's focus on happiness and innovation as the primary contribution. The POS paradigm posits that organisations achieve optimal functioning when they emphasise positive emotions, strengths-based approaches, and virtue-based practices rather than merely addressing problems or deficiencies (Cameron et al., 2003).

Within the POS paradigm, broaden-and-build theory, provides the specific cognitive mechanism through which positive emotions expand individuals' thought-action repertoires and build psychological resources that enhance performance (Fredrickson, 2004). This theory explains how positive emotions broaden cognitive repertoires, enabling individuals to see more possibilities and generate more creative solutions, whilst simultaneously building enduring psychological resources including resilience, optimism, and self-efficacy that support sustained innovative effort overtime. Additionally, positive emotions enhance social relationships and communication effectiveness, facilitating the collaboration necessary for innovation promotion and implementation.

However, the application of POS to virtual work context requires careful consideration of how digital mediation might affect positive organisational processes. Traditional POS research assumed physical co-presence and face-to-face interaction as the primary context for positive organisational dynamics. Virtual environments may alter these dynamics by changing how positive emotions are expressed, perceived, and reciprocated through digital communication (Yang et al., 2022). This boundary condition test represents the study's primary theoretical contribution. The extension of POS to virtual context also requires attention to digital-specific positive processes. Virtual work may create new forms of positive experiences such as technology mastery, global connection, and flexible integration of work and life. Understanding how these digital-specific positive experiences relate to traditional POS constructs such as happiness and innovation represents an important theoretical development.

### **2.5.2 Social Exchange Theory: Reciprocity Mechanisms**

Social exchange theory (SET) complements POS by explaining the reciprocal mechanisms through which positive work experience translates into discretionary behaviour such as innovation, providing theoretical grounding for why HAW predicts IWB in the study's primary contribution. SET is grounded in the fundamental proposition that social relationships operate through exchanges of valued resources, with individuals motivated to reciprocate benefits received with benefits given (Cropanzano et al., 2003).

In the context of happiness and innovation, SET explains how employees experiencing positive work conditions and emotions feel obligated to reciprocate those through increased effort, creativity, and contribution to organisational goals (Cropanzano et al., 2003). This reciprocal obligation creates a social bond that motivates discretionary behaviours beyond formal job requirements, including the risk-taking and extra effort often required for innovation. The quality of social exchanges depends critically on trust, perceived organisational support, and equitable treatment. When employees perceive their organisation as valuing their contributions, investing in their well-being, and providing fair treatment, they experience higher HAW and feel obligated to reciprocate through enhanced performance and innovation.

In virtual work context, SET mechanisms may require adaptation to digital mediation. The reduced frequency and richness of social interactions may make it more difficult to establish the trust and perceived support necessary for strong exchange relationships. However, digital communication can also create new forms of exchange, such as rapid information sharing, virtual recognition, and global collaboration opportunities that may compensate for reduced face-to-face interaction (Wu & Kuang, 2021). Whether SET-based HAW-IWB mechanisms operates similarly in digital versus traditional context remains central to this investigation.

Cyber ostracism represents a severe violation of social exchange principles. By excluding individuals from digital communication networks, cyber ostracism signals that the organisation or team members do not value the employees' contributions or presence. This violation of reciprocity norms may both moderate the HAW-IWB relationship by disrupting the exchange mechanisms through which happiness drives innovation, and directly reduce innovative behaviours as employees withdraw effort in response to perceived inequitable treatment.

### **2.5.3 Conservation of Resources Theory: Dual Mechanisms Framework**

Conservation of resources (COR) theory provides a theoretical foundation for understanding how cyber ostracism may operate through dual conceptually distinct mechanisms: psychological resource depletion that moderates positive dynamics, and structural resource denial that directly impairs innovation. COR theory posits that individuals are motivated to acquire, maintain, and protect valued resources including psychological resources, social resources, informational resources, and structural resources (Hobfoll et al., 2017; Zhang et al., 2022). Resource loss is particularly salient and creates stress that impairs functioning across multiple domains.

**Psychological Resource Depletion.** Psychological resources are depleted through threats to fundamental needs. When cyber ostracism threatens belonging, self-esteem, control, and meaningful existence, it consumes cognitive and emotional capacity that individuals would otherwise apply to work activities (Williams, 2009). The mental energy spent processing exclusion experiences represent psychological resources unavailable for the cognitive broadening, intrinsic motivation, and social engagement through which happiness typically drives innovation (Lutz, 2022; Yang et al., 2022).

**Structural Resource Denial.** Structural resources are denied through exclusion from infrastructure. In virtual work environments, digital communication networks, information flows, and collaborative platforms constitute the structural resources through which work occurs. Cyber ostracism denies access to these structural resources through systematic exclusion from email communications, omission from virtual meetings, marginalisation in collaborative spaces, and reduced visibility in digital platforms (Jones et al., 2009; Zhang & Zhao, 2025).

Innovation activities require specific infrastructure: information for idea generation, communication channels for idea promotion, collaborative spaces for idea implementation. When cyber ostracism denies access to this infrastructure, innovation becomes structurally impossible regardless of employees' happiness, motivation, or psychological resource availability.

**Distinguishing the Mechanisms.** The critical distinction lies in what is lost and how losses operate. Psychological depletion consumes internal capacity through need threats and distress, disrupting the processes through which happiness drives innovation. The employee possesses the structural infrastructure but lacks the psychological resources to effectively use it. Structural denial

eliminates external infrastructure through exclusion from digital networks, preventing innovation activities regardless of internal capacity. The employee possesses psychological resources but lacks the structural infrastructure to apply them.

Both mechanisms align with COR theory but operate through different resource types. Hobfoll et al. (2017) emphasises that resource loss across any category creates stress and impairment, but the pathways differ. Virtual work environments are particularly vulnerable to both psychological loss and structural resource loss because digital mediation concentrates both psychological well-being and work infrastructure in the same communication channels.

## **2.6 Measurement Challenges in Virtual Contexts**

The measurement of cyber ostracism in virtual context presents unique challenges requiring careful attention. Traditional instruments developed and validated in co-located environments raise questions about their ability to fully capture the unique experiences and manifestations of ostracism in digital environments. Recent instrument development work has begun to address these challenges through virtual-specific adaptations and validations.

For cyber ostracism measurement, challenges include distinguishing deliberate exclusion from technical difficulties or scheduling conflicts, capturing the ambiguity inherent in digital ostracism experiences, and accounting for the cultural differences in ostracism sensitivity and interpretation (Yang et al., 2022; Zhang, 2021; Ferris et al., 2016). Instruments must address various manifestations including email exclusion, meeting omissions, reduced digital visibility, and delayed responses whilst acknowledging the interpretive complexity of these experiences.

Chapter 4 details the specific validation procedures employed in the study to support retention of construct validity despite adaptations to virtual contexts.

## **2.7 Literature Synthesis and Research Imperatives**

This review has synthesised extensive literature on HAW, IWB, and cyber ostracism, revealing substantial knowledge about each construct individually but critical gaps in their integration within virtual work contexts. The synthesis identifies three research imperatives that the study addresses, aligned with the two primary contributions established in Chapter 1.

### ***2.7.1 Research Imperative 1: Test HAW-IWB in Hybrid Contexts (Primary Contribution 1)***

Whilst the HAW-IWB relationship is well-established in traditional settings, its operation in digitally mediated environments where social dynamics, communication

patterns, and work structures fundamentally differ remains untested. This imperative addresses Gap 1 by providing systematic empirical evidence for whether POS mechanisms translate to virtual contexts. The cognitive broadening, motivational enhancement, and social exchange processes through which happiness drives innovation may operate differently, more strongly, or more weakly when work is conducted primarily through digital interfaces. Testing this relationship in hybrid contexts represents the study's primary theoretical contribution and provides critical guidance for organisations investing in remote work arrangements and happiness-promoting initiatives.

### ***2.7.2 Research Imperative 2: Understanding Cyber Ostracism's Dual Mechanisms (Primary Contribution 2)***

Cyber ostracism represents a novel construct that is described in recent literature but remains poorly understood in its mechanisms and organisational impact. This imperative addresses Gap 2 by examining cyber ostracism's potential to operate through two conceptually distinct mechanisms. The psychological resource depletion mechanism tests a boundary condition for POS paradigm of whether cyber ostracism disrupts the HAW-IWB relationship by consuming cognitive and emotional resources through need threats (belonging, self-esteem, control, and meaningful existence).

The structural resource denial mechanism tests whether cyber ostracism independently impairs innovation by eliminating access to digital infrastructure through which innovation occurs in virtual environments. Unlike psychological disruption, structural barriers operate through exclusion from communication networks, information flows, and collaborative spaces, regardless of employees' happiness or motivation levels (Hobfoll et al., 2017; Zhang et al., 2022).

This dual-mechanism examination makes several important contributions. First, it tests whether cyber ostracism operates primarily through one pathway or both simultaneously, addressing theoretical uncertainty about how digital stresses influence organisational outcomes. Second, it distinguishes psychological disruption of positive processes from structural prevention of work activities, clarifying where interventions should focus. Third, it positions cyber ostracism as a novel construct requiring theoretical attention beyond its interaction with positive states, contributing to understanding of digital age phenomena that may function differently than traditional workplace stressors.

### **2.7.3 Research Imperative 3: Identify Phase-Specific Patterns (Supplementary Contribution)**

This imperative addresses Gap 3 by disaggregating all relationships across idea generation, promotion, and implementation phases. The HAW-IWB relationship may vary in strength across phases due to their different cognitive and social demands, with happiness potentially most beneficial for creative idea generation versus social idea implementation. Cyber ostracism's psychological moderating influence (if present) may also vary by phase, potentially being weakest for individual cognitive work (generation) and strongest for social influence work (promotion). Similarly, cyber ostracism's direct structural effects may be most pronounced where exclusion from digital communication most directly impairs the innovation activity: information denial most impairs generation, communication channel denial most impairs promotion, and collaborative infrastructure denial most impairs implementation. This phase-specific analysis enables targeted theoretical development and practical interventions focused on the stages where positive or negative dynamics are most influential.

## **2.8 Conclusion**

This literature review has established the theoretical and empirical foundations for examining HAW, IWB, and cyber ostracism in virtual work environments. The synthesis reveals that whilst extensive research supports the HAW-IWB relationship in traditional settings and documents the psychological impacts of ostracism, critical gaps remain regarding these dynamics in digitally mediated contexts.

The review identified three research imperatives that directly address these gaps. First, testing whether established HAW-IWB mechanisms translate to virtual environments where social embeddedness, spontaneous interaction, and communication richness fundamentally differ from traditional settings represent the study's primary theoretical contribution. Second, examining cyber ostracism's dual potential mechanisms of psychological resource depletion (which may moderate the HAW-IWB relationship) and structural barrier creation (which may directly impair innovation) addresses the need to understand how digital exclusion operates in remote work contexts. Third, disaggregating relationships across idea generation promotion implementation phases enables identification of where positive and negative dynamics exert greatest influence.

These imperatives are grounded in an integrated theoretical framework drawing on the POS paradigm (including broaden-and-build theory) to examine how positive emotions drive innovation, SET to explain reciprocity mechanisms, and COR theory to explain both psychological resource depletion and structural resource denial. This theoretical integration provides the foundation for the research questions and the hypotheses formalised in Chapter 3, which operationalise these imperatives into testable propositions regarding our happiness and cyber ostracism jointly shaped innovation in distributed work environments.

## Chapter 3: Research Questions and Hypotheses

### 3.1 Introduction

This chapter operationalises the theoretical framework established in Chapters 1 and 2 by formalising the research questions and hypotheses that guide this investigation. Building on the three critical gaps identified in Chapter 1, the chapter presents four research questions (Section 3.2) and six corresponding hypotheses (Section 3.3) that examine HAW and IWB relationships in virtual contexts, cyber ostracism's dual mechanisms, and phase-specific innovation dynamics. Section 3.4 presents the conceptual model integrating all hypothesised relationships.

### 3.2 Research Questions

The study addresses four interrelated research questions:

**RQ1.** To what extent is HAW positively related to IWB in remote and hybrid environments?

*(Addresses Gap 1: Primary theoretical contribution)*

**RQ2.** Does cyber ostracism moderate the relationship between HAW and IWB in virtual work settings?

*(Addresses Gap 2: Psychological resource depletion mechanism)*

**RQ3.** How does the moderating effect of cyber ostracism vary across the three phases of IWB (idea generation, promotion, and implementation)?

*(Addresses Gap 3: Phase-specific effects)*

**RQ4.** Does cyber ostracism directly influence IWB in remote work environments independent of its potential moderating role?

*(Addresses Gap 2: Structural barrier mechanism)*

### 3.3 Hypotheses Development

#### 3.3.1 Hypothesis 1: Direct Relationship Between HAW and IWB

The POS paradigm and broaden-and-build theory propose that positive emotions broaden cognition and build psychological resources that enhance innovation (Cameron et al., 2003; Fredrickson, 2004). These mechanisms should persist in virtual settings as cognitive flexibility and intrinsic motivation operate independently of physical co-presence.

**H1.** HAW is positively related to IWB in remote work environments.

#### 3.3.2 Hypothesis 2: Moderation by Cyber Ostracism

COR theory posits that resource loss creates stress that impairs functioning (Hobfoll et al., 2017; Zhang et al., 2022). Cyber ostracism depletes psychological

resources by threatening belonging, self-esteem, control, and meaningful existence (Williams, 2009), whilst eroding social resources through exclusion from digital networks. This resource depletion disrupts the pathways through which HAW facilitates innovation.

**H2.** Cyber ostracism moderates the HAW-IWB relationship such that the positive effect weakens at high levels of cyber ostracism.

### **3.3.3 Hypotheses 3a-c: Phase-Specific Moderation Effects**

Innovation phases exhibit distinct social requirements. Idea generation is predominantly cognitive with minimal social input, making it least vulnerable to cyber ostracism's relational disruptions. Idea promotion is socially intensive, requiring coalition-building and stakeholder influence that depend on communication access directly compromised by digital exclusion. Idea implementation combines individual execution with social coordination, creating intermediate vulnerability.

**H3a.** The moderating effect of cyber ostracism on the HAW-IWB relationship is weakest for idea generation.

**H3b.** The moderating effect of cyber ostracism on the HAW-IWB relationship is strongest for idea promotion.

**H3c.** The moderating effect of cyber ostracism on the HAW-IWB relationship is intermediate for idea implementation.

### **3.3.4 Hypothesis 4 (H4): Direct Relationship Between Cyber Ostracism and IWB**

Beyond psychological moderation, cyber ostracism may operate as an independent structural barrier through resource denial (Hobfoll et al., 2017; Zhang et al., 2022). In virtual work environments, digital communication constitutes the primary infrastructure for collaboration. Exclusion from these networks limit exposure to information necessary for idea generation, eliminates communication channels required for idea promotion, and prevents the collaborative coordination necessary for idea implementation,

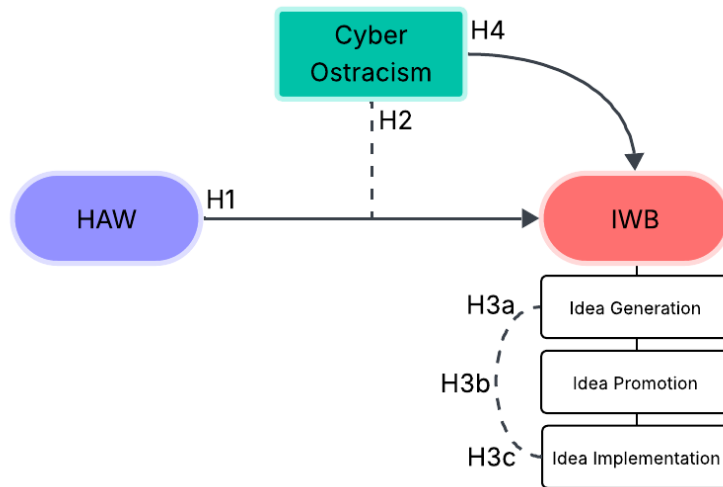
**H4.** Cyber ostracism is negatively related to IWB in remote and hybrid work environments.

## **3.4 Conceptual Model**

Figure 3.1 presents the complete conceptual model integrating all hypothesised relationships within the theoretical framework established in Chapters 1 and 2.

**Figure 1**

*Conceptual Model of HAW, IWB, and Cyber Ostracism in Virtual Work Environments*



*Note.* Solid arrows represent hypothesised direct relationships; dotted lines representing hypothesised moderating relationships.

### 3.5 Conclusion

This chapter has translated the theoretical framework into empirically testable propositions. The four research questions address the three critical gaps: testing HAW-IWB in digital contexts (RQ1), examining cyber ostracism's psychological moderation (RQ2-RQ3), and investigating structural barrier mechanisms (RQ4). The six hypotheses integrate POS paradigm, SET, and COR theory to examine positive emotional states and digital stressors jointly shape innovation in virtual work environments. Chapter 4 details the methodology employed to test these hypotheses.

## **Chapter 4: Research Methodology**

### **4.1 Introduction**

This chapter presents the methodology employed to test the four hypotheses outlined in Chapter 3, covering research design, population and sampling, measurement instruments, data collection and analysis procedures, data quality considerations, ethical protocols, and methodological limitations.

### **4.2 Research Design**

This explanatory study adopted a positivist-objectivism philosophy, aligning with the dominant paradigm in organisational behaviour research examining relationships between measurable constructs (Saunders & Lewis, 2018; Doolin, 1996). Positivism assumes that an objective reality exists independently of human perception and can be measured through empirical observation and structured data collection. This ontological position was appropriate given the study's aim to test established theoretical relationships between HAW and IWB and extend them to remote and hybrid work environments whilst investigating cyber ostracism's moderating influence.

A deductive approach tested theoretically derived hypotheses against empirical data, justified because the study built on established theories (COR theory, SET, and POS paradigm) rather than generating new theory (Casula et al., 2020).

A survey strategy facilitated systematic data collection from geographically dispersed remote workers, overcoming geographical barriers that would constrain alternative strategies such as experiments or case studies. This approach ensured standardised measurement across diverse contexts, enabled comparability with prior research using similar instruments, and aligned with the positivist paradigm and deductive approach (Saunders & Lewis, 2018). The study employed a quantitative mono-method design using a structured questionnaire to collect numerical data for statistical analysis, appropriate for measuring precise relationships between variables, testing moderation effects requiring statistical interaction terms, and enabling generalisations to broader populations (Saunders & Lewis, 2018).

A cross-sectional design was implemented, collecting data at a single point in time. This approach was justified given resource constraints typical of MBA research, the established theoretical basis for proposed relationships, and the study's focus on understanding contemporary hybrid and remote work dynamics rather than tracking changes over time (Al-Shami et al., 2023; Yang et al., 2022).

### **4.3 Population**

The overall population comprised all employees engaged in remote or hybrid work arrangements globally, spanning diverse industries, organisational sizes, job functions, demographic profiles, and geographical locations. The target population represented a subset of this broad heterogeneous population, characterised by three critical criteria: (1) fully remote or hybrid work arrangements due to their heightened exposure to cyber ostracism, (2) a minimum of six months of remote or hybrid work experience ensuring sufficient exposure to virtual workplace dynamics, and (3) English language proficiency for questionnaire completion. No restrictions were placed on industry, organisational size, or job function to maximise generalisability across sectors.

The unit of analysis was the individual employee, as HAW represents an individual psychological state (Saunders & Lewis, 2018), IWB constitutes individual actions, and cyber ostracism reflects individual perceptions of being ignored or excluded online (Al-Shami et al., 2023; Yang et al., 2022).

### **4.4 Sampling**

Non-probability convenience sampling recruited participants based on their accessibility and willingness to participate. This technique was necessary due to the absence of a comprehensive sampling frame for remote workers globally, the geographic dispersion of workers making random sampling impractical for MBA-level research constraints, and the established precedents in organisational behaviour studies examining similar constructs (Al-Shami et al., 2023; Yang et al., 2022). Initial participants were recruited through the researcher's professional network, supplemented by snowball recruitment whereby initial participants were asked to refer the survey to eligible colleagues in their professional networks, enabling network-based expansion.

Specific inclusion criteria ensured participants met the target population definition whilst maintaining data quality. Participants required a minimum of six months in fully remote or hybrid work arrangements, with at least 50% work time conducted remotely. Additionally, participants needed to be aged 18 or older for voluntary informed consent to participate in research. Two-stage screening ensured data integrity and participant eligibility. Pre-screening employed a single question asking participants to describe their primary work arrangement, automatically routing out respondents selecting "Fully on-site" or "Hybrid – office dominant" to prevent unnecessary survey completion burden (see Appendix A for screening question and

screen-out message). Post-survey screening used the question "*How long have you been working remotely?*" to identify and exclude participants not meeting the minimum six-month tenure requirement. This process ensured data integrity and validity of findings.

For regression analysis, which served as the primary analytical technique for hypothesis testing in the study, minimum sample size was estimated using  $N \geq 50 + 8m$ , where  $m$  represents the number of predictors (Green, 1991). With three primary independent variables, this suggested  $n=74$  for simple regression. More stringent guidelines recommended  $N \geq 104 + m$  for multiple regression and greater statistical power, suggesting  $n=107$ . Based on these considerations, a target size of 100 participants was established to provide adequate statistical power for detecting medium effect sizes ( $f^2 = 0.15$ ) at Cronbach's alpha ( $\alpha$ ) of 0.05 (Lachenbruch & Cohen, 1989; Hair, 2010).

#### **4.5 Measurement Instruments**

All constructs were measured using established, validated psychometric scales with proven reliability and validity in organisational research. The response format across all variables employed 5-point Likert scales (1=Strongly Disagree/Never; 5=Strongly Agree/Always) measuring the extent of agreement or frequency of behaviours.

##### **4.5.1 Questionnaire Design**

The questionnaire was administered electronically through Microsoft Forms, chosen for accessibility across user populations, compatibility with various devices, and data security compliance with privacy regulations. The 36-item survey comprised four sections presented sequentially: demographic information, 15-item HAW scale, nine-item IWB scale, and seven-item cyber ostracism scale. The full questionnaire, including consent screen, branching logic, and thank you messages for both screened-out and eligible completing participants, is reproduced in Appendix A. The questionnaire incorporated five design features to enhance data quality: clear section instructions reducing measurement error attributable to misunderstood requirements, forced-choice format preventing missing data, upfront completion time disclosure managing participant expectations, progress indicators reducing dropout by showing completion percentage, and mobile-responsive design ensuring cross-device usability.

#### **4.5.2 HAW Measurement**

HAW was measured using a 15-item composite scale constructed by adapting items from three established instruments measuring workplace well-being dimensions: five work engagement items adapted Schaufeli et al. (2006), five job satisfaction items from Schriesheim and Tsui (1980, as cited by Al-Shami et al., 2023), and five effective commitment items from Allen and Meyer (1990). This composite approach aligned with Fisher's (2009) framework arguing that HAW encompasses engagement, satisfaction, and commitment as interconnected facets. Items were adapted where necessary for remote work contexts by modifying language referencing physical presence or traditional office dynamics.

Sample items included: *"I feel energised about my work"* (engagement), *"Overall, I am satisfied with my current job"* (satisfaction), and *"I would be happy to spend the rest of my career with my company"* (commitment).

Reliability analysis demonstrated excellent internal consistency ( $\alpha = 0.920$ ), surpassing the original composite scale's Cronbach's alpha coefficient of 0.825 (Al-Shami et al., 2023) and justifying treatment as a unified construct representing overall HAW.

#### **4.5.3 IWB Measurement**

Nine-items were adopted from Scott and Bruce (1994) and Janssen (2000) to conceptualise innovation as three interrelated dimensions, each measured by three items: idea generation, idea promotion, and idea implementation. This scale was selected for its established psychometric properties and three-dimensional structure enabling examination of both overall innovation and specific innovation stages.

Sample items included: *"I come up with new ideas for improvements"* (generation), *"I gain support for new ideas"* (promotion), and *"I turn innovative ideas into practical solutions"* (implementation).

Reliability analysis demonstrated strong properties across all dimensions, with overall IWB achieving a Cronbach's alpha coefficient of 0.893, exceeding the original composite scale's Cronbach's alpha coefficient of 0.882 (Al-Shami et al., 2023) and justifying unified treatment.

#### **4.5.4 Cyber Ostracism Measurement**

A seven-item cyber ostracism scale was developed by adapting Ferris et al.'s (2008) ostracism framework to virtual environments, as employed by Yang et al. (2022).

Sample items included: *"I am ignored during online meetings,"* and *"My ideas are ignored in digital collaboration tools/discussions."*

Reliability analysis demonstrated excellent internal consistency ( $\alpha = 0.912$ ), within range of the original scale's Cronbach's alpha coefficient of 0.945, indicating that the items consistently measured the same underlying construct.

#### **4.5.5 Control Variables**

To account for potential confounding influences, five control variables were included. Work arrangement type distinguished fully remote from hybrid arrangements, as these differ in the interaction frequency potentially affecting ostracism and innovative experiences. Remote work tenure and age group accounted for technological comfort, relationship development, and adaption. Organisational seniority level accounted for power dynamics, network access, and innovation expectations. Functional area captured varying collaboration requirements and innovation expectations.

#### **4.6 Data Collection**

The survey was administered electronically using Microsoft Forms, a cloud-based survey platform selected for secure data collection with encryption and compliance with data protection standards including South Africa's Protection of Personal Information Act (POPIA). Multi-device accessibility maximised participation opportunities whilst automated data capture directly into structured spreadsheet format, real-time response monitoring, built-in logic and branching functionality, and anonymous response options provided additional technical advantages.

Participants were recruited through multiple channels to maximise reach within the target population whilst ensuring ethical compliance. Microsoft Teams and LinkedIn served as primary recruitment channels within professional organisations and industry networks where the researcher had legitimate access, providing opportunities to reach organisationally embedded remote workers through trusted communication channels. Telegram and WhatsApp groups provided additional recruitment channels after obtaining permission from group administrators. Each recruitment message followed a standardised template to ensure consistency whilst including necessary information for informed decision-making: brief study introduction, explicit assurance of anonymity and confidentiality, communication of estimated completion time, researcher contact information, and direct link to the survey enabling one-click access.

Data collection occurred over a three-month period extending from August through October 2025. This extended timeframe was necessary for several practical and methodological reasons. Multiple waves of recruitment across different channels required time to implement sequentially, allowing assessment of response from each channel before intensifying or shifting recruitment efforts. The snowball strategy required time to propagate through professional networks as participants gradually shared the survey. Follow-up reminders posted in the same recruitment channels at appropriate intervals helped maximise response rates without creating perceptions of harassment.

## **4.7 Data Analysis**

### **4.7.1 Data Preparation**

Following data collection, raw data were extracted from Microsoft Forms into Microsoft Excel format, creating a structured dataset. Data collection yielded 168 survey responses. The dataset was systematic screened for completeness, attention check failures, and eligibility criteria violations as described in Section 4.4, resulting in  $n=101$  valid responses, exceeded the target of 100 participants. Exclusion resulted from incorrect work arrangements ( $n=64$ ) and insufficient remote work tenure ( $n=3$ ). Missing data was a non-issue due to the forced-choice format employed. Univariate and multivariate outlier detection identified no extreme cases requiring removal, confirming data quality. Composite scale scores were computed as means of constituent items, creating variables for cyber ostracism, HAW, and IWB (overall and three subscales).

### **4.7.2 Statistical Software**

IBM SPSS Statistics Version 28 was used as the primary statistical software package for data analysis, supplemented by Microsoft Excel for preliminary data organisation.

### **4.7.3 Preliminary Analyses**

Before proceeding to hypothesis testing, preliminary analyses were conducted to understand data characteristics and verify statistical assumptions required for multiple regression analysis, including descriptive statistics, reliability analysis, and correlation analysis. Assumption testing evaluated whether the data satisfied statistical assumptions required for multiple regression analysis: normality through histograms and Q-Q plots, linearity through scatterplots, homoscedasticity through residual plots, independence through Durbin-Watson statistics, and multicollinearity through VIF values ( $<10$ ). All assumptions were satisfactorily met.

All relevant data and SPSS outputs are available from the researcher upon request to ensure reproducibility.

#### **4.7.4 Hypothesis Testing Procedures**

The study's hypotheses were tested using hierarchical multiple regression analysis, a technique appropriate for examining relationships between continuous variables whilst controlling for confounding influences (Hair, 2010).

**Testing H1.** Step 1 entered control variables to establish a baseline model accounting for demographic and work factors on HAW. Step 2 added HAW as the independent variable to assess its effect on IWB, with positive significant coefficient ( $p < .05$ ) supporting H1.

**Testing H2.** Step 1 entered the same control variables as H1. Step 2 added HAW and cyber ostracism as main effects. Step 3 added HAW x cyber ostracism interaction term, with negative significant coefficient ( $p < .05$ ) supporting H2.

**Testing H3a-c.** Separate models were conducted for each IWB phase, with interaction strength compared across phases to assess differential moderation.

**Testing H4.** Cyber ostracism main effect coefficient was tested in Step 2, with negative significant coefficient ( $p < .05$ ) supporting H4.

#### **4.8 Data Quality**

Reliability analysis demonstrated excellent internal consistency for all scales: cyber ostracism ( $\alpha = 0.912$ ), HAW ( $\alpha = 0.920$ ), IWB overall ( $\alpha = 0.893$ ), and IWB subscales (ranging from  $\alpha = 0.817$  to  $0.848$ ). These reliability coefficients were comparable or higher than those reported in original scale development studies, indicating instruments functioned effectively in remote and hybrid work contexts. No items required deletion to improve reliability, and all item-total correlations indicated strong internal coherence within each scale.

Content validity was established through: (1) literature-grounded scale selection from extensively validated instruments; (2) systematic adaption of cyber ostracism items from Ferris et al.'s (2008) framework as used in Yang et al.'s (2022) work; (3) deliberate sample of HAW items from three established scales representing different well-being facets; (4) selection of Scott and Bruce (1994) and Janssen's (2000) IWB scales covering the full innovation process; (5) expert consultation with the dissertation supervisor reviewing items and remote work adaptations; and (6) pilot testing with ten remote workers confirming item clarity, relevance, and comprehensiveness.

Construct validity was supported through: (1) high internal consistency reliabilities, indicating that items within each scale converge on measuring the same underlying construct; (2) theoretically consistent correlation patterns, specifically, cyber ostracism correlated negatively with HAW (consistent with COR theory), HAW correlated positive with IWB (consistent with POS), and cyber ostracism correlated negatively with IWB (consistent with ostracism research); and (3) use of validated instruments with established construct validity from prior research across multiple studies and cultural contexts.

Common method bias assessment evaluated using Harman's single-factor test. Exploratory factor analysis with all measurement items loaded onto a single factor revealed that the first factor accounted for 35.156% of variance, well below the 50% threshold typically indicating concern. This suggests common method bias did not substantially inflate relationships among study variables. Procedural remedies implemented during research design to minimise bias included: varying scale anchors between agreement-based formats for attitudinal items and frequency-based formats for behavioural items; clear, concise item wording; anonymity assurance, and temporal framing in item wording. While these remedies cannot eliminate common method bias entirely, they provided reasonable confidence that observed relationships were substantive rather than methodological artefacts.

#### **4.9 Ethical Considerations**

Ethical clearance was obtained from the institutional ethics committee prior to data collection, confirming the study met ethical standards for human subject research. The survey began with a detailed information section explaining: (1) study purpose; (2) procedures of completing a 6 to 10 minute online questionnaire; (3) voluntary nature and withdrawal rights by closing their browser; (4) minimal risks, limited to the brief time commitment; (5) potential benefits of contributing to remote work knowledge; (6) data use, specifically responses being analysed for dissertation research and reported in aggregate form only; and (7) researcher contact information and institutional affiliation for questions. A clear consent statement reading "By clicking Next, you confirm that you have read this information, understand your rights, and consent to participate in this study" required active confirmation before accessing survey questions (see Appendix A for full consent screen), ensuring genuine voluntary agreement rather than passive consent.

Anonymity and confidentiality were rigorously maintained. No personally identifiable information was collected. Microsoft Forms was configured to disable automatic collection of respondent identifiers. Reporting employed only aggregate statistics without allowing identification of individual responses. Because responses were anonymous, participants who completed the survey could not subsequently withdraw their data, as there was no mechanism to identify which responses belonged to which participants.

Data protection compliance followed South Africa's POPIA and international principles reflected in frameworks such as the EU's General Data Protection Regulation. Compliance elements included: (1) lawfulness of processing ensured through informed consent and legitimate research purposes; (2) purpose limitation ensured data used solely for stated research purposes; (3) data minimisation ensured only necessary demographic characteristics and construct measures collected; (4) accuracy was ensured through acceptance of participants' self-reported data as appropriate for perceptual constructs; (5) storage limitations committed to retention only as long as required for research purposes and institutional archiving; and (6) integrity and confidentiality were protected through password protection, encryption, access restrictions, secure storage protecting data from unauthorised access or disclosure.

Transparency and honesty characterised all communications. Participants received accurate information about research purpose, procedures, and data use without deception or misleading statements.

#### **4.10 Methodological Limitations**

**Sampling Limitations.** Non-probability convenience sampling introduced selection bias, potentially over-representing digitally engaged, networked professionals in knowledge work roles, whilst under-representing less digitally connected remote workers. Selection bias limits external validity; findings should be interpreted as applicable primarily to digitally connected, professionally networked remote workers rather than universal statements about all remote work contexts.

**Sample Size Constraints.** While the achieved sample ( $n=101$ ) met minimum statistical requirements, the modest sample size constrained sophisticated multivariate analyses and subgroup comparisons. Non-significant findings should be interpreted cautiously as potentially reflecting insufficient power rather than genuine absence of effects.

**Sample Homogeneity.** While achieving diversity across measured demographics, the sample may be homogeneous on unmeasured dimensions including socioeconomic status, technological literacy, organisational culture orientations, home workspace quality, caregiving responsibilities, and personality traits. Homogeneity could restrict variable range, potentially attenuating observed relationships and underestimating effect sizes.

**Cross-Sectional Design.** The cross-sectional design limits causal inference, as temporal precedence cannot be established. Reverse causality (less happy employees might perceive greater cyber ostracism through mood-congruent interpretation biases), reciprocal relationships (happiness and innovation reinforcing each other bidirectionally), and third-variable causation (personality traits, organisational climate, or leadership behaviours causing both cyber ostracism experiences and happiness/innovation levels, creating spurious correlations) remain plausible alternative explanations. Findings should be interpreted as evidence of associations and predictive relationships rather than proof of causation.

**Common Method Bias.** Single-source self-report data at a single time point raised common method bias concerns. Despite procedural and statistical remediation efforts, the risk cannot be entirely eliminated.

**Self-Report Innovation Measurement.** IWB was measured through self-report rather than objective indicators and may be subject to self-enhancement bias, recall bias, social desirability bias, and ambiguity in self-assessment standards. While self-report is standard in innovation research due to difficulty obtaining objective metrics, findings more confidently address how cyber ostracism related to employees' perceptions of their innovative activities rather than objectively assessed innovation contribution.

**Cyber Ostracism Scale Validation.** The cyber ostracism scale was developed specifically for the study, lacking extensive validation history. While demonstrating excellent reliability at  $\alpha = 0.912$  and strong face validity, the scale lacked confirmatory factor analysis, criterion validity, cross-cultural validity, and test-retest reliability assessment. Further validation across diverse samples is needed before the scale can be considered fully validated for widespread use.

**Control Variable Limitations.** While several control variables were included, many potentially relevant variables were not measured, such as personality traits, organisational culture characteristics, team size and composition, technology

platform quality, and prior face-to-face relationships. Observed relationships may be partially attributable to these omitted variables.

#### **4.11 Conclusion**

This chapter detailed the methodological framework for investigating relationships between cyber ostracism, HAW, and IWB among remote and hybrid workers. The quantitative cross-sectional approach using validated instruments provided a credible foundation for hypothesis testing whilst acknowledging inherent limitations. This methodological approach balanced scientific rigor with practical feasibility and ethical responsibility, providing a credible foundation for empirical findings presented in Chapter 5.

## Chapter 5: Results

### 5.1 Introduction

This chapter presents findings addressing the study's two main theoretical contributions. The first contribution tests whether the established happiness at work (HAW) and innovative work behaviour (IWB) relationship translates to hybrid and remote work environments. The second contribution examines cyber ostracism through two conceptually distinct mechanisms: as a potential moderator of the HAW-IWB relationship through psychological resource depletion, and as a direct barrier to IWB through structural exclusion from digital infrastructure.

The analytical approach follows a logical sequence. Main effects are tested first to establish whether HAW predicts IWB (H1) and whether cyber ostracism directly predicts IWB (H4), before examining the more complex question of whether cyber ostracism moderates the HAW-IWB relationship (H2 and H3a-c). This sequence allows clear interpretation of whether the two mechanisms operate independently (additive effects) or interactively (moderation effects).

Section 5.2 describes sample characteristics, establishing the appropriateness of the remote and hybrid worker population for addressing research questions. Section 5.3 presents measurement quality evidence. Section 5.4 reports descriptive statistics and bivariate correlations, providing preliminary evidence for hypothesised relationships. Section 5.5 tests main effect hypotheses (H1, H4) and Section 5.6 tests moderation hypotheses (H2, H3a-c). Section 5.7 summarises all hypothesis testing results in tabular format. Section 5.8 concludes by synthesising key findings in relation to the two main theoretical contributions, with detailed theoretical integration reserved for Chapter 6.

### 5.2 Sample Description

A total of 168 individuals initiated the survey. Following systematic screening procedures, 101 participants provided complete and eligible responses, yielding a completion rate of 60.1% and final analytical sample of  $n=101$ .

Table 2 presents the demographic composition of the final sample across five key dimensions: work arrangement, remote work tenure, organisational role, functional area, and age group.

**Table 2***Demographic Characteristics of the Sample (n=101)*

Control Variables	Frequency	Percent
Work Arrangement		
Fully remote	17	16.8%
Hybrid - remote dominant	84	83.2%
Remote Work Tenure		
6 months - 1 year	1	1.0%
1-2 years	8	7.9%
2-3 years	11	10.9%
More than 3 years	81	80.2%
Job Level		
Junior level	4	4.0%
Mid-level	48	47.5%
Senior level	49	48.5%
Functional Area		
Sales/Marketing/Customer Relations	60	59.4%
Operations/Project Management	10	9.9%
HR/People & Culture	2	2.0%
R&D/Innovation	18	17.8%
Finance/Administration/Support	10	9.9%
Other - Executive	1	1.0%
Age Group		
18-29	5	5.0%
30-39	35	34.7%
40-49	40	39.6%
50+	21	20.8%

The sample was predominantly composed of remote-dominant hybrid workers (83.2%), reflecting the current landscape where hybrid models have become more common than fully remote work. Participants demonstrated substantial remote work experience, with over three-quarters (80.2%) having worked remotely for more than three years, indicating an experienced rather than novice remote workforce. This extensive tenure suggests participants possessed sufficient exposure to virtual work dynamics to experience both positive aspects relevant to HAW-IWB relationships and the potential negative aspects of cyber ostracism.

Job level distribution showed balanced representation between mid-level and senior-level roles (47.5% and 48.5% respectively), with minimal representation from junior-level positions (4.0%). This distribution is appropriate for examining IWB, as innovation activities typically require the autonomy and organisational influence associated with more senior roles.

Functional area representation revealed concentration in Sales, Marketing, and Customer Relations (59.4%), followed by meaningful representation from R&D and Innovation (17.8%), Operations and Project Management (9.9%), and Finance, Administration, and Support (9.9%), with the remaining areas each 2% or less. Age

distribution indicated a mature professional sample, with the largest concentrations in the 40-49 (39.6%) and 30-39 (34.7%) age groups, reflecting the career stage typically associated with senior organisational roles and innovation responsibilities.

### 5.3 Measurement Reliability and Validity

#### 5.3.1 Internal Consistency Reliability

All multi-item scales demonstrated strong internal consistency, as shown in Table 3.

**Table 3**

*Cronbach's Alpha Reliability Coefficients for Study Scales (n=101)*

Scale	Cronbach's Alpha	n of Items
HAW	.920	15
IWB (overall)	.893	9
Generation	.848	3
Promotion	.817	3
Implementation	.835	3
CO	.912	7

*Note.* CO = Cyber ostracism.

All scales exceeded  $\alpha \geq .80$ , achieving good-to-excellent reliability. The HAW scale ( $\alpha = .920$ ) and cyber ostracism scale ( $\alpha = .912$ ) both achieved excellent reliability, whilst the overall IWB scale ( $\alpha = .893$ ) and its three subdimensions ( $\alpha = .817$  to  $.848$ ) demonstrated good reliability. These high reliability values indicate that items within each scale consistently measured the same underlying constructs, supporting confidence that observed relationships reflect true associations rather than measurement error. The excellent reliability for cyber ostracism is particularly noteworthy, providing evidence that the adaptation successfully maintained measurement consistency whilst contextualising items for virtual work environments.

#### 5.3.2 Construct Validity Evidence

Evidence for construct validity was derived from correlation patterns presented in Section 5.4, which revealed theoretically predicted relationships. HAW demonstrated positive correlations with all IWB dimensions, whilst cyber ostracism showed negative correlations with both HAW and IWB dimensions. No correlations exceeding .90 which would indicate potential multicollinearity concerns.

### 5.4 Descriptive Statistics and Bivariate Correlations

#### 5.4.1 Descriptive Statistics for Main Study Variables

Table 4 presents descriptive statistics for the three main study variables.

**Table 4***Descriptive Statistics for Main Study Variables (n=101)*

Variable	Min	Max	M	SD
HAW	2.07	4.93	3.75	0.62
IWB (overall)	2.11	4.67	3.47	0.59
Generation	2.33	5.00	3.71	0.66
Promotion	1.33	5.00	3.30	0.72
Implementation	1.67	5.00	3.40	0.71
CO	1.00	3.86	1.86	0.67

*Note.* All variables measured on 5-point Likert scales. CO = Cyber ostracism.

Participants reported moderately high levels of HAW ( $M = 3.75$ ,  $SD = 0.62$ ), indicating that the sample generally experienced positive workplace feelings between “sometimes” and “often” on the scale. The relatively low standard deviation indicates fairly consistent experiences across the sample. This moderately high baseline happiness provides appropriate conditions for testing H1, as it suggests the sample possessed sufficient positive emotional resources that could theoretically translate into innovative behaviours.

For IWB, the overall mean score was 3.47 ( $SD = 0.59$ ), indicating moderate levels of innovation-related activities. Examining the three dimensions separately reveals meaningful variations in how employees engage with different aspects of the innovation process. Idea generation showed the highest mean ( $M = 3.71$ ,  $SD = 0.66$ ), suggesting that employees are most active in the creative phase. Idea promotion demonstrated the lowest mean ( $M = 3.30$ ,  $SD = 0.72$ ), indicating that employees engage less frequently in championing innovations. Idea implementation fell between these two dimensions ( $M = 3.40$ ,  $SD = 0.71$ ). This pattern suggests idea generation may be easier and more frequent than the more socially complex activities of promoting and implementing innovations.

Cyber ostracism showed the lowest mean score among all variables ( $M = 1.86$ ,  $SD = 0.67$ ), indicating that participants generally experience low levels of digital exclusion in their work environments. This finding suggests that whilst cyber ostracism does occur in hybrid work settings, it is not a pervasive experience for most employees in this sample. The standard deviation of 0.67 indicates moderate variability, with some individuals experiencing notably higher levels than others, as evidenced by the range from 1.00 to 3.86. The relatively low mean cyber ostracism may present a constraint on detecting moderation effects in H2 and H3a-c, as restricted range can attenuate interaction effects.

### 5.4.2 Bivariate Correlations

Table 5 presents Pearson correlation coefficients among all study variables, providing preliminary evidence for the hypothesised relationships.

**Table 5**

*Pearson Correlations Among Study Variables (n=101)*

Variable	HAW	IWB (overall)	Generation	Promotion	Implementation	CO
HAW	1	.466***	.330***	.514***	.338***	-.417***
IWB (overall)	.466***	1	.821***	.841***	.882***	-.400***
Generation	.330***	.821***	1	.501***	.613***	-.303**
Promotion	.514***	.841***	.501***	1	.624***	-.365***
Implementation	.338***	.882***	.613***	.624***	1	-.347***
CO	-.417***	-.400***	-.303**	-.365***	-.347***	1

Note. \*\*\*  $p < .001$  (two-tailed). \*\*  $p < .01$  (two-tailed). CO = Cyber ostracism.

**HAW and IWB Relationships.** HAW showed significant positive correlations with all IWB dimensions, ranging from moderate for idea generation ( $r = .330$ ,  $p < .001$ ) to moderately strong for idea promotion ( $r = .514$ ,  $p < .001$ ). The overall correlation between HAW and IWB was  $r = .466$  ( $p < .001$ ), indicating a moderate positive relationship accounting for approximately 21.7% shared variance. These positive correlations provide preliminary support for H1, which predicts a positive HAW-IWB relationship in hybrid contexts.

The pattern of correlations across IWB phases is noteworthy. HAW showed stronger correlation with idea promotion ( $r = .514$ ) than with generation ( $r = .330$ ) or implementation ( $r = .338$ ). This suggests that happiness may be particularly important for the social influence aspects of innovation, where employees must persuade others and build coalitions, rather than the more cognitive (generation) or technical (implementation) phases. This phase-specific variation will be examined more rigorously in the regression analyses that control for demographic and work-related factors.

**Cyber Ostracism Relationships.** Cyber ostracism demonstrated significant negative correlations with all variables of interest. The correlation with HAW was  $r = -.417$  ( $p < .001$ ), indicating that experiences of digital exclusion were associated with lower workplace happiness. Correlations with IWB dimensions ranged from  $r = -.303$  for idea generation ( $p < .01$ ) to  $r = -.365$  for idea promotion ( $p < .001$ ), all statistically significant. These negative correlations provide preliminary support for H4, which predicts direct negative effects of cyber ostracism on IWB. The somewhat stronger

negative correlation with promotion ( $r = -.365$ ) compared to generation ( $r = -.303$ ) suggests that structural exclusion from digital communication networks may particularly impair socially intensive innovation activities.

**IWB Interdimensional Relationships.** The intercorrelations among IWB dimensions were strong and positive, ranging from  $r = .501$  to  $r = .624$ , all  $p < .001$ , supporting the conceptualisation of these as related but distinct phases of a broader innovation process. The somewhat lower correlations between idea generation and the other phases compared to correlation between promotion and implementation suggest that generation may be somewhat more independent of social processes than the subsequent phases.

### **5.5 Hypothesis Testing: Main Effects**

This section presents hierarchical regression analyses testing the direct effects of HAW on IWB (H1) and cyber ostracism on IWB (H4), after controlling for work arrangement, remote work tenure, job level, functional area, age group. This hierarchical approach isolated each predictor's unique contribution beyond demographic and work-related influences.

#### **5.5.1 Hypothesis 1: HAW Predicting IBW**

H1 predicted that HAW would be positively related to IWB overall and across three innovation phases in remote work settings. This represented the study's first main contribution, testing whether mechanisms established in traditional co-located environments translates to digitally mediated contexts. H1 was tested using hierarchical multiple regression with HAW as the independent variable and overall IWB and three phase-specific measures as dependent variables.

**Results for Overall IWB.** Table 6 presents model summaries for the hierarchical regression predicting overall IWB from HAW. The hierarchical regression revealed that demographic and work-related controls entered in Model 1 accounted for 12.6% of variance in overall IWB,  $\Delta F(5, 95) = 2.737$ ,  $p = .024$ , indicating that demographic factors have modest but statistically significant predictive power. Adding HAW in Model 2 significantly improved model fit, with  $\Delta R^2 = .225$ ,  $\Delta F(1, 94) = 32.501$ ,  $p < .001$ . The full model accounting for 35.0% of variance in IWB with Adjusted  $R^2 = .309$ . This substantial improvement demonstrates that HAW explains additional variance in innovative behaviour beyond what can attributed to demographic and work-related characteristics alone.

**Table 6**

*Hierarchical Regression Model Summary for HAW Predicting IWB Overall and by Phase (n=101)*

Model	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	$\Delta R^2$	$\Delta F$	df1	df2	p
A. IWB (overall)								
1 (Controls)	.355	.126	.080	.126	2.737	5	95	.024
2 (+ HAW)	.592	.350	.309	.225	32.501	1	94	<.001
B. Generation								
1 (Controls)	.382	.146	.101	.146	3.247	5	95	.009
2 (+ HAW)	.518	.268	.222	.122	15.715	1	94	<.001
C. Promotion								
1 (Controls)	.273	.075	.026	.075	1.532	5	95	.187
2 (+ HAW)	.564	.318	.274	.243	33.494	1	94	<.001
D. Implementation								
1 (Controls)	.312	.097	.050	.097	2.050	5	95	.079
2 (+ HAW)	.476	.227	.177	.129	15.715	1	94	<.001

Table 7 presents regression coefficients for Model 2, which includes both controls and HAW as predictors. HAW was a highly significant predictor of overall IWB, with  $\beta = .503$ ,  $t = 5.701$ ,  $p < .001$ . The magnitude of this coefficient indicates a moderate-to-strong effect suggesting that one standard deviation increase in HAW is associated with approximately half a standard deviation increase in IWB when controlling for demographic and work-related factors.

**Table 7**

*Regression Coefficients for HAW Predicting IWB Overall and by Phase (Model 2) (n=101)*

Predictor	B	SE	$\beta$	t	p
IWB (overall)					
(Constant)	1.434	.495		2.898	.005
Work Arrangement	.189	.134	.120	1.410	.162
Remote Tenure	-.223	.080	-.247	-2.804	.006
Job Level	.277	.089	.269	3.127	.002
Functional Area	-.039	.033	-.101	-1.174	.243
Age Group	.040	.064	.056	.614	.541
HAW	.483	.085	.503	5.701	<.001
Generation					
(Constant)	2.273	.585		3.882	<.001
Work Arrangement	.116	.158	.066	.729	.468
Remote Tenure	-.310	.094	-.308	-3.293	.001
Job Level	.327	.105	.284	3.111	.002
Functional Area	-.035	.039	-.082	-.905	.368
Age Group	.059	.076	.074	.768	.445
HAW	.398	.100	.371	3.964	<.001
Promotion					
(Constant)	.587	.614		.955	.342
Work Arrangement	.219	.166	.115	1.315	.192
Remote Tenure	-.136	.099	-.124	-1.372	.173
Job Level	.171	.110	.137	1.549	.125

**Table 7 (continued)**

*Regression Coefficients for HAW Predicting IWB Overall and by Phase (Model 2)*  
(*n=101*)

Predictor	B	SE	$\beta$	t	p
Promotion					
Functional Area	-.051	.041	-.109	-1.241	.218
Age Group	.080	.080	.094	1.002	.319
HAW	.609	.105	.523	5.787	<.001
Implementation					
(Constant)	1.442	.652		2.212	.029
Work Arrangement	.232	.177	.122	1.316	.191
Remote Tenure	-.224	.105	-.205	-2.133	.036
Job Level	.335	.117	.269	2.864	.005
Functional Area	-.030	.043	-.065	-.691	.491
Age Group	-.020	.085	-.024	-.237	.813
HAW	.443	.112	.381	3.964	<.001

Among control variables, job level emerged as a significant positive predictor with  $\beta = .269$ ,  $t = 3.127$ ,  $p = .002$ , indicating that employees in more senior roles reported higher innovative behaviours. Remote work tenure showed a significant negative relationship with  $\beta = -.247$ ,  $t = -2.804$ ,  $p = .006$ , suggesting that those with longer remote work experience reported somewhat lower innovative behaviours. Other control variables including work arrangement, functional area, and age group were not statistically significant predictors.

**Results for IWB Phases.** Table 6 also presents model summaries from the three innovation phases, and Table 7 presents corresponding coefficients. HAW significantly predicts all three phases of IWB. For idea generation, adding HAW in Model 2 significantly explained an additional 12.2% of variance, with  $\Delta F(1, 94) = 15.715$ ,  $p < .001$ . HAW's standardised coefficient was  $\beta = .371$ ,  $t = 3.964$ ,  $p < .001$ , indicating a moderate positive effect.

For idea promotion HAW explained an additional 24.3% of variance, with  $\Delta F(1, 94) = 33.494$ ,  $p < .001$ . HAW's standardised coefficient was  $\beta = .523$ ,  $t = 5.787$ ,  $p < .001$ , representing the strongest effect across all phases. This indicates that each one standard deviation increase in HAW is associated with over half a standard deviation increase in idea promotion behaviours.

For idea implementation, HAW explained an additional 12.9% of variance, with  $\Delta F(1, 94) = 15.715$ ,  $p < .001$ ). HAW's standardised coefficient was  $\beta = .381$ ,  $t = 3.964$ ,  $p < .001$ .

The pattern of effects reveals important phase-specific variations. HAW showed the strongest relationship with idea promotion ( $\beta = .523$ ), following by idea

implementation ( $\beta = .381$ ) and idea generation ( $\beta = .371$ ). This pattern suggests that happiness may be particularly beneficial for the social influence phase of innovation where employees must persuade stakeholders and build coalitions. The somewhat weaker but still substantial effects for generation and implementation suggest that happiness supports innovation across all phases but may be especially critical for socially intensive activities.

Control variable patterns vary somewhat across phases. Job level consistently predicted higher innovation behaviours for generation ( $\beta = .284, p = .002$ ) and implementation ( $\beta = .269, p = .005$ ), but not for promotion. Remote work tenure negatively predicted generation ( $\beta = -.308, p = .001$ ) and implementation ( $\beta = -.205, p = .036$ ), but not promotion. These patterns suggest that organisational position and remote work experience influence innovation phases differently, with promotion being less dependent on structural factors.

**Summary for H1.** H1 received strong support across all tests. HAW significantly and positively predicted overall IWB and all three innovation phases, with effects ranging from moderate to moderately strong ( $\beta = .371$  to  $.523$ , all  $p < .001$ ). These findings provide strong evidence that the established HAW-IWB relationship validated in traditional co-located settings translates robustly to hybrid and remote work environments, supporting the continued relevance of positive emotions as drivers of innovation in digitally mediated contexts.

#### **5.5.2 Hypothesis 4: Cyber Ostracism Directly Predicting IWB**

H4 predicted that cyber ostracism would directly and negatively predict IWB through structural barrier mechanisms. Unlike H2 which examines whether cyber ostracism moderates the HAW-IWB relationship, H4 examines whether cyber ostracism creates direct impediments to innovation by eliminating access to communication networks, information flows, and collaborative infrastructure. This direct effort operates independently of employees' happiness levels.

H4 was tested using hierarchical multiple regression with cyber ostracism as the independent variable and overall IWB and three phase-specific measures as dependent variables, controlling for the same demographic and work-related factors used in H1 analyses.

**Results for Overall IWB.** Table 8 presents model summaries for the hierarchical regression predicting overall IWB from cyber ostracism. The hierarchical regression revealed that demographic and work-related controls entered in Model 1 accounted for 12.6% of variance in overall IWB,  $\Delta F(5, 95) = 2.737, p = .024$ ,

consistent with the H1 analyses using the same controls. Adding cyber ostracism in Model 2 significantly improved model fit, with  $\Delta R^2 = .142$ ,  $\Delta F(1, 94) = 18.272$ ,  $p < .001$ . The full model accounted for 26.8% of variance in overall IWB with Adjusted  $R^2 = .221$ . While the incremental variance explained by cyber ostracism (14.2%) was somewhat smaller than that explained by HAW (22.5% in H1 tests), it represented a substantial and statistically significant contribution.

**Table 8**

*Hierarchical Regression Model Summary for Cyber Ostracism Predicting IWB Overall and by Phase (n=101)*

Model	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	$\Delta R^2$	$\Delta F$	df1	df2	p
A. IWB (overall)								
1 (Controls)	.355	.126	.080	.126	2.737	5	95	.024
2 (+ CO)	.518	.268	.221	.142	18.272	1	94	<.001
B. Generation								
1 (Controls)	.382	.146	.101	.146	3.247	5	95	.009
2 (+ CO)	.471	.221	.172	.075	9.104	1	94	.003
C. Promotion								
1 (Controls)	.273	.075	.026	.075	1.532	5	95	.187
2 (+ CO)	.437	.191	.139	.116	13.515	1	94	<.001
D. Implementation								
1 (Controls)	.312	.097	.050	.097	2.050	5	95	.079
2 (+ CO)	.462	.214	.164	.116	13.915	1	94	<.001

Note. CO = Cyber ostracism.

Table 9 presents regression coefficients for Model 2, which includes both controls and cyber ostracism as predictors. Cyber ostracism was a highly significant negative predictor of overall IWB, with  $\beta = -.384$ ,  $t = -4.275$ ,  $p < .001$ . The magnitude of this coefficient indicates a moderate negative effect, suggesting that each one standard deviation increase in cyber ostracism is associated with approximately 0.38 standard deviations decrease in IWB when controlling for demographic and work-related factors. This represents a substantive structural barrier effect.

**Table 9**

*Regression Coefficients for Cyber Ostracism Predicting IWB Overall and by Phase (Model 2) (n=101)*

Predictor	B	SE	$\beta$	t	p
IWB (overall)					
(Constant)	3.330	.492		6.774	<.001
Work Arrangement	.216	.143	.137	1.518	.132
Remote Tenure	-.116	.083	-.129	-1.401	.164

**Table 9 (continued)***Regression Coefficients for Cyber Ostracism Predicting IWB (Model 2) (n=101)*

Predictor	B	SE	$\beta$	t	p
IWB (overall)					
Job Level	.285	.094	.277	3.030	.003
Functional Area	-.032	.035	-.084	-.924	.358
Age Group	.062	.068	.088	.913	.363
Generation					
(Constant)	3.826	.565		6.767	<.001
Work Arrangement	.138	.164	.078	.840	.403
Remote Tenure	-.222	.095	-.221	-2.334	.022
Job Level	.333	.108	.290	3.077	.003
Functional Area	-.030	.040	-.070	-.747	.457
Age Group	.078	.078	.099	.992	.324
CO	-.274	.091	-.280	-3.017	.003
Promotion					
(Constant)	2.873	.626		4.588	<.001
Work Arrangement	.245	.182	.129	1.351	.180
Remote Tenure	-.003	.105	-.003	-.028	.978
Job Level	.182	.120	.146	1.516	.133
Functional Area	-.043	.045	-.092	-.960	.340
Age Group	.116	.087	.136	1.342	.183
CO	-.370	.101	-.348	-3.676	<.001
Implementation					
(Constant)	3.290	.615		5.346	<.001
Work Arrangement	.266	.178	.140	1.492	.139
Remote Tenure	-.123	.104	-.113	-1.186	.239
Job Level	.341	.118	.274	2.892	.005
Functional Area	-.024	.044	-.052	-.552	.582
Age Group	-.008	.085	-.009	-.088	.930
CO	-.369	.099	-.348	-3.730	<.001

Note. CO = Cyber ostracism.

Among control variables, job level again emerged as a significant positive predictor with  $\beta = .277$ ,  $t = 3.030$ ,  $p = .003$ , whilst other controls were not statistically significant.

**Results for IWB Phases.** Table 8 also presents model summaries for the three innovation phases, and Table 9 presents corresponding coefficients. Cyber ostracism significantly and negatively predicted all three phases of IWB.

For idea generation, adding cyber ostracism in Model 2 explained an additional 7.5% of variance, with  $\Delta F(1, 94) = 9.104$ ,  $p = .003$ . Cyber ostracism's standardised coefficient was  $\beta = -.280$ ,  $t = -23.017$ ,  $p = .003$ , indicating a moderate negative effect on the cognitive phase of innovation.

For idea promotion, cyber ostracism explained an additional 11.6% of variance, with  $\Delta F(1, 94) = 13.515$ ,  $p < .001$ . Cyber ostracism's standardised coefficient was  $\beta = -.348$ ,  $t = -3.676$ ,  $p < .001$ , representing the strongest negative

effect across phases and matching the effect size for implementation. This strong effect provides compelling evidence that exclusion from virtual meetings, email threads, and collaborative platforms substantially impairs employees' ability to champion ideas and secure stakeholder support.

For idea implementation, cyber ostracism explained an additional 11.6% of variance, with  $\Delta F(1, 94) = 13.915, p < .001$ . Cyber ostracism's standardised coefficient was  $\beta = -.348, t = -3.730, p < .001$ , matching the effect size for promotion.

The pattern of effects reveals theoretically meaningful phase-specific variations. Cyber ostracism showed equally strong negative relationships with idea promotion and implementation ( $\beta = -.348$  for both), compared to a somewhat weaker but still significant effect for idea generation ( $\beta = -.280$ ). This pattern suggests that structural barriers from digital exclusion most severely impair the socially intensive phases of innovation (promotion and implementation) which depend heavily on communication networks and collaborative infrastructure. The somewhat smaller but still significant effect on generation indicates that even the more cognitive phase of innovation suffers when employees lack access to information flows and diverse perspectives available through digital communication channels.

Controls variable patterns again showed that job level consistently predicted higher innovation behaviours, significant for generation ( $\beta = .290, p = .003$ ), implementation ( $\beta = .274, p = .0.05$ ), and marginally for overall IWB ( $\beta = .277, p = .003$ ). Remote work tenure negatively predicted generation ( $\beta = -.221, p = .022$ ), but not other phases.

**Summary for H4.** H4 received strong support across all tests. Cyber ostracism significantly and negatively predicted overall IWB and all three innovation phases, with effects ranging from moderate to moderately strong ( $\beta = -.280$  to  $-.384$ , all  $p < .001$ ). The findings demonstrate that cyber ostracism operates as direct barrier to innovation through structural mechanisms, with particularly strong effects on promotion and implementation ( $\beta = -.348$  for both) compared to generation ( $\beta = -.280$ ). This supports the interpretation that structural exclusion from digital infrastructure most severely impairs socially intensive innovation activities that depend on communication networks and collaborative platforms.

## 5.6 Hypothesis Testing: Moderation Analysis

This section presents hierarchical regression analyses testing whether cyber ostracism moderates the HAW-IWB relationship. H2 tests overall moderation, whilst

H3a-c test whether moderation effects vary across innovation phases based on differential social requirements and resource demands.

### 5.6.1 Analytical Approach

Moderation hypotheses were tested using three-step hierarchical multiple regression. Variables were mean-centred prior to creating interaction terms to reduce multicollinearity and facilitate interpretation. The analytical approach entered predictors in three blocks: Block 1 entered demographic and work-related controls; Block 2 added main effects of centred HAW and centred cyber ostracism; Block 3 added the interaction term (HAW x cyber ostracism). Significant incremental variance explained at Block 3 ( $\Delta R^2$ ) combined with a significant interaction coefficient would indicate moderation, meaning that the strength or direction of the HAW-IWB relationship depends on levels of cyber ostracism.

### 5.6.2 Hypothesis 2: Overall Moderation

H2 predicted that cyber ostracism would moderate the HAW-IWB relationship overall, such that the positive relationship between HAW and IWB would be weaker when cyber ostracism is high compared to when it is low.

Table 10 presents model summaries for the three-step hierarchical regression testing H2, and Table 11 presents regression coefficients for all three models. Model 1 with controls explained 12.6% of variance in IWB,  $\Delta F(5, 95) = 2.737$ ,  $p = .024$ . Model 2 adding main effects of HAW and cyber ostracism explained 39.1% of variance, representing a significant improvement with  $\Delta R^2 = .265$ ,  $\Delta F(2, 93) = 20.266$ ,  $p < .001$ . Both main effects were significant: HAW with  $\beta = .406$ ,  $t = 4.451$ ,  $p < .001$ , and cyber ostracism with  $\beta = -.212$ ,  $t = -2.322$ ,  $p = .022$ . These main effects replicate the findings from H1 and H4 analyses, confirming that both happiness and ostracism independently predict innovation when tested simultaneously.

**Table 10**

*Hierarchical Regression Model Summary for H2: Cyber Ostracism Moderation on HAW-IWB Overall (n=101)*

Model	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	$\Delta R^2$	$\Delta F$	df1	df2	p
IWB (overall)								
1 (Controls)	,355 <sup>a</sup>	,126	,080	,126	2,737	5	95	,024
2 (Main Effects)	,625 <sup>b</sup>	,391	,345	,265	20,266	2	93	<,001
3 (Interaction)	,626 <sup>c</sup>	,392	,340	,001	,175	1	92	,677

Model 3 adding the interaction term explained 39.2% of variance in IWB. The critical test for moderation is the  $\Delta R^2$  from Model 2 to Model 3. This change was .001, representing only 0.1% additional variance explained, and was not statistically significant with  $\Delta F(1, 92) = 0.175, p = .677$ . Table 11 shows that the interaction coefficient in Model 3 was not significant:  $\beta = .0039, t = 0.418, p = .677$ .

**Table 11**

*Moderated Regression Coefficients for H2: Cyber Ostracism on HAW-IWB Overall (n=101)*

Predictor	B	SE	$\beta$	t	p
Model 1					
(Constant)	2.702	.510		5.297	<.001
Work Arrangement	.167	.154	.106	1.084	.281
Remote Tenure	-.131	.090	-.145	-1.455	.149
Job Level	.292	.102	.284	2.858	.005
Functional Area	-.032	.038	-.084	-.850	.398
Age Group	.109	.073	.154	1.486	.141
Model 2					
(Constant)	3.471	.425		8.173	<.001
Work Arrangement	.165	.132	.105	1.252	.214
Remote Tenure	-.180	.077	-.199	-2.325	.022
Job Level	.281	.087	.273	3.226	.002
Functional Area	-.034	.032	-.089	-1.053	.295
Age Group	.045	.062	.063	.718	.475
HAW (centred)	.390	.088	.406	4.451	<.001
CO (centred)	-.186	.080	-.212	-2.322	.022
Model 3					
(Constant)	3.471	.426		8.142	<.001
Work Arrangement	.168	.133	.107	1.267	.208
Remote Tenure	-.181	.078	-.200	-2.330	.022
Job Level	.282	.087	.274	3.225	.002
Functional Area	-.033	.032	-.087	-1.028	.307
Age Group	.046	.063	.065	.732	.466
HAW (centred)	.39	.088	.406	4.423	<.001
CO (centred)	-.186	.081	-.212	-2.304	.023
HAW x CO	0.047	.113	.039	0.418	.677

Note. CO = Cyber ostracism.

The near-zero beta coefficient and high  $p$ -value provide clear evidence that cyber ostracism did not moderate the HAW-IWB relationship in this sample. Both HAW ( $\beta = .0406, p < .001$ ) and cyber ostracism ( $\beta = -.212, p = .023$ .) operated as independent predictors with additive rather than interactive effects. This suggests that the pathways through which happiness drives innovation and the barriers through which cyber ostracism impairs innovation function separately rather than interactively. Happy employees continued to innovate at similar levels regardless of

ostracism experiences, whilst ostracised employees showed reduced innovation regardless of happiness levels.

**Summary for H2.** H2 was not supported. The HAW x cyber ostracism interaction did not significantly predict IWB ( $\beta = .039, p = .677, \Delta R^2 = .001$ ), indicating that cyber ostracism did not moderate the HAW-IWB relationship at the overall level through psychological resource depletion mechanisms. Both constructs operated as independent main effects rather than interactively.

### **5.6.3 Hypotheses 3a-c: Phase-Specific Moderation Through Psychological Resource Depletion**

H3a-c predicted that cyber ostracism's moderation of the HAW-IWB relationship would vary across innovation phases. H3a predicted weakest moderation for idea generation (cognitive phase), H3b predicted strongest moderation for idea promotion (socially intensive phase), and H3c predicted intermediate moderation for idea implementation (coordination phase).

Phase-specific moderation hypotheses were tested using the same three-step hierarchical approach as H2, but with each IWB phase as the dependent variable in separate regression models. Tables 12-17 present results for idea generation, promotion, and implementation respectively.

**H3a: Idea Generation Moderation.** Table 12 presents model summaries and coefficients for the moderation analysis predicting idea generation. Model 1 with controls explained 14.6% of variance, with  $\Delta F(5, 95) = 3.247, p = .0009$ . Model 2 adding main effects explain 29.4% of variance, with  $\Delta R^2 = .148, \Delta F(2, 93) = 9.760, p < .001$ . Both main effects were significant: HAW with  $\beta = .0280, t = 2.866, p = .005$ , and cyber ostracism with  $\beta = -.0203, t = -2.044, p = .044$ .

Table 13 presents Model 3 adding the interactive term explained 29.4% of variance. The  $\Delta R^2$  from Model 2 to Model 3 was .000, representing no additional variance explained, and was not statistically significant with  $\Delta F(1, 92) = 0.015, p = .904$ . The interaction coefficient was  $\beta = -.0012, t = -0.121, p = .904$ , clearly non-significant.

**Table 12**

*Hierarchical Regression Model Summary for H3a: Cyber Ostracism Moderation in Generation Phase (n=101)*

Model	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	$\Delta R^2$	$\Delta F$	df1	df2	p
1 (Controls)	.382	.146	.101	.146	3.247	5	95	.009
2 (+ Main Effects)	.542	.294	.241	.148	9.76	2	93	<.001
3 (+ Interaction)	.542	.294	.237	.000	.015	1	92	.904

**Table 13**

*Regression Coefficients for Moderation Analysis for H3a: Cyber Ostracism on HAW-IWB in Generation Phase*

Predictor	B	SE	$\beta$	t	p
Model 3					
(Constant)	3.713	.506		7.337	<.001
Work Arrangement	.095	.158	.054	.601	.549
Remote Tenure	-.271	.093	-.270	-2.922	.004
Job Level	.336	.104	.292	3.24	.002
Functional Area	-.029	.038	-.068	-.761	.449
Age Group	.025	.075	.031	.331	.741
HAW (centred)	.301	.105	.28	2.866	.005
CO (centred)	-.199	.096	-.203	-2.070	.041
HAW x CO	-.016	.136	-.012	-0.121	.904

Note. CO = Cyber ostracism.

**H3b: Idea Promotion Moderation.** Table 14 presents results for idea promotion. Model 1 with controls explained 7.5% of variance, with  $\Delta F(5, 95) = 1.532$ ,  $p = .0187$ , not reaching significance. Model 2 adding main effects explain 33.9% of variance, with  $\Delta R^2 = .264$ ,  $\Delta F(2, 93) = 18.565$ ,  $p < .001$ . Both main effects were highly significant: HAW with  $\beta = 0.470$ ,  $t = 4.973$ ,  $p < .001$ , showing the strongest effect across all phases, and cyber ostracism with  $\beta = -0.242$ ,  $t = -2.552$ ,  $p = .012$ .

Table 15 presents Model 3 adding adds the interactive term explained 34.0% of variance. The  $\Delta R^2$  from Model 2 to Model 3 was .001, and was not statistically significant with  $\Delta F(1, 92) = 0.192$ ,  $p = .0662$ . The interaction coefficient was  $\beta = -0.042$ ,  $t = -0.438$ ,  $p = .662$ , clearly non-significant. Despite idea promotion being the most socially intensive phase where strongest moderation was predicted, H3b was not supported.

**Table 14**

*Hierarchical Regression Model Summary for H3b: Cyber Ostracism Moderation in Promotion Phase (n=101)*

Model	<i>R</i>	<i>R</i> <sup>2</sup>	Adjusted <i>R</i> <sup>2</sup>	$\Delta R^2$	$\Delta F$	<i>df</i> <sub>1</sub>	<i>df</i> <sub>2</sub>	<i>p</i>
1 (Controls)	.273	.075	.026	.075	1.532	5	95	.187
2 (+ Main Effects)	.582	.339	.288	.264	18.565	2	93	<.001
3 (+ Interaction)	.583	.34	.285	.001	.192	1	92	.662

**Table 15**

*Regression Coefficients for Moderation Analysis for H3b: Cyber Ostracism on HAW-IWB in Promotion Phase (n=101)*

Predictor	<i>B</i>	<i>SE</i>	$\beta$	<i>t</i>	<i>p</i>
Model 3					
(Constant)	3.3	.53		6.224	<.001
Work Arrangement	.188	.166	.099	1.136	.259
Remote Tenure	-.078	.097	-.071	-.805	.423
Job Level	.186	.108	.149	1.714	.09
Functional Area	-.045	.04	-.097	-1.125	.264
Age Group	.064	.078	.075	.815	.417
HAW (centred)	.547	.11	.47	4.973	<.001
CO (centred)	-.258	.101	-.242	-2.552	.012
HAW x CO	-.062	.143	-.042	-.438	.662

Note. CO = Cyber ostracism.

**H3c: Idea Implementation Moderation.** Table 16 presents results for idea implementation. Model 1 with controls explained 9.7% of variance, with  $\Delta F(5, 95) = 2.050$ ,  $p = .079$ , approaching but not reaching significance. Model 2 adding main effects explained 24.5% of variance, with  $\Delta R^2 = .148$ ,  $\Delta F(2, 93) = 9.119$ ,  $p < .001$ . Both main effects were significant: HAW with  $\beta = 0.311$ ,  $t = 3.111$ ,  $p = .003$ , and cyber ostracism with  $\beta = -0.260$ ,  $t = -2.585$ ,  $p = .011$ .

Table 17 presents Model 3 adding the interactive term explained 26.2% of variance. The  $\Delta R^2$  from Model 2 to Model 3 was .017, representing 1.7% additional variance, and approached but did not reach statistical significance with  $\Delta F(1, 92) = 2.235$ ,  $p = .0138$ . The interaction coefficient was  $\beta = .0150$ ,  $t = -1.495$ ,  $p = .138$ . While this represents the largest interaction effect across all four moderation tests and approached significance, it did not meet the conventional  $\alpha = .05$  threshold.

**Table 16**

*Hierarchical Regression Model Summary for H3c: Cyber Ostracism Moderation in Implementation Phase (n=101)*

Model	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	$\Delta R^2$	$\Delta F$	df1	df2	p
1 (Controls)	.312	.097	.050	.097	2.050	5	95	.079
2 (+ Main Effects)	.495	.245	.187	.148	9.119	2	93	<.001
3 (+ Interaction)	.512	.262	.198	.017	2.235	1	92	.138

**Table 17**

*Regression Coefficients for Moderation Analysis for H3c: Cyber Ostracism on HAW-IWB in Implementation Phase (n=101)*

Predictor	B	SE	$\beta$	t	p
Model 3					
(Constant)	3.400	0.559		6.082	<.001
Work Arrangement	0.213	0.175	.112	1.219	.226
Remote Tenure	-0.192	0.102	-.176	-1.886	.062
Job Level	0.322	0.114	.259	2.818	.006
Functional Area	-0.024	0.042	-.051	-0.564	.574
Age Group	0.036	0.083	.043	0.438	.662
HAW (centred)	0.361	0.116	.311	3.111	.003
CO (centred)	-0.276	0.107	-.260	-2.585	.011
HAW x CO	0.221	0.148	.150	1.495	.138

Note. CO = Cyber ostracism.

Notably, the direction of this interaction coefficient was positive rather than the predicted negative direction, suggesting a potential amplification rather than attenuation pattern, through the non-significant result prevents firm interpretation.

**Summary for H3a-c:** None of the phase-specific moderation hypotheses receive statistical support. H3a for idea generation was clearly not supported ( $\beta = -0.012$ ,  $p = .904$ ,  $\Delta R^2 = .000$ ). H3b for idea promotion, despite being the most socially intensive where strongest moderation was predicted, was not supported ( $\beta = -0.042$ ,  $p = .662$ ,  $\Delta R^2 = .001$ ). H3c for idea implementation showed the largest interaction effect across all tests ( $\beta = .0150$ ,  $p = .138$ ,  $\Delta R^2 = .017$ ), approaching but not reaching conventional statistical significance. The pattern across phases did not match theoretical predictions, as the largest effect emerged for implementation rather than promotion, and the direction was positive rather than negative for implementation.

Taken together with each H2 results, findings indicate that cyber ostracism did not moderate the HAW-IWB relationship through psychological resource depletion mechanisms at either the overall level or any specific innovation phase. The mechanisms through which happiness drives innovation appear robust to cyber

ostracism experiences in the sample, operating independently rather than being disrupted by psychological resource depletion from digital exclusion.

## 5.7 Summary of Hypothesis Testing Results

Table 18 provides a comprehensive summary of all hypothesis testing results, including key statistics for each hypothesis.

**Table 18**

*Summary of Hypothesis Testing Results for HAW, IWB and Cyber Ostracism*

*(n=101)*

Hypothesis	Contribution	Prediction	Key Statistics	Result
H1: HAW → IWB	Contribution 1: Testing HAW-IWB in hybrid contexts	Positive relationship overall and by phase	Overall: $\beta = .503, p < .001$ ; $\Delta R^2 = .225$ Generation: $\beta = .371, p < .001$ ; $\Delta R^2 = .122$ Promotion: $\beta = .523, p < .001$ ; $\Delta R^2 = .243$ Implementation: $\beta = .381, p < .001$ ; $\Delta R^2 = .129$	Fully Supported
H2: CO moderates HAW → IWB	Contribution 2: Psychological resource depletion mechanisms	Negative interaction (HAW-IWB relationship weakens at high cyber ostracism)	$\beta = .039, p = .677$ ; $\Delta R^2 = .001$	Not Supported
H3a: CO moderation weakest for generation	Contribution 2: Phase-specific psychological resource depletion	Smallest negative interaction for cognitive phase	$\beta = -.012, p = .904$ ; $\Delta R^2 = .000$	Not Supported
H3b: CO moderation strongest for promotion	Contribution 2: Phase-specific psychological resource depletion	Largest negative interaction for social phase	$\beta = -.042, p = .662$ ; $\Delta R^2 = .001$	Not Supported
H3c: CO moderation intermediate for implementation	Contribution 2: Phase-specific psychological resource depletion	Intermediate negative interaction for coordination phase	$\beta = -.150, p = .138$ ; $\Delta R^2 = .017$	Not Supported

**Table 18 (continued)***Summary of Hypothesis Testing Results for HAW, IWB and Cyber Ostracism**(n=101)*

Hypothesis	Contribution	Prediction	Key Statistics	Result
H4: CO → IWB	Contribution 2: Structural barrier mechanism	Negative direct effect overall and by phase	Overall: $\beta =$ -.384***, $p < .001$ ; $\Delta R^2 = .142$ Generation: $\beta =$ -.280**, $p < .001$ ; $\Delta R^2 = .075$ Promotion: $\beta =$ -.348***, $p < .001$ ; $\Delta R^2 = .116$ Implementation: $\beta =$ -.348***, $p < .001$ ; $\Delta R^2 = .116$	Fully Supported

*Note.* \*\*\* $p < .001$ , \*\* $p < .01$ , \* $p < .05$ . CO = Cyber ostracism.

## 5.8 Conclusion

This chapter presented results examining two main theoretical contributions through quantitative analysis from 101 experienced hybrid and remote workers.

**First Main Contribution: HAW-IWB Relationship in Hybrid Contexts.** H1 received strong and consistent support across all tests. HAW significantly predicted overall IWB ( $\beta = .503$ ,  $p < .001$ , explaining 22.5% additional variance beyond controls) and across all three innovation phases. Effects were strongest for idea promotion ( $\beta = .523$ ,  $p < .001$ , explaining 24.3% additional variance), followed by idea implementation ( $\beta = .381$ ,  $p < .001$ , explaining 12.9% additional variance) and idea generation ( $\beta = .371$ ,  $p < .001$ , explaining 12.2% additional variance). These findings provide compelling evidence that positive emotions continue to drive innovation in digitally mediated contexts. The particular strong effect for promotion suggests that happiness may be especially beneficial when employees must engage in socially intensive activities requiring persuasion and coalition-building, even when these interactions occur primarily through digital channels. This confirms that the mechanisms through which happiness operates translate effectively to virtual context, addressing the critical theoretical question of whether established relationships hold when social interaction is fundamentally altered by technology.

**Second Main Contribution: Cyber Ostracism Through Dual Mechanisms.** Results reveal divergent support for the two proposed mechanisms. H4, testing structural barrier mechanisms, received strong and consistent support. Cyber ostracism significantly predicted reduced IWB ( $\beta = -.384$ ,  $p < .001$ , explaining 14.2%

additional variance beyond controls) and across all three phases. Effects were equally strong for idea promotion and implementation ( $\beta = -.348$  for both,  $p < .001$  for both, explaining 11.6% additional variance). These findings provide compelling evidence that cyber ostracism operates as a direct structural impediment to innovation by eliminating access to communication networks, information flows, and collaborative infrastructure. The particularly strong effects for promotion and implementation suggest that structural exclusion from digital infrastructure most severely impairs socially intensive innovation activities that depend on communication channels and collaborative platforms.

Conversely, H2 and H3a-c, testing psychological resource depletion through moderation, were not supported. The HAW x cyber ostracism interaction was non-significant for overall IWB ( $\beta = .039$ ,  $p = .677$ ,  $\Delta R^2 = .001$ ), indicating that cyber ostracism did not moderate the HAW-IWB relationship at the aggregate level. Phase-specific moderation hypotheses were similarly unsupported: idea generation ( $\beta = -.012$ ,  $p = .904$ ,  $\Delta R^2 = .000$ ), idea promotion ( $\beta = -.042$ ,  $p = .662$ ,  $\Delta R^2 = .001$ ), and idea implementation ( $\beta = .150$ ,  $p = .138$ ,  $\Delta R^2 = .017$ , approaching but not reaching significance). The pattern of results suggests that cyber ostracism operates primarily through structural barrier mechanisms rather than psychological resource depletion mechanisms in this sample.

Both HAW and cyber ostracism functioned as independent predictors with additive effects: happy employees continue to innovate regardless of ostracism levels, whilst ostracised employees showed reduced innovation regardless of happiness levels. This indicates separate rather than interactive pathways, with happiness generating resources for innovation whilst cyber ostracism eliminates structural access to innovation infrastructure. The lack of interaction suggests that the mechanisms through which happiness drives innovation remain robust even when employees experience digital exclusion, operating independently rather than being distributed by psychological resource depletion.

**Methodological Considerations.** Several factors inform interpretation of null moderation findings. The relatively low levels of cyber ostracism in this sample ( $M = 1.86$ ,  $SD = 0.67$  on a 5-point scale) may have constrained power to detect moderation effects, as restricted range can attenuate interaction effects. The sample size of 101, whilst adequate for main effects, was somewhat below ideal for detecting interactions, particularly small-to-moderate effect sizes. The cross-sectional design captures relationships at a single point in time, potentially missing dynamic

processes through which psychological resource depletion from sustained ostracism might accumulate to eventually disrupt happiness-innovation pathways. These limitations suggest caution in concluding that psychological mechanisms do not operate; they may emerge at higher ostracism levels, in larger samples, or over long time periods.

All measurement instruments demonstrated excellent reliability (Cronbach's  $\alpha$  ranging from .817 to .920), supporting the validity of findings. The sample comprised experienced remote workers, with 80.2% having more than 3 years' remote work experience, ensuring participants possessed sufficient exposure to virtual work dynamics. The balanced representation across mid-level and senior-level roles (47.5% and 48.5% respectively) provided an appropriate sample for examining innovation behaviours that typically require autonomy and organisational influence.

In summary, this chapter provided evidence for the study's first main contribution by demonstrating that HAW robustly predicts IWB in hybrid and remote work environments, and provided evidence for the study's second main contribution by demonstrating that cyber ostracism operates primarily through structural barrier mechanisms that directly reduce innovation by eliminating access to digital infrastructure, rather than through psychological resource depletion mechanisms that would moderate the happiness-innovation relationship. Chapter 6 interprets these findings in relation to existing theory, discusses practical implications for organisations navigating digital transformation, acknowledges study limitations, and proposes directions for future research.

## Chapter 6: Discussion of Results

### 6.1 Introduction

This chapter presents a comprehensive interpretation of the empirical findings examining the relationships between happiness at work (HAW), innovation work behaviour (IWB), and cyber ostracism among remote and hybrid workers. As presented in Chapter 5, results revealed strong support for both main contributions. First, HAW significantly predicted IWB (H1:  $\beta = .503$ ,  $p < .001$ ), confirming that established relationships translate to hybrid contexts. Second, cyber ostracism operated through structural barrier mechanisms (H4:  $\beta = -.384$ ,  $p < .001$ ) rather than psychological resource depletion mechanisms, as moderating hypotheses were not supported (H2, H3a-c: all non-significant). This pattern suggests HAW and cyber ostracism function independently through additive pathways: happiness provides internal psychological resources whilst inclusion provides external structural access, with both necessary but neither sufficient for optimal innovation.

Section 6.2 discusses the HAW-IWB relationship, exploring theoretical mechanisms and implications across innovation phases. Section 6.3 addresses the unexpected null finding for the moderation hypothesis, examining possible explanations and theoretical implications. Section 6.4 examines cyber ostracism's direct effects and Section 6.5 synthesises these findings into an integrated theoretical understanding. Section 6.6 articulates practical implications and Section 6.7 details theoretical contributions to the literature. Finally, Sections 6.8-6.9 acknowledge limitations and propose directions for future research. Section 6.10 concludes the chapter.

### 6.2 First Main Contribution: HAW-IWB in Hybrid Contexts (H1)

H1 received robust empirical support, with HAW demonstrating substantial positive impact on overall IWB ( $\beta = .503$ ,  $p < .001$ ,  $\Delta R^2 = .225$ ), after controlling for demographic and work factors. The medium-to-large effect indicates that each one standard deviation increase in HAW associates with approximately half a standard deviation increase in IWB, providing strong evidence that POS predictions extend robustly to hybrid and remote contexts.

When traditional job resources, such as spontaneous social support, ambient awareness, and informal mentoring, are attenuated by physical distance, personal affective resources become disproportionately influential for discretionary behaviours like innovation. Happy employees may better navigate digital

communication constraints, persist through technology-mediated collaboration frustrations, and maintain confidence despite reduced face-to-face validation.

**Phase-Specific Patterns.** Effects varied meaningfully across innovation phases: idea promotion strongest ( $\beta = .523$ ,  $\Delta R^2 = .243$ ), followed by implementation ( $\beta = .381$ ,  $\Delta R^2 = .129$ ) and idea generation ( $\beta = .371$ ,  $\Delta R^2 = .122$ ). The elevation for promotion, requiring employees to advocate for innovations, mobilise support, and navigate organisational politics, is notable given this phase's inherently interpersonal nature. In remote contexts where face-to-face interaction is limited and digital communication reduces social presence, employees with higher HAW may be better positioned to overcome barriers through increased persistence in advocacy efforts, creativity in finding alternative influence routes, confidence in persuasive ability despite digital mediation, and optimistic interpretation of ambiguous digital feedback.

The consistent effects across implementation and generation indicate HAW facilitates innovation broadly, but promotion's elevation suggests positive affect particularly enhances motivational and interpersonal competencies required for this phase. This validates investments in employee well-being initiatives for distributed workforces, providing empirical evidence that fostering HAW yields meaningful innovation benefits despite virtual work challenges.

### **6.3 Second Main Contribution Part A: Null Moderation Findings (H2, H3a-c)**

H2 and H3a-c predicted cyber ostracism would moderate the HAW-IWB relationship through psychological resource depletion, with the positive relationship weakening at high ostracism levels. These hypotheses were not supported. The overall interaction accounted for minimal variance ( $\beta = .039$ ,  $p = .677$ ,  $\Delta R^2 = .001$ ), and phase-specific interactions were similarly non-significant (generation:  $\beta = -.012$ ,  $p = .904$ ; promotion:  $\beta = -.042$ ,  $p = .662$ ; implementation:  $\beta = .150$ ,  $p = .138$ ).

This null finding is theoretically significant because it contradicts intuitive expectations that digital exclusion would undermine happiness-innovation pathways. The theoretical logic appeared compelling: if cyber ostracism threatens fundamental needs (belonging, self-esteem, control, meaningful existence) per need-threat theory (Williams, 2009), these threats should consume cognitive and emotional resources that enable happy employees to innovate. According to COR theory, resource loss from need threats should be particularly salient, potentially overwhelming resource gains from positive affect.

Several explanations warrant consideration.

**Domain Specificity of Resources.** HAW represents primarily affective-motivational resources residing within individuals, namely energy, enthusiasm, cognitive flexibility, and intrinsic motivation. Cyber ostracism's psychological effects may threaten different resources or operate through sufficiently distinct pathways that do not interfere with HAW's mechanisms. An employee can simultaneously experience positive affect about work accomplishments whilst experiencing distress about social exclusion, but these operate in parallel rather than exclusion negating positive affect.

**Temporal Dynamics.** HAW captured relatively stable trait-like well-being over recent weeks, whilst cyber ostracism may operate more episodically with acute distress during specific exclusion events but not necessarily undermining longer-term work happiness. Employees may experience acute distress when excluded from a specific meeting but return to baseline positive affect once the episode passes, allowing stable HAW to continue facilitating innovation.

**Threshold Effects.** Psychological resource depletion may require severe, chronic ostracism not captured by linear interaction terms. The relatively low cyber ostracism levels in this sample ( $M = 1.86$  on 5-point scale) may remain below thresholds necessary for meaningful depletion. Occasional digital exclusion may be annoying but not sufficiently severe to consume resources necessary for innovation, with moderation emerging only at sustained, severe levels.

**Adaptive Coping.** Employees may employ effective coping strategies, such as cognitive reframing attributing exclusion to technical issues, social compensation strengthening other relationships, and task focus channelling energy into work, that prevent ostracism from depleting resources to predicted degrees. If happy employees possess greater psychological resources for effective coping, ostracism might create distress without depleting specific resources necessary for innovation.

The null moderation finding may represent the study's most important contribution regarding cyber ostracism, precisely because it disconfirms predictions. It suggests cyber ostracism does not operate primarily through psychological resource depletion mechanisms that would moderate HAW-IWB relationships. Instead, as discussed next, cyber ostracism operates through structural barriers, a conceptually distinct mechanism with different intervention implications.

#### **6.4 Second Main Contribution Part B: Structural Barrier Mechanisms (H4)**

H4 proposed cyber ostracism would directly impair IWB through structural barriers eliminating access to digital infrastructure necessary for innovation. This

hypothesis received robust support: cyber ostracism significantly predicted reduced IWB overall ( $\beta = -.384, p < .001, \Delta R^2 = .142$ ) and across all phases (generation:  $\beta = -.280, p = .009$ ; promotion:  $\beta = -.348, p < .001$ ; implementation:  $\beta = -.348, p < .001$ ).

The substantial magnitude demonstrates that structural exclusion from digital networks independently impairs innovation regardless of happiness levels, motivational states, or psychological resources. An employee can possess abundant internal capacity through high HAW yet be unable to innovate when structurally excluded from communication channels, information flows, and collaborative platforms where innovation processes unfold.

**Phase-Specific Structural Barriers.** The equal magnitude of effects on promotion and implementation (both  $\beta = -.348$ ) compared to generation ( $\beta = -.280$ ) supports the structural barriers framework. Cyber ostracism impairs all phases, but socially embedded phases requiring extensive communication and coordination are particularly vulnerable.

For idea promotion, inherent requirements include accessing organisational networks to identify stakeholders, communicating persuasively to build coalitions, navigating influence channels to secure resources, and maintaining visibility to keep ideas on decision makers' agendas. In remote context, these occur almost entirely through digital channels, such as email, virtual meetings, collaboration platforms, and messaging systems. When systematically excluded by being left off email lists, not invited to meetings, ignored in platforms, and receiving no message responses, employees face concrete impossibilities from promotional activities. They literally cannot reach necessary people and forums regardless of motivation or skill.

For idea implementation, sustained coordination across parties, iterative feedback for refinement, resource mobilisation from various units, and stakeholder alignment are necessary. These depend fundamentally on inclusive communication where all relevant parties access shared information, participate in decisions, contribute feedback, and coordinate dependencies. Cyber ostracism creates barriers by excluding individuals from project management systems, feedback channels, coordination meetings, and documentation systems. Excluded employees simply cannot execute necessary multi-party coordination.

For idea generation, whilst appearing primarily individual and cognitive, it actually depends substantially on informational access through digital communication to aid learning about problems from customer communications,

discovering opportunities from market intelligence, gaining inspiration from colleagues' projects, and accessing technical knowledge from shared systems. Cyber ostracism restricts these inputs. The somewhat smaller effect suggests employees can still generate some ideas from existing knowledge, but quality, relevance, and novelty suffer from restricted information access.

**Critical Theoretical Insight.** H4's support combined with H2/H3a-c null findings demonstrate cyber ostracism in remote context operates primarily through structural barriers rather than psychological resource depletion. Whilst ostracism can certainly create psychological distress, this is not the primary pathway impairing innovation. Instead, direct elimination of access to communication networks, information flows, and collaborative infrastructure represents the dominant mechanism. This distinction has profound implications. Interventions must focus on preventing structural exclusion and ensuring inclusive digital communication rather than solely providing psychological support to help ostracised employees cope.

### **6.5 Integrated Understanding: Additive Resource Model**

The overall pattern demonstrates HAW and cyber ostracism operate through largely independent, additive pathways. HAW accounts for 22.5% unique variance in IWB beyond controls and ostracism, whilst cyber ostracism accounts for 14.2%, unique variance beyond controls and HAW. Their interaction contributes less than 0.1, indicating mechanisms operate independently without conditioning each other's effects.

**Affective-Motivation Pathway (HAW).** Operates within individuals, providing psychological fuel enabling innovation through cognitive broadening, intrinsic motivation, persistence, and confidence. These resources reside internally and function relatively independently of immediate social circumstances, enabling happy employees to innovate regardless of inclusion status.

**Structural-Infrastructural Pathway (Cyber Ostracism).** Operates through positions in communication networks rather than internal states. Inclusion provides access to information about problems or opportunities (generation), communication channels to reach stakeholders (promotion), and collaborative platforms for coordination (implementation). Exclusion eliminates these external resources necessary for innovation to unfold, creating tangible barriers operating independently of psychological states.

Several factors may explain this pattern in remote context.

**Digital Decoupling.** Remote work may partially decouple psychological and social processes. In physical offices, affective states and social interactions are continuously intertwined through immediate reciprocal feedback. Remote work reduces this through asynchronous communication, reduced affective visibility, and delayed feedback. Employees can experience positive affect from work accomplishments whilst digitally excluded, as experiences occur in separate contexts without immediate influence.

**Structural Mechanisms More Proximal.** Being excluded from digital communications means literally not receiving necessary information, truly being unable to communicate with stakeholders, and genuinely lacking coordination access. These structural barriers represent immediate, proximal constraints operating regardless of psychological distress. Whilst psychological distress occurs, structural barriers may be more directly causally linked to innovation impairment.

**Low Ostracism Severity.** The relatively low mean ostracism ( $M = 1.86$ ) may indicate experiences not severe enough to create meaningful psychological depletion whilst still creating structural barriers. Minor exclusion creates immediate structural impediments, such as missing specific information, but may not create severe distress requiring substantial resource investment.

**Functional Non-Overlap.** HAW represents affective-motivational resources addressing internal capacity and drive to innovate. Cyber ostracism represents social-relational resources addressing external access and opportunities. Because these serve fundamentally different functions, internal capacity versus external access, threats to one do not necessarily deplete the other. This represents an important boundary condition for COR's theory predictions about resource interactions.

## **6.6 Practical Implications**

Whilst the study's correlation design precludes direct causal claims or intervention testing, the findings suggest several practical directions for organisations managing remote innovation. The following implications integrate the study's correlation findings with established literature on remote work management, job design, and digital inclusion, representing theoretically-informed hypotheses for organisational practice rather than empirically validated interventions. Future intervention research should test whether these approaches effectively enhance innovation outcomes in distributed work environments.

### **6.6.1 The Dual-Strategy Imperative**

The study's most direct practical implication stems from the additive pattern: HAW and cyber ostracism independently predict IWB without interaction. This suggests organisations managing remote and hybrid workforces may benefit from dual strategies simultaneously addressing well-being and structural inclusion, as neither compensates for deficits in the other. Employees experiencing both high HAW and comprehensive structural inclusion achieve optimal innovation outcomes, as both represent necessary but insufficient conditions operating through non-substitutable pathways.

**Enhancing HAW in Remote Contexts.** Given HAW's substantial positive predictive relationship with IWB ( $\beta = .503$ , accounting for 22.5% unique variance), organisations may benefit from well-being enhancement strategies. Whilst the study measured HAW as an outcome rather than testing its antecedents, research on remote work well-being suggest that meaningful work design incorporating autonomy, skill utilisation, and task variety may support HAW in distributed contexts (Mura et al., 2024; Crawford, 2022). Such design could provide clear task significance connecting individual contributions to meaningful outcomes and organisational goals.

Research on remote work challenges indicates that connections between individual efforts and broader outcomes may be less visible due to physical separation (Jaiswal & Prabhakaran, 2023). Organisations might consider creating transparency about impact through regular communications highlighting how work contributes to organisational success, dashboards displaying metrics connecting activities to outcomes, storytelling about innovation value creation, and recognition systems explicitly linking efforts to results.

**Preventing Cyber Ostracism Through Structural Inclusion.** Given cyber ostracism's substantial negative relationship with IWB ( $\beta = -.384$ , accounting for 14.2% unique variance) operating primarily through structural barriers rather than psychological mechanisms, organisations may benefit from proactive inclusion measures. Research on digital inclusion and virtual team management suggests that establishing protocols for inclusive digital communication, monitoring participation patterns to identify exclusion, providing training on inclusive virtual leadership, and creating accountability mechanisms for managers may help ensure equitable treatment of remote and hybrid workers (Adjo et al., 2021; Viererbl et al., 2022).

### **6.6.2 Phase-Specific and Vulnerable Population Support**

The study found that both HAW and cyber ostracism showed strongest effects on idea promotion ( $\beta = .523$  and  $\beta = -.348$  respectively), suggesting that this phase may be particularly sensitive to both affective resources and structural barriers in remote contexts. These findings suggest organisations might benefit from infrastructure specifically supporting proposed promotional activities in remote settings. Potential approaches warranting future testing include formal channels for idea promotion such as virtual innovation pitch sessions, dedicated channels in collaboration platforms specifically for sharing with explicit acknowledgment norms, innovation showcases celebrating successful innovations, and innovation ambassador programmes where designated individuals champion others' ideas (Mascareño et al., 2021; Nguyen & Malik, 2021).

Research on virtual communication effectiveness indicates that digital persuasion requires different skills than face-to-face advocacy (Gammarano et al., 2024). Employees may benefit from skill development in crafting compelling written proposals adapted for asynchronous consumption, using video effectively for persuasive communication, navigating digital meeting dynamics to gain attention, building informal influence through digital networking, and persisting through communication barriers. Promotional opportunities should be transparent and accessible regardless of location or network position, potentially through clear pathways for ideas submission, structured opportunities rather than relying on informal conversations that may disadvantage remote workers, and diverse employee representation in innovation governance. Responsive feedback mechanisms may help ensure ideas are acknowledged even when not adopted, with explanations of decision-making criteria and encouragement to refine and resubmit.

For idea implementation, research suggests cross-functional virtual collaboration protocols may facilitate resource access and coordination through clear role definitions, project management platforms providing transparency about progress and dependencies, and regular synchronous collaboration sessions (Ahmad et al., 2023; Saha & Kumar, 2018). Designated implementation champions might help ensure stakeholders engagement, identify barriers, and facilitate coordination, though such approaches require empirical evaluation.

For idea generation, organisational creativity research suggests conditions that may foster positive affect include recognition programmes celebrating creative efforts, protected time for idea generation, exposure to diverse stimuli through virtual

knowledge sharing, and psychological safety for proposing novel ideas (Rosario, 2024).

### **6.6.3 Infrastructure and Leadership**

While the study did not measure leadership behaviours directly, leaders likely play mediating roles in both fostering HAW and preventing cyber ostracism. Leadership development programmes should emphasise inclusive digital leadership capabilities including recognising and preventing digital exclusion patterns, ensuring equitable participation the virtual meetings through active facilitation, deliberately including perspectives from all team members in decision making, and intervening when observing exclusionary behaviour.

Effective leadership in remote contexts may require skills to monitor and support employee well-being when traditional indicators are less observable, including recognising signs of distress from limited digital cues, conducting effective well-being check-ins that create psychological safety for sharing challenges, connecting employees to well-being resources, and modelling healthy practices. Innovation facilitation may involve supporting all three innovation phases with particular attention to promotional activities, creating psychological safety by responding constructively to failed ideas, providing resources and removing obstacles, and connecting innovators with relevant stakeholders.

At the policy level, organisations might consider embedding well-being and inclusion priorities into formal structures and accountability mechanisms. This could include codifying digital inclusion expectations through specific policies addressing digital communication inclusivity with clear expectations for response time frames, criteria for including individuals in meetings, transparency requirements for decision making, and consequences for repeated exclusionary behaviour. Recognising innovation efforts alongside outcomes may help ensure ostracised employees' contributions remain visible even when innovations fail to advance due to structural barriers. Providing recourse mechanisms including confidential reporting channels, timely investigation of ostracism complaints, and protection against retaliation represents another potential organisational response warranting empirical evaluation.

Research on asynchronous collaboration (Lenz et al., 2024) suggests organisations might balance synchronous and asynchronous work by specifying core collaboration hours for synchronous meetings whilst protecting time for focused asynchronous work, with guidelines helping teams determine appropriate

communication modes. The effectiveness of technology infrastructure is likely foundational to all interventions, with high quality, user-friendly communication platforms, comprehensive training, and ongoing technical support potentially preventing exclusion due to technological barriers.

## **6.7 Theoretical Contributions**

### **6.7.1 First Contribution: HAW-IWB in Remote Contexts**

The effect size observed was substantial, with HAW's standardised coefficient ( $\beta = .503$ ) representing a large effect and accounting for 22.5% of unique variance, confirming the relationship holds in digital environments. This indicates HAW assumes heightened importance when traditional job resources are attenuated by physical distance, validating POS paradigm's extension to digital context. The differential effects across phases (strongest for promotion:  $\beta = .523$ ) demonstrate HAW provides comprehensive resources affecting cognitive capacity, motivational orientation, and interpersonal effectiveness, with particular benefits for socially demanding innovation activities.

### **6.7.2 Second Contribution: Cyber Ostracism as Structural Barrier**

The study advances cyber ostracism theory by demonstrating it operates primarily through structural barriers rather than psychological resource depletion and remote context. Whilst previous ostracism research emphasised psychological pathways through need threads, the study shows that in digital environments where communication constitutes primary infrastructure, structural consequences such as the literal inability to access information, reach stakeholders, and participate in coordination, may be more important than psychological consequences. This represents a critical refinement suggesting cyber ostracism theory should incorporate dual pathways (psychological and structural) with different intervention implications.

### **6.7.3 Additive Resources Model**

The findings support an additive model where optimal innovation requires multiple resource domains simultaneously satisfied, with each necessary but none sufficient. This challenges compensatory models assuming surpluses in one resource compensates for deficits, and COR theory's general interaction predictions. The study establishes boundary conditions: when resources are highly differentiated (affective-motivational versus social cultural), operating at different levels (individual states versus network positions), addresses different functions (internal capacity versus external access), and operating through different mechanisms (psychological

versus structural), additive effects may dominate over interactive effects. This refinement suggests resource theory should specify conditions defining when interaction versus additive patterns emerge.

#### **6.7.4 Innovation Process Theory Extension**

The study demonstrated Scott and Bruce (1994) and Janssen's (2000) three-phase model remains relevant in remote context whilst revealing that idea promotion becomes a particularly critical bottleneck. Both HAW and cyber ostracism showed the strongest effects on promotion, suggesting digital environments reduce informal promotional activities making formal promotional activities more critical. This has practical implications for targeting innovation support on promotional activities in remote contexts.

#### **6.8 Limitations**

Whilst the findings provide important evidence regarding the relationship between HAW, cyber ostracism, and IWB in remote contexts, several considerations constrain interpretation and application. The cross-sectional design establishes associations but cannot determine causality. The strong main effects observed for both HAW and cyber ostracism could reflect reverse causality where innovation successes increase HAW through satisfaction and recognition, whilst innovation struggles increase ostracism sensitivity as colleagues exclude unsuccessful employees from discussion. Reciprocal causation is equally plausible, with initial HAW facilitating innovation that reinforces well-being, creating upward spirals captured at a single timepoint. Longitudinal research with multiple measurement waves would clarify temporal precedence and dynamic processes, whilst experimental designs would provide strongest causal evidence despite practical constraints.

The null moderation findings require cautious interpretation given statistical power limitations. Whilst  $n=101$  was adequate for detecting the medium main effects observed, interaction effects typically require samples of greater participant size for adequate power (Hair, 2010). The very small interaction coefficient and high p-values suggest that if moderation exists, it is trivial in magnitude. The findings confidently demonstrate additive main effects dominate, but small interactions remain possible. Additionally, linear interaction terms cannot detect threshold effects; perhaps cyber ostracism moderates HAW-IWB only at severe levels. The relatively low mean ostracism ( $M = 1.86$ ) may have constrained detection of effects operating only at high severity.

Self-report measurement of all variables creates potential common method variance inflating correlations through shared response styles, social desirability, mood effects, and retrospective recall. Whilst procedural remedies were employed, these only partially mitigate concerns. The particularly strong HAW effect on promotion could reflect genuine facilitation of socially intensive activities or measurement artifacts if promotion items were more susceptible to mood-congruent recall biases. Multi-source designs collecting supervisor-rated IWB would reduce common method concerns, though introducing other complexities including rater bias, visibility issues in remote contexts, and attributional challenges.

The additive pattern and structural mechanism dominance may be specific to construct operationalisations employed. The composite HAW measure combining engagement, satisfaction, and commitment may function differently than any single well-being dimension in isolation. Work engagement might be more vulnerable to ostracism disruption than general satisfaction, creating moderation for specific dimensions. Similarly, the general cyber ostracism measure capturing subtle exclusion may operate differently than severe digital mistreatment including explicit rejection or public humiliation, which might produce stronger psychological mechanisms and moderation effects not detected here.

Sample composition establishes important generalisability boundaries. Predominately hybrid workers (83.2%) with extensive work experience (80.2% more than 3 years), concentrated in knowledge work at mid-to-senior levels (96%), limit generalisability to fully remote workers, new employees, junior staff, operational roles where innovation is less central, and different cultural contexts. The sample suggests caution in assuming generalisability given these dimensions that may shape these relationships differently across contexts.

Several unmeasured variables create potential confounds. Personality traits including extraversion, conscientiousness, and trait positive affectivity, could simultaneously predict HAW, shape ostracism experiences, and influence IWB independently. Organisational culture likely moderates observed relationships such that effects vary across contexts. Team dynamics and individual innovation capability may influence relationships in ways not captured. These unmeasured factors such as caution and causal attribution and indicate relationships may be contingent on factors not examined.

## 6.9 Future Research Directions

Building on findings and limitations, several directions would advance theoretical understanding and practical applications. Longitudinal research examining how HAW, cyber ostracism, and IWB evolve over time would clarify whether resource spirals operate as predicted, with HAW fostering innovation which then builds additional well-being through accomplishment and recognition, or whether negative spirals emerge when ostracism impairs innovation leading to further exclusion. Research should examine temporal lags to determine whether effects are immediate or cumulative, whether acute ostracism spikes differ from chronic low-level exclusion, and whether the effects accumulate or dissipate over time.

Experience sampling capturing daily fluctuations would illuminate within-person processes, revealing whether higher-than-usual daily HAW predicts same-day innovation, whether ostracism experiences immediately suppress innovation or accumulate gradually, or how affective responses to exclusion evolved into innovation impairment. Longitudinal designs would clarify whether cyber ostracism's mechanisms shift from structural to psychological over sustained exposure, testing whether moderation effects emerge over time despite being absent cross-sectionally.

Mechanisms research through mediation analyses would clarify pathways through which HAW enhances and ostracism impairs innovation. For the HAW-IWB pathway, potential mediators include intrinsic motivation, cognitive flexibility and attention breadth, innovation self-efficacy, risk tolerance, and persistence. Testing these simultaneously would reveal whether HAW primarily operates through motivational, cognitive, or self-regulatory mechanisms, informing more targeted interventions.

For the cyber ostracism-IWB pathways, mediation test should examine threatened psychological needs, information access denial, social capital erosion, negative affect and rumination, and psychological safety. Clarifying dominant mechanisms would determine whether interventions should provide alternative information channels (if information access mediates), psychological resilience support (if need threats mediate), or structural network access (if social capital mediates).

Moderator research would specify boundary conditions determining when observed patterns strengthen, weaken, or reverse. Individual difference including personality traits, motivational orientations, and digital nativity may condition effects.

Contextual factors including organisational climate, psychological safety, task interdependence, communication technology quality, and work arrangements specifics likely moderate relationships. Testing these would move theory beyond general predictions towards conditional theories specifying circumstances shaping workplace dynamics.

Intervention research should evaluate organisational practices addressing cyber ostracism and enhancing innovation. Studies could test whether technology-based solutions including mandatory inclusion protocols, algorithm-driven equitable information distribution, or transparency dashboards showing communication patterns reduce ostracism and improve innovation. Training interventions targeting remote leaders could be evaluated for effectiveness in changing behaviours that prevent exclusion.

Experimental research manipulating ostracism in controlled settings would establish causality and dose-response relationships, whilst field experiments would provide ecological validity. Qualitative approaches including interviews with ostracised remote workers and organisational case studies would illuminate subjective experiences and contextual factors quantitative measures miss.

Computational methods analysing digital communication traces could objectively measure ostracism through network analysis of email exchanges, meeting participation, and collaboration patterns, addressing common method variance whilst providing fine-grained temporal resolution showing how exclusive patterns evolve.

## **6.10 Conclusion**

The study examined relationships between happiness at work, cyber ostracism, and innovative work behaviour among remote and hybrid workers, demonstrating that HAW and cyber ostracism each substantially influence innovation but operate through independent, additive pathways rather than interacting as initially hypothesised.

HAW showed robust positive effects on IWB overall and across all three innovation phases, with particularly strong effects on idea promotion. This highlights HAW as a critical personal resource enabling remote employees to engage in the demanding work of innovation despite challenges of digital work environments. Cyber ostracism demonstrated substantial negative effects on IWB, with particularly strong impairment of idea promotion and implementation. In remote context, cyber ostracism operates both as a psychological threat to fundamental needs and as a

structural barrier directly preventing collaborative exchanges necessary for innovation.

Contrary to theoretical predictions, cyber ostracism did not moderate the HAW-IWB relationship. This null finding suggests that affective resources and relational resources serve distinct, non-substitutable functions in enabling innovation. Employees need both positive well-being and inclusion communication for optimal innovation, as neither compensates for deficits in the other.

These findings carry important practical implications for organisations managing remote workforces. To foster innovation, organisations must pursue dual strategies of enhancing employee well-being through meaningful work, supportive leadership, and autonomy whilst simultaneously preventing cyber ostracism through inclusive communication norms, ostracism awareness, monitoring for exclusion, and leader accountability. Phase-specific support is particularly warranted for idea promotion, the innovation phase most sensitive to both HAW and ostracism.

Theoretically, the study contributes an additive resource model for remote innovation, extends innovation process theory to digital context by demonstrating differential face sensitivities, and advances understanding of cyber ostracism as both psychological threat and structural barrier. The null moderation finding serves as an important theoretical contribution, suggesting boundary conditions for resource interaction theories and highlighting the domain specificity of workplace resources.

Whilst limitations including cross-sectional design, common method variance, and sample characteristics warrant cautious interpretation, the study provides valuable empirical evidence regarding the independent pathways through which HAW and inclusion shape innovation in increasingly digital work environments. As remote and hybrid work arrangements become permanent features of the organisational landscape rather than temporary responses to crisis, understanding how to maintain both employee well-being and innovative capacity in distributed teams becomes increasingly critical.

The study demonstrates that organisations cannot rely on well-being initiatives or inclusion efforts alone, but must invest strategically in both as parallel, non-substitutable priorities. Future research employing longitudinal designs, examining mechanism and moderators, testing interventions, and exploring cross-cultural context will further illuminate these relationships and translate findings into

effective organisational practices that support both the employee well-being and innovation in the evolving world of work.

## **Chapter 7: Conclusion and Recommendations**

### **7.1 Introduction**

This concluding chapter synthesises the research findings on happiness at work (HAW), innovative work behaviour (IWB), and cyber ostracism among hybrid and remote workers. This chapter addresses nine critical aspects that collectively provide comprehensive closure to the research investigation: the study's focus and significance, the research context and its importance, existing knowledge and identified gaps, specific research questions addressed, the methodological approach employed, findings and interpretations, scholarly contributions to the academic debate, practical and business relevance, and recommendations for future research. Through the integration of empirical results with theoretical frameworks established in earlier chapters, this chapter provides conclusive answers regarding how happiness and cyber ostracism jointly influence innovation in distributed work environments whilst establishing clear connections between the study contributions and the broader organisational scholarship.

### **7.2 Research Focus and Significance**

The study investigated the relationships between HAW, IWB, and cyber ostracism among hybrid and remote workers, with particular emphasis on understanding how these factors operate individually and in combination across the three phases of innovation: idea generation, promotion, and implementation. The investigation examined whether established HAW-IWB relationships translate to virtual contexts, whether cyber ostracism moderates these relationships through psychological resource depletion mechanisms, and whether cyber ostracism exerts independent effects through structural barrier mechanisms that deny access to digital communication infrastructure.

This investigation matters for several interconnected reasons that span theoretical, practical, and societal domains. First, the shift to remote and hybrid work represents a permanent transformation rather than a temporary pandemic response, fundamentally altering how work is organised and conducted across industries globally. Understanding innovation determinants in these contexts becomes essential as organisations navigate this transformation whilst maintaining competitive advantage through continuous innovation. Second, innovation represents a critical outcome directly linked to organisational competitiveness, adaptability, and long-term survival in rapidly changing business environments (De Oliveira Teixeira & Werther, 2013). Third, employee well-being and inclusion have

emerged as central concerns in remote work contexts, yet their joint influence on innovation outcomes remains inadequately understood despite their apparent importance for organisational effectiveness.

The theoretical significance lies in testing established positive organisational scholarship relationships in novel contexts where digital communication mediates interactions, examining cyber ostracism as a distinctly modern workplace stressor rather than traditional face-to-face ostracism, and systematically testing both moderating effects through psychological resource depletion and direct effects through structural barriers as distinct mechanisms. This approach addresses critical gaps in understanding how positive and negative factors jointly shape innovation when work is fundamentally restructured through digital mediation.

### **7.3 Research Context and Its Importance**

The study examined 101 hybrid and remote workers, predominantly operating in remote-dominant hybrid arrangements where employees work remotely for the majority of their time whilst maintaining some organisational connection (83.2%). This sample demonstrated extensive remote work experience with 80.2% reporting over three years of remote work experience and represented primarily mid-to-senior organisational positions (96%), indicating established rather than novice remote workers.

This context matters because distributed work represents fundamental restructuring of work organisation rather than temporary adjustment to external circumstances. Digital mediation creates qualitatively different conditions for experiencing happiness, encountering ostracism, and conducting innovation activities compared to traditional co-located environments. The temporal context of data collection during stabilised remote work arrangements, rather than emergency pandemic responses, enables examination of normalised remote work patterns that reflect sustainable organisational practices rather than crisis adaptations.

The sample's experience levels ensure findings reflect mature distributed work practices rather than transitional adjustment periods, providing insight into sustainable patterns of happiness, inclusion, and innovation in permanently remote work arrangements.

### **7.4 Existing Knowledge and Gaps**

Prior research established foundational understanding across the three constructs examined in the study. HAW research demonstrated that positive emotional states enhance creativity, job performance, and prosocial behaviour

through broaden-and-build mechanisms that expand cognitive repertoires and build enduring psychological resources (Fredrickson, 2004). IWB research identified innovation as a multi-phase process requiring distinct capabilities across generation, promotion, and implementation stages, with different antecedents and facilitators operating at each phase (Jia et al., 2021; Aggarwal et al., 2021; Mascareño et al., 2021). Workplace ostracism research demonstrated that social exclusion threatens fundamental psychological needs including belonging, self-esteem, control, and meaningful existence, depleting cognitive and emotional resources and reducing performance outcomes (Williams, 2009).

However, critical gaps remained that the study addressed. HAW-IWB research occurred predominantly in co-located settings with minimal examination of remote and hybrid contexts where digital mediation fundamentally alters social interaction and resource access patterns. Cyber ostracism remained understudied relative to face-to-face ostracism despite distributed works reliance on digital communication channels. Research had not systematically distinguished cyber ostracism's psychological effects through research depletion from its structural effects through infrastructure denial, leaving intervention implications unclear. Whether HAW and cyber ostracism interacted through moderation mechanisms or operated additively through independent pathways remained unresolved. Phase-specific effects across the innovation process had not been examined, limiting understanding of where interventions might be most effective.

These gaps created theoretical uncertainty about whether established relationships would translate to distributed context and practical uncertainty about how organisations should address happiness and inclusion in remote work environments. The study addressed these gaps through systematic examination of alternative mechanisms and comprehensive testing across innovation phases.

### **7.5 Research Questions**

Four research questions operationalised the theoretical gaps identified in the literature review. The first research question examined the relationship between HAW and IWB among hybrid and remote workers, investigating whether this relationship held consistently across idea generation, promotion, implementation phases. This research question addressed the primary theoretical contribution by testing whether established HAW-IWB relationships generalised to virtual contexts.

The second research question investigated whether cyber ostracism moderated the HAW-IWB relationship through psychological resource depletion

mechanisms, such that the positive relationship would weaken when cyber ostracism levels were high. This question tested conservation of resources theory predictions regarding resource interactions in virtual contexts.

The third research question examined whether cyber ostracism's moderating effects varied across innovation phases, with the expectation of weakest moderation for idea generation, strongest moderation for idea promotion, and intermediate effects for idea implementation. This question addresses phase-specific vulnerability to resource depletion mechanisms.

The fourth research question investigated whether cyber ostracism exerted direct negative effects on IWB through structural barriers that eliminate information access, communication channels, and collaborative infrastructure. This question tested an alternative mechanism whereby cyber ostracism operates independently of happiness through structural rather than psychological pathways.

## **7.6 Research Methodology**

This quantitative study employed cross-sectional survey methodology with a positivist philosophical stance that assumed objective reality could be measured through empirical observation. Purposive sampling identified knowledge workers conducting at least 50% of their work remotely with minimum six months experience in remote work arrangements, ensuring participants possessed sufficient exposure to both happiness dynamics and potential cyber ostracism in virtual contexts.

Data collection occurred through online self-administered questionnaires measuring the three core constructs using established and adapted instruments. HAW was measured using a composite scale integrating engagement, satisfaction, and commitment dimensions ( $\alpha = .920$ ). IWB was measured using items adapted from Scott and Bruce (1994) and Janssen's (2000) validated instruments capturing idea generation, promotion, implementation phases ( $\alpha = .893$  overall). Cyber ostracism was measured using an adapted scale based on Ferris et al.'s (2008) ostracism framework modified for digital contexts ( $\alpha = .912$ ). All scales employed 5-point Likert response formats and demonstrated strong psychometric properties.

Hierarchical multiple regression analysis tested main effects and interaction effects following established moderation analysis procedures. Independent variables will mean-centred before creating interaction terms to reduce multicollinearity and facilitate interpretation. Analyses systematically tested hypotheses regarding happiness main effects, cyber ostracism moderation overall

and by phase, and cyber ostracism direct effects for both overall IWB and phase-specific outcomes.

## 7.7 Findings and Interpretation

H1 received robust empirical support, with HAW demonstrating substantial positive effects on IWB ( $\beta = .503, p < .001, \Delta R^2 = .225$ ) consistently across all phases: idea generation ( $\beta = .371, p < .001$ ), promotion ( $\beta = .523, p < .001$ ), and implementation ( $\beta = .381, p < .001$ ). These findings confirm that HAW-IWB relationships extend robustly to virtual contexts, validating positive organisational scholarship paradigm's applicability in digital work environment. The effective size notably exceeded typical co-located findings reported in meta-analyses, suggesting that HAW assumes heightened importance when traditional job resources such as spontaneous social support and informal mentoring are attenuated by physical distance. The consistency across phases indicated that happiness functions as a general resource supporting the entire innovation journey rather than being phase-specific.

H2 was not supported, as cyber ostracism did not significantly moderate HAW-IWB relationships ( $\beta = .039, p = .677, \Delta R^2 = .001$ ), failing to support the psychological resource depletion hypothesis. This null finding suggested that cyber ostracism did not operate primarily through mechanisms that consume psychological resources necessary for happiness to drive innovation. Several explanations warrant consideration: the restricted range on the cyber ostracism variable may have limited detection of moderation effects, workers may have developed effective coping strategies that buffer need threats, or happiness and cyber ostracism may operate through sufficiently distinct pathways that their effects combine additively rather than interactively.

H3a-c similarly showed no significant phase-specific moderation effects: idea generation ( $\beta = -.012, p = .904$ ), promotion ( $\beta = -.042, p = .662$ ), and implementation ( $\beta = .150, p = .138$ ). The predictive pattern of strongest moderation for idea promotion did not emerge, suggesting that psychological resource depletion mechanisms do not differentially affect innovation phases as theorised. This consistent pattern across phases reinforced the conclusion that cyber ostracism does not operate primarily through psychological resource depletion in this context.

H4 provided the study's most striking empirical result, with cyber ostracism exerting significant direct negative effects on IWB ( $\beta = -.384, p < .001, \Delta R^2 = .142$ ) consistently across all phases: idea generation ( $\beta = -.280, p = .003$ ), promotion ( $\beta$

=  $-.348$ ,  $p < .001$ ), and implementation ( $\beta = -.348$ ,  $p < .001$ ). These findings strongly supported the structural barrier hypothesis, demonstrating that cyber ostracism operates by denying access to information flows, communication channels, and collaborative infrastructure necessary for innovation activities. This mechanism aligns with conceptualisations of cyber ostracism as informational and relational exclusion in digital environments where communication infrastructure constitutes the primary means of organisational participation.

The overall pattern revealed additive rather than interactive effects, with both happiness ( $\beta = .503$ ) and cyber ostracism ( $\beta = -.384$ ) showing significant direct effects without significant interaction. This pattern suggested that these variables function as parallel necessary conditions where happy workers possess internal psychological resources supporting innovation whilst non-ostracised workers possess external structural infrastructure enabling innovation. Both conditions appear necessary but insufficient alone for optimal innovation outcomes.

### **7.8 Scholarly Contributions**

The study advances scholarly understanding through five distinct theoretical contributions that extend existing knowledge whilst challenging prevailing assumptions. First, the study provides empirical evidence that HAW-IWB relationships generalise robustly to virtual contexts, demonstrating that fundamental psychological relationships persist despite reduced physical co-presence and digital mediation of interactions. This finding validates positive organisational scholarship paradigm's extension to digital context whilst revealing that happiness may assume heightened importance when traditional job resources are attenuated by remote work arrangements. The larger effect sizes observed compared to co-located studies suggest that personal affective resources become disproportionately influential when organisational resources are less accessible.

Second, the study distinguishes psychological resource depletion from structural barrier mechanisms in cyber ostracism research, demonstrating that cyber ostracism operates primarily through infrastructure denial rather than capacity depletion in low-to-moderate exclusion contexts. This represents a critical refinement to cyber ostracism theory, suggesting that cyber ostracism involves dual pathways with different intervention implications. Whilst traditional ostracism research emphasised psychological consequences, the study shows that structural consequences may dominate in digital environments where communication access constitutes fundamental infrastructure for work participation.

Third, the study challenges prevailing moderation assumptions and organisational behaviour research by documenting additive patterns where resources operate independently rather than interactively. These findings suggest conditions under which parallel independent effects better capture organisational reality than interactive effects, establishing boundary conditions for conservation of resources theory that specify when resources operate additively rather than through resource interactions. The study demonstrates that when resources serve distinct functions and operate through different mechanisms, additive models may provide superior theoretical accuracy.

Fourth, the study demonstrates methodological value in testing multiple competing mechanisms simultaneously within a single study, showing how alternative hypotheses can be systematically examined to identify dominant pathways. This approach provides a template for future research addressing complex organisational phenomena where multiple theoretical mechanisms may operate concurrently. The systematic comparison of psychological versus structural mechanisms offers insights into theory development processes.

Fifth, phase-specific analysis reveals that happiness resources and exclusion infrastructure proved necessary throughout the innovation journey rather than varying substantially across phases, though idea promotion emerged as particularly sensitive to both factors. This finding extends innovation process theory by demonstrating differential sensitivities whilst confirming the multi-phase model's relevance in virtual contexts. The elevation of idea promotion effects suggests that socially embedded innovation activities face particular challenges in remote work environments.

## **7.9 Practical Implications**

Whilst the study's correlation design precludes direct causal claims about specific interventions, the findings suggest several strategic-level implications for organisations managing remote innovation. These implications should be interpreted as theoretically-informed hypotheses requiring future empirical validation rather than proven organisational practices. As detailed comprehensively in Chapter 6, organisations may benefit from evidence-based approaches that address both affective resources and structural inclusion as parallel necessities.

The study's most direct implications stem from the additive pattern: HAW and cyber ostracism independently predict innovation without interaction. This suggests organisations may benefit from dual strategy approaches that simultaneously

address well-being enhancement and structural inclusion, as Chapter 6 discusses in detail. Neither factor compensates for deficits in the other, indicating that optimal innovation outcomes may require both high HAW and comprehensive digital inclusion.

Given HAW's substantial predictive relationship with IWB ( $\beta = .503$ , accounting for 22.5% unique variance), organisations must consider happiness-promoting strategies. As explored in Section 6.6.1, research-informed approaches may include meaningful work design, recognition systems adapted for virtual contexts, and transparency mechanisms connecting individual efforts to organisational outcomes. Future intervention research should test whether such strategies effectively enhance both HAW and subsequent innovation in distributed work environments.

Similarly, given cyber ostracism's substantial negative relationship with IWB ( $\beta = -.384$ , accounting for 14.2% unique variance) operating primarily through structural barriers, organisations may benefit from proactive inclusion measures. As detailed in Section 6.6.1, potential approaches warranting empirical evaluation include establishing clear protocols for inclusive digital communication, monitoring participation patterns to identify exclusion, and creating accountability mechanisms for equitable treatment of remote employees.

The finding that both HAW and cyber ostracism show strongest effects on idea promotion ( $\beta = .523$  and  $\beta = -.348$  respectively) suggests this phase may require particular attention in remote contexts. As discussed extensively in Section 6.6.2, organisations might benefit from infrastructure specifically supporting promotional activities, digital persuasion skill development, and transparent pathways for idea advancement. Such approaches represent testable interventions for future research.

Leadership and infrastructure considerations, as outlined in Section 6.6.3, likely play mediating roles in both fostering HAW and preventing cyber ostracism. Research-informed leadership development programmes might emphasise inclusive digital leadership capabilities, well-being monitoring skills adapted for remote contexts, and innovation facilitation competencies that support all three innovation phases.

The business relevance extends beyond immediate operational concerns to competitive advantage in remote work environments. Given the substantial unique variance explained by HAW (22.5%) and cyber ostracism (14.2%) in predicting

innovation outcomes, organisations that successfully navigate dual requirements of happiness cultivation and inclusion assurance may sustain innovation capacity whilst competitors struggle with either well-being challenges or digital exclusion problems. This represents a strategic imperative requiring systematic organisational attention to both parallel pathways identified in the study.

### **7.10 Limitations and Future Research**

Several important limitations constrain the interpretation and application of these findings whilst simultaneously identifying priorities for future research. The cross-sectional design precludes definitive causal inference as temporal precedence cannot be established through a single-point measurement. The strong main effects observed could reflect reverse causality where innovation successes increase happiness through accomplishment and recognition whilst innovation failures increase ostracism sensitivity through colleague exclusion. Reciprocal causation represents an equally plausible explanation, with initial happiness facilitating innovation that subsequently reinforces well-being through positive feedback loops captured at a single measurement point. Convenience sampling and modest sample size ( $n=101$ ) limit generalisability beyond the specific population access, whilst self-report measurement creates potential common method variance that may include correlations through shared response biases, mood effects, or social desirability influences.

The relatively low cyber ostracism levels observed ( $M = 1.86$  on a 5-point scale) may have constrained detection of moderation effects that operate only at high severity levels, suggesting that psychological resource depletion mechanisms might emerge under more severe exclusion conditions not adequately represented in this sample. Sample composition characteristics including predominant hybrid rather than fully remote arrangements, extensive remote work experience, and mid-to-senior organisational positions establish important generalisability boundaries that limit application to different distributed work contexts, experience levels, or organisational hierarchies.

Longitudinal research represents the critical next step for advancing theoretical understanding, enabling establishment of temporal precedence whilst examining whether resource spirals operate as predicted by positive organisational scholarship paradigm. Multi-wave studies tracking constructs over extended periods would clarify causal directions whilst experience sampling methodologies capturing daily fluctuations would illuminate within-person processes that cross-sectional

designs cannot detect. Such approaches would reveal whether higher-than-usual daily HAW predicts same day IWB, whether ostracism experiences immediately suppressed IWB or accumulate gradually, and how recovery from exclusion episodes affects subsequent IWB attempts.

Mechanism research through systematic mediation analyses should directly test psychological need threads and structural barrier pathways rather than inferring mechanisms from effect patterns as the study necessarily did. For the HAW-IWB pathway, testing specific mediators including intrinsic motivation, cognitive flexibility, innovation self-efficacy, and persistence would reveal whether happiness operates primarily through motivational, cognitive, or self-regulatory mechanisms, informing targeted and intervention design. For the cyber ostracism pathway, examining information access denial, social capital erosion, communication anxiety, and psychological safety as potential mediators would clarify the dominant mechanisms through which structural exclusion impairs innovation.

Moderator research should systematically specify boundary conditions determining when observed patterns strengthen, weaken, or reverse across different contexts and populations. Individual differences including personality traits, motivational orientations, technical competence, and cultural backgrounds may condition the effects observed, whilst contextual factors including organisational climate, psychological safety levels, task interdependence requirements, communication technology quality, and specific work arrangement characteristics likely moderate relationships in ways that affect intervention effectiveness. Testing these moderators would advance theory beyond general predictions towards conditional theories that specify circumstances under which different patterns emerge.

Intervention research should evaluate specific organisational practices through experimental or quasi-experimental studies that establish causality whilst testing practical implementation approaches. Technology-based solutions including mandatory inclusion protocols, algorithm-driven equitable information distribution, and transparency dashboards showing communication patterns could be systematically evaluated for effectiveness in reducing ostracism and improving innovation outcomes. Training interventions targeting remote leaders could be assessed for behavioural change effectiveness through pre-post designs with control groups, whilst organisational policy changes could be evaluated through natural experiments comparing adoption versus non-adoption organisations.

Expanded methodological approaches would adjust limitations inherent in survey-based cross-sectional designs through complementary research strategies. Experimental designs manipulating HAW and ostracism under controlled conditions would establish causality whilst enabling precise examination of mechanisms. Qualitative research employing interviews and case studies would provide contextual understanding of subjective experiences that quantitative measures cannot capture. Computational analysis of digital communication traces could objectively measure ostracism through network analysis of email patterns, meeting participation, and collaboration frequency, addressing common method variance concerns whilst providing fine-grained temporal resolution showing how exclusion patterns evolve.

Sample expansion examining different geographical regions, industries, occupational categories, and organisational contexts would test generalisability whilst identifying boundary conditions. Research including higher cyber ostracism base rates through targeted sampling would enable examination of severe exclusion effects. Cross-cultural studies would reveal whether the additive pattern observed reflects universal psychological processes or culturally specific response patterns influenced by individualism, collectivism, power distance or, communication style preferences.

### **7.11 Conclusion**

The study examined how HAW and cyber ostracism jointly influenced IWB among hybrid and remote workers, revealing that these factors operate through parallel, independent pathways rather than interacting as initially hypothesised. HAW significantly predicted IWB across all phases ( $\beta = .503$ , accounting for 22.5% unique variance) whilst cyber ostracism directly impaired IWB through structural barriers ( $\beta = -.384$ , accounting for 14.2% unique variance), but critically, cyber ostracism did not moderate the HAW-IWB relationship. This additive pattern demonstrates that workers require both internal affective resources and external structural infrastructure for optimal innovation outcomes, challenging organisational approaches that prioritise one whilst neglecting the other.

The study advances theoretical understanding by demonstrating that HAW-IWB relationships generalise robustly to virtual contexts, refining cyber ostracism theory to distinguish structural from psychological mechanisms, and establishing boundary conditions for conservation of resources theory where parallel effects dominate over interactive effects. Practically, the findings underscore that

organisations must simultaneously invest in well-being enhancement and inclusion assurance as complementary necessities. As distributed work continues expanding from pandemic response to permanent organisational feature, understanding how to maintain both employee HAW and structural inclusion becomes increasingly critical for sustaining competitive advantage through innovation capacity.

Whilst cross-sectional design, convenience sampling, and self-report measurement require cautious interpretation, the consistency of findings with theoretical predictions, the substantial effect sizes observed, and the clear practical implications provide confidence that the study contributes meaningful insights into organisational scholarship and practice. Future research employing longitudinal designs, testing intervention effectiveness, and examining boundary conditions will further illuminate these relationships whilst translating findings into evidence-based organisational practices.

The study contributes to the growing body of evidence demonstrating that successful virtual work requires deliberate attention to both psychological and structural factors that enable employee effectiveness. As organisations navigate the permanent transformation of work arrangements, the evidence suggests that happiness promotion and cyber ostracism elimination represent parallel necessities for maintaining innovation capacity. Organisations must recognise that virtual work success depends not on choosing between well-being and inclusion strategies, but on implementing both systematically and sustainably. The study provides foundational evidence for organisational practices that enable remote and hybrid workforces to achieve their innovation potential whilst maintaining employee well-being and inclusion that makes such achievement possible.

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## Appendix A

### Online Survey Instrument with Informed Consent and Branching Logic

*Note.* The survey used conditional branching within Microsoft Forms. Respondents who failed the screening question (Q1) were routed to a “Thank You” page and excluded from analysis. Only those who met the eligibility criteria proceeded to the full instrument. All items used a 5-point Likert scale unless otherwise noted.


#### 1 Introduction (Page 1 of 6)




##### Virtual Workplace Experience Study

When you submit this form, it will not automatically collect your details like name and email address unless you provide it yourself.

##### Research Participation Consent

I am currently a student at the University of Pretoria's Gordon Institute of Business Science. As part of completing my research in partial fulfilment of an MBA, I am running an independent survey to understand how virtual work affects innovation, happiness, and digital inclusion. Your insights will help us better understand the relationship between these factors and how we support and connect teams across the organisation.

 **Voluntary:** Participation is completely voluntary, and you may exit at any time.

 **Anonymous:** All responses remain anonymous.  **Aggregated:** Only combined data will be reported.  **Estimated completion time:** 6-10 minutes

By clicking **Next**, you confirm that you have read this information, understand your rights, and consent to participate in this study.

For questions, contact: 24072592@mygibs.co.za or +27-XX-XXX-XXXX | Title Name Surname (Supervisor)

#### 2 Section 1: About Your Work Setup (Page 2 of 6)

\* Required

Help us understand your virtual work context. Your responses remain confidential and anonymous.

Section 1 of 4 • About 1-3 minutes

Question	Response Options
Which of the following best describes your primary work arrangement? *	Hybrid - remote dominant (mainly remote with occasional office access but my team remains virtual) Fully remote (no in-office requirements) Hybrid - office dominant (mainly in-office with some remote work) <sup>1</sup> Fully on-site (office or physical work location full-time) <sup>1</sup>
How long have you been working remotely? *	Less than 6 months 6 months - 1 year 1-2 years 2-3 years More than 3 years
Which best describes your current role or job level? *	Junior level (entry-level, coordinator, assistant roles) Mid-level (specialist, analyst, supervisor roles) Senior level (manager, director, executive roles)
What department or function do you primarily work in? *	Sales/Marketing/Customer Relations Operations/Project Management Human Resources/People & Culture Research & Development/Innovation Finance/Administration/Support Other ( <i>specify</i> )
What is your age group? *	18-29 30-39 40-49 50+

*Note.* <sup>1</sup>End of Survey for Disqualified Respondents. Routing to screen out “Thank You” page.

### 3 Screen-Out Thank You Page

**Thank you for your interest in this study.**

This survey is intended for remote or remote-dominant hybrid workers.

### 4 Section 2: Your Work Experience (Page 3 of 6) (*Only for Eligible Participants*)

\* Required

Please share how you feel about your work and workplace. There are no right or wrong answers.

Section 2 of 4 • About 3-5 minutes

## Work Engagement

Please rate how often you feel this way about your job: \*

Item	Scale
I feel energised at work (including remote/virtual tasks)	1=Never 2=Rarely 3=Sometimes 4=Often 5=Always
I genuinely enjoy what I do for work	1 → 5
My job inspires me	1 → 5
When I get up in the morning, I feel like going to work	1 → 5
I feel happy when I am deeply focused on my work tasks	1 → 5
I am proud of the work I do	1 → 5
I often lose track of time because I'm so engaged in my work	1 → 5
I feel strong and capable at work	1 → 5

## Job Satisfaction

Please rate how you feel about these aspects of your work: \*

Question	Response Options
Overall, I am satisfied with my current job	1=Strongly Disagree 2=Disagree 3=Neutral 4=Agree 5=Strongly Agree
I find my work rewarding	1 → 5
I am satisfied with the recognition I receive for my contributions	1 → 5

## Organisational Commitment

Please rate how you feel about your organisation: \*

Question	Response Options
I am satisfied with the type of work I do	1=Strongly Disagree 2=Disagree 3=Neutral 4=Agree 5=Strongly Agree
I would be happy to spend the rest of my career with my company	1 → 5
I enjoy talking positively about my company to others	1 → 5

## 5 Section 3: Innovation & Creativity (Page 4 of 6)

\* Required

Tell us about how you approach new ideas and improvements in your work.

Section 3 of 4 • About 1-3 minutes

### **Generating New Ideas**

Please rate how often you engage in these innovative behaviours: \*

Question	Response Options
I feel my company's problems are also my problems	1=Never 2=Rarely 3=Sometimes 4=Often 5=Always
I come up with new ideas for improvements	1 → 5
I look for new working methods, techniques, or tools	1 → 5

### **Promoting New Ideas**

Please rate how often you promote and champion new ideas: \*

Question	Response Options
I develop original solutions to problems	1=Never 2=Rarely 3=Sometimes 4=Often 5=Always
I gain support for new ideas	1 → 5
I get approval for innovative ideas	1 → 5

### **Implementing New Ideas**

Please rate how often you implement and execute new ideas: \*

Question	Response Options
I make important stakeholders excited about innovative ideas	1=Never 2=Rarely 3=Sometimes 4=Often 5=Always
I turn innovative ideas into practical solutions	1 → 5
I assess how useful innovative ideas are	1 → 5

## **6 Section 4: Digital Workplace Interactions (Page 5 of 6)**

\* Required

Share your experience with online collaboration and virtual team dynamics.

Section 4 of 4 • About 1-3 minutes

### **Your Virtual Team Experience**


Please rate how often you experience these situations in digital work settings (online meetings, messaging apps, emails): \*

Question	Response Options
I am ignored during online meetings (e.g., my comments are skipped)	1=Never 2=Rarely 3=Sometimes 4=Often 5=Always
I feel left out during virtual team conversations	1 → 5
I am excluded from important online group chats	1 → 5
People often don't respond to my messages in team chats	1 → 5

**6  Section 4: Digital Workplace Interactions (Page 5 of 6) (continued)**

Question	Response Options
I feel invisible during virtual team activities	1 → 5
I am left out of online decision-making	1 → 5
My ideas are ignored in digital collaboration tools/discussions	1 → 5

**7 Completion Thank You Page (Page 6 of 6)**

 **Thank you for your participation!**

Your insights will contribute to important research on virtual workplace experiences.

Important thing you can do next: Save my response