An Agile-Informed Job Demands-Resources Framework in Hospitality: A Dual-Pathway Structural Model of Employee Satisfaction, Burnout, and Turnover Intentions

By

Albaraa Mesawi

Bachelor of Arts
Moravian University, 2021

Submitted in Partial Fulfillment of the Requirements

For the Degree of Master of Arts in

International Hospitality and Tourism Management

College of Hospitality, Retail, and Sport Management

University of South Carolina

2026

Accepted by:

Fang Meng, Director of Thesis

Drew Martin, Reader

Ting Fung Ma, Reader

Lara Lomicka Anderson, Interim Vice Provost and Dean of the Graduate School

© Copyright by Albaraa Mesawi, 2026.
All Rights Reserved.

ABSTRACT

Persistent labor shortages and elevated voluntary turnover define the hospitality industry. High-intensity service interactions increase workload, emotional labor, and time pressure for non-management employees. The Job Demands-Resources (JD-R) model predicts engagement and retention when job resources offset job demands. Existing research has not specified which operational conditions reliably predict this balance in dynamic service work. This study evaluates whether adapted Agile philosophy serves as a heuristic framework for specifying JD-R constructs in hospitality. The study maps Agile values and principles to validated psychological constructs through Psychological State Matching: Self-Organization to Psychological Empowerment (PE), Regular Reflection to Perceived Team Learning Behavior (PTLB), and Interactions over Processes to Perceived Psychological Safety (PPS). Deviation from Simplicity maps to Hindrance Stressors (HS); deviation from Sustainable Pace maps to Quantitative Workload (QWL). This mapping is subjective and isolated to theory-building; the empirical measurement relies on validated scales. A cross-sectional survey collected data from 386 non-management hospitality employees. Covariance-based structural equation modeling with robust maximum likelihood estimation tested the model. The data supported 5 of 13 hypothesized relationships. PE dominated both pathways: it showed a large positive association with Employee Satisfaction ($\beta = .861$) and a large negative association with Burnout ($\beta = -.814$). PPS and PTLB showed large bivariate associations with outcomes but contributed no unique variance after controlling for PE; the three resources formed a correlated cluster

whose effects concentrated in PE. HS predicted Burnout (β = .158). Employee Satisfaction and Burnout both predicted Turnover Intentions. The model explained 80.2% of variance in Employee Satisfaction, 81.0% in Burnout, and 53.2% in Turnover Intentions. Agile philosophy functions as a valid but imprecise heuristic: it correctly identified the dual-pathway structure but overestimated the independence of team-level constructs relative to individual empowerment.

TABLE OF CONTENTS

Abstract iii

List of Tables vii

List of Figures ix

List of Symbols x

List of Abbreviations xii

Chapter 1: Introduction 1

1.1 Background 1
1.2 Problem Statement 2
1.3 Research Objectives 5
1.4 Significance of the Study 6
1.4.1 Practical Significance 6
1.5 Thesis Structure 7

Chapter 2: Review of Literature 8

2.1 Job Demands-Resources Theory in Hospitality 8
2.2 Agile Philosophy as a Heuristic Framework for Service Work 8
2.3 The Motivational Mechanism: Psychological Empowerment 15
2.4 The Relational Resource: Perceived Psychological Safety (PPS) 19
2.5 The Process Resource: Perceived Team Learning Behavior (PTLB) 22
2.6 The Demand: Workload and Burnout 24
2.7 The Structural Demand: HS 27
2.8 The Strategic Outcome: ESat, Burnout, and TI 28

Chapter 3: Methodology 34

3.1 Overview & Research Design 34
3.2 Sample Size & Statistical Power 35
3.3 Measures & Instrumentation 36
3.3.1 Job-Resources 37
3.3.2 Job-Demands 38
3.3.3 Outcomes 40
3.4 Quantitative Section 40
3.4.1 Missing Data, Parceling, & Influential Observations 46
3.4.2 Mediation testing & Variance Assessment 49

Chapter 4: Results 52

4.1 Data Screening and Sample Characteristics 52
4.2 Measurement Model 55
4.3 Structural Model 59
4.4 Sensitivity Analyses 67
4.5 Summary of Hypothesis Decisions 69

Chapter 5: Conclusion & Discussion 77

5.1 Summary of Findings 77
5.2 Theoretical Implications 79
5.3 Practical Implications 90
5.4 Limitations and Future Research 93
5.5 Conclusion 101

References 104

Appendix A: Survey Instrument 117

Appendix B: Supplementary Statistical Tables and Figures 119

LIST OF TABLES

Table 2.1 Agile Manifesto: Adapted Principles, Values, and Construct Mapping Used in this Study 31

Table 4.1 Demographic Characteristics of the Sample 70

Table 4.2 Descriptive Statistics and Distributional Properties 71

Table 4.3 Measurement Model Fit Indices 71

Table 4.4 Convergent Validity (AVE and Omega) 72

Table 4.5 Latent Variable Correlation Matrix 72

Table 4.6 Structural Model Fit Indices 73

Table 4.7 Structural Path Coefficients 73

Table 4.8 Indirect Effects (BCa Bootstrap, 5,000 Resamples) 73

Table 4.9 Summary of Hypothesis Decisions 74

Table A.1 Measurement Model 117

Table A.2 Eligibility Screening Questions 117

Table A.3 Demographic and Control Variables 118

Table B.1 Confirmatory Factor Analysis: Standardized Factor Loadings 119

Table B.2 Heterotrait-Monotrait Discriminant Validity Matrix 119

Table B.3 ESat Equation: Regression Coefficients with Demographic Controls 120

Table B.4 Burnout Equation: Regression Coefficients with Demographic Controls 121

Table B.5 TI Equation: Regression Coefficients with Demographic Controls 122

Table B.6 PTLB Equation: Regression Coefficients with Demographic Controls 123

Table B.7 Measurement Model Fit: MLR vs. WLSMV Comparison 123

LIST OF FIGURES

Figure 2.1 Three-Layer Research Design 32

Figure 2.2 Theoretical Framework 33

Figure 3.1 Structural Model Path Diagram 51

Figure 4.1 Measurement Model Fit Indices vs. Conventional Thresholds 74

Figure 4.2 Latent Variable Correlation Matrix 75

Figure 4.3 Forest Plot of Standardized Structural Path Coefficients 76

Figure 5.1 Dual-Pathway Summary with Standardized Coefficients 103

Figure B.1 Demographic Profile of the Sample (N = 386) 124

Figure B.2 Hypothesis Decision Matrix 125

LIST OF SYMBOLS

x	Vector of observed indicators for exogenous constructs.
y	Vector of observed indicators for endogenous constructs.
η	Vector of endogenous latent variables.
Λ_x	Matrix of factor loadings linking observed indicators to exogenous constructs.
Λ_y	Matrix of factor loadings linking observed indicators to endogenous constructs.
δ	Vector of measurement error terms for exogenous indicators.
ε	Vector of measurement error terms for endogenous indicators.
λ_{ij}	Factor loading of indicator *i* on latent construct *j*
Γ	Matrix of path coefficients from exogenous to endogenous latent variables.
B	Matrix of path coefficients among endogenous latent variables (Eq 7).
J	Denotes the observed information matrix in the Huber-White sandwich estimator (Eq 9).
ζ	Vector of structural disturbances (residuals).
β_{ka}, Or β_{kb}	Path coefficient from predictor k to outcome a or b.
γ	Path coefficient from control vector to endogenous variable.
ζ_i	Structural disturbance for endogenous variable *i* (1 = ESat, 2 = Burnout, 3 = TI, 4 = PTLB). Note: PTLB functions as an endogenous variable (η) when testing H3c because it receives a path from PPS. The model treats PTLB as both a predictor of ESat and an outcome of PPS.
C	Control variable vector (Age, Industry Tenure, Department Group, Hourly Wage, Tipped Status, Job Insecurity).
AVE_j	Average Variance Extracted for construct *j*.

ω	McDonald's Omega coefficient for composite reliability.
θ_{ii}	Error variance for indicator *i*.
HTMT_{ij}	Heterotrait-Monotrait ratio between constructs *i* and *j*.
$\bar{r}_{ij}$	Mean inter-item correlation between indicators of constructs *i* and *j*.
$\bar{r}_{ii}$, $\bar{r}_{jj}$	Mean within-construct correlations for constructs *i* and *j*.
df	Degrees of freedom.
p	Number of observed variables.
q	Number of estimated parameters.
I	Identity matrix.
A	Expected information matrix (model-implied curvature of the log-likelihood) in the Huber-White Sandwich estimator (Eq 9).
τ_k	Threshold parameter for observed category *k* in the WLSMV model (Eq 10).
K	Normalizing constant in the casewise log-likelihood (Eq 11).
σ_i	Model-implied covariance matrix subsetted to the observed variables for case *i* (Eq 11).
μ_i	Model-implied mean vector subsetted to the observed variables for case *i* (Eq 11).
y^*	Latent continuous response variable underlying the observed ordinal indicator (Eq 10).
ξ	Vector of exogenous latent variables.
$\hat{\theta}$	Vector of estimated model parameters (Eq 9).
L_i	Casewise log-likelihood contribution for observation *i* (Eq 11).

List of Abbreviations

AP ..... Adapted Principle

AV ..... Adapted Value

AVE ..... Average Variance Extracted

BAT-4 ..... Burnout Assessment Tool (4-item ultra-short version)

BCa ..... Bias-corrected and accelerated confidence interval

BOH ..... Back-of-House

CB-SEM ..... Covariance-Based Structural Equation Modeling

CFA ..... Confirmatory Factor Analysis

CFI ..... Comparative Fit Index

CMV ..... Common Method Variance

ESat ..... Employee Satisfaction

FIML ..... Full Information Maximum Likelihood

FOH ..... Front-of-House

HS ..... Hindrance Stressors

HTMT ..... Heterotrait-Monotrait ratio of correlations

JD-R ..... Job Demands-Resources

MAR ..... Missing At Random

MLR ..... Robust Maximum Likelihood

MOAQ-JSS ..... Michigan Organizational Assessment Questionnaire Job Satisfaction Subscale

OP .....Original Principle

OV..... Original Value

PE.....Psychological Empowerment

PPS..... Perceived Psychological Safety

PTLB.....Perceived Team Learning Behavior

QWI.....Quantitative Workload Inventory

QWL ..... Quantitative Workload

RMSEA.....Root Mean Square Error of Approximation

SEM .....Structural Equation Modeling

SRMR .....Standardized Root Mean Residual

TI..... Turnover Intention

TLI .....Tucker-Lewis-Index

ULMC .....Unmeasured Latent Method Factor Comparison

WLSMV.....Weighted Least Squares Mean and Variance adjusted

COR ..... Conservation of Resources

SDT ..... Self-Determination Theory

TMGT .....Too-Much-of-a-Good-Thing

CHAPTER 1: INTRODUCTION

1.1 Background

The United States hospitality sector faces persistent labor shortages (American Hotel & Lodging Association, 2024). These deficits compound structural industry conditions, including heavy workloads and unsocial hours, to drive voluntary turnover (Deery & Jago, 2015). Hospitality organizations frequently prioritize operational efficiency. This operational focus often sustains suboptimal internal service conditions (Kusluvan et al., 2010). Non-management employees deliver the guest experience under high strain parameters. Restrictions on autonomy and decision-making authority exacerbate these pressures (Hancer & George, 2003; Karatepe & Uludag, 2007).

The Job Demands-Resources (JD-R) model classifies many hospitality roles as "high-strain" when job demands exceed job resources (Bakker & Demerouti, 2007). Demands include emotional labor and time pressure and resources include autonomy and social support (Bakker & Demerouti, 2007). This imbalance depletes psychological energy and increases the probability of resource loss spirals (Hobfoll, 2002). Burnout triggers self-undermining behaviors, such as difficulty regulating emotions and heightened workplace conflicts, which amplify perceived demands (Bakker & Costa, 2014). Lesener et al. (2019) confirm this reciprocal effect: burnout predicts increased job demands over time, demonstrating loss spirals at the population level. Burnout functions as a primary antecedent of turnover intentions in the hospitality sector (Nguyen et al., 2023).

Hospitality work increasingly requires personalization and real-time adaptation. Service standards necessitate employee judgment and creativity to execute the "small details" that differentiate the guest experience (Bolton et al., 2014). Management practices prioritizing performance measurement and standardization define modern hospitality operations (Kim et al., 2013; Cross et al., 2009). These centralized structures frequently restrict employee autonomy and perceived influence (Kusluvan et al., 2010), confining employees to rigid roles defined by role ambiguity and bureaucratic constraints. Hindrance stressors prevent personal growth and goal attainment, triggering frustration and withdrawal behaviors (Crawford et al., 2010; Alpler & Arasli, 2020). The critical challenge facing hospitality leaders extends beyond recruitment. Leaders must redesign work environments to replenish employee resources, develop Psychological Empowerment (PE; a cognitive state comprising meaning, competence, self-determination, and impact; Spreitzer, 1995), and sustain engagement. Sustainable internal conditions foster high performance through engagement pathways rather than resource depletion (Bakker & Demerouti, 2017).

1.2 Problem Statement

A divergence exists between employee well-being theory and hospitality operational practice. JD-R theory delineates turnover through demand-driven health impairment and resource-driven motivation (Bakker & Demerouti, 2017). Nahrgang et al. (2011) meta-analyzed 203 samples and reported that autonomy, social support, and leadership reduce burnout. Lesener et al. (2019) confirmed longitudinally that resources predict engagement over time. Management often lacks a coherent operational logic to generate these resources consistently. Hospitality interventions frequently fail because

managers implement them as fragmented training events without accompanying structural changes to the work environment (Tracey & Tews, 1995). This pattern persists in contemporary hospitality where structural underinvestment in employee well-being compounds turnover risk (Cain et al., 2025). Consequently, the industry faces a crisis of employment sustainability marked by excessive workloads and absent dignity in work roles (Cain et al., 2025). Employers increasingly require employees to assume diverse responsibilities, a practice that blurs job boundaries and intensifies burnout risk (Ali et al., 2022).

This thesis applies Agile philosophy (values and principles), adapted from software development, as a heuristic framework for specifying JD-R constructs in hospitality (Rigby et al., 2016). The inquiry distinguishes between "Doing Agile" and "Being Agile." Doing Agile involves mechanical adoption of rituals like stand-up meetings. Being Agile involves realization of the philosophy's psychological intent. The study identifies a theoretically coherent set of job resources using Agile philosophy as a heuristic lens for construct selection. Agile principles prioritize individuals and interactions over processes and tools, and responsiveness to change over following a plan (Beck et al., 2001). These priorities align with central job resources in JD-R theory. This study treats the measured psychological constructs as JD-R variables whose selection was guided by heuristic alignment with Agile tenets.

The Agile Manifesto (Beck et al., 2001) codifies four values and twelve principles for organizing collaborative work. This thesis adapts a subset of these tenets for hospitality and maps each to its primary resulting psychological state through Psychological State Matching (detailed in Section 2.2). The resulting model specifies three job resources:

Psychological Empowerment (PE; Spreitzer, 1995), Perceived Psychological Safety (PPS; Edmondson, 1999), and Perceived Team Learning Behavior (PTLB; Edmondson, 1999). Two demand conditions capture deviation from Agile ideals: Quantitative Workload (QWL; Spector & Jex, 1998) measures departure from sustainable pace, and Hindrance Stressors (HS; Cavanaugh et al., 2000) measure operational friction from red tape, organizational politics, and role ambiguity. Hospitality research has not tested PE, PPS, PTLB, QWL, and HS together in one model through JD-R dual pathways to predict satisfaction, Burnout, and Turnover Intentions (TI; deliberate intent to leave the organization). This model targets the basic psychological needs for autonomy, competence, and relatedness, which self-determination theory identifies as essential for optimal functioning and well-being (Gagné & Deci, 2005).

The model also addresses the Too-Much-of-a-Good-Thing (TMGT) effect. Pierce and Aguinis (2013) theorize that beneficial antecedents reach context-specific inflection points, after which relations with desired outcomes turn asymptotic or negative. Curvilinear effects are most likely when resources approach saturation. Hospitality non-management workers operate under structural resource scarcity: restricted autonomy (Kusluvan et al., 2010), restricted influence (Hancer & George, 2003), and financial scarcity that consumes mental bandwidth (Mullainathan & Shafir, 2013; Sun et al., 2025). Under these deficit conditions, the sample is expected to occupy the ascending portion of the curvilinear function where additional resources maintain a positive linear association with well-being. This expectation is consistent with Conservation of Resources theory, which predicts that resource gains become increasingly important in the context of ongoing resource loss or threat (Hobfoll, 2002). If nonlinear patterns emerge, future analyses can detect them

through residual diagnostics and exploratory polynomial regression; the present study specifies strictly linear structural paths consistent with the additive dual-pathway structure that JD-R theory specifies.

1.3 Research Objectives

This thesis evaluates whether an internal work environment aligned with adapted Agile values and principles produces job resources that buffer demands and predicts positive employee attitudes. The study specifies Agile alignment using validated psychological constructs.

This study has three objectives:

Objective 1: Propose the theoretical correspondence between adapted Agile tenets and JD-R constructs by mapping self-organization to PE, Reflection to PTLB, and Interaction to PPS through Psychological State Matching. This mapping is deductive and acknowledged as subjective. Validity is ensured empirically: CFA confirms the selected constructs function as distinct, reliable measures, and the structural paths are tested using validated scales whose psychometric properties are independent of the Agile mapping.

Objective 2: Examine whether PE, PTLB, and PPS are positively associated with Employee Satisfaction (ESat) and negatively associated with Burnout.

Objective 3: Examine whether QWL and HS influence Employee Satisfaction and Burnout (a syndrome comprising exhaustion, mental distance, cognitive impairment, and emotional impairment; Schaufeli et al., 2020). QWL measures deviation from Sustainable Pace. HS measures operational friction (deviation from Simplicity).

This study will answer three research questions:

RQ1: Do Psychological Empowerment, PPS, and PTLB function as distinct, reliable constructs in a hospitality sample when measured using established scales and estimated through confirmatory factor analysis?

RQ2: To what extent do PE, PPS, and PTLB associate with ESat and Burnout?

RQ3: To what extent do QWL and HS associate with ESat and Burnout?

1.4 Significance of the Study

This study integrates Agile philosophy and JD-R. JD-R specifies the function of resources and demands but provides limited guidance on operational systems that support resources. This study addresses that gap by applying Agile philosophy as a heuristic framework for construct selection. The model positions Self-Organization (AP11), Reflection (OP12), Simplicity (OP10), and Sustainable Pace (AP8) as Agile tenets with measurable psychological correlates. The novelty of this study is theoretical integration. It tests whether the specific set of resources derived from Agile philosophy (values and principles) are collectively associated with ESat, Burnout, and TI. The model tests additive effects. Joint statistical significance across all hypothesized paths (H1–H6) support the theoretical coherence of the model specification. Self-Organization (AP11) is measured through Spreitzer's (1995) four-dimensional model of psychological empowerment, which defines empowerment as a cognitive motivational state comprising meaning, competence, self-determination, and impact (Thomas & Velthouse, 1990). Chapter 2 (section 2.3) develops each dimension and its theoretical linkage to Agile-aligned work conditions.

1.4.1 Practical Significance

This study provides a structured alternative to command-and-control practices in hospitality operations. The study estimates associations between Agile-aligned internal

conditions, ESat, Burnout, and TI. By testing both pathways simultaneously, the study provides evidence on whether Agile-aligned conditions are associated with satisfaction and reduced Burnout. Managers receive actionable guidance for work redesign targeting both retention and well-being. The findings support managerial decisions regarding these outcomes.

There is also scientific value and logical validity to this thesis. This study applies Agile philosophy as a heuristic framework for specifying testable JD-R relationships in high-variance service systems. This study holds scientific utility. Statistically significant paths validate the specified JD-R model. Paths that do not reach statistical significance identify boundary conditions. Both outcomes advance scientific knowledge.

1.5 Thesis Structure

This thesis is structured as follows. Chapter 2 reviews the literature on the JD-R theory and establishes the dual processes of health impairment and motivation within the hospitality context. It defines PE as the primary motivational mechanism and introduces PPS, PTLB, QWL, and HS as the specific resources and demands under investigation. The chapter concludes by theoretically mapping adapted Agile values and principles to these constructs to propose a heuristic framework for specifying JD-R constructs in hospitality. Chapter 3 outlines the methodology and details the cross-sectional survey design, the validated instruments used, and the data analysis plan using Covariance-Based Structural Equation Modeling (CB-SEM). Chapter 4 presents the results of the analysis by testing the measurement models and structural paths. Chapter 5 discusses the implications of the findings for theory and practice, acknowledges limitations, and suggests directions for future research.

CHAPTER 2: REVIEW OF LITERATURE

2.1 Job Demands-Resources Theory in Hospitality

JD-R model explains employee well-being and withdrawal through the balance between demands and resources (Bakker & Demerouti, 2007; Bakker & Demerouti, 2017). Job demands require sustained physical or psychological effort and create costs. Job resources reduce the cost of demands, support goal attainment, and stimulate motivation. JD-R specifies a health-impairment process and a motivational process. The health-impairment process links chronic demands to strain and depletion. The motivational process links resources to positive attitudes and performance.

Hospitality work features demand profiles that can frequently exceed available resources. Employees manage emotional labor, time pressure, and heavy workloads associated with long, unsocial hours (Deery & Jago, 2015). Traditional hospitality management practices may emphasize standardization over employee discretion, which limits perceived autonomy (Kusluvan et al., 2010). This combination increases burnout risk and increases turnover intentions (Nguyen et al., 2023). JD-R provides a suitable theoretical frame for linking operational conditions to employee satisfaction, Burnout, and turnover intentions.

2.2 Agile Philosophy as a Heuristic Framework for Service Work

Agile philosophy is a set of principles for organizing collaborative work that prioritizes human interaction, adaptive response, and iterative improvement over rigid

processes and comprehensive documentation (Beck et al., 2001). Iterative development traces to Shewhart's PDCA cycle (1930s), NASA Mercury (1958), and IBM Trident (1972). The Department of Defense abandoned the waterfall approach in 1987 (Larman & Basili, 2003). The Agile Manifesto (Beck et al., 2001) codified this philosophy into four values and twelve principles.

The four Agile values state broad priorities. Value 1 states "Individuals and interactions over processes and tools." Value 2 states "Working software over comprehensive documentation." Value 3 states "Customer collaboration over contract negotiation." Value 4 states "Responding to change over following a plan." The twelve principles specify actionable conditions for work design, including self-organization, regular reflection, sustainable pace, simplicity, daily collaboration, clear communication, and fostering motivated individuals.

This thesis applies Agile philosophy as a heuristic framework for specifying internal service conditions that can function as JD-R job resources and demands. The study distinguishes between "Doing Agile" (mechanical adoption of rituals such as stand-up meetings and sprint planning) and "Being Agile" (realization of the philosophy's psychological intent). The study does not test Agile itself. Agile provided the conceptual logic for identifying which psychological conditions to measure; the empirical measurement relies entirely on validated instruments (Spreitzer, 1995; Edmondson, 1999; Spector & Jex, 1998; Cavanaugh et al., 2000). The study uses an adapted Agile framework because hospitality operations differ from software development in task interdependence, customer presence, scheduling constraints, and role specialization. The adaptation focuses on work design conditions rather than formal Agile rituals. Tenets referencing software-

specific concepts (e.g., "working software," "delivery of valuable software," "software release cadence") were excluded because they produce no hospitality-relevant psychological state. Tenets whose behavioral intent is subsumed by another included tenet were excluded to prevent redundant construct coverage. The remaining tenets were either retained verbatim (Original) or reworded for hospitality applicability (Adapted). The author performed all adaptations. This study uses the following coding scheme: Original Value (OV) retains the Manifesto wording verbatim; Adapted Value (AV) modifies the wording for hospitality; Original Principle (OP) retains the Manifesto wording verbatim; Adapted Principle (AP) modifies the wording for hospitality.

Table 2.1 presents the complete Agile Manifesto (4 values, 12 principles) with each tenet's status (Included, Excluded, or Adapted) and, for included tenets, the primary construct mapping. Two values are included: OV1 and AV4. Two values are excluded: OV2 maps to no hospitality-relevant psychological state because the "output" in hospitality is continuous service rather than a discrete software artifact; OV3 pertains to external service quality rather than internal workforce well-being, and service quality outcomes sit downstream of workforce stability via the service-profit chain (Heskett et al., 1994). Eight principles are included: AP4, AP5, AP6, AP8, AP9, AP11, OP10, and OP12. Four principles are excluded: OP1, OP3, and OP7 reference software delivery mechanics with no hospitality psychological analog, and OP2 is subsumed by AV4 (check Table 2.1 below).

The construct selection in Table 2.1 above follows Psychological State Matching: a three-step deductive method in which (1) the behavioral intent of each Agile tenet is identified, (2) the primary psychological state that intent produces is identified, and (3) a validated instrument measuring that exact state is selected. This process is acknowledged

as subjective and is isolated to the theory-building phase; the empirical measurement relies entirely on objectively validated scales.

The primary mapping assigns each tenet to the construct whose scale items most directly measure the psychological state that the tenet's behavioral intent produces. When a tenet has a secondary relationship with another construct (i.e., a condition that enables the construct rather than directly describing the measured state), it receives antecedent status rather than primary mapping. For example, AP11 (self-organizing teams) maps primarily to PE because Spreitzer's (1995) self-determination items directly measure the autonomy experience that self-organization produces. AP11 could theoretically relate to PTLB (self-organizing teams may reflect more), but PTLB items (Edmondson, 1999) measure specific learning behaviors (asking questions, seeking feedback, experimenting) that self-organization does not directly describe. OV1 (individuals and interactions over processes) maps primarily to PPS because Edmondson's (1999) safety items directly measure the interpersonal risk-taking climate that prioritizing people over procedures produces. OV1 also feeds PTLB (safety enables learning, captured in H3c), but the primary state is the interpersonal climate itself. OP12 (regular reflection) maps primarily to PTLB because Edmondson's items directly measure the reflective behaviors OP12 prescribes.

Multiple tenets converge on PE because PE is a multidimensional construct (Spreitzer, 1995) with four dimensions: Meaning, Competence, Self-Determination, and Impact. Each contributing tenet aligns with a different dimension: AP11 targets Self-Determination and Impact (distributed decision authority and perceived influence), AP5 targets Competence and Meaning (trusting employees signals capability recognition; providing environment supports value alignment), AV4 targets Impact (perceived influence

over outcomes through adaptive response), and AP9 targets Competence (professional mastery in service delivery). The convergence reflects dimensional alignment across different PE dimensions.

For demand constructs (QWL, HS), the tenet describes the ideal state; the scale measures deviation from that ideal. AP8 prescribes sustainable pace; QWL items measure how often pace is unsustainable. OP10 prescribes simplicity; HS items measure the presence of unnecessary complexity (red tape, organizational politics, unclear expectations). AP4 and AP6 function as theoretical antecedents: AP4 (daily collaboration) is an antecedent of PTLB, and AP6 (clear communication) is an antecedent of PPS. Neither is measured independently. This selective mapping ensures theoretical parsimony by focusing on tenets with measurable psychological correlates in the hospitality context.

Recent empirical work supports the application of Agile logic to well-being outcomes. Rietze and Zacher (2022) report poorly designed jobs lead to burnout; however, agile work practices reduce emotional fatigue. While Rietze and Zacher (2022) operationalize Agile through specific practices (e.g., iterative planning, retrospectives), this thesis maps Agile tenets to the psychological states that these practices are designed to produce. Rietze and Zacher (2022) provide empirical evidence that Agile work practices possess both stress-mitigating potential, by reducing job demands such as time pressure, and motivational potential, by increasing job resources such as autonomy and feedback. No validated instrument exists that directly measures the psychological states associated with Agile tenets. The study therefore relies on established scales whose content validity matches the tenet intent through Psychological State Matching. The contribution of this study stands independent of Agile: specifying and integrating a coherent resource-demand

package within JD-R yields testable hypotheses regardless of the heuristic that guided construct selection.

Figure 2.1 maps the conceptual logic of this study across three contribution layers. The layers represent the study's research logic (theory → operationalization → hypothesis testing); they do not represent layers of CB-SEM estimation or statistical model hierarchy. The legend uses six colors: dark blue for JD-R Theory (Core Framework), light blue for Agile Philosophy (Heuristic), teal/green for Job Resources (PE, PPS, PTLB), pink/red for Job Demands (QWL, HS), light green for Hypothesis Testing, and purple for the Mediation Path (H6: ESat and Burnout to TI). Layer 1 (Theoretical Foundation) contains two rectangular boxes: "JD-R Theory (Core Framework)" and "Agile Philosophy (Heuristic for Construct Selection)." A dashed arrow connects the Agile box to an oval labeled "Psychological State Matching," indicating the deductive method by which Agile tenets guided construct selection. JD-R provides the theoretical framework; Agile serves as the heuristic framework. Layer 2 (Operationalization) contains three parent nodes: "Job Resources" (green), "Job Demands" (red), and "Employee Outcomes" (purple). Dashed arrows flow from these parent nodes to eight construct boxes. Three green boxes represent job resources: PE (Spreitzer, 1995), PPS (Edmondson, 1999), and PTLB (Edmondson, 1999). Two red boxes represent job demands: QWL (Spector & Jex, 1998) and HS (Cavanaugh et al.,2000). Three purple boxes represent employee outcomes: ESat (Cammann et al., 1983), Burnout (Hadžibajramović et al., 2024), and TI (Cammann et al., 1983). Resource and demand construct selection was guided by heuristic alignment with Agile tenets. Outcome constructs are standard JD-R variables. Layer 3 (Hypothesis Testing) contains three hypothesis boxes and one outcome oval. "H1-H3: Resources to ESat

and Burnout" (green) and "H4-H5: Demands to ESat and Burnout" (red) represent the direct association hypotheses. "H6: ESat and Burnout to TI" (purple) represents the mediation path in which ESat and Burnout mediate the relationships between resources/demands and TI. All hypothesis boxes connect via dashed arrows to a central oval labeled "Joint Statistical Significance Supports JD-R Specification.

Figure 2.2 presents the heuristic mapping that guided construct selection for this study. The figure uses Psychological State Matching to connect Adapted Agile tenets to JD-R constructs. The structural model testing hypothesized relationships among these constructs is presented separately in Figure 3.1. The figure flows left-to-right through three columns: Agile tenets on the outer edges and JD-R constructs in the center. The left column displays resource-aligned Agile tenets in light-blue rectangular boxes. Dashed arrows labeled "heuristic alignment" connect tenets to their corresponding job resource constructs: AP11 (Self-Organization), AP5 (Motivated & Supported Individuals), AP9 (Technical Excellence), and AV4 (Responding to Change) connect to Psychological Empowerment (Spreitzer, 1995). OV1 (Interactions over Processes) connects to Perceived Psychological Safety (Edmondson, 1999). OP12 (Regular Reflection) connects to Perceived Team Learning Behavior (Edmondson, 1999). Dotted arrows labeled "antecedent" connect AP6 (Clear Communication) to PPS and AP4 (Daily Collaboration) to PTLB; these tenets create enabling conditions for the target construct rather than directly describing the measured psychological state. The right column displays demand-deviation Agile tenets in light-red rectangular boxes. Dashed arrows labeled "deviation from ideal" connect tenets to their corresponding job demand constructs: AP8 (Sustainable Pace) connects to Quantitative Workload (Spector & Jex, 1998); OP10 (Simplicity) and AP6 (Clear Communication)

connect to Hindrance Stressors (Cavanaugh et al., 2000). AP6 appears on both sides because clear communication functions as an antecedent of psychological safety (resource side) and its absence produces communication-related hindrance stressors (demand side). For demand constructs, the tenet describes the ideal state; the scale measures deviation from that ideal.

The Employee Outcomes region (purple background) contains three ovals. ESat (Employee Satisfaction) and Burnout appear as purple ovals. TI (Turnover Intentions) appears as a darker purple oval on the right. Purple arrows connect ESat to TI with a "-" label (H6a) and Burnout to TI with a "+" label (H6b). Meta-analytic evidence anchors the mapped construct-to-outcome relationships. For the motivational pathway: Seibert et al. (2011) report that PE positively associates with job satisfaction and negatively associated with turnover intentions; Frazier et al. (2017) report that PPS positively relates to commitment and satisfaction. For the health-impairment pathway: Bakker and Demerouti (2017) specify that job demands are the unique predictors of exhaustion, whereas job resources are unique predictors of engagement. These meta-analytic findings provide the empirical basis for the directional arrows depicted in Figure 2.2.

2.3 The Motivational Mechanism: Psychological Empowerment

PE serves as the primary motivational resource in this model. PE links internal service conditions to employee attitudes and behavior. While early management theories characterized empowerment as top-down delegation of authority, Thomas and Velthouse (1990) reconceptualized the construct as a cognitive state of increased intrinsic task motivation. This cognitive state is shaped by an individual's subjective interpretations of the work environment. Spreitzer (1995) operationalizes PE through four cognitions:

Meaning, Competence, Self-determination, and Impact. Meaning reflects alignment between work role requirements and personal values. Competence reflects perceived capability to perform work tasks. Self-determination reflects perceived autonomy in initiating and regulating work actions (Thomas & Velthouse, 1990). Impact reflects the perceived degree to which one's actions affect strategic, administrative, and operational outcomes (Spreitzer, 1995). Within JD-R, PE functions as a psychological resource that supports satisfaction and performance (Seibert et al., 2011).

This study treats adapted Agile operational conditions as theoretical counterparts of PE. Traditional hospitality management structures may limit employee autonomy and perceived influence (Kusluvan et al., 2010). Spreitzer (1995) identifies self-esteem, locus of control, and work context (access to strategic information and rewards) as antecedents of PE. Agile-aligned work design specifies autonomy for the people closest to the work, rapid information sharing, and trust in motivated individuals (AP5; Beck et al., 2001). AP5's requirement to "give them the environment and support they need, and trust them" enables the psychological conditions measured by all four PE dimensions. This study measures PE using Spreitzer's multidimensional scale and maps Agile tenets to PE dimensions. The Agile-to-empowerment link operates through leadership behavior. Servant Leadership (SL) prioritizes employee needs, leads with humility, and develops employees rather than enforcing process compliance (Greenleaf, 1977; Liden et al., 2014). SL behaviors align with Original Value 1, which prioritizes individuals and interactions over processes and tools. Liden et al. (2014) show that SL predicts unit performance and service outcomes through the mediating mechanism of employee identification with the unit. Hospitality organizations that adopt Agile-aligned management therefore employ

leaders who remove impediments, provide resources, and elevate team voice. These behaviors create the participative climate and supportive context that Spreitzer (1995) identifies as PE antecedents.

The Self-determination dimension reflects employee-experienced autonomy consistent with Adapted Principle 11 (self-organization). Items assessing discretion over work methods and decisions indicate whether distributed decision authority exists in employee experience. The Impact dimension aligns with Adapted Value 4 (Responding to Change over Following a Fixed Plan). Employees who perceive impact respond flexibly to service situations rather than rigidly following scripts. All four PE dimensions (meaning, competence, impact, self-determination) are motivational cognitions within JD-R (Seibert et al., 2011; Spreitzer, 1995). The Competence dimension describes the belief of self-efficacy in performing work tasks. Gilson et al. (2005) show that creativity and standardization act as complements within empowered service teams. In their sample of 90 service technician teams, standardization moderated the creativity-effectiveness relationship. This resolves the apparent tension between Agile's emphasis on adapting to change and hospitality's reliance on standard operating procedures: empowered employees can maintain procedural consistency while exercising creative problem-solving when service situations demand it. Meaning captures value congruence rather than dynamic responsiveness. This study treats PE as an Agile-aligned agency state enabled by Agile-like work design. It functions distinct from a one-to-one operationalization of specific Agile principles. Hospitality employees may experience low perceived influence despite possessing job-related competence (Hancer & George, 2003).

Seibert et al. (2011) reports that PE predicts satisfaction, reduces strain, and lowers turnover intentions. These findings support empowerment's role in both motivational and health-impairment pathways. Chiang and Hsieh (2012) report that PE is a strong predictor of job performance among hospitality employees, which supports that the empowerment-performance link operates in hospitality-specific contexts. Self-determination theory explains this relationship through autonomy and competence need fulfillment (Gagné & Deci, 2005). Employees report higher satisfaction when work provides meaning, discretion, and influence. Hospitality roles often include routine tasks, which increases the importance of meaning and influence for satisfaction. Fulford and Enz (1995) show that meaning and influence predict job satisfaction among private club employees. Hancer and George (2003) show that low influence undermines satisfaction even when competence remains high. Therefore, by structuring work to strengthen these specific cognitions, an Agile-aligned environment is associated with higher ESat. However, Barker (1993) shows that self-organizing teams evolve a system of 'concertive control' where peer-negotiated consensus creates an 'iron cage' of normative rules that is often more powerful and harder to resist than traditional bureaucratic supervision. If the autonomy and self-organization captured by PE intensify pressure from peers, the expected positive associations will reverse. High turnover rates in hospitality (Deery & Jago, 2015) may limit the formation of stable peer consensus that concertive control requires (Barker, 1993). Frequent employee turnover prevents teams from developing the shared history needed for peer-enforced norms to emerge.

PE also protects against Burnout. Within JD-R, resources buffer the depleting effect of job demands (Bakker & Demerouti, 2017). Employees who perceive meaning,

competence, self-determination, and impact have greater psychological reserves to cope with workload spikes without experiencing severe energy depletion. Seibert et al. (2011) position PE as a motivational state that offsets the health impairment pathway. Employees high in PE possess greater autonomy to regulate their work pace and protect energy reserves during demand spikes. PE is a motivational state shaped by work design (Spreitzer, 1995).

H1a: PE positively associates with ESat.

H1b: PE negatively associates with Burnout.

2.4 The Relational Resource: Perceived Psychological Safety (PPS)

PPS (employee perception that interpersonal risk-taking will not trigger punishment (Edmondson, 1999)) functions as a relational resource that buffers interpersonal risk in service work. Edmondson (1999) defines psychological safety as a shared belief that interpersonal risk-taking will not trigger embarrassment, rejection, or punishment. Psychological safety supports voice behavior, error reporting, and collaborative problem solving. Psychological safety complements PE. PE reflects internal motivation and perceived capability. Psychological safety reflects perceived interpersonal consequences in the work context (Frazier et al., 2017). This complementary resource ensures the motivation provided by empowerment is not stifled by fear of negative consequences. Hospitality service recovery often requires employees to disclose errors, request help, and challenge ineffective procedures under time pressure. Low psychological safety can suppress these behaviors and increase friction in service delivery (Detert & Burris, 2007).

Adapted Agile conditions describe operational counterparts of psychological safety. Frazier et al. (2017) identify work design and supportive context as primary drivers of psychological safety. Research on negative leadership shows that autocratic and unethical behaviors destroy morale and increase turnover rates; Hight et al. (2019) conclude that turnover, low motivation, high psychological distress, and high burnout in hospitality can often be attributed to poor management practices. Agile prioritizes interaction quality and learning cycles. This study measures PPS using the Edmondson (1999) psychological safety scale and maps the construct to Original Value 1, which prioritizes individuals and interactions over processes and tools. While traditional hospitality management often prioritizes SOPs, the Adapted Agile framework prioritizes the interaction. The survey items serve as the specific audit mechanism for this value. Adapted Principle 4 specifies daily collaboration. Adapted Principle 6 specifies clear and direct communication. These interaction prescriptions increase the frequency of speaking up and raise the social cost of punishing it. By institutionalizing daily collaboration (AP4) and prioritizing clear communication (AP6), Agile routines aim to replace sporadic and high-stakes reporting with continuous and low-stakes dialogue, thereby normalizing error reporting and reducing fear of retribution. Reports that mistakes trigger penalties therefore indicate deviation from the Agile requirement for safe interaction and learning (Edmondson, 1999). In hospitality specifically, Guchait et al. (2016) show that error management culture predicts service recovery performance through psychological safety. Where service errors are punished rather than explored, employees hide failures instead of resolving them, creating "double deviations" where both the original service failure and the concealment compound guest dissatisfaction. Wang et al. (2019) extend this logic by demonstrating that error

management culture predicts psychological safety, which in turn predicts organizational commitment and reduced turnover intentions in a sample of 173 hotel employees in Hong Kong. This establishes the full causal chain from organizational error-handling norms to individual withdrawal cognitions. Inflexible and authoritarian leadership reduces engagement and undermines employees' ability to contribute meaningfully to their roles. An Agile-inspired leadership culture that emphasizes psychological safety, Servant Leadership, and iterative learning neutralizes these negative leadership effects by involving non-management workers in decision-making within clear boundaries (Greenleaf, 1977; Liden et al., 2014).

PPS predicts ESat through the JD-R health-impairment pathway. Employees in psychologically unsafe environments may divert cognitive energy toward impression management and self-monitoring rather than performing tasks. This vigilance can function as a job demand that contributes to Burnout. Higher PPS preserves emotional energy and increases perceived social support. Frazier et al. (2017) meta-analyzed 136 samples and reported that PPS predicts satisfaction, engagement, and learning behaviors. The learning behavior finding directly supports PPS as an antecedent of PTLB in this model. Hospitality employees who experience PPS can request help and disclose problems during service recovery. These actions reduce emotional strain and support satisfaction.

PPS also protects against Burnout. Frazier et al. (2017) note that psychological safety reduces anxiety and frees cognitive resources that would otherwise contribute to strain. Employees in psychologically safe environments spend less energy on impression management and self-monitoring. These activities function as hidden demands (Bakker & Demerouti, 2017). By reducing interpersonal fear, PPS conserves the emotional energy that

chronic vigilance would otherwise deplete. This positions PPS as a resource that actively interrupts the health impairment pathway.

H2a: PPS positively associates with ESat.

H2b: PPS negatively associates with Burnout.

2.5 The Process Resource: Perceived Team Learning Behavior (PTLB)

PTLB serves as a process-oriented resource. It captures individual perceptions of team learning behaviors. PTLB includes behaviors such as question asking, feedback seeking, experimentation, and error discussion (Edmondson, 1999). Because this study samples individuals via a paid research panel rather than teams within organizations, the construct represents the respondent's perception of their team's learning behaviors. Within JD-R, reflexive behavior supports job crafting. Teams adjust tasks and processes to reduce hindrances and increase resource availability (Bakker & Demerouti, 2017). By actively modifying their work processes to reduce hindrances and optimize flow, reflexive teams generate a gain spiral of increasing resources and motivation.

This study measures PTLB using Edmondson (1999) Team Learning Behavior scale and maps the construct to Original Principle 12. The theoretical alignment between the principle and the measurement instrument is substantial. The principle calls for reflection on effectiveness. The measurement items assess whether teams regularly take time to figure out ways to improve work processes and stop to reflect on how they work. By using these items, this study moves beyond asking if an organization uses a specific Agile label to measure if the team actually engages in the reflexive behaviors that define agility. The construct shares secondary alignment with OP10 (Simplicity: maximizing the amount of work not done; OP10 maps primarily to HS (see Figure 2.2)). Reflexive teams

also identify non-value-added complexity and remove it through process changes. By institutionalizing reflection, adapted Agile principles treat reflexivity, which is defined as the extent to which teams collectively reflect upon and adapt their work processes (Schippers et al., 2007), as an expected operational norm (Beck et al., 2001). Reflexive behavior shares secondary alignment with Adapted Value 4 (Responding to Change; AV4 maps primarily to PE (see Figure 2.2)). Teams that reflect and adjust enact responsiveness over rigid plan adherence. PTLB predicts ESat through the JD-R motivational pathway. Bakker and Demerouti (2017) link proactive job crafting to engagement and satisfaction. Reflexivity converts feedback into work redesign that reduces frustration and increases perceived effectiveness. When teams engage in reflexivity, they effectively align job demands with their own needs and abilities. Hospitality research links depletion to reduced service innovation behavior (Sun et al., 2025), which this study interprets as overlapping with reflexive improvement work. Reflexivity therefore indicates a resource state that supports improvement and increases satisfaction.

PTLB also protects against Burnout. Teams that regularly reflect and adapt their processes can redistribute workload before it becomes chronic. Reflexive teams solve problems before they calcify into hindrance stressors (Schippers et al., 2007). This proactive adjustment capacity reduces the accumulation of frustration and energy depletion associated with unchangeable constraints. Within JD-R, reflexivity represents a process-level resource that interrupts demand escalation, which is consistent with OP12's call for regular reflection on team effectiveness.

H3a: PTLB positively associates with ESat.

H3b: PTLB negatively associates with Burnout.

H3c: PTLB mediates the relationship between PPS and ESat. Note: The relationship between PPS and PTLB follows Edmondson's (1999) original model. Psychological safety creates the interpersonal conditions under which team learning behavior becomes possible. Employees who perceive low interpersonal risk are more likely to report that their teams engage in experimentation and error discussion. This study tests whether PTLB mediates the PPS to ESat relationship.

2.6 The Demand: Workload and Burnout

QWL represents a primary energetic job demand. Spector and Jex (1998) define quantitative workload as work volume and pace. JD-R specifies that chronic demands require sustained effort and deplete energy, which increases Burnout and burnout risk (Bakker & Demerouti, 2007). Hospitality employees often face long hours, unsocial shifts, and high pace during peak demand (Karatepe & Uludag, 2007). These conditions are sustainable only in the short term. They act as a resource drain that directly threatens employee well-being. Conservation of Resources theory predicts that sustained resource drain increases loss spiral risk (Hobfoll, 2002).

Job demands constitute work characteristics that need a high degree of physical, emotional/mental effort (Rietze & Zacher, 2022). Confrontation with high job demands triggers an energy depletion process (Rietze & Zacher, 2022). Hobfoll (2002) establishes that resource loss exerts greater psychological impact than resource gain. Loss cycles operate with increasing speed and intensity because individuals with depleted resource pools possess fewer reserves to offset further stressors, making them more vulnerable to rapid resource erosion (Hobfoll, 2002). This vulnerability creates loss spirals that accelerate Burnout.

Burnout represents a withdrawal state distinct from boredom or opportunistic turnover. Abubakar et al. (2022) identify boreout as a psychological state of low work-related arousal manifested by job boredom and a crisis of growth. Burnout represents a state of emotional, physical, and mental exhaustion resulting from prolonged exposure to excessive demands/stress (Abubakar et al., 2022). Excessive demands show the degree of physical and psychological fatigue perceived by the person as related to their work (Abubakar et al., 2022). Hospitality employees operate in a context of over-stimulation in customer-facing roles. Karatepe and Uludag (2007) note those who interact directly with customers experience higher levels of emotional exhaustion compared to those who work indirectly with customers. Emotional exhaustion involves the continuous depletion of emotional resources and feelings of fatigue (Karatepe & Uludag, 2007). Schaufeli et al. (2020) conceptualize burnout as a work-related state of Burnout comprising four core dimensions: (i) Exhaustion, (ii) mental distance, (iii) cognitive and (iv) emotional impairment. Exhaustion constitutes the central energetic dimension and manifests as severe loss of physical and mental energy. Mental distance functions as a coping strategy where employees withdraw psychologically from work to preserve remaining energy (Schaufeli et al., 2020). The authors (Schaufeli et al., 2020) identify two underlying mechanisms: inability (lack of energy) and unwillingness (resistance and disengagement). These components operate in tandem to produce burnout syndrome.

The present study measures quantitative workload using the Quantitative Workload Inventory (QWI) (Spector & Jex, 1998) and maps the construct to deviation from AP8 (Sustainable Pace). While Principle 8 prescribes the ideal state of Sustainable Pace, the measurement instrument assesses deviation from this ideal. Quantitative Workload (QWL)

items assess frequency of fast work and time scarcity. Items examining how often the job requires working very fast or leaving little time to get things done provide a quantified metric of unsustainable pace. Higher QWL scores indicate greater deviation from sustainable pace. This operationalization treats sustainable pace as a work design requirement that limits chronic energy depletion. Therefore, a negative correlation between this construct and satisfaction is consistent with the Agile expectation that pace must be regulated to maintain the workforce's energy reservoir.

QWL predicts ESat because workload effects vary by appraisal and context. Crawford et al. (2010) discuss conditions under which high workload can function as a challenge demand. The consensus in JD-R research is that chronic workload primarily functions as a cost that increases strain (Bakker & Demerouti, 2007). Spector and Jex (1998) report positive associations with anxiety and frustration and a negative association with job satisfaction. Karatepe and Uludag (2007) report that work-family conflict (often exacerbated by heavy workloads) predicts emotional exhaustion in hotels, and that exhaustion subsequently predicts lower job satisfaction. Resources can reduce the strain impact of workload effects (Bakker & Demerouti, 2017). Empowerment and PPS support adaptive coping during workload spikes. However, when workload is combined with financial scarcity mindset, a common condition for low-wage hospitality workers, the cognitive burden is amplified, which is associated with rapid psychological depletion and inhibition of positive behaviors such as service innovation (Mullainathan & Shafir, 2013; Sun et al., 2025).

H4a: QWL negatively associates with ESat.

H4b: QWL positively associates with Burnout.

2.7 The Structural Demand: HS

HS represents structural constraints that impede goal attainment. Cavanaugh et al. (2000) distinguish hindrance stressors, including red tape, role ambiguity, and politics, from challenge stressors. Hindrance stressors are particularly damaging because they do not yield a sense of achievement even when overcome. They trigger a health impairment process characterized by frustration, passive coping, and withdrawal (Crawford et al., 2010). Hospitality work includes conflicting instructions, constrained discretion in service recovery, and unclear expectations. These conditions predict turnover intentions (Nguyen et al., 2023).

This study measures hindrance stressors using the Hindrance-Related Self-Reported Stress scale (Cavanaugh et al., 2000) and maps the construct to operational friction that violates multiple Agile tenets: (i) Structural Friction via red tape (deviation from OP10: Simplicity), (ii) Informational Friction via unclear expectations (deviation from AP6: Clear Communication), and (iii) Relational Friction via organizational politics (deviation from OV1: Interactions over Processes). Agile philosophy posits that complexity is a threat to value delivery. The specific items in this scale measure the prevalence of this threat. Hindrance stressor items capture bureaucratic constraints and unclear expectations that increase friction. The amount of red tape required to complete tasks serves as a direct measure of the failure to achieve Simplicity tenet (OP10) in its structural sense. The inability to understand expectations measures the lack of clarity that Agile seeks to resolve through frequent interaction and transparency. This framing treats constraint removal as an employee well-being mechanism and a service quality mechanism. Spector and Jex (1998) define organizational constraints as conditions that

prevent effective performance, including poor information and faulty equipment. Constraints correlate with frustration, dissatisfaction, and intent to quit.

Hindrance stressors predict ESat. Crawford et al. (2010) report that hindrance demands are negatively associated with engagement and positively associated with burnout. Alpler and Arasli (2020) report that job insecurity, functioning as a hindrance stressor, depletes psychological resources and increases Burnout risk. Financial worry can function as a cognitive hindrance demand that consumes mental bandwidth and inhibits service innovation (Sun et al., 2025). Hindrance reduction requires job crafting capacity and supportive resources. Agile-aligned conditions can legitimize constraint removal work. However, without adequate social support, employees may struggle to cope with the resource depletion resulting from emotional labor demands (Grandey & Gabriel, 2015). Lower hindrance stressors are associated with higher ESat. The reduction requires concurrent resources (psychological safety, empowerment) to stop the health impairment process (Frazier et al., 2017).

H5a: HS negatively associates with ESat.

H5b: HS positively associates with Burnout.

2.8 The Strategic Outcome: ESat, Burnout, and TI

Turnover Intentions (TI) represent the downstream outcome in this model. TI reflects deliberate intent to leave the organization. Hospitality turnover remains high (Deery & Jago, 2015). Nguyen et al. (2023) identify turnover intention as a critical precondition of the quitting plan and a reliable self-prediction of actual turnover behavior. JD-R explains withdrawal as a response to high demands and low resources. The motivational process suggests that when job resources are abundant, they generate a

positive affective state which creates a sense of obligation and attachment to the organization, thereby inhibiting the desire to leave (Bakker & Demerouti, 2007; Salanova et al., 2005). Meta-analytic evidence supports the resource-retention pathway. Frazier et al. (2017) report that psychological safety is a strong predictor of organizational commitment. Seibert et al. (2011) report that empowerment is strongly associated with organizational commitment.

ESat predicts TI. McPhail et al. (2015) report that satisfaction with control and variety predicts intention to stay in the job, while satisfaction with career advancement, control, and variety predicts intention to stay in the industry. This finding positions satisfaction as a retention mechanism with functional consequences for organizational attachment. Humborstad and Perry (2011) report that empowerment practices influence turnover intentions through job attitudes, including satisfaction and commitment. Empowerment practices associate with turnover intentions through job attitudes (Humborstad & Perry, 2011). This finding supports a model in which ESat and Burnout link resources and demands to withdrawal cognitions.

Turnover also reflects shock processes. Lee and Mitchell (1994) specify an unfolding model in which shocks can trigger turnover decisions. Within JD-R, the "Buffering Hypothesis" applies. High ESat acts as a psychological buffer against these shocks. JD-R predicts that higher resources and higher ESat can increase coping capacity and reduce withdrawal under ongoing strain. Spector and Jex (1998) report a strong association between organizational constraints and intent to quit, with dissatisfaction and frustration as proximal links. Karatepe and Uludag (2007) show that intrinsic motivation functions as a personal resource that lowers Burnout and increases affective organizational

commitment, thereby indirectly reducing turnover intentions. This indicates that ESat functions as a reservoir of goodwill. When satisfaction is high due to consistent resource availability, employees are more resilient to the inevitable stressors of hospitality work.

Turnover represents the final solution for emotionally exhausted employees (Karatepe & Uludag, 2007). Employees think about leaving the organization when they are emotionally exhausted because continued work becomes unsustainable. Heightened Burnout is associated with the erosion of organizational commitment and psychological attachment (Karatepe & Uludag, 2007). This depletion serves as the proximal antecedent to turnover intentions, consistent with the health impairment pathway (H6b).

Burnout also predicts TI. Karatepe and Uludag (2007) report that emotional exhaustion predicts turnover intentions and is associated with job demands and withdrawal. The health impairment pathway positions Burnout as the proximal antecedent to turnover, as employees leave because continued work becomes unsustainable (Bakker & Demerouti, 2017). This study tests whether resources (PE, PPS, PTLB) reduce Burnout and whether demands (QWL, HS) increase Burnout, thereby testing both pathways simultaneously.

H6a: ESat negatively associates with TI.

H6b: Burnout positively associates with TI.

Table 2.1 Agile Manifesto: Adapted Principles, Values, and Construct Mapping Used in this Study

Code	Original Wording (Beck et al., 2001)	Adapted Wording	Status	Primary Construct
Values (4 Total: 2 Included, 2 Excluded)				
OV1	Individuals and interactions over processes and tools	(Original)	**Included**	PPS (Edmondson, 1999)
AV4	Responding to change over following a plan	Responding to change over following a fixed plan	**Adapted**	PE: Impact (Spreitzer, 1995)
OV2	Working software over comprehensive documentation	—	*Excluded*	No hospitality analog
OV3	Customer collaboration over contract negotiation	—	*Excluded*	External scope
Principles (12 Total: 8 Included, 4 Excluded)				
AP4	Business people and developers must work together daily throughout the project	Daily Collaboration and Interaction	**Adapted**	PTLB antecedent (Edmondson, 1999)
AP5	Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done	Foster Motivated and Supported Individuals	**Adapted**	PE: Competence and Meaning (Spreitzer, 1995)
AP6	The most efficient and effective method of conveying information to and within a development team is face-to-face conversation	Promote Clear and Direct Communication	**Adapted**	PPS antecedent; HS via deviation (Cavanaugh et al., 2000)
AP8	Agile processes promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely	Ensure Sustainable Pace and Workload	**Adapted**	QWL via deviation (Spector & Jex, 1998)
AP9	Continuous attention to technical excellence and good design enhances agility	Continuous attention to professional excellence and service quality	**Adapted**	PE: Competence (Spreitzer, 1995)
OP10	Simplicity, the art of maximizing the amount of work not done, is essential	(Original)	**Included**	HS via deviation (Cavanaugh et al., 2000)
AP11	The best architectures, requirements, and designs emerge from self-organizing teams	Best work emerges from self-organizing teams	**Adapted**	PE: Self-Determination and Impact (Spreitzer, 1995)
OP12	At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly	(Original)	**Included**	PTLB (Edmondson, 1999)
OP1	Our highest priority is to satisfy the customer through early and continuous delivery of valuable software	—	*Excluded*	Software delivery lifecycle
OP2	Welcome changing requirements, even late in development	—	*Excluded*	Subsumed by AV4
OP3	Deliver working software frequently, from a couple of weeks to a couple of months	—	*Excluded*	Software release cadence
OP7	Working software is the primary measure of progress	—	*Excluded*	Software-specific metric

Note. OV = Original Value; AV = Adapted Value; OP = Original Principle; AP = Adapted Principle. "Original" retains exact Agile Manifesto wording (Beck et al., 2001). "Adapted" translates software-specific terminology into hospitality-relevant language. "Excluded" tenets lack measurable hospitality psychological correlates or are subsumed by an included tenet. PE = Psychological Empowerment; PPS = Perceived Psychological Safety; PTLB = Perceived Team Learning Behavior; QWL = Quantitative Workload; HS = Hindrance Stressors. "Via deviation" indicates the tenet describes the ideal state; the scale measures departure from that ideal. "Antecedent" indicates the tenet creates enabling conditions for the target construct rather than directly describing the measured psychological state.

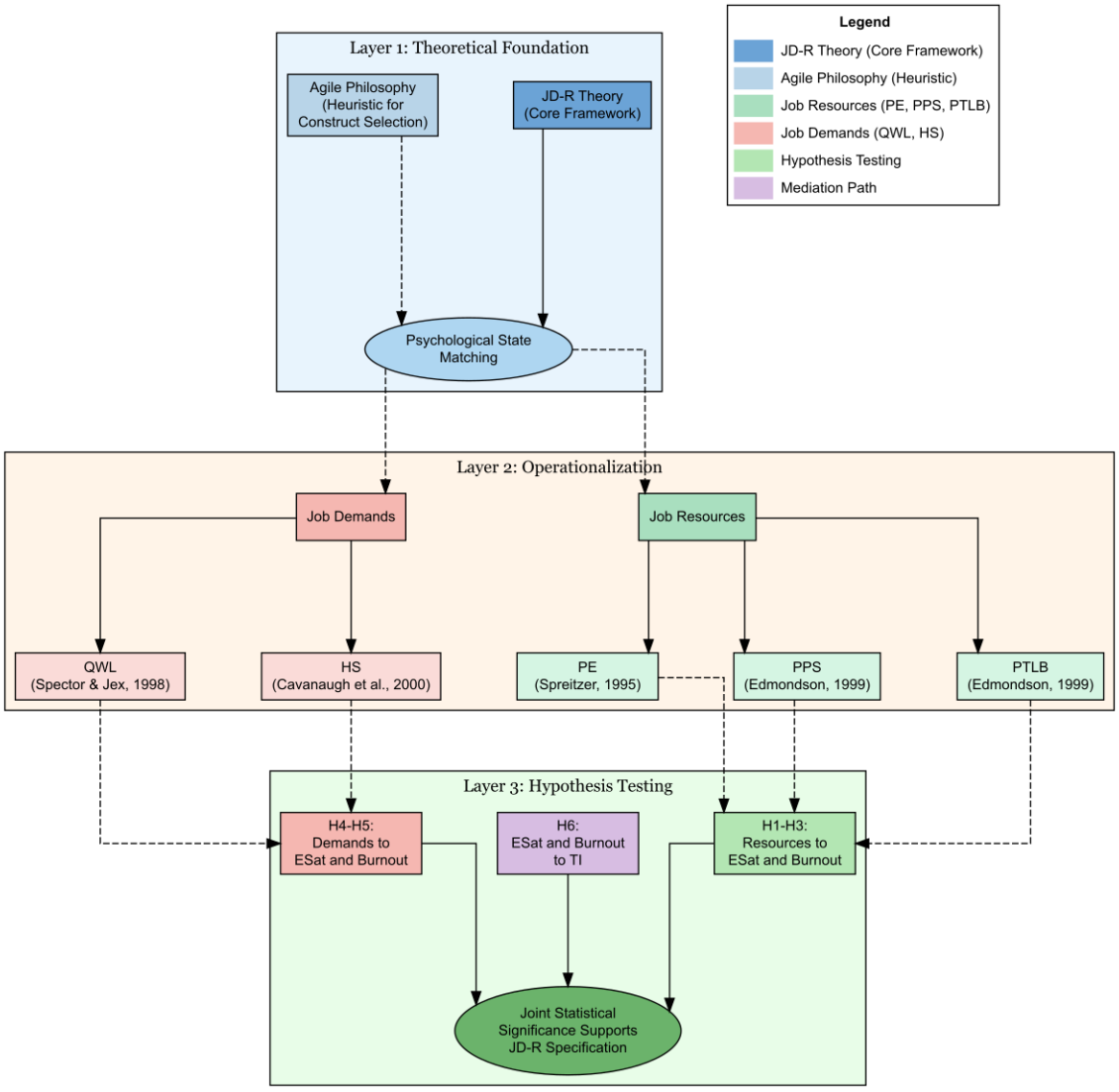


Figure 2.1 Three-Layer Research Design

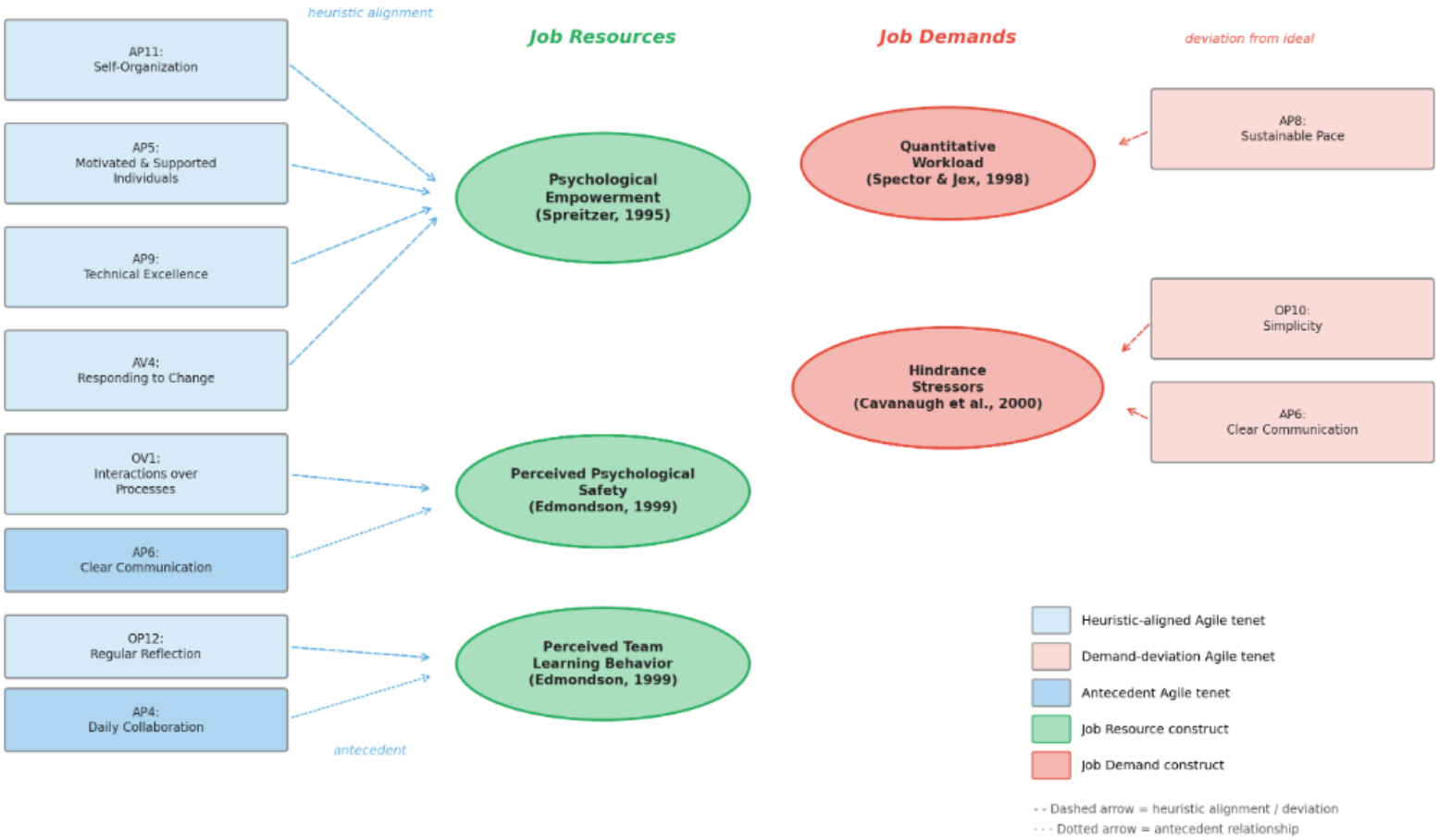


Figure 2.2 Theoretical Framework

CHAPTER 3: METHODOLOGY

3.1 Overview & Research Design

This study uses a quantitative, cross-sectional survey design to test hypothesized relationships within JD-R. The model specifies job resources, including PE, PPS, and PTLB, and job demands, including QWL and HS. The model specifies ESat and Burnout as intermediate outcomes and TI as the downstream outcome. The unit of analysis is the individual non-management hospitality employee.

The cross-sectional design captures a snapshot of employee perceptions of internal service conditions. The hospitality sector experiences high turnover. This condition constrains longitudinal tracking of stable cohorts across multiple properties. The design therefore prioritizes broad sampling across active employees within the specified setting.

Data collection utilizes a paid research panel, recruiting participants individually from the international hospitality workforce using Prolific. This sampling strategy ensures demographic diversity, enables strict pre-screening of employment status, and eliminates the need for multilevel modeling or cluster-robust standard errors. Sampling across organizations mitigates nested-error bias inherent in single-property studies. In single-property designs, the idiosyncratic culture of one general manager confounds the relationship between Agile conditions and outcomes. Cross-organizational sampling isolates the psychological mechanisms under investigation. Participation was restricted to employees who confirmed they work as part of a specific team (see Appendix A, Table A.2) of three or more people that interact daily to complete tasks. This criterion ensures

valid responses to team-referent items (PPS, PTLB). Institutional Review Board (IRB) approval precedes data collection. The survey platform presents a digital informed consent statement detailing the voluntary nature of participation (survey takes less than 10 minutes), data anonymity, and the right to withdraw without penalty. The design collects no Personally Identifiable Information (PII), ensuring compliance with GDPR and standard research ethics.

The study estimates the model using covariance-based structural equation modeling (CB-SEM) implemented via the lavaan package in R (Rosseel, 2012; R Core Team, 2023). CB-SEM evaluates global model fit by minimizing the discrepancy between the observed covariance matrix and the model-implied covariance matrix (Bowen & Guo, 2012). The study uses CB-SEM because the model is theory-driven and confirmatory. Partial least squares focuses on explained variance and prediction and does not provide the same global model fit testing framework (Hair et al., 2011). CB-SEM also models measurement error in latent constructs, which improves parameter estimation for psychological variables measured through multi-item scales (Bowen & Guo, 2012).

3.2 Sample Size & Statistical Power

The study targets a sample size of N = 350 respondents to support stable estimation in CFA and SEM given the number of observed indicators. Wolf et al. (2013) recommend Monte Carlo simulation for model-specific power estimation in SEM. This study uses a heuristic target based on a respondent-to-item ratio. The survey includes 43 scale items, which yields a respondent-to-item ratio of 8.1:1 at 350 responses. While Nunnally and Bernstein (1994) omitted a fixed threshold in favor of general matrix stability,

contemporary methodologists explicitly validate ratios above 5:1 as acceptable for minimizing overfitting (Hair et al., 2018). The target also exceeds the median sample size of approximately 200 cases reported in SEM studies (Kline, 2016). Wolf et al. (2013) shows that absolute sample sizes above 300 typically yield stable parameter estimates and adequate power when the factor loadings are moderate to strong, even when cases-per-parameter ratios fall below the 5:1 heuristic suggested by Bentler and Chou (1987).

A power analysis for the RMSEA test of close fit indicates that N = 350 provides power > .80 to detect a misspecification of RMSEA = .05 versus .08 (MacCallum et al., 1996). This sample size is sufficient to detect small-to-medium structural effects ($\beta \approx .20$) within the JD-R framework (Cohen, 1988; Westland, 2010).

3.3 Measures & Instrumentation

The survey includes 43 items drawn from established scales (see Appendix A, Table A.1). Estimated completion time is 10 minutes. The BAT-4 (4 items) was selected over the full BAT-23 (23 items) to minimize respondent burden while preserving the full burnout syndrome structure (Hadžibajramović et al., 2024). Paid research panel completion rates for surveys of this length exceed 90% with proper compensation. The study retains full validated scales when contextually appropriate to preserve content validity and ensure reliable latent construct measurement in CB-SEM. Item exclusions are specified a priori and are theory- and context-driven (e.g., removing employment-precarity HS items; excluding the PTLB "invite outsiders" item due to role-authority constraints). Arbitrary post hoc item reduction poses a threat to construct validity (Nunnally, 1978). The instrument uses distinct response formats tailored to construct content.

PE, PTLB, PPS, and ESat use a 7-point Likert scale from 1 (Strongly Disagree) to 7 (Strongly Agree). TI is measured using a 3-item scale adapted from Cammann et al. (1983). The original scale uses a 5-point Likert scale; however, this study extends all TI items to 7 points to match the response width of the other agreement-anchored scales (PE, PPS, PTLB, ESat). Items 2 and 3 use a 7-point Likert scale (1 = Strongly Disagree to 7 = Strongly Agree). Item 1 uses a 7-point likelihood scale (1 = Very Unlikely to 7 = Very Likely), preserving the mixed-format design original to Cammann et al. (1983). QWL uses a 5-point Likert-type frequency scale ranging from "Less than once per month" to "Several times per day". HS uses a 5-point Likert-type frequency scale ranging from Rarely/Never to Several times per day. Burnout is measured using the BAT-4 (Hadžibajramović et al., 2024), a 5-point Likert-type frequency scale from 1 (Never) to 5 (Always). The BAT-4 samples one item from each core burnout dimension (Exhaustion, Mental Distance, Cognitive Impairment, Emotional Impairment), enabling unidimensional latent construct estimation. Five items are reverse-scored prior to analysis: PPS Items 1, 3, and 5; PTLB Item 2; and ESat Item 2. Reverse scoring uses the formula ($K + 1 - x$), where K is the scale maximum (7 for agreement scales). This ensures all items within each construct are directionally aligned before latent variable estimation.

3.3.1 Job-Resources

PE is measured using Spreitzer's (1995) 12-item scale (see Appendix A, Table A.1). The scale captures Meaning, Competence, Self-determination, and Impact. The study models PE as a second-order latent construct with four first-order dimensions. This aggregation prioritizes model parsimony over dimensional specificity. While Chapter 2 maps individual dimensions to specific Agile tenets (e.g., self-determination to AP11, and

competence to AP5), the structural model tests only whether overall empowerment predicts outcomes. The dimensional mappings provide theoretical rationale for the construct but are not empirically tested at the dimension level. Future research with larger samples could model the four dimensions as separate predictors to validate the specific Agile to dimension correspondences.

PTLB is measured using a 6-item version of Edmondson's (1999) Team Learning Behavior scale at the individual perception level. The item "We invite people from outside the team…" is excluded a priori due to role-authority constraints in non-management hospitality jobs, which can create floor effects and construct-irrelevant variance. The scale captures experimentation, feedback seeking, and error discussion. The study uses this scale as the operational indicator for Original principle 12 (or OP12). PPS is measured using the Edmondson (1999) 7-item Team PPS scale (see Appendix A, Table A.1). The study uses this scale as the operational indicator for interaction-focused internal conditions aligned with Original Value 1. Both PPS and PTLB are measured at the individual perception level. While Edmondson (1999) validated these constructs using within-group aggregation (e.g., ICC, rwg), this study adopts the psychological climate perspective (James et al., 2008). Within this framework, climate is an aspect of the individual regardless of agreement/disagreement among them. The “perceived” prefix acknowledges that this study measures the individual’s cognitive appraisal of the team environment rather than an aggregated team-level construct.

3.3.2 Job-Demands

QWL is measured using the 5-item QWI by Spector and Jex (1998) (see Appendix A, Table A.1). The study treats QWI as the operational indicator of deviation from

Sustainable Pace. Item 4 was minimally rephrased from the impersonal construction ("How often is there a great deal to be done?") to a direct construction ("How often do you have a great deal of work to do?") to improve respondent clarity. The semantic content and frequency-based response format are preserved.

HS are measured using a modified 3-item subscale from the Hindrance-Related Self-Reported Stress scale (Cavanaugh et al., 2000) (see Appendix A, Table A.1). The original 5-item scale includes items measuring employment precarity (e.g., job security, and career stagnation), which are conceptually different from operational complexity. To preserve construct validity, this study a priori excludes items 4 and 5 and keeps only items 1-3: (1) Politics affecting decisions, (2) unclear expectations, and (3) red tape. These three items measure operational friction (deviation from the Simplicity tenet). The "red tape" item captures procedural waste. The "unclear expectations" item captures informational friction that generates rework. The "politics" item captures decision-making overhead imposed by non-transparent prioritization. Politics is treated as social/coordination waste that diverts effort from value delivery and imposes avoidable coordination costs (work that should not need to be done). Employment-related hindrances represent a distinct demand dimension warranting separate investigation. HS item stems were adapted from intensity ("The degree to which…") to Likert-type frequency ("How often …") format. Spector and Jex (1998) report adequate reliability ($\alpha = .82$) for frequency-anchored stressor scales. Frequency anchoring isolates stressor occurrence from strain response, preventing tautological overlap with outcome measures.

3.3.3 Outcomes

Employee Satisfaction (ESat) is measured using the 3-item Michigan Organizational Assessment Questionnaire Job Satisfaction Subscale (MOAQ-JSS) (Cammann et al., 1983). The study uses a global satisfaction scale to avoid overlap with predictor dimensions that could increase collinearity.

Turnover Intentions (TI) are measured using the 3-item scale from Cammann et al. (1983). The scale captures withdrawal cognitions and intent to seek alternative employment. Item 1 uses a 7-point likelihood anchor (1 = Very Unlikely to 7 = Very Likely) while Items 2-3 use a 7-point Likert scale (1 = Strongly Disagree to 7 = Strongly Agree). Burnout is measured using the BAT-4 (Hadžibajramović et al., 2024). The BAT-4 samples one item from each core dimension: Exhaustion ("At work, I feel mentally exhausted"), Mental Distance ("I struggle to find any enthusiasm for my work"), Cognitive Impairment ("When I'm working, I have trouble concentrating"), and Emotional Impairment ("At work, I may overreact unintentionally"). Rasch analysis confirms unidimensionality (PSI = .72–.77) and measurement invariance across 8 countries. This version captures the full burnout syndrome while minimizing respondent burden. The BAT-4 functions as a unidimensional global measure of the burnout syndrome (Hadžibajramović et al., 2024).

3.4 Quantitative Section

The study follows the two-step SEM procedure (Anderson & Gerbing, 1988). Step 1 estimates the measurement model using confirmatory factor analysis (CFA). Step 2 estimates the structural model using the validated measurement structure.

The CFA uses the following measurement equations:

$$x = \Lambda_x \xi + \delta \quad (1)$$

$$y = \Lambda_y \eta + \epsilon \quad (2)$$

In this notation, *x* and *y* denote the observed indicator vectors for exogenous and endogenous constructs. ξ and η denote the corresponding latent construct vectors. Λ_x and Λ_y denote the factor loading matrices. δ and ϵ denote the measurement error vectors. The model constrains measurement errors to be uncorrelated with exogenous latent constructs:

$$E[\xi\delta'] = 0 \quad (3)$$

The study evaluates convergent validity by requiring statistically significant factor loadings and average variance extracted (AVE) above .50 (Fornell & Larcker, 1981). An AVE value exceeding .50 indicates that the latent construct explains more than half of the variance in its observed indicators. Fornell and Larcker (1981) note that composite reliability is a less conservative measure than AVE; a construct with composite reliability of ≥ .70 may show adequate convergent validity even when AVE falls below .50, because the collective set of indicators still represents the construct despite individually modest loadings.

The AVE formula is:

$$AVE_j = \frac{\sum_{i=1}^{k} \lambda_{ij}^2}{\sum_{i=1}^{k} \lambda_{ij}^2 + \sum_{i=1}^{k} \theta_{ii}} \quad (4)$$

The study evaluates internal consistency using McDonald's Omega (ω), which does not assume tau-equivalence (equal factor loadings) as Cronbach's alpha does (Dunn et al., 2014). The formula is:

$$\omega = \frac{(\sum \lambda_i)^2}{(\sum \lambda_i)^2 + \sum \theta_{ii}} \quad (5)$$

Values where ω > .70 are considered sufficient and ω > .80 good, following standard reliability guidelines (Nunnally, 1978).

The study evaluates discriminant validity using the Heterotrait-Monotrait ratio of correlations (HTMT). Simulation studies show that the traditional Fornell-Larcker criterion detects only 25% of discriminant validity violations, whereas HTMT detects 97% under equivalent conditions (Henseler et al., 2015).

The HTMT formula is:

$$\text{HTMT}_{ij} = \frac{\bar{r}_{ij}}{\sqrt{\bar{r}_{ii} \cdot \bar{r}_{jj}}} \quad (6)$$

The study requires HTMT values below .85 to confirm that constructs remain empirically distinct. Henseler et al. (2015) also recommend the HTMT inference bootstrap confidence interval test (where the CI should exclude 1.0) as the most rigorous discriminant validity assessment; this study applies the .85 threshold as the primary criterion. Given that PPS and PTLB derive from the same theoretical source (Edmondson, 1999), the study applies this strict threshold to confirm discriminant validity between these constructs. If HTMT exceeds .85, PPS and PTLB will be modeled as a single latent factor representing Agile Team Dynamics, and H3c (mediation) will be dropped from the analysis.

The structural model uses the following equation:

$$\eta = B\eta + \Gamma\xi + \zeta \quad (7)$$

In this model, Γ contains path coefficients from exogenous latent constructs to endogenous latent constructs. B contains path coefficients among endogenous constructs, with diagonal elements fixed to zero. ζ contains structural disturbances. The model specifies a recursive system and requires $I - B$ to be non-singular (the scalar equations below (7a-d) use β notation uniformly for all structural coefficients to simplify presentation).

The structural model specifies the following regression equations for endogenous constructs. Employee Satisfaction receives paths from all five predictors:

$$\text{ESat} = \beta_{1a}\text{PE} + \beta_{2a}\text{PPS} + \beta_{3a}\text{PTLB} + \beta_{4a}\text{QWL} + \beta_{5a}\text{HS} + \gamma_1\text{C} + \zeta_1 \quad (7a)$$

Burnout receives parallel paths from all five predictors:

$$\text{Burnout} = \beta_{1b}\text{PE} + \beta_{2b}\text{PPS} + \beta_{3b}\text{PTLB} + \beta_{4b}\text{QWL} + \beta_{5b}\text{HS} + \gamma_2\text{C} + \zeta_2 \quad (7b)$$

Turnover Intentions receives paths from both mediators:

$$\text{TI} = \beta_{6a}\text{ESat} + \beta_{6b}\text{Burnout} + \gamma_3\text{C} + \zeta_3 \quad (7c)$$

Where *C* = control vector (Age, Tenure, Department Group [dummy-coded], Hourly Wage, Tipped Status, Job Insecurity) (See Appendix A, Table A.3). The 16 survey department categories were collapsed into three functional groups to ensure adequate cell sizes for stable parameter estimation and reduce parameter overhead: Front-of-House (FOH; guest-facing roles including Food & Beverage, Front Desk, Guest Services, Entertainment, Spa, Retail, Reservations, Banquets, and Other), Back-of-House (BOH; Kitchen, Housekeeping, Maintenance, etc.), and Administrative (Admin; Accounting, HR, Sales/Marketing, Security, etc.). FOH serves as the reference category. Age and tenure correlate with job satisfaction and turnover intentions across organizational research (Ng & Feldman, 2010). Department controls for structural differences in demand profiles across hospitality functions (e.g., front desk vs. housekeeping vs. food and beverage). Following Becker (2005), the analysis reports results with and without controls to show robustness. Gender and employment status are collected for demographic descriptions of the sample but excluded from the structural model, as their theoretical relevance to the Agile-JD-R pathway is not hypothesized. Shift type is also excluded; shift varies across the sample and may affect demand levels, but its inclusion would add parameter overhead without a

hypothesized pathway effect. The model specifies full mediation based on theoretical and meta-analytic precedent. Seibert et al. (2011) report a robust meta-analytic association between empowerment and reduced turnover intentions across multiple independent samples. Humborstad and Perry (2011) report that this association operates through job attitudes, including satisfaction and commitment. A sensitivity analysis comparing full mediation model to a partial mediation model (with direct paths from predictors to TI) tests whether direct effects improve model fit.

PTLB receives a path from PPS to estimate the first stage path (a) of the H3c mediation:

$$\text{PTLB} = \beta_{H3c}\text{PPS} + \gamma_4\text{C} + \zeta_4 \quad (7d)$$

Figure 3.1 presents the structural model with all hypothesized paths. The figure displays three rows. The top row contains five predictor ovals: three green ovals (PPS, PE, PTLB) representing job resources and two red ovals (QWL, HS) representing job demands. The middle row contains two purple ovals (ESat and Burnout) representing the dual-pathway mediators specified by JD-R theory. The bottom row contains one blue oval (TI) representing the downstream withdrawal outcome. Green solid arrows from resources to ESat represent the motivational pathway, where resources generate positive affect and attachment. Green dashed arrows from resources to Burnout represent the protective function of resources, buffering against energy depletion. Red solid arrows from demands to Burnout represent the health impairment pathway, where chronic demands drain psychological energy. Red dashed arrows from demands to ESat represent the undermining effect of demands on positive attitudes. A straight directional blue arrow connects PPS to PTLB, representing the theoretical precedence of psychological safety as an antecedent to

team learning behavior (testing H3c). Purple arrows connect mediators to TI. The ESat to TI path represents the retention mechanism, where satisfied employees resist withdrawal. The Burnout to TI path represents the escape mechanism, where depleted employees seek relief through departure. Each arrow is labeled with its corresponding hypothesis number and predicted direction (e.g., H1a(+), H4b(+), H6a(-)).

The structural model satisfies identification conditions. Each latent construct includes at least three indicators, which provides a sufficient condition for local identification (Bollen, 1989). The number of degrees of freedom (df) is calculated as:

$$\mathrm{df} = \frac{p(p+3)}{2} - \mathrm{q} \quad (8)$$

Where p is the number of observed variables and q is the number of estimated parameters.

The model is supported by joint statistical significance across all hypothesized paths. If the resource paths (H1-H3) and demand paths (H4-H5) predict outcomes as specified, and ESat and Burnout mediate the relationship between predictors and TI (H6), this supports the theoretical claim that the specified JD-R conditions predict employee outcomes. The model tests additive effects.

Tipped Status and Hourly Wage are included as covariates to control for economic retention effects. Job Insecurity controls for employment precarity removed from the HS scale.

The study evaluates model fit using standard global fit indices. The study interprets CFI and TLI values close to .95 as good fit, RMSEA values close to .06 as good fit, and SRMR values below .08 as adequate (Hu & Bentler, 1999). Hu and Bentler (1999) explicitly characterize these values as "close to" benchmarks that "seem to result" in lower

Type II error rates, and show that combinational rules (e.g., CFI ≥ .96 paired with SRMR ≤ .09) outperform single-index strategies. Chi-square difference testing for nested models uses the Satorra-Bentler scaled difference test (Kline, 2016).

The study uses Robust Maximum Likelihood (MLR) estimation to address non-normality. Mardia's (1970) test assesses multivariate skewness and kurtosis. Significant coefficients confirm the violation of multivariate normality common in Likert-style data, necessitating the use of robust estimators. MLR corrects standard errors and the chi-square statistic for deviations from multivariate normality using the Huber-White "sandwich" estimator and the Satorra-Bentler scaling correction:

$$\mathrm{Var}\left(\hat{\theta}\right) = A^{-1}JA^{-1} \quad (9)$$

Where A represents the expected information matrix (model-implied curvature), and J represents the observed information matrix (empirical variability from case gradients). Under multivariate normality, A converges to J, and the formula simplifies to A^{-1}. Under non-normality, A and J diverge, and the sandwich estimator uses the empirical kurtosis in J to correct the standard errors derived from A (Huber, 1967; White, 1980). In this study, the MLR estimator supplies the Satorra-Bentler scaled chi-square statistic and robust standard errors for all direct structural paths via Equation 9.

MLR provides the Satorra-Bentler scaled chi-square statistic, which adjusts the model fit test to account for excess kurtosis (Kline, 2016). The analysis reports robust fit indices (CFI.robust, RMSEA.robust) derived from this scaled statistic.

3.4.1 Missing Data, Parceling, & Influential Observations

A Weighted Least Squares Mean and Variance adjusted (WLSMV) estimator provides a sensitivity analysis. WLSMV explicitly treats indicators as ordinal categorical

variables estimated via a threshold model. The model assumes a latent response y* underlies the observed category k:

$$\mathrm{y} = \mathrm{k} \quad \text{if} \quad \tau_{k-1} < y^* \leq \tau_k \quad (10)$$

WLSMV estimates polychoric correlations based on these thresholds (Flora & Curran, 2004). Li (2016) shows that WLSMV produces uniformly less biased factor loadings than MLR for ordinal data, while MLR provides more accurate interfactor correlations at smaller sample sizes. Flora and Curran (2004) confirm that robust WLS (WLSMV) performs well across all conditions, including smaller samples and larger models. The study uses MLR as the primary estimator because bias-corrected bootstrap confidence intervals for mediation testing (Section 3.4.2) require continuous-variable estimation, and MLR with FIML provides unbiased missing data handling under MAR. WLSMV serves as a sensitivity analysis to evaluate the robustness of measurement model estimates under ordinal treatment (Li, 2016; Rhemtulla et al., 2012). All TI items share a 7-point response width; raw scores are retained without z-standardization. WLSMV sensitivity analysis treats TI items as ordinal. Under MLR estimation, the FIML algorithm computes the casewise log-likelihood for each observation i:

$$\ln L_i(\theta) = \mathrm{K} - \frac{1}{2}\ln|\Sigma_i| - \frac{1}{2}(y_i - \mu_i)'\Sigma_i^{-1}(y_i - \mu_i) \quad (11)$$

Where the mean vector μ_i and covariance matrix Σ_i are subsetted to match the observed variables for case *i*. This method produces unbiased parameter estimates under the Missing At Random (MAR) assumption and preserves statistical power, superior to listwise deletion (Enders, 2010; Yuan & Bentler, 2000).

Given model complexity relative to sample size, the analysis may employ domain-representative item parceling for the second-order PE construct if convergence issues arise.

Parcelling reduces estimated parameters and can improve matrix stability while preserving structural relationships (Little et al., 2002). Parcelling will not be applied to 3-item constructs (ESat, TI, HS), which will be modeled using original items.

The study screens item distributions prior to model estimation (Tabachnick & Fidell, 2019). Skewness and kurtosis statistics assess distributional assumptions. Expected normal probability plots supplement statistical tests when large samples inflate test sensitivity. Univariate outliers are cases with z-scores exceeding 3.29 ($p < .001$, two-tailed). These cases are evaluated to determine population membership or data entry error. Multivariate outliers are cases with Mahalanobis distance values at $p < .001$. Mahalanobis distance measures each case's position relative to the centroid of all variables in multivariate space (Tabachnick & Fidell, 2019). Cook's Distance identifies influential observations in linear regression (Cook, 1977). Because lavaan does not compute Cook's Distance directly for SEM, the analysis substitutes casewise log-likelihood contributions as the primary influence diagnostic. Cases whose log-likelihood contributions exceed $|z| > 3.29$ ($p < .001$) are flagged as observations that disproportionately affect the overall model likelihood surface. Sensitivity analysis compares model fit with and without flagged observations to assess robustness (Pek & MacCallum, 2011). This comparison prevents retrofitting the model to a specific sample. These screening steps assess distributional assumptions. The MLR estimator corrects for non-normality and provides robust inference under heteroscedasticity. Two directed-response attention checks were embedded in the survey. Respondents failing these checks were excluded prior to analysis. Submissions completed in under three minutes were flagged for unusually fast completion and reviewed manually before exclusion decisions.

3.4.2 Mediation testing & Variance Assessment

Three procedural remedies reduce common method variance (Podsakoff et al., 2003). Respondent anonymity reduces evaluation apprehension and social desirability bias. Separate sections for predictors and outcomes create psychological separation, and distinct response anchors across constructs, including agreement and frequency formats, reduce method covariance driven by a single response format.

Two statistical approaches assess residual common method variance. Harman's single-factor test loads all items into an exploratory factor analysis. Podsakoff et al. (2003) characterize Harman's test as a screening heuristic with limited sensitivity; the test cannot statistically control for method effects. A single factor accounting for less than half the common variance provides preliminary evidence against dominant method bias (Hair et al., 2018) but does not constitute a definitive assessment. The primary assessment therefore uses an unmeasured latent method factor approach. This technique adds a first-order factor with all measures as indicators, assumed to be uncorrelated with substantive latent factors to represent a purely additive method effect (Podsakoff et al., 2003). Chi-square difference testing compares model fit with and without this common method factor. If model fit significantly improves with the method factor and loadings are substantial, common method variance contaminates the observed relationships (Hair et al., 2018). The analysis compares structural parameter estimates with and without the method factor and reports both adjusted and unadjusted estimates when paths change materially.

Non-parametric bootstrapping tests indirect effects (Efron & Tibshirani, 1993). The sole mediation test examines the PPS to PTLB to ESat pathway. In accordance with recommendations by Hayes (2009), 5,000 resamples are generated to construct robust

confidence intervals. Resampling operates at the individual respondent level. Participants were recruited individually via Prolific across multiple organizations; the design contains no nested structure requiring cluster-level resampling. Bootstrapping is preferred to the traditional Sobel test because the sampling distribution of the indirect effect is asymmetric with nonzero skewness and kurtosis (Hayes, 2009). A statistically significant total effect is not a prerequisite for testing indirect effects; mediation can exist even when the total effect of X on Y is not statistically significant (Hayes, 2009). Mediation is inferred when the 95 percent bias-corrected and accelerated (BCa) confidence interval for the indirect effect excludes zero (Efron & Tibshirani, 1993; Preacher & Hayes, 2008). This procedure tests the hypothesized indirect path from PPS through PTLB to ESat (H3c). Cross-sectional mediation estimates are subject to bias because mediation consists of causal processes that unfold over time (Maxwell & Cole, 2007). The analysis therefore interprets indirect effects as associative, consistent with Maxwell and Cole (2007).

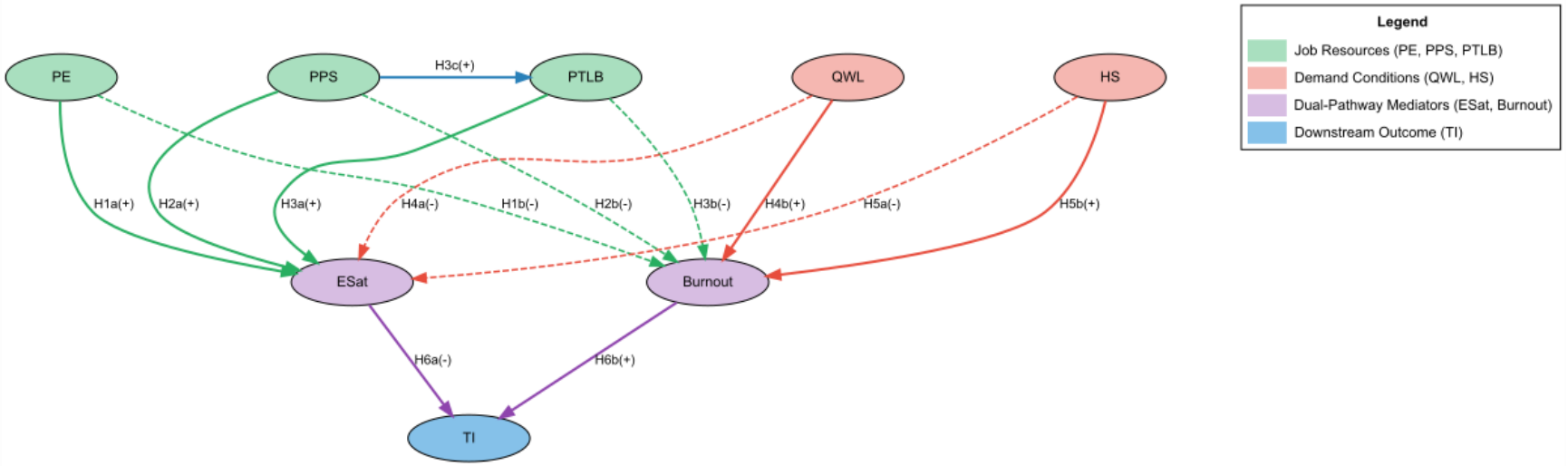


Figure 3.1 Structural Model Path Diagram

CHAPTER 4: RESULTS

4.1 Data Screening and Sample Characteristics

The paid research panel delivered 390 responses. The researcher excluded 1 respondent who failed a directed-response attention check and 3 respondents who reported employment outside the hospitality sector (rental car services, mobile WiFi, media). The final analytical sample comprised 386 valid responses. This sample exceeds the target of $N = 350$ (Section 3.2) and yields a respondent-to-item ratio of 9.0:1 (386 respondents / 43 items), approaching the 10:1 guideline (Hair et al., 2018). Fifteen submissions completed in under three minutes were flagged for speed. Within-person standard deviations across all 43 scale items for these respondents ranged from .65 to 2.36, confirming differentiated responding despite fast completion. These cases were retained based on evidence of engagement.

Table 4.1 and Appendix B, Figure B.1 present the full demographic profile. Front-of-House employees (n = 282, 73.1%) were nearly three quarters of the sample; 55.7% were female (n = 215), 43.0% male (n = 166), with 5 respondents identifying as non-binary or preferring to self-describe. Employment status: full-time: 249 (64.5%); part-time: 111 (28.8%); seasonal: 26 (6.7%). Day shift was the most common schedule (n = 200, 51.8%), followed by rotating (n = 119, 30.8%), swing (n = 42, 10.9%), and overnight (n = 25, 6.5%). The 18-29 age band (n = 169, 43.8%) and 30-39 band (n = 130, 33.7%) together account for 77.5% of respondents, matching the sector's young workforce profile. The most

common hourly wage range was $10.00-$14.99/hour (*n* = 131, 33.9%), and 82.4% of respondents earn below $20/hour (excluding tips). A majority (52.8%) reported receiving tips as a regular part of their income. The most common tenure was 3-5 years (*n* = 118, 30.6%), indicating substantive hospitality experience. These economic indicators provide context for the financial scarcity conditions identified in Section 2.6 (Mullainathan & Shafir, 2013).

Table 4.2 reports construct-level descriptive statistics using item means. The three Agile-aligned resource constructs (PE, PPS, PTLB) had means above their respective scale midpoints (PE *M* = 4.88, PPS *M* = 4.87, PTLB *M* = 4.27 on 7-point Likert scales). Hindrance Stressors had the lowest mean (HS *M* = 1.99 on a 5-point scale), indicating low perceived hindrance levels across the sample. Turnover Intentions showed the highest standard deviation (*SD* = 2.12) and the most platykurtic distribution (Kurt = -1.42), indicating a bimodal split between stayers and leavers. Univariate skewness and kurtosis values fell within acceptable ranges for ML-based estimation (|Skew| < 2.1; |Kurt| < 7; Kline, 2016), although multivariate normality was rejected (Mardia's test, $p < .001$), justifying the MLR estimator.

The researcher reverse-coded five indicators before computing descriptive statistics to align item polarity with parent constructs: PPS1, PPS3, and PPS5 PTLB2; and ESat2. All five items use a 7-point Likert scale. The researcher computed inverted scores by subtracting each observed response from 8.

Mardia's test assessed multivariate normality before selecting an estimator. Multivariate skewness (*b1p* = 354.75, $p < .001$) and kurtosis (*b2* = 2216.20, $p < .001$) both achieved statistical significance. Departure from multivariate normality is common in

Likert-style data (Mardia, 1970), so the researcher used the MLR estimator with Huber-White sandwich standard errors (Section 3.4). All model comparisons report the Satorra-Bentler scaled chi-square statistic.

Univariate outlier screening identified 15 cases with $|z| > 3.29$ ($p < .001$, two-tailed). Mahalanobis distance flagged 22 cases ($p < .001$, $df = 43$), and casewise log-likelihood contributions from the structural model flagged four additional cases with $|z| > 3.29$, yielding 31 unique flagged cases. lavaan (Rosseel, 2012) does not compute Cook's distance for SEM, so casewise log-likelihood contributions served as the primary influence diagnostic (Section 3.4.1). The primary analysis retained all cases. Section 4.4 reports a sensitivity analysis comparing full-sample and trimmed-sample results to verify that results hold across both sample compositions (Pek & MacCallum, 2011).

Careless responding was assessed at the subscale level for the three longest scales (PE: 12 items; PPS: 7 items; PTLB: 6 items), and 16 respondents showed zero within-subscale variance. PPS and PTLB contain reverse-scored items (PPS1, PPS3, PPS5; PTLB2). Eight respondents answered positive items high and reverse items low, showing attentive responding. Four respondents selected the scale midpoint (4) uniformly on one subscale each. The midpoint is unchanged by reverse-scoring (8 - 4 = 4), so consistent midpoint responses indicate disengagement. The remaining four respondents scored uniformly high (6 or 7) across all 12 PE items; ceiling effects on empowerment scales are documented in hospitality samples. None of the eight potentially disengaged respondents appeared repeatedly across different scales. These four midpoint cases make up 1.0% of the sample, so all cases were retained.

All 43 scale items had 0% missing data, so Little's MCAR test was unnecessary and FIML reduces to standard ML with complete data. The researcher ran a WLSMV sensitivity analysis alongside the primary MLR estimator because the complete dataset and ordinal items supported it (Section 3.4.1). The study retained MLR as the primary estimator. Bias-corrected bootstrap confidence intervals for mediation testing use ML estimation; the bootstrap corrects distributional violations, so the MLR sandwich adjustment was not needed for this test (Section 3.4.2). Section 4.4 reports the WLSMV sensitivity results.

4.2 Measurement Model

The researcher estimated the measurement model using MLR with FIML (Section 3.4), following Anderson and Gerbing's (1988) two-step procedure. The model specified eight latent constructs: PE as a second-order factor with four first-order dimensions (Meaning, Competence, Self-Determination, Impact), PPS (7 items), PTLB (6 items), QWL (5 items), HS (3 items), ESat (3 items), Burnout (4 items), and TI (3 items). The model estimated 161 parameters. The CFA converged with an admissible solution; no item parceling was necessary.

The measurement model showed adequate fit. Table 4.3 reports the fit indices; the researcher compared observed values against conventional thresholds (Hu & Bentler, 1999). Figure 4.1 compares the four primary fit indices against the guidelines from Hu and Bentler (1999), who characterized their values as "close to" benchmarks that "seem to result" in lower Type II error rates. The RMSEA of .057 falls within the close fit range (MacCallum, Browne, & Sugawara, 1996); the 90% confidence interval [.054, .061] excludes .08, and the test of not-close fit rejects H0: RMSEA ≥ .08 ($p < .001$). The SRMR

of .071 falls below .08. The combinational rule from Hu and Bentler (1999) is satisfied: RMSEA close to .06 paired with SRMR below .08. The CFI of .913 and TLI of .905 fall below the "close to .95" guideline. Model complexity (161 parameters, 43 indicators, a second-order PE factor) likely attenuates these incremental indices because many estimated parameters reduce power given $N = 386$ (Kline, 2016). The TLI of .905 exceeds .90 and imposes a greater penalty for model complexity than CFI (Kline, 2016). Taken together, these indices suggest the measures adequately represent the hypothesized latent constructs.

Appendix B, Table B.1 reports the complete CFA factor loadings. All first-order loadings achieved statistical significance ($p < .05$). Standardized loadings ranged from .130 to .981 (TI3). BAT4 falls marginally below the conventional .50 threshold (standardized loading of .488); it was retained because the Burnout Assessment Tool (Schaufeli et al., 2020) treats the four-dimension structure as integral to the exhaustion construct. One indicator showed a near-zero loading: PTLB2 ($\lambda = .130$, $p = .031$). This item ("This team tends to handle differences of opinion privately or off-line, rather than addressing them directly as a group" [reverse-coded]) contributed negligibly to the PTLB factor. The sensitivity analysis in Section 4.4 removes PTLB2, while the primary model retains it to preserve the original scale structure (Edmondson, 1999). The second-order loadings of the four PE dimensions onto the general PE factor ranged from .420 (Competence) to .746 (Meaning). The Meaning dimension had the strongest loading ($\lambda = .746$). This pattern aligns with Spreitzer's (1995) original validation, where competence loaded lowest among the four dimensions.

The researcher assessed construct validity using convergent validity (AVE, omega; Table 4.4), inter-construct correlations (Table 4.5), and discriminant validity (HTMT). Figure 4.2 presents the 8 x 8 latent variable correlation matrix as an annotated heatmap. The green-dashed box highlights the resource cluster (PE, PPS, PTLB). The red-dashed box highlights the demand cluster (QWL, HS). The three resources share strong positive intercorrelations: PE-PPS (r = .715), PE-PTLB (r = .677), PPS-PTLB (r = .738). These magnitudes suggest potential collinearity in the structural model. PE-ESat (r = .801) shows the strongest bivariate association, aligning with Seibert et al.'s (2011) meta-analytic estimate (rc = .64, k = 53) after correcting for latent disattenuation. The ESat-Burnout correlation (r = -.809) and PE-Burnout correlation (r = -.775) show a large overlap in variance. The demand constructs QWL and HS correlate moderately (r = .503) and show the expected negative associations with resources and positive associations with burnout. The weakest bivariate association is QWL-PTLB (r = -.084, p = .166), the only pair that did not reach statistical significance. Three constructs had AVE values below .50: PPS (.411), PTLB (.463), and HS (.434). For PPS, low AVE reflects heterogeneous item content in Edmondson's (1999) 7-item scale, which captures distinct safety dimensions (error tolerance, interpersonal risk, help-seeking norms). The composite reliability (ω = .809) exceeds .70, so the items collectively represent the construct despite modest individual loadings (Fornell & Larcker, 1981). For PTLB, the low AVE is driven primarily by PTLB2 (λ = .130); a sensitivity analysis excluding PTLB2 raises PTLB AVE to .548 (Section 4.4). For HS, the three-item scale with truncated item content (Section 3.3.2) constrains convergent validity. The composite reliability (ω = .693) approaches .70. These AVE limitations are documented as measurement constraints in Section 5.4.

The complete HTMT matrix appears in Appendix B, Table B.2. The highest HTMT ratio is PPS-PTLB (.790), which remains below the conservative .85 threshold (Henseler et al., 2015). PPS and PTLB show adequate discriminant validity. The researcher retained the two-factor model to preserve the ability to test H3c (PPS to PTLB to ESat mediation) as a separate path in the structural model. The interpersonal climate (PPS) enables the learning behaviors (PTLB). This distinction aligns with Edmondson's (1999) model.

All constructs were self-reported, so the researcher assessed common method variance (CMV) using the combined procedural and statistical approach from Section 3.4.2 (Podsakoff et al., 2003). The survey design incorporates procedural remedies: respondent anonymity, separate sections for predictors and outcomes, and distinct response anchors across constructs (7-point agreement for PE, PPS, PTLB, and ESat; 5-point frequency for QWL, HS, and Burnout; TI uses a mixed format).

Harman's single-factor test loaded all 43 items into an exploratory factor analysis. A single factor accounted for 30.3% of the total variance, below the 50% threshold. Podsakoff et al. (2003) characterize Harman's test as a heuristic with limited sensitivity; the test does not statistically control for method effects but provides preliminary evidence that common method bias is unlikely to dominate the covariance structure (Hair et al., 2018). The CFA-level unmeasured latent method factor (ULMC) comparison below serves as the primary statistical CMV assessment.

The researcher augmented the CFA model with an unmeasured latent method factor. All observed indicators loaded freely onto this factor alongside their substantive factors. The augmented model fit the data significantly better than the baseline CFA (SB $\Delta\chi^2$ = 442.59, $\Delta df = 43$, $p < .001$), indicating some shared method variance. Section 4.3 reports a

structural-level CMV comparison that adds the unmeasured method factor to the full structural model and evaluates whether structural path coefficients change materially.

The structural-level CMV model did not converge because simultaneously estimating substantive loadings, structural paths, method loadings, control variables, and error variances across 43 indicators made optimization unstable. The analysis relies on three pieces of evidence: the CFA-level CMV comparison, which found significant but non-dominant method variance; Harman's test (30.3%, below the 50% threshold); and procedural remedies (distinct response anchors, anonymity, predictor-outcome separation). These safeguards collectively protect the accuracy of the findings (Podsakoff et al., 2003).

4.3 Structural Model

The researcher estimated the structural model from the validated measurement structure, using MLR with FIML and the Satorra-Bentler scaling correction. Bootstrap resampling (5,000 iterations) generated bias-corrected confidence intervals for indirect effects (Section 3.4.2). The model specifies four structural equations for the hypothesized pathways (Section 3.4). Equation 7a regresses ESat on PE, PPS, PTLB, QWL, HS, and controls. Equation 7b regresses Burnout on the same predictors plus controls. Equation 7c regresses TI on ESat and Burnout plus controls. Equation 7d regresses PTLB on PPS plus controls.

The structural model includes Age, Tenure, Department Group, Hourly Wage, Tipped Status, and Job Insecurity as demographic and economic controls. The model.matrix function dummy-codes all categorical variables and uses the modal category as reference (Age: 18-29; Tenure: 3-5 years; Hourly Wage: $10-14.99/hr; Department:

FOH). Including controls isolates the hypothesized paths from demographic and economic confounds (Becker, 2005). Table 4.6 reports the resulting fit indices.

The CFI of .894 falls below Hu and Bentler's (1999) "close to .95" guideline. Model complexity (220 estimated parameters across 43 indicators, a second-order factor, and six demographic control blocks) explains this attenuation (Kline, 2016). The RMSEA of .048 satisfies the close fit criterion (MacCallum et al., 1996); the 90% confidence interval [.045, .051] excludes .08, and the test of close fit is not rejected (p = .910). The SRMR of .076 falls below .08. The combinational rule (Hu & Bentler, 1999) is satisfied: RMSEA close to .06 paired with SRMR below .08. The optimizer produced a variance-covariance matrix warning: an extremely small eigenvalue (-1.11e-16) fell marginally below zero. A negative eigenvalue of this order (10^{-16}) is machine-precision rounding, effectively zero, and does not indicate that the model is unidentified. All estimates, standard errors, and fit indices were admissible.

The full structural model explained 80.2% of the variance in Employee Satisfaction (R^2 = .802), 81.0% in Burnout (R^2 = .810), and 53.2% in Turnover Intentions (R^2 = .532). PPS accounted for 59.1% of the variance in PTLB (R^2 = .591). TI is the primary substantive outcome. Both the motivational and health impairment pathways target this withdrawal indicator. The R^2 values confirm the Agile-aligned model captures substantial variance in employee outcomes. The remaining unexplained variance (46.8% in TI) reflects the omission of person-level variables (personality, coping style) and organizational-level factors (leadership style, organizational culture). The R^2 values also reflect substantial PE dominance. Collinearity among the three resource predictors (r = .677 to .738) concentrates

explained variance in PE; the R^2 for ESat and Burnout should be attributed primarily to PE rather than to the full predictor set.

Four factors explain these magnitudes. First, latent-variable SEM estimates R^2 after removing measurement error from both predictors and outcomes. Associations between latent constructs are stronger than associations between observed composites because indicator-level error no longer weakens the estimated relationship (Bollen, 1989; Kline, 2016). Second, empowerment alone accounts for the majority of the explained variance. Empowerment correlates with satisfaction at $r = .801$ and with burnout at $r = -.775$ at the latent level. Squaring the empowerment-satisfaction correlation yields .642 ($.801^2 = .642$), meaning empowerment explains 64.2% of satisfaction variance before any other predictor enters the equation. The remaining four predictors and six control variable blocks add incremental variance above this baseline. Third, Karatepe and Uludag (2007) tested a path model among frontline hotel employees in which emotional exhaustion and job satisfaction both predicted intention to leave through separate pathways. The present model extends this specification by estimating latent constructs with five simultaneous predictors per mediator equation, producing higher cumulative R^2 than models with fewer predictors and composite scores. Fourth, Cohen (1988) defines $R^2 > .26$ as a large effect in behavioral research ($f^2 = .35$). The turnover intentions equation ($R^2 = .532$), predicted by only two mediators plus controls, exceeds this threshold and provides the most conservative benchmark in the model. Sensitivity analyses across four conditions (with controls, without controls, full sample, trimmed sample) produced stable path estimates, confirming these R^2 values do not reflect specification error or overfitting.

The forest plot provides a visual overview of all 13 hypothesized pathways, ordered by effect magnitude and coded by decision. Figure 4.3 plots the standardized structural path coefficients (β) for all 13 hypothesized relationships. Diamond markers indicate supported hypotheses; circle markers indicate rejected hypotheses. Two dominant effects emerge: PE to ESat (β = .861) and PE to Burnout (β = -.814). PPS to PTLB (β = .745) is a large effect by Cohen's (1988) benchmarks. The remaining supported paths cluster in the small-to-medium range: ESat to TI (β = -.438), Burnout to TI (β = .248), and HS to Burnout (β = .158). The rejected paths cluster near zero with confidence intervals spanning zero.

Table 4.7 reports the coefficients for all hypothesized relationships. Effect sizes follow Cohen's (1988) benchmarks: $\beta \approx .10$ (small), $\beta \approx .30$ (medium), $\beta \approx .50$ (large). The significance threshold is $p < .05$. Appendix B, Tables B.3 through B.6 present the per-equation regression coefficients with all hypothesized latent paths and demographic controls.

Each dummy-coded control predictor generates multiple regression coefficients (e.g., Age: 5 dummies, Tenure: 4 dummies, Wage: 4 dummies, Dept Group: 2 dummies). The statistically significant controls are: Job Insecurity to ESat (B = -.159, p = .008), Job Insecurity to TI (B = .296, $p < .001$), Dept Group: Admin to TI (B = -.657, p = .021), Dept Group: BOH to PTLB (B = -.281, p = .040).

The ESat equation explains 80.2% of the variance (R^2 = .802). PE is the only significant predictor (B = 1.018, $p < .001$); a one-unit increase in psychological empowerment is associated with a full-unit increase in employee satisfaction. PPS, PTLB, QWL, and HS show no unique contribution after controlling for PE. Among demographic controls, Job Insecurity negatively predicts ESat (B = -.159, p = .008): employees who

perceive higher job insecurity report lower satisfaction, independent of the latent resource and demand predictors.

The Burnout equation explains 81.0% of the variance (R^2 = .810), the highest in the model. PE shows a strong negative association (B = -.561, p < .001): empowered employees report substantially lower burnout. Although HS also achieves significance (B = .155, p = .042), its effect is small compared with PE's B = -.561. QWL approaches significance (B = .172, p = .070), with the unstandardized 95% CI [-.014, .358] narrowly including zero. No demographic controls reach significance in this equation.

The TI equation explains 53.2% of the variance (R^2 = .532). ESat (B = -.613, p < .001) and Burnout (B = .597, p = .001) both predict turnover intentions with approximately equal magnitude in opposite directions. Job Insecurity shows the strongest control effect (B = .296, p < .001). Administrative employees report lower TI than FOH employees (B = -.657, p = .021). A clear age gradient emerges: employees aged 30-39 (B = -.437, p = .014), 40-49 (B = -.863, p = .001), and 60+ (B = -.796, p = .021) all report significantly lower TI than the 18-29 reference group.

The PTLB equation explains 59.1% of the variance (R^2 = .591). PPS is the only significant predictor (B = .886, p < .001): a one-unit increase in psychological safety is associated with nearly a full-unit increase in perceived team learning behavior. BOH employees report lower PTLB than FOH employees (B = -.281, p = .040), consistent with the operational isolation of kitchen roles compared to customer-facing service teams.

The data provide partial support for the motivational pathway (H1a, H2a, H3a). PE showed a large positive association with ESat (β = .861, p < .001), consistent with Seibert et al.'s (2011) meta-analytic estimate (rc = .64, k = 53). The latent β exceeds the meta-

analytic composite because latent correlations correct for measurement error attenuation. PPS and PTLB did not achieve statistical significance. The zero-order latent correlations between PPS-ESat (r = .693) and PTLB-ESat (r = .605) are both large and statistically significant; the structural paths that did not reach significance reflect suppression from the simultaneous estimation of multiple correlated predictors (PE-PPS r = .715; PE-PTLB r = .677; Maassen & Bakker, 2001). PE absorbs the shared resource variance, leaving negligible unique contributions from PPS and PTLB. This dominance pattern has a theoretical explanation: PE comprises four cognitions (meaning, competence, self-determination, impact) that collectively capture the motivational core of supportive work design. PPS and PTLB represent specific interpersonal resource dimensions that associate with satisfaction partially through the same empowerment-related mechanisms. Employees who perceive psychological safety and team learning also tend to perceive higher empowerment (Spreitzer, 1995). The three resources form a tightly coupled cluster rather than independent predictors, and PE functions as the proximal cognitive mediator through which the interpersonal climate variables influence satisfaction.

PE showed a large negative association with Burnout (β = -.814, p < .001), the strongest effect in the model (H1b). HS showed a small positive association with Burnout (β = .158, p = .042), supporting H5b. The effect is small by Cohen's (1988) benchmarks but represents the only demand variable achieving significance in the burnout equation. QWL showed a marginal association with Burnout (β = .139, p = .070). The 95% CI for QWL [-.014, .358] includes zero; the data do not support H4b at α = .05. The QWL-Burnout zero-order correlation (r = .376) confirms a meaningful bivariate association; the structural attenuation reflects shared demand variance with HS (r = .503). The differential

significance of HS versus QWL aligns with the challenge-hindrance demand distinction (Crawford et al., 2010). Hindrance stressors produce frustration and withdrawal because they block goal attainment through structural barriers (red tape, organizational politics, role ambiguity). Workload functions differently: employees may appraise high workload as simultaneous evidence of organizational need and personal competence. Crawford et al. (2010) meta-analytic evidence shows that challenge demands (including workload) relate to burnout more weakly than hindrance demands. The present finding is consistent with this pattern: HS captures demands perceived as fundamentally obstructive, whereas QWL captures volume-based demands with ambivalent appraisal valence.

Both hypothesized antecedents of TI achieved significance (H6a, H6b). ESat negatively predicted TI (β = -.438, p < .001), and Burnout positively predicted TI (β = .248, p = .001). The ESat to TI effect is medium-to-large; the Burnout to TI effect is small-to-medium. Together, the dual-pathway mechanism through satisfaction and burnout explains TI variance, consistent with the JD-R model's prediction that withdrawal cognitions simultaneously reflect attitudinal evaluation (satisfaction) and energy depletion (burnout).

PPS strongly predicted PTLB (β = .745, p < .001), confirming the antecedent condition for the sequential mediation PPS to PTLB to ESat (H3c). Table 4.8 reports the indirect effects. The H3c indirect effect (PPS to PTLB to ESat) yielded a 95% BCa confidence interval [-.142, .280] that includes zero. The data do not support mediation of the PPS to ESat association through PTLB. The dagger (†) in Table 4.9 marks this distinction: the a-path is significant, but the mediation hypothesis is rejected because the indirect effect confidence interval spans zero. The individual paths PPS to PTLB (β = .745, p < .001) and PTLB to ESat (β = .063, p = .500) show that the mediation fails at the second

link: PTLB does not independently predict ESat after controlling for PE and other resources. The cross-sectional design does not capture the temporal unfolding of the PPS to PTLB to ESat chain (Maxwell & Cole, 2007). A longitudinal design measuring PPS at Time 1, PTLB at Time 2, and ESat at Time 3 would provide a stronger test of this sequential mechanism. An exploratory analysis tested the parallel health impairment pathway from psychological safety through team learning behavior to burnout. The unstandardized indirect effect was 0.033 (SE = 0.059). The 95% BCa bootstrap confidence interval [-.077, .160] included zero, confirming no statistically significant mediation through the burnout channel. The b-path from team learning behavior to burnout (β = .056, p = .531) was not statistically significant, consistent with empowerment absorbing the shared variance between team learning behavior and burnout (latent r = -.533). Table 4.8 presents both indirect effects.

Several demographic controls achieved statistical significance and merit theoretical interpretation. Job Insecurity negatively predicted ESat (B = -.159, p = .008) and positively predicted TI (B = .296, p < .001). These effects operate independently of the latent resource and demand constructs, consistent with Conservation of Resources theory: perceived threat to employment constitutes a direct resource loss associated with withdrawal cognitions regardless of current job resource levels (Hobfoll, 2002). The age gradient in TI confirms meta-analytic expectations. Employees aged 30-39 (B = -.437, p = .014), 40-49 (B = -.863, p = .001), and 60+ (B = -.796, p = .021) reported lower TI than the 18-29 reference group. Ng and Feldman (2010) document this pattern across 802 samples: older workers report higher organizational commitment and lower voluntary turnover propensity due to accumulated firm-specific investments, narrowing labor market alternatives, and

socioemotional selectivity. Administrative employees reported lower TI than FOH employees (B = -.657, p = .021), consistent with the structural exposure differences between customer-facing and back-office roles. BOH employees reported lower PTLB than FOH employees (B = -.281, p = .040), consistent with the operational isolation of kitchen and maintenance roles that limits collaborative learning opportunities relative to service teams.

4.4 Sensitivity Analyses

The structural model does not include direct paths from predictors to TI. Resources and demands influence TI through ESat and Burnout. The researcher estimated a partial mediation model by adding direct paths from PE, PPS, PTLB, QWL, and HS to TI. The partial mediation model did not meaningfully improve fit (SB $\Delta\chi^2$ = 2.68, Δdf = 5, p = .749). Full mediation fit: CFI = .894, RMSEA = .048. Partial mediation fit: CFI = .893, RMSEA = .048. The absence of statistically significant direct resource-to-TI paths supports the theoretical specification: resources and demands operate on withdrawal cognitions through the attitudinal (ESat) and energy depletion (Burnout) channels specified by JD-R theory.

The WLSMV estimator did not converge for the full structural model (220 parameters). The optimizer produced a non-admissible solution. For an equivalent model without demographic controls, WLSMV converged successfully. Appendix B, Table B.7 compares the fit indices under both estimators. The WLSMV fit indices fall substantially below the MLR values (CFI .837 vs .910; RMSEA .091 vs .058). This divergence reflects the threshold modeling of ordinal items with restricted response categories (e.g., Burnout's 5-point scale, HS's 5-point scale). The polychoric correlations underlying WLSMV

estimation require stable bivariate frequency tables; items with sparse response categories destabilize these estimates. MLR remains the primary estimator.

Structural path estimates remained stable when demographic controls were excluded. The PE to ESat standardized coefficient shifted by $\Delta\beta = .042$ (from .819 to .861). The PE to Burnout path shifted by $\Delta\beta = .027$ (from -.787 to -.814). The HS to Burnout path moved from $\beta = .166$ ($p = .033$) to $\beta = .158$ ($p = .042$). No path changed significance direction. This stability confirms the hypothesized associations operate independently of demographic or economic confounds (Becker, 2005).

The exclusion of 31 unique flagged cases (15 univariate, 22 multivariate, 4 log-likelihood extreme) did not materially alter fit indices or structural path estimates. Full-sample: CFI = .894, RMSEA = .048. Trimmed-sample ($N = 355$): CFI = .893, RMSEA = .049. Structural path estimates remained within $\Delta\beta < .03$ for all substantive paths. The robustness of results to the exclusion of extreme cases supports the generalizability of the findings within the sampled population (Pek & MacCallum, 2011).

Removing PTLB2 ($\lambda = .130$) improved PTLB psychometric properties: AVE increased from .463 to .548 (above the .50 threshold), and omega increased from .824 to .857. CFA fit remained comparable (CFI: .913 to .915; RMSEA: .057 to .058). Structural path estimates changed negligibly: PTLB to ESat ($\beta = .063$ to .063), PTLB to Burnout ($\beta = .056$ to .060). The primary model retains PTLB2 to preserve the original six-item scale structure (Edmondson, 1999). Future studies should evaluate whether PTLB2's reverse-coded wording introduces respondent acquiescence bias.

4.5 Summary of Hypothesis Results

The consolidated hypothesis assessment integrates all structural and mediation outcomes from the final model. Appendix B, Figure B.2 provides a visual decision matrix. Table 4.9 summarizes all 13 hypothesis decisions. The data supported 5 of 13 hypotheses. The supported paths cluster in two groups. PE dominates both endogenous mediators (H1a: β = .861; H1b: β = -.814). The terminal paths confirm dual-pathway withdrawal (H6a: β = -.438; H6b: β = .248). Among demands, only HS to Burnout (H5b: β = .158) achieved significance. H3c is classified as unsupported because, although the structural path PPS to PTLB is significant (β = .745, p < .001), the mediation test (indirect effect PPS to PTLB to ESat: BCa 95% CI [-.142, .280]) includes zero. All rejected paths did not reach statistical significance; no major opposite-direction effects emerged. Three point estimates (H2a, H4a, H3b) reversed sign from prediction but did not reach statistical significance and remained near zero.

Table 4.1 Demographic Characteristics of the Sample

Variable	Category	n	%
Gender			
	Male	166	43.0
	Female	215	55.7
	Non-binary	4	1.0
	Prefer to self-describe	1	0.3
Age			
	18–29	169	43.8
	30–39	130	33.7
	40–49	54	14.0
	50–59	19	4.9
	60+	13	3.4
	Prefer not to say	1	0.3
Department Group			
	Front-of-House (FOH)	282	73.1
	Back-of-House (BOH)	73	18.9
	Administrative (Admin)	31	8.0
Shift			
	Day	200	51.8
	Swing	42	10.9
	Overnight	25	6.5
	Rotating	119	30.8
Tenure			
	< 6 months	35	9.1
	6–11 months	48	12.4
	1–2 years	92	23.8
	3–5 years	118	30.6
	> 5 years	93	24.1
Status			
	Full-time	249	64.5
	Part-time	111	28.8
	Seasonal	26	6.7
Tipped			
	Yes	204	52.8
	No	182	47.2
Hourly Wage			
	< $10/hr	77	19.9
	$10–14/hr	131	33.9
	$15–19/hr	110	28.5
	$20–24/hr	42	10.9
	$25+/hr	26	6.7

Table 4.2 Descriptive Statistics and Distributional Properties

Construct	Items	Scale	M	SD	Skew	Kurt
PE (Empowerment)	12	1–7	4.88	1.08	−0.31	−0.47
PPS (Psych Safety)	7	1–7	4.87	1.11	−0.51	−0.03
PTLB (Team Learning)	6	1–7	4.27	1.08	−0.24	−0.25
QWL (Workload)	5	1–5	3.74	0.91	−0.49	−0.57
HS (Hind. Stressors)	3	1–5	1.99	0.94	0.99	0.30
ESat (Satisfaction)	3	1–7	4.87	1.55	−0.73	−0.38
Burnout (BAT-4)	4	1–5	2.63	0.84	0.18	−0.17
TI (Turnover Int.)	3	1–7	4.24	2.12	−0.14	−1.42

Table 4.3 Measurement Model Fit Indices

Index	Value	Threshold
χ^2(SB)	1798.737	—
df	828	—
Scaling Correction Factor	1.102	—
p	< .001	—
CFI (robust)	.913	≈ .95
TLI (robust)	.905	≈ .95
RMSEA (robust)	.057	≈ .06
RMSEA 90% CI	[.054, .061]	—
SRMR	.071	< .08

Table 4.4 Convergent Validity (AVE and Omega)

Construct	AVE	ω	Indicators
PE: Meaning	.907	.538	3
PE: Competence	.696	.154	3
PE: Self-Determination	.764	.463	3
PE: Impact	.817	.438	3
PPS	.411	.809	7
PTLB	.463	.824	6
QWL	.593	.881	5
HS	.434	.693	3
ESat	.808	.929	3
Burnout (BAT)	.552	.790	4
TI	.865	.953	3

Table 4.5 Latent Variable Correlation Matrix

Construct	1	2	3	4	5	6	7	8
1. PE	1.00							
2. PPS	.715	1.00						
3. PTLB	.677	.738	1.00					
4. QWL	−.190	−.258	−.084	1.00				
5. HS	−.295	−.434	−.180	.503	1.00			
6. ESat	.801	.693	.605	−.235	−.368	1.00		
7. Burnout	−.775	−.696	−.533	.376	.456	−.809	1.00	
8. TI	−.593	−.559	−.446	.199	.336	−.695	.656	1.00

Table 4.6 Structural Model Fit Indices

Index	Value	Threshold
χ^2(SB)	2824.778	—
df	1500	—
Scaling Correction Factor	1.014	—
p	< .001	—
CFI (robust)	.894	≈ .95
TLI (robust)	.884	≈ .95
RMSEA (robust)	.048	≈ .06
RMSEA 90% CI	[.045, .051]	—
SRMR	.076	< .08

Table 4.7 Structural Path Coefficients

Hypothesis	Path	Pred.	B (Unstd.)	SE (Robust)	β (Std.)	β (CMV)	95% CI	p	Decision
H1a	**PE → ESat**	**(+)**	**1.018**	**0.167**	**.861**	**N/C**	**[0.691, 1.345]**	**< .001*** **	**Supported**
H1b	**PE → Burnout**	**(−)**	**−0.561**	**0.102**	**−.814**	**N/C**	**[−0.760, −0.361]**	**< .001*** **	**Supported**
H2a	PPS → ESat	(+)	−0.119	0.232	−.086	N/C	[−0.574, 0.336]	.608	Rejected
H2b	PPS → Burnout	(−)	0.000	0.136	.000	N/C	[−0.267, 0.267]	.999	Rejected
H3a	PTLB → ESat	(+)	0.073	0.108	.063	N/C	[−0.139, 0.285]	.500	Rejected
H3b	PTLB → Burnout	(−)	0.038	0.060	.056	N/C	[−0.080, 0.156]	.531	Rejected
H3c	**PPS → PTLB (a-path)**	**(+)**	**0.886**	**0.112**	**.745**	**N/C**	**[0.666, 1.106]**	**< .001*** **	**Rejected†**
H4a	QWL → ESat	(−)	0.025	0.141	.012	N/C	[−0.253, 0.302]	.862	Rejected
H4b	QWL → Burnout	(+)	0.172	0.095	.139	N/C	[−0.014, 0.358]	.070	Rejected
H5a	HS → ESat	(−)	−0.229	0.136	−.136	N/C	[−0.497, 0.038]	.092	Rejected
H5b	**HS → Burnout**	**(+)**	**0.155**	**0.076**	**.158**	**N/C**	**[0.006, 0.304]**	**.042***	**Supported**
H6a	**ESat → TI**	**(−)**	**−0.613**	**0.107**	**−.438**	**N/C**	**[−0.823, −0.402]**	**< .001*** **	**Supported**
H6b	**Burnout → TI**	**(+)**	**0.597**	**0.182**	**.248**	**N/C**	**[0.241, 0.952]**	**.001** **	**Supported**

Table 4.8 Indirect Effects (BCa Bootstrap, 5,000 Resamples)

Hypothesis	Path	B (Unstd.)	SE (Boot.)	95% BCa CI	Mediation?
H3c	PPS → PTLB → ESat	0.065	0.106	[−0.142, 0.280]	No
Exploratory	PPS → PTLB → Burnout	0.033	0.059	[−0.077, 0.160]	No

Table 4.9 Summary of Hypothesis Decisions

Hypothesis	Path	Predicted	Observed β	p	Decision
H1a	**PE → ESat**	**(+)**	**.861**	**< .001**	**Supported**
H1b	**PE → Burnout**	**(−)**	**−.814**	**< .001**	**Supported**
H2a	PPS → ESat	(+)	−.086	.608	Rejected
H2b	PPS → Burnout	(−)	.000	.999	Rejected
H3a	PTLB → ESat	(+)	.063	.500	Rejected
H3b	PTLB → Burnout	(−)	.056	.531	Rejected
H3c	PPS → PTLB → ESat (Ind.)	(+)	.047	.501	Rejected
H4a	QWL → ESat	(−)	.012	.862	Rejected
H4b	QWL → Burnout	(+)	.139	.070	Rejected
H5a	HS → ESat	(−)	−.136	.092	Rejected
H5b	**HS → Burnout**	**(+)**	**.158**	**.042**	**Supported**
H6a	**ESat → TI**	**(−)**	**−.438**	**< .001**	**Supported**
H6b	**Burnout → TI**	**(+)**	**.248**	**.001**	**Supported**

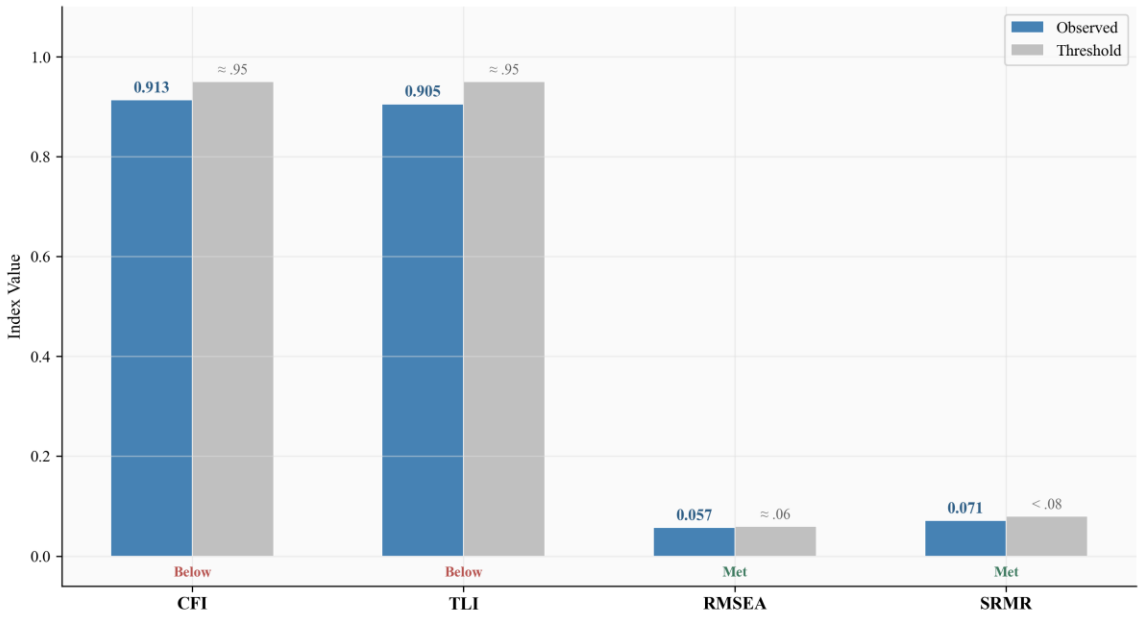


Figure 4.1 Measurement Model Fit Indices vs. Conventional Thresholds

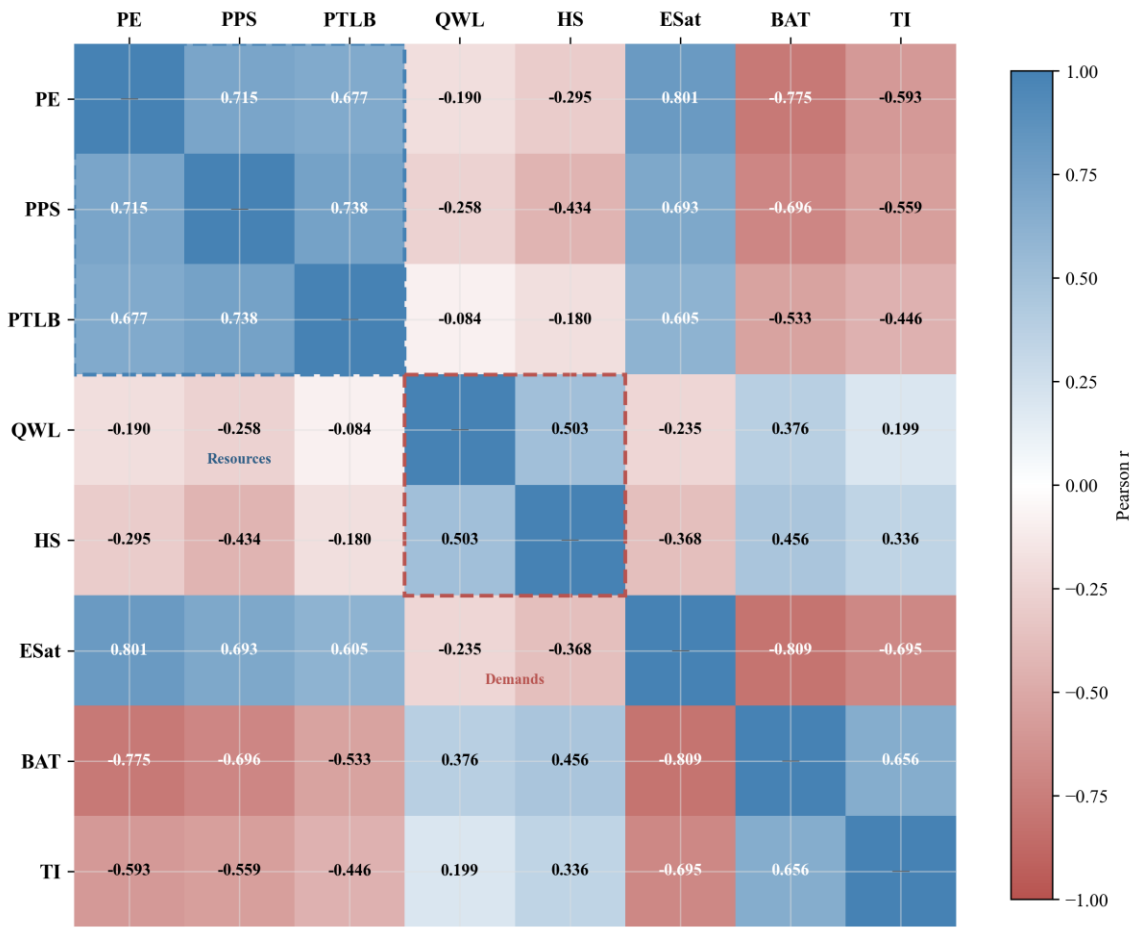


Figure 4.2 Latent Variable Correlation Matrix

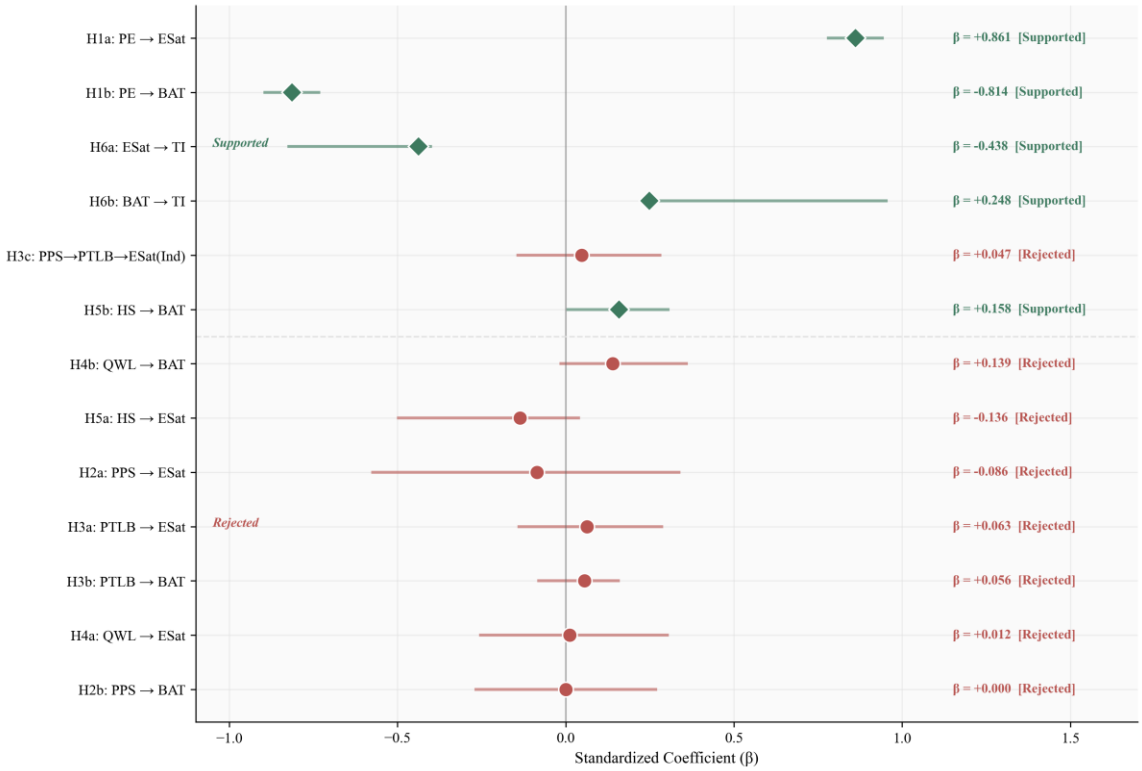


Figure 4.3 Forest Plot of Standardized Structural Path Coefficients

CHAPTER 5: CONCLUSION & DISCUSSION

5.1 Summary of Findings

This study evaluated whether an internal work environment aligned with adapted Agile values and principles associates with job resources that predict positive employee attitudes and reduce withdrawal cognitions. The model specified three Agile-aligned job resources: PE, mapped to AP11 (Self-Organization); PPS, mapped to OV1 (Interactions over Processes); and PTLB, mapped to OP12 (Regular Reflection). Two demand conditions reflecting deviation from Agile tenets were tested: Quantitative Workload (deviation from AP8, Sustainable Pace) and Hindrance Stressors (deviation from OP10, Simplicity, and AP6, Clear Communication). The model tested direct associations with Employee Satisfaction, Burnout, and Turnover Intentions, along with the H3c mediation pathway, using CB-SEM in a sample of 386 non-management hospitality employees.

The data supported 5 of the 13 hypothesized relationships (H1a, H1b, H5b, H6a, H6b), rejected 8, and showed no effects opposite to prediction. The full structural model explained 80.2% of the variance in satisfaction, 81.0% in burnout, and 53.2% in turnover intentions. The results partially supported both the motivational pathway (resources to satisfaction to reduced turnover) and the health impairment pathway (demands to burnout to increased turnover).

Figure 5.1 maps the structural model's complete pathway architecture. Solid green lines represent supported paths; dashed grey lines represent unsupported paths.

Empowerment functions as the central resource variable, showing the two largest associations in the model: a strong positive association with satisfaction and a strong negative association with burnout. The terminal pathway operates through dual mechanisms. Satisfaction is negatively associated with turnover intentions through the motivational channel. Burnout is positively associated with turnover intentions through the health impairment channel. The remaining resource variables (psychological safety, team learning behavior) and demand variables (quantitative workload, hindrance stressors) show limited unique predictive power after accounting for empowerment. The resource collinearity identified in Section 4.2 explains this attenuation. The single exception is hindrance stressors to burnout, the only demand variable with a detectable unique effect.

The findings address each research question and objective. RQ1 asked whether empowerment, psychological safety, and team learning behavior function as distinct, reliable constructs. The measurement model confirmed acceptable fit. All three constructs achieved adequate composite reliability, and discriminant validity tests confirmed the constructs measure separate dimensions. RQ2 asked to what extent the three resource constructs associate with satisfaction and burnout. Empowerment showed large associations with both satisfaction (H1a) and burnout (H1b). Meta-analytic evidence predicts asymmetry between these two effects: Seibert et al. (2011) report a stronger PE-satisfaction association than PE-strain association across independent samples, consistent with JD-R's positioning of resources as primarily motivational (Bakker & Demerouti, 2017). The near-equal magnitudes in the present study reflect the structural resource scarcity that characterizes this population; Section 5.2 discusses this amplification.Psychological safety and team learning behavior showed negligible unique

contributions after controlling for empowerment (H2a, H2b, H3a, H3b rejected). RQ3 asked to what extent quantitative workload and hindrance stressors predict satisfaction and burnout. Hindrance stressors showed a small positive association with burnout (H5b). Quantitative workload showed a marginal association with burnout that remained uncertain (H4b rejected). Neither demand predicted satisfaction directly (H4a, H5a rejected). The H3c mediation (PPS to PTLB) failed at the second link: team learning behavior did not independently predict satisfaction after controlling for empowerment. Objective 1 (evaluate the correspondence between Agile tenets and JD-R constructs) receives partial support: empowerment, mapped to Self-Organization (AP11), dominated both pathways, confirming that this Agile-to-construct alignment carries empirical weight. The remaining resource mappings showed strong bivariate associations but lacked unique structural contributions. Objective 2 (examine resource-outcome associations) is confirmed for empowerment and unconfirmed for the other two resources at the structural level. Objective 3 (estimate demand-outcome associations) is confirmed for hindrance stressors to burnout and unconfirmed for quantitative workload or for any demand-to-satisfaction path.

5.2 Theoretical Implications

The central theoretical question asks whether Agile philosophy specifies a coherent set of resource-enhancing conditions when embedded within JD-R theory. The pattern of supported and unsupported paths provides the answer.

Eight of thirteen hypothesized paths were statistically non-significant in the structural model. The bivariate latent correlations for all eight paths match the direction and approximate magnitude of published meta-analytic benchmarks. Empowerment

predicts job satisfaction across 53 independent samples (*rc* = .64; Seibert et al., 2011). Psychological safety predicts satisfaction across 20 samples ($\hat{\rho}$ = .53; Frazier et al., 2017). Hindrance stressors predict burnout at a moderate level across the meta-analytic literature ($\hat{\rho}$ = .30; Crawford et al., 2010). The literature-derived predictions hold at the bivariate level in this sample. No prior study tested empowerment, psychological safety, and team learning behavior simultaneously in a single structural equation. The paths that did not reach significance reflect collinear resource clustering under simultaneous estimation rather than theoretical misspecification; the construct-level interpretation follows below.

The data partially support the Agile-JD-R integration. Empowerment dominated both pathways, confirming that self-organization (AP11) represents the strongest Agile-aligned resource in this population. This dominance aligns with Self-Determination Theory (Gagné & Deci, 2005): empowerment captures satisfaction of the basic psychological needs for autonomy and competence, which SDT identifies as the primary drivers of intrinsic motivation and well-being. Fulfilling these core needs accounts for the bulk of resource-driven variance in hospitality employee outcomes. Psychological safety and team learning behavior, despite strong individual associations with outcomes, showed negligible unique contributions after controlling for empowerment. The three resources share a common theoretical origin in supportive work design; when estimated simultaneously, empowerment absorbs the shared resource variance and leaves negligible unique contributions from the other two. Psychological safety strongly predicted team learning behavior, confirming Edmondson's (1999) antecedent proposition. The mediation through satisfaction failed because team learning behavior contributed negligibly to satisfaction after accounting for empowerment.

Empowerment showed the strongest positive association with satisfaction in the model. Seibert et al. (2011) synthesized 53 studies that examined the empowerment-satisfaction link and found a strong positive association (.64): empowered employees consistently reported higher satisfaction. The present estimate exceeds this meta-analytic composite for two reasons: latent estimation corrects for measurement error, and COR theory predicts that resource gains produce outsized motivational effects when baseline resources are low (Hobfoll, 2002). Hospitality non-management employees operate under structural resource scarcity (restricted autonomy, limited voice), so empowerment gains carry disproportionate motivational weight. Fulford and Enz (1995) found that the three empowerment dimensions collectively explained 15% of the variance in satisfaction and 35% of the variance in loyalty among private club employees. Meaning and influence were equally significant predictors of satisfaction, and meaning was the strongest predictor of loyalty. Hancer and George (2003) confirmed a three-factor empowerment structure (meaning, competence, influence) in restaurant employees and showed that employees who felt competent but lacked influence over their work environment reported lower satisfaction. The present sample replicates this dimension-level pattern. Chiang and Hsieh (2012) reported that empowerment predicts job performance among hotel employees, confirming the empowerment-performance link in hospitality. The present data extend this evidence to the satisfaction domain. Psychological safety and team learning behavior did not individually predict satisfaction. The strong bivariate associations between these constructs and satisfaction confirm meaningful relationships at the zero-order level; the near-zero structural paths reflect suppression from simultaneous estimation of three correlated resources.

Empowerment showed the strongest negative association with burnout, the largest effect in the model. Seibert et al. (2011) synthesized 20 studies that examined the empowerment-strain link (totaling 7,764 employees) and found a negative association (-.37): employees who reported higher empowerment consistently experienced lower psychological strain. The present estimate exceeds this meta-analytic association. Three theoretical mechanisms explain the magnitude: latent estimation corrects for measurement error; COR theory predicts that resource gains carry outsized protective effects when baseline resources are low (Hobfoll, 2002), and hospitality non-management employees operate under structural resource scarcity; and SDT predicts that fulfillment of autonomy and competence needs buffers against the depletion that produces burnout (Gagné & Deci, 2005). Where baseline resource levels remain structurally low, incremental empowerment yields outsized protective effects against depletion. Hindrance stressors (deviation from OP10, Simplicity; AP6, Clear Communication) predicted burnout with a small effect, the only demand variable with a detectable unique association in the burnout equation. Quantitative workload showed a marginal association with burnout that remained uncertain. The meaningful bivariate association between workload and burnout at the zero-order level confirms a substantive relationship; the structural attenuation reflects shared demand variance between the two demand constructs. The differential pattern aligns with the challenge-hindrance demand framework (Crawford et al., 2010): hindrance stressors (red tape, role ambiguity, organizational politics) block goal attainment through structural barriers and produce frustration-driven depletion, whereas workload carries ambivalent appraisal valence because employees may interpret high volume as organizational investment in their contribution. Crawford et al. (2010) meta-analytic evidence shows that

hindrance demands (red tape, role ambiguity, organizational politics) show a stronger association with burnout (.30) than challenge demands such as workload (.16), confirming that demands perceived as obstructive are more depleting than demands perceived as growth opportunities. The present hindrance-to-burnout association is weaker than both Crawford et al.'s overall meta-analytic estimate (.30) and their structural path estimate (.25), indicating that hindrance stressors produce less depletion in this sample than in the broader literature; the floor effect on hindrance stressors (sample mean of 1.99 on a 5-point scale) restricts the variance available to detect the full demand-burnout association. Schaufeli et al. (2020) conceptualize burnout as exhaustion, mental distance, cognitive impairment, and emotional impairment. Karatepe and Uludag (2007) reported that emotional exhaustion predicts turnover intentions in hospitality. The present findings partially confirm this pattern: burnout predicted turnover intentions with a small-to-medium effect, though the effect size is attenuated relative to Karatepe and Uludag's estimate because both satisfaction and burnout compete as simultaneous predictors of turnover.

Neither quantitative workload nor hindrance stressors predicted satisfaction directly. The near-zero demand-to-satisfaction paths indicate that demands in this population operate exclusively through energy depletion (burnout) rather than through a direct attitudinal pathway. Lesener et al. (2019) confirmed this pattern using longitudinal data from 74 studies (totaling 33,761 employees): job demands predicted increased burnout over time, though the effect was small, while demands did not meaningfully predict engagement, confirming that demands drain energy without directly eroding positive motivation. The reciprocal model further showed that job resources predicted increased

engagement and reduced burnout over time, meaning employees who gained resources became more engaged and less exhausted in subsequent measurement periods, consistent with the gain spirals that COR theory predicts. The present cross-sectional pattern aligns with these longitudinal findings: demands predict burnout exclusively, and resources predict both positive attitudes and reduced depletion.

The measured psychological states serve as the mechanisms through which Agile-aligned conditions associate with downstream outcomes. This confirms the "Being Agile" distinction (Section 1.2). Measuring the psychological states specified by the Agile heuristic provides empirical evidence for the philosophy's psychological intent and isolates the psychological outcomes from the mechanical practices. The results extend Rietze and Zacher (2022), who tested JD-R with Agile practices in 260 Agile team members and found that agile practices reduced employee fatigue indirectly by lowering perceived job demands and increased employee engagement indirectly by raising perceived job resources, meaning agile practices improved well-being through the same demand-resource mechanisms that JD-R theory specifies. That study measured Agile through self-reported practice adoption (retrospectives, sprints, stand-ups); the present study treated Agile tenets as the philosophical source of resource conditions and measured the psychological states those practices produce. The convergence of both approaches strengthens the evidence base for Agile as a work design framework with measurable well-being consequences.

The findings address the conceptual risk that Pierce and Aguinis (2013) identify. The Too-Much-of-a-Good-Thing effect occurs when beneficial antecedents reach inflection points and produce asymptotic or negative effects. Because this study specified strictly linear structural paths to preserve model parsimony, the results represent the

average linear effect of Agile-aligned resources across the observed range. The positive associations align theoretically with the expectation that hospitality work reflects structural resource scarcity (Section 1.2; Hobfoll, 2002). Employees operate far below any saturation threshold. Verifying the absence of an asymptotic threshold requires future models that introduce quadratic terms (Section 5.4).

Psychological safety and team learning behavior did not independently predict satisfaction or burnout in the structural model. Established meta-analytic evidence supports these constructs individually. Seibert et al. (2011) found that empowered employees consistently reported higher satisfaction, lower strain, and lower turnover intentions across dozens of independent samples. Frazier et al. (2017) meta-analyzed 136 independent samples (totaling over 22,000 employees) and found that employees who felt psychologically safe were substantially more satisfied with their jobs, more engaged in their work, and most strongly, more likely to engage in learning behaviors. Shared variance among correlated predictors accounts for the null structural results. The strong bivariate associations alongside the near-zero structural paths confirm suppression from simultaneous estimation. These three resources share theoretical origins in supportive work design; their simultaneous inclusion creates the conditions where collinear predictors attenuate each other's unique contributions.

The relative strength of the motivational versus health impairment pathways carries implications for both JD-R theory and COR predictions. Both pathways received partial support. Empowerment dominated both channels, functioning as a cross-pathway resource: it predicted higher satisfaction (motivational) and lower burnout (health impairment) simultaneously. Seibert et al. (2011) synthesized 17 studies that examined the

empowerment-turnover intentions link (totaling 8,384 employees) and found that empowered employees were consistently less likely to intend to leave their organizations (-.36). The present study extends this finding by decomposing the empowerment-to-turnover mechanism into two parallel channels (via satisfaction and via burnout), revealing that the motivational pathway carries the larger terminal effect. This dual operation aligns with Hobfoll's (2002) assertion that resource availability generates protective cascades across multiple outcome domains. The satisfaction-to-turnover path exceeded the burnout-to-turnover path in absolute magnitude. The motivational pathway (via satisfaction) exerts a stronger terminal association with withdrawal cognitions than the health impairment pathway (via burnout). Two interpretations follow. First, satisfaction functions as a "reservoir of goodwill" (Section 2.8; Lee & Mitchell, 1994): consistent resource availability may serve as a buffered reserve that increases coping capacity against stressor-triggered withdrawal. Second, active survivor bias truncates the burnout distribution, selectively attenuating the burnout-to-turnover association among currently employed respondents (Section 5.4).

The H3c mediation result directly tested Edmondson's (1999) foundational proposition that psychological safety creates the interpersonal conditions under which team learning behavior becomes possible. The structural path from psychological safety to team learning behavior showed a strong positive association, confirming the antecedent link. Frazier et al. (2017) found that the strongest outcome of psychological safety across their entire meta-analysis was learning behavior: employees who felt safe were most likely to experiment, seek feedback, and discuss errors. The present structural estimate exceeds this meta-analytic benchmark, indicating that the safety-to-learning mechanism operates with

particular strength in hospitality teams where interpersonal risk from customer complaints and service errors is a daily operational reality. The indirect effect through team learning behavior to satisfaction showed a negligible effect. The mediation fails at the second link: team learning behavior does not independently predict satisfaction after controlling for empowerment and other resources. The cross-sectional design does not capture the temporal unfolding of the safety-to-learning-to-satisfaction chain (Maxwell & Cole, 2007). A longitudinal design measuring psychological safety at Time 1, team learning behavior at Time 2, and satisfaction at Time 3 would provide a stronger test. Team learning behavior may also contribute to satisfaction through external channels: increased perceived effectiveness and autonomy represent alternative mechanisms that the current model does not decompose.

This study omitted direct measurement of Servant Leadership. The successful operation of empowerment and psychological safety contextualizes the leadership dynamics that prior literature identifies as antecedents to these constructs. Greenleaf (1977) and Liden et al. (2014) establish that Servant Leadership prioritizes employee needs, humility, and barrier removal. Wang et al. (2019) showed the chain from error management culture to psychological safety to organizational commitment in Hong Kong hotel employees. The present results inform future research by identifying which psychological outcomes of leadership style (empowerment, safety) predict downstream attitudes in hospitality. Direct measurement of Servant Leadership behaviors in future studies tests whether specific leadership practices predict the resource conditions observed here.

The discriminant validity analysis confirmed that psychological safety and team learning behavior function as empirically distinct resources in this sample, consistent with

Edmondson's (1999) conceptual separation. The two-factor model was retained, preserving the ability to test H3c. The alternative WLSMV estimator did not converge for the full structural model. For the model without controls, WLSMV converged with substantially lower fit indices. The divergence reflects sensitivity to threshold modeling for items with restricted response ranges. The study retains the MLR results as the primary estimates because bootstrap confidence intervals for indirect effects require continuous-variable estimation and because MLR with robust standard errors accommodates non-normality. The comparison of the full mediation model against a partial mediation model (adding direct predictor-to-turnover paths) did not improve fit. The model retains full mediation. Humborstad and Perry (2011) found in a sample of 290 Macau hotel employees that empowerment practices predicted more favorable job attitudes, and these attitudes in turn strongly reduced employees' intentions to leave; empowerment reduced turnover intentions entirely by improving how employees felt about their jobs rather than through any direct mechanism. The present findings replicate this full mediation pattern: resources and demands operate on withdrawal cognitions through the satisfaction and burnout channels, with no detectable direct effects bypassing these mediators.

The pattern of supported and unsupported paths yields a clear conclusion about Agile philosophy's role. Agile philosophy functions as a valid but imprecise heuristic for hospitality work design. The heuristic correctly identified the dual-pathway structure through which work conditions associate with turnover intentions: resources predict satisfaction, demands predict burnout, and both mediate withdrawal. The heuristic correctly identified that Agile-aligned conditions function as job resources. It overestimated the independence of team-level constructs relative to individual

empowerment. The three resource constructs form a correlated cluster whose structural effects concentrate in empowerment rather than operating as distinct mechanisms. Agile-aligned work redesign associates with reduced turnover intentions primarily through empowerment, which operates as a cross-pathway resource predicting both higher satisfaction and lower burnout simultaneously. Psychological safety retains a confirmed structural role as an enabler of team learning behavior, but this pathway does not independently predict employee attitudes beyond what empowerment already accounts for.

This study contributes the following empirical findings to the hospitality and organizational behavior literature. (i) Concurrent estimation of psychological empowerment, perceived psychological safety, and perceived team learning behavior within a single JD-R structural model revealed that empowerment absorbs the shared variance of the other two resources; the three constructs form a correlated cluster whose structural effects concentrate in empowerment. This suppression pattern is invisible in studies that test these constructs in isolation. (ii) Empowerment operates as a cross-pathway resource, predicting both higher satisfaction and lower burnout simultaneously in non-management hospitality employees. (iii) Hourly wage and tipped status did not predict turnover intentions after modeling empowerment and burnout, indicating that work design conditions account for withdrawal cognitions beyond what compensation differences explain in this sample. (iv) Hindrance stressors predicted burnout while quantitative workload did not, consistent with the challenge-hindrance demand distinction (Crawford et al., 2010) and documented here within a hospitality JD-R model with concurrent resource estimation. (v) Full mediation held: adding direct resource-to-turnover and

demand-to-turnover paths did not improve model fit. All resource and demand effects operate through the satisfaction and burnout channels.

5.3 Practical Implications

The results carry direct operational implications for hospitality managers seeking to reduce turnover through work redesign independent of wage competition. The structural model identifies which conditions to strengthen (resources) and which to reduce (demands), along with the mechanisms (satisfaction and burnout) through which these conditions operate.

Empowerment generated the strongest effects in both pathways. Managers must distribute decision authority to non-management employees, consistent with AP11 (Self-Organization). Concrete implementations include granting discretion over service recovery decisions to enable real-time, independent problem-solving. Managers must solicit employee input on scheduling and shift allocation. Organizations must provide access to operational performance data. Spreitzer (1995) identifies access to information, resources, autonomy, and strategic knowledge as four organizational conditions that generate empowerment. Organizations that restrict information flow and concentrate decision authority in management layers systematically suppress this resource. The magnitude of empowerment's effects positions it as the highest-priority intervention target.

Psychological safety (OV1, Interactions over Processes) did not independently predict satisfaction or burnout after controlling for empowerment, but strongly predicted team learning behavior. Managers must create environments that reward error reporting and eliminate punitive responses. Edmondson (1999) identifies leader behavior as the primary antecedent of team psychological safety. Specific implementations include

structured team debriefs after service incidents (emphasizing process improvement, excluding blame attribution) and protected feedback channels. Guchait et al. (2016) showed that error management culture predicts reduced voluntary turnover in hospitality. The practical contribution of psychological safety operates through enabling team learning and through its strong bivariate association with outcomes, which the structural model attributes to shared resource variance with empowerment.

Team learning behavior did not independently predict satisfaction or burnout. The practical implementation of OP12 (Regular Reflection) remains theoretically motivated. Managers should institutionalize brief weekly team huddles to identify process improvements and establish structured feedback loops from guest interactions. The demonstrated link from psychological safety to team learning behavior confirms that building psychological safety is a prerequisite for effective team reflection. BOH environments (kitchens, housekeeping, maintenance) present distinct implementation barriers: high noise levels, continuous production demands, and physical separation from management reduce opportunities for structured reflection. BOH-specific adaptations include pre-shift micro-huddles (3-5 minutes), digital feedback boards in staff areas, and post-service written reflection logs. The structural model confirms that BOH employees report lower team learning behavior than FOH employees, reinforcing the need for role-adapted implementation.

Hindrance stressors predicted burnout. Quantitative workload showed a marginal association with burnout whose effect remained uncertain. The practical implication targets the health impairment pathway: reducing structural friction and hindrance stressors associates with lower burnout. Organizations should conduct red tape audits (OP10,

Simplicity) that eliminate operationally unjustified procedural requirements, deploy workload scheduling algorithms that maintain sustainable pace during peak demand (AP8, Sustainable Pace), and host role clarity workshops (AP6, Clear Communication) that reduce informational friction.

Both the motivational pathway (satisfaction to turnover intentions) and health impairment pathway (burnout to turnover intentions) showed detectable effects. Managers receive evidence that work redesign yields returns through two complementary mechanisms simultaneously. Resource availability (primarily empowerment) associates with higher employee satisfaction and lower burnout. This dual benefit maximizes the return on work redesign investments because a single intervention (e.g., granting decision authority) predicts positive effects through both channels.

Job insecurity predicted both lower satisfaction and higher turnover intentions, operating independently of the resource and demand constructs. This finding positions perceived job insecurity as a direct threat to resource conservation (Hobfoll, 2002) that managers must address through transparent communication about organizational stability and employment continuity. The age gradient in turnover intentions (employees aged 30 and older reporting lower turnover intentions than the 18-29 reference group; Ng & Feldman, 2010) identifies younger employees as the highest-risk demographic for voluntary departure. Retention strategies must target this population through accelerated development pathways and early empowerment initiatives that counteract the lower organizational commitment characteristic of early-career employees. Administrative employees reported lower turnover intentions than Front-of-House employees, indicating that administrative roles provide structural conditions (schedule predictability, reduced

customer-facing emotional labor) that buffer against withdrawal cognitions. This finding warrants further investigation into whether administrative role design contains transferable elements for frontline positions.

Economic controls (hourly wage band and tipped status) did not predict turnover intentions when empowerment and burnout are modeled simultaneously. In a low-wage industry where compensation is frequently cited as the primary turnover driver, this null finding carries practical importance: work design conditions (empowerment, psychological safety, demand reduction) account for withdrawal cognitions beyond what wage differences explain in this sample. Managers who rely exclusively on wage competition to retain employees address only a fraction of the turnover mechanism that the structural model identifies.

5.4 Limitations and Future Research

Several design and measurement constraints limit the generalizability and causal interpretability of the findings. The researcher collected all data at a single time point. Bias limits cross-sectional mediation estimates because mediation consists of causal processes that unfold over time (Maxwell & Cole, 2007). The indirect effect for H3c represents an associative pattern consistent with the theorized causal chain. The data strictly test associational claims. The findings confirm that the associations align directionally with the theoretical model. The model assumes a temporal ordering (resources and demands to attitudes to withdrawal) that requires longitudinal validation. Future research should use two-wave or three-wave panel design should separate predictors, mediators, and outcomes across time and test longitudinal JD-R dynamics (Lesener et al., 2019; Maxwell & Cole, 2007).

All constructs were measured via self-report, introducing the risk that shared method variance inflates observed correlations (Podsakoff et al., 2003). The survey design incorporated procedural remedies: distinct response anchors across constructs, anonymity assurance, and psychological separation of predictor and outcome items. Statistical tests confirmed some shared method variance is present without dominating the covariance structure. The structural-level common method variance model did not converge, forcing reliance on measurement-level results and procedural remedies regarding the accuracy of the findings. Bakker and Demerouti (2017) note that cross-pathway effects (resources predicting burnout) are particularly susceptible to inflation from cross-sectional common method variance. The empowerment-to-burnout path is this type of cross-pathway effect, and readers should interpret its magnitude with this caution. Future research should pair self-reports with external indicators, including supervisor ratings and organizational records for absenteeism, actual turnover, and guest satisfaction, to reduce inflation from shared method variance in cross-sectional models (Podsakoff et al., 2003).

Three constructs showed convergent validity below the conventional threshold: psychological safety, team learning behavior, and hindrance stressors. For psychological safety, heterogeneous item content in Edmondson's (1999) 7-item scale captures distinct safety dimensions; the composite reliability exceeds the conventional threshold, indicating collective representation despite modest individual loadings. For team learning behavior, one item (PTLB2) performed poorly; excluding it raises convergent validity above the threshold (Section 4.4). For hindrance stressors, the three-item subscale with modified frequency anchors constrains convergent validity. These measurement limitations attenuate the structural path estimates for psychological safety, team learning behavior, and

hindrance stressors, contributing to their weak or absent unique effects. Future research should re-estimate the measurement model after revising indicator sets, including PTLB models that remove PTLB2 and retest convergent validity and discriminant validity under alternative item wordings and response formats.

The strong inverse association between satisfaction and burnout raises the possibility that the two mediators capture opposite poles of a single affective continuum rather than two independent pathways. If satisfaction and burnout are empirically redundant, the dual-pathway architecture central to JD-R theory collapses into a single affective channel. Future research should test bifactor and alternative mediator structures that partition shared affective variance from pathway-specific variance, then compare fit and path stability against the dual-pathway specification.

The structural model fit fell below the incremental fit benchmark. The decrease from the measurement model to the structural model is driven by the addition of control variable parameters. The absolute fit indices satisfy the combinational rule (Hu & Bentler, 1999), and the close-fit test supports adequate model specification (MacCallum et al., 1996). Incremental fit indices penalize model complexity (Kline, 2016); the simultaneous estimation of many parameters with a moderate sample size systematically depresses these indices. This limitation reflects model complexity relative to sample. Future research should increase sample size or reduce parameterization from control blocks through pre-registered control selection tied to hypothesized confounds, then reassess incremental fit indices under the revised specification (Kline, 2016).

Several measurement choices introduce limitations that readers must interpret alongside the results. The BAT-4 (Hadžibajramović et al., 2024) uses a single item per

dimension to capture the full burnout syndrome. Rasch analysis confirms unidimensionality. The format minimizes respondent burden. Single-item-per-dimension measures inherently sacrifice within-dimension reliability and precision. Any attenuation of the BAT-4's paths in the structural model reflects this measurement economy. Future research should replace BAT-4 with the full 23-item Burnout Assessment Tool and estimate dimension-level effects to reduce measurement economy constraints and test whether specific burnout components show stronger links to turnover intentions (Schaufeli et al., 2020).

The Turnover Intentions measure uses two distinct anchor formats across its three items: one likelihood scale and two agreement scales. Because all items share the same response width, the analysis required no standardization. Future research should standardize turnover intention items to a single anchor format to reduce format-driven covariance and to support ordinal estimation without mixed-response artifacts.

The Hindrance Stressors measure retains a subset of the original items (Cavanaugh et al., 2000), as the researcher excluded items measuring job security and career stagnation a priori to preserve construct validity for operational friction. Section 3.3.2 theoretically justifies the exclusion. A 3-item scale operates with minimal redundancy, and any single problematic response within the scale exerts disproportionate influence on the latent factor. The item stem adaptation from intensity ("The degree to which...") to frequency ("How often...") uses a validated frequency format (Spector & Jex, 1998) and alters the original measurement instrument. Future research should revalidate the modified hindrance stressor frequency stems against the original format and test alternative hindrance stressor

specifications that reintroduce omitted content when the research question includes employment precarity and career blockage (Cavanaugh et al., 2000; Spector & Jex, 1998).

The descriptive statistics reveal a floor effect for hindrance stressors, indicating the sample reported minimal operational friction. Restricted variance on the hindrance stressors scale attenuates structural path estimates and limits power to detect demand-burnout associations. The small effect size for hindrance stressors to burnout may partially reflect this range restriction rather than a genuinely weak theoretical relationship. Future research should sample settings with higher hindrance variance, including properties under restructuring or management transition, to reduce range restriction created by hindrance floor effects and strengthen tests of the health impairment pathway.

The perceived team learning behavior measure uses 6 of the original 7 items (Edmondson, 1999), excluding "We invite people from outside the team..." due to role-authority constraints in non-management hospitality. Theory justifies this exclusion (Section 3.3.1). The omission concurrently reduces the construct's behavioral coverage. Future research should develop and validate hospitality-role-feasible team learning behavior items that capture cross-boundary learning without requiring authority to invite outsiders, then test whether the revised content alters PTLB-outcome pathways.

The analysis models empowerment as a second-order factor aggregating four dimensions. This aggregation tests only whether overall empowerment predicts outcomes and leaves the dimension-level Agile correspondences that Chapter 2 hypothesizes unverified (e.g., self-determination to AP11, competence to AP5). Future research should estimate meaning, competence, self-determination, and impact as separate empowerment predictors to test the tenet-to-dimension correspondences specified in Chapter 2 and to

identify dimension-specific pathways that the second-order specification cannot detect (Spreitzer, 1995).

Validated organizational behavior scales comprise the measured constructs. The model produces identical results regardless of the Agile framing. The study frames these constructs as Agile-aligned based exclusively on the theoretical mapping from Chapter 2 (Table 2.1). The survey omits direct measurement of Agile practices, rituals, or labels. Whether Agile principles produce the specific psychological states measured here (empowerment, psychological safety, team learning behavior) remains empirically unverified. The theoretical integration provides the contribution: the model specifies which psychological conditions matter, explains why they correspond to Agile tenets, and tests whether they collectively predict outcomes simultaneously. Future research should measure Agile adoption directly and compare organizations with explicit Agile implementation to matched non-Agile comparators to test whether Agile contexts predict the psychological states measured here (Beck et al., 2001; Rigby et al., 2016).

The researcher recruited respondents individually via a paid online research panel to avoid nested errors from single organizations. This design choice isolates psychological mechanisms from organizational confounds (Section 3.1). This choice simultaneously restricts inferences about team-level constructs. The survey measured psychological safety and team learning behavior at the individual perception level (psychological climate; James et al., 2008). Within-team agreement metrics remain unavailable. Aggregated team-level effects differ from individual perceptions. Future research should sample nested teams within hospitality properties, compute within-team agreement for psychological safety and

team learning behavior, and estimate multilevel models that separate team climate from individual perception (James et al., 2008).

The study targeted hospitality employees. Different labor regulations, cultural norms (particularly regarding power distance and uncertainty avoidance, which influence both empowerment and safety perceptions), and unionization patterns restrict generalizability across all international hospitality contexts. The restriction to non-management employees limits generalizability to the full hospitality workforce. This restriction concurrently ensures valid team-referent item responses for psychological safety and team learning behavior. Future research should test measurement invariance and structural path stability across countries and across job strata, including supervisors and managers, because labor regulation and cultural context can shift empowerment and psychological safety meaning.

Paid online research panels introduce volunteer bias. Prolific participants self-select into research studies, potentially overrepresenting individuals with higher conscientiousness, digital literacy, or intrinsic motivation relative to the broader hospitality workforce. This self-selection may attenuate the observed demand-burnout associations if panel volunteers possess stronger coping resources than typical hospitality employees. Future research should replicate the model using organization-based recruitment or mixed recruitment modes and compare parameter stability against panel-based estimates to quantify volunteer bias.

The study required participants to be currently employed at a hospitality establishment, creating systematic truncation of the burnout and turnover intention distributions. Individuals who have already left the industry due to severe burnout are

absent from the sample. This restriction of range attenuates the observed structural coefficients in the health impairment pathway, meaning the true relationships between demands, burnout, and withdrawal in the broader hospitality labor pool exceed these reported estimates. Future research should track employed cohorts and sample recent leavers through exit surveys to correct active survivor bias and recover burnout and withdrawal variance that employed-only sampling excludes.

The estimator assumes data satisfy the Missing At Random condition. The dataset contained no missing data (due to the inability to proceed before answering all questions), rendering this assumption moot for this sample. The complete data condition eliminates missingness-related bias from the reported estimates. Future research should allow item nonresponse when feasible, then test MAR sensitivity and report robustness checks when missingness emerges under less constrained survey administration.

The structural model pools all department groups (FOH, BOH, Admin) into a single SEM and enters department as an intercept-shift control variable. This specification assumes that structural relationships (e.g., workload's effect on burnout) are identical across roles with substantively different demand profiles. Future research should test slope heterogeneity across FOH, BOH, and administrative roles using multi-group SEM, because intercept-shift controls do not test whether structural relationships differ across demand profiles.

The model specifies linear associations between resources and outcomes. Pierce and Aguinis (2013) demonstrate that beneficial antecedents can reach inflection points beyond which effects turn asymptotic or negative. If resource levels in this sample cluster below any saturation threshold (consistent with structural resource scarcity in hospitality;

Hobfoll, 2002), linear specification is appropriate. Samples from resource-abundant environments reveal curvilinear effects invisible in the present data. Future research should estimate quadratic resource terms and demand-by-resource interactions to test TMGT predictions and demand-buffering effects in samples that include sufficient upper-range resource variance (Pierce & Aguinis, 2013).

The study conducted multiple sensitivity analyses (alternative estimator comparison, partial mediation comparison, outlier exclusion, with and without controls, item exclusion). Structural path estimates remained stable across all sensitivity conditions. The primary MLR results constitute the preferred estimates because they accommodate missing data and support bootstrap inference for indirect effects.

5.5 Conclusion

This study specified and tested an employee-focused model integrating adapted Agile philosophy with JD-R theory in the hospitality sector. The data supported 5 of 13 hypotheses. The model accounted for 53.2% of the variance in turnover intentions (R^2 = .532). The findings partially support the application of Agile philosophy as a heuristic framework for internal service operations. Empowerment emerged as the dominant resource predictor, associated with both the motivational and health impairment pathways. The theoretical integration of Agile values with validated organizational behavior constructs provides an empirical framework for understanding how specific work design conditions (empowerment, psychological safety, team learning, workload regulation, and hindrance reduction) predict employee satisfaction, burnout, and withdrawal in hospitality settings. The strongest practical lever is empowerment: enhancing employee autonomy, providing access to information, and distributing decision authority. Demand reduction

through hindrance stressor removal provides a secondary lever through the burnout pathway. The three resource constructs (PE, PPS, PTLB) form a correlated cluster (r = .677 to .738) whose structural effects concentrate in empowerment. Simultaneous estimation revealed that PE absorbs the shared resource variance and leaves negligible unique contributions from psychological safety and team learning behavior. This suppression pattern accounts for the eight unsupported hypotheses: Agile philosophy correctly identified the relevant psychological states but overestimated their independence as separate predictors of employee attitudes. Hospitality organizations seeking to reduce turnover must prioritize empowerment-centered interventions while simultaneously addressing structural friction and hindrance demands.

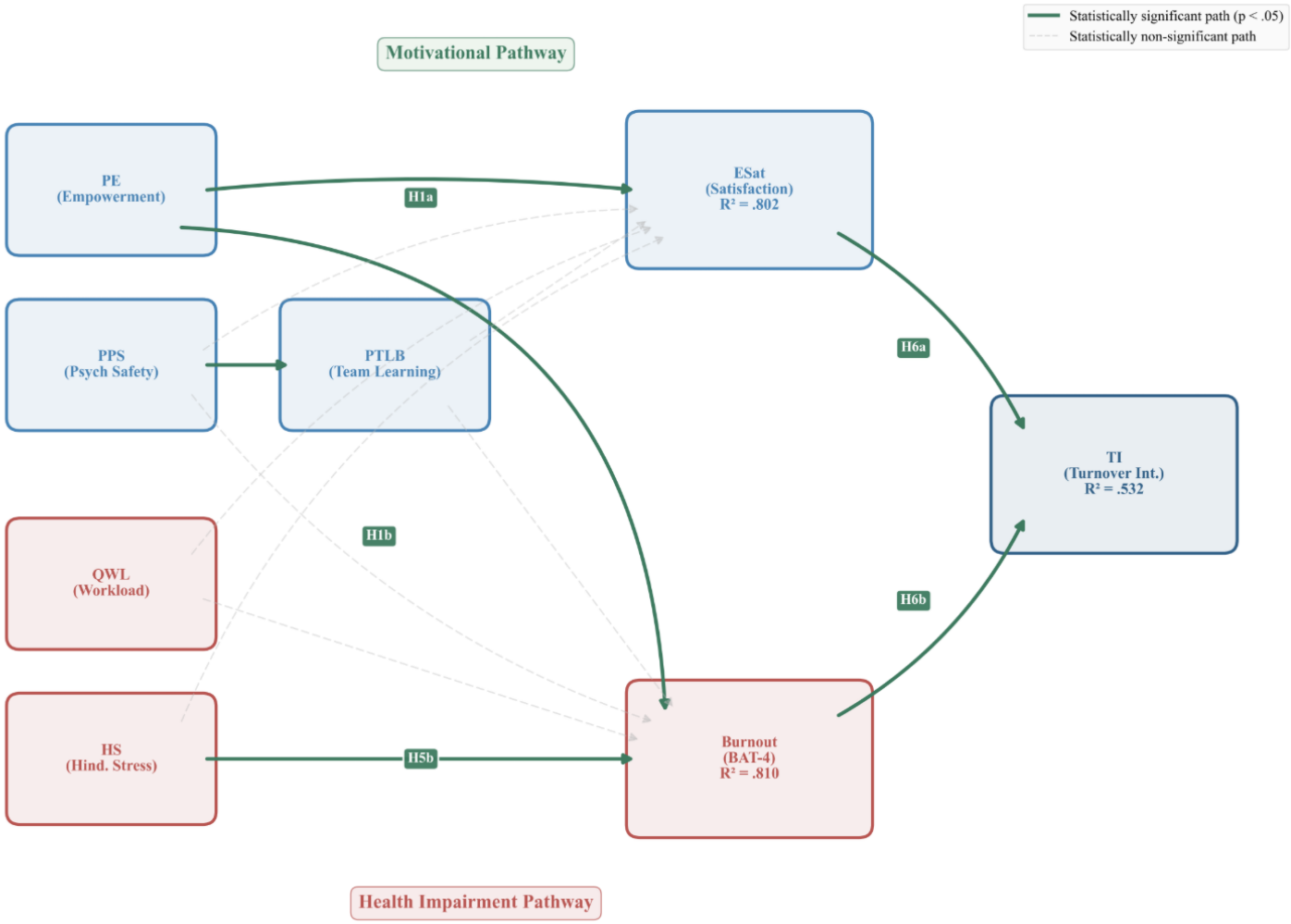


Figure 5.1 Dual-Pathway Summary with Standardized Coefficients

REFERENCES

Abubakar, A. M., Rezapouraghdam, H., Behravesh, E., & Megeirhi, H. (2022). Burnout or boreout: A meta-analytic review and synthesis of burnout and boreout literature in hospitality and tourism. Journal of Hospitality Marketing & Management, 31(4), 458-503.

Ali, A., Hamid, T. A., Naveed, R. T., Siddique, I., Ryu, H. B., & Han, H. (2022). Preparing for the "black swan": Reducing employee burnout in the hospitality sector through ethical leadership. Frontiers in Psychology, 13, Article 1009785. https://doi.org/10.3389/fpsyg.2022.1009785

Alpler, N. N., & Arasli, H. (2020). Can hindrance stressors change the nature of perceived employability? An empirical study in the hotel industry. Sustainability, 12(24), 10574.

American Hotel & Lodging Association. (2024). 2024 State of the Hotel Industry Report. Washington, DC.

Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. Psychological Bulletin, 103(3), 411–423.

Bakker, A. B., & Costa, P. L. (2014). Chronic job burnout and daily functioning: A theoretical analysis. Burnout Research, 1(3), 112–119.

Bakker, A. B., & Demerouti, E. (2007). The Job Demands-Resources model: State of the art. Journal of Managerial Psychology, 22(3), 309–328.

Bakker, A. B., & Demerouti, E. (2017). Job demands–resources theory: Taking stock and looking forward. Journal of Occupational Health Psychology, 22(3), 273–285.

Barker, J. R. (1993). Tightening the iron cage: Concertive control in self-managing teams. Administrative Science Quarterly, 38(3), 408-437.

Beck, K., Beedle, M., van Bennekum, A., Cockburn, A., Cunningham, W., Fowler, M., Grenning, J., Highsmith, J., Hunt, A., Jeffries, R., Kern, J., Marick, B., Martin, R. C., Mellor, S., Schwaber, K., Sutherland, J., & Thomas, D. (2001). Manifesto for agile software development. Agile Alliance.

Becker, T. E. (2005). Potential problems in the statistical control of variables in organizational research: A qualitative analysis with recommendations. Organizational Research Methods, 8(3), 274-289.

Bentler, P. M., & Chou, C. P. (1987). Practical issues in structural modeling. Sociological Methods & Research, 16(1), 78-117.

Bollen, K. A. (1989). Structural equations with latent variables. John Wiley & Sons.

Bolton, R. N., Gustafsson, A., McColl-Kennedy, J. R., Sirianni, N. J., & Tse, D. K. (2014). Small details that make big differences: A radical approach to consumption experience as a firm's differentiating strategy. Journal of Service Management, 25(2), 253-274.

Bowen, N. K., & Guo, S. (2012). Structural equation modeling. Oxford University Press.

Cain, L. N., Wu, L., Legendre, T. S., Baker, M. A., & King, C. (2025). Beyond human resources management: why employment is the perennial hospitality issue. International Journal of Contemporary Hospitality Management, 37(12), 4122-4137.

Cammann, C., Fichman, M., Jenkins, D., & Klesh, J. (1983). Assessing the attitudes and perceptions of organizational members. In S. E. Seashore, E. E. Lawler III, P. H. Mirvis, & C. Cammann (Eds.), Assessing organizational change: A guide to methods, measures, and practices (pp. 71–138). Wiley.

Cavanaugh, M. A., Boswell, W. R., Roehling, M. V., & Boudreau, J. W. (2000). An empirical examination of self-reported work stress among U.S. managers. Journal of Applied Psychology, 85(1), 65–74.

Chiang, C.-F., & Hsieh, T.-S. (2012). The impacts of perceived organizational support and psychological empowerment on job performance: The mediating effects of organizational citizenship behavior. International Journal of Hospitality Management, 31(1), 180-190.

Cohen, J. (1988). Statistical power analysis for the behavioral sciences (2nd ed.). Lawrence Erlbaum Associates.

Cook, R. D. (1977). Detection of influential observation in linear regression. Technometrics, 19(1), 15–18.

Crawford, E. R., LePine, J. A., & Rich, B. L. (2010). Linking job demands and resources to employee engagement and burnout: A theoretical extension and meta-analytic test. Journal of Applied Psychology, 95(5), 834–848.

Cross, R. G., Higbie, J. A., & Cross, D. Q. (2009). Revenue management's renaissance: A rebirth of the art and science of profitable revenue generation. Cornell Hospitality Quarterly, 50(1), 56-81.

Deery, M., & Jago, L. (2015). Revisiting talent management, work-life balance and retention strategies. International Journal of Contemporary Hospitality Management, 27(3), 453-472.

Detert, J. R., & Burris, E. R. (2007). Leadership behavior and employee voice: Is the door really open? Academy of Management Journal, 50(4), 869-884.

Dunn, T. J., Baguley, T., & Brunsden, V. (2014). From alpha to omega: A practical solution to the pervasive problem of internal consistency estimation. British Journal of Psychology, 105(3), 399-412.

Edmondson, A. (1999). Psychological safety and learning behavior in work teams. Administrative Science Quarterly, 44(2), 350–383.

Efron, B., & Tibshirani, R. J. (1993). An introduction to the bootstrap. Chapman & Hall.

Enders, C. K. (2010). Applied missing data analysis. Guilford Press.

Flora, D. B., & Curran, P. J. (2004). An empirical evaluation of alternative methods of estimation for confirmatory factor analysis with ordinal data. Psychological Methods, 9(4), 466-491.

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. Journal of Marketing Research, 18(1), 39-50.

Frazier, M. L., Fainshmidt, S., Klinger, R. L., Pezeshkan, A., & Vracheva, V. (2017). Psychological safety: A meta-analytic review and extension. Personnel Psychology, 70(1), 113-165.

Fulford, M. D., & Enz, C. A. (1995). The impact of empowerment on service employees. Journal of Managerial Issues, 7(2), 161-175.

Gagné, M., & Deci, E. L. (2005). Self-determination theory and work motivation. Journal of Organizational Behavior, 26(4), 331–362.

Gilson, L. L., Mathieu, J. E., Shalley, C. E., & Ruddy, T. M. (2005). Creativity and standardization: Complementary or conflicting drivers of team effectiveness? Academy of Management Journal, 48(3), 521-531.

Grandey, A. A., & Gabriel, A. S. (2015). Emotional labor at a crossroads: Where do we go from here? Annual Review of Organizational Psychology and Organizational Behavior, 2(1), 323–349.

Greenleaf, R. K. (1977). Servant leadership: A journey into the nature of legitimate power and greatness. Paulist Press.

Guchait, P., Paşamehmetoğlu, A., & Dawson, M. (2016). Perceived supervisor and co-worker support for error management: Impact on perceived psychological safety and service recovery performance. International Journal of Hospitality Management, 41, 28-37.

Hadžibajramović, E., Schaufeli, W., & De Witte, H. (2024). The ultra-short version of the Burnout Assessment Tool (BAT4)—development, validation, and measurement invariance across countries, age and gender. PLOS ONE, 19(2), e0297843. https://doi.org/10.1371/journal.pone.0297843.

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2018). Multivariate data analysis (8th ed.). Cengage.

Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. Journal of Marketing Theory and Practice, 19(2), 139–152.

Hancer, M., & George, R. T. (2003). Psychological empowerment of non-supervisory employees working in full-service restaurants. Hospitality Management, 22(1), 3-16.

Hayes, A. F. (2009). Beyond Baron and Kenny: Statistical mediation analysis in the new millennium. Communication Monographs, 76(4), 408-420.

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. Journal of the Academy of Marketing Science, 43(1), 115-135.

Heskett, J. L., Jones, T. O., Loveman, G. W., Sasser, W. E., Jr., & Schlesinger, L. A. (1994). Putting the service-profit chain to work. Harvard Business Review, 72(2), 164–174.

Hight, S. K., Gajjar, T., & Okumus, F. (2019). Managers from "Hell" in the hospitality industry: How do hospitality employees profile bad managers? International Journal of Hospitality Management, 77, 97-107.

Hobfoll, S. E. (2002). Social and psychological resources and adaptation. Review of General Psychology, 6(4), 307–324.

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. Structural Equation Modeling: A Multidisciplinary Journal, 6(1), 1–55.

Huber, P. J. (1967). The behavior of maximum likelihood estimates under nonstandard conditions. In Proceedings of the Fifth Berkeley Symposium on Mathematical Statistics and Probability, Volume 1: Statistics (pp. 221-233).

Humborstad, S. I. W., & Perry, C. (2011). Employee empowerment, job satisfaction and organizational commitment: An in-depth empirical investigation. Chinese Management Studies, 5(3), 325-344.

James, L. R., Choi, C. C., Ko, C. E., McNeil, P. K., Minton, M. K., Wright, M. A., & Kim, K. (2008). Organizational and psychological climate: A review of theory and research. European Journal of Work and Organizational Psychology, 17(1), 5-32.

Karatepe, O. M., & Uludag, O. (2007). Conflict, exhaustion, and motivation: A study of frontline employees in Northern Cyprus hotels. International Journal of Hospitality Management, 26(3), 645-665.

Kim, W. G., Cho, M., & Brymer, R. A. (2013). The main drivers of financial performance of US hotels and the role of the general manager. International Journal of Hospitality Management, 32, 81-92.

Kline, R. B. (2016). Principles and practice of structural equation modeling (4th ed.). Guilford Press.

Kusluvan, S., Kusluvan, Z., Ilhan, I., & Buyruk, L. (2010). The human dimension: A review of human resources management issues in the tourism and hospitality industry. Cornell Hospitality Quarterly, 51(2), 171-214.

Larman, C., & Basili, V. R. (2003). Iterative and incremental development: A brief history. Computer, 36(6), 47-56.

Lee, T. W., & Mitchell, T. R. (1994). An alternative approach: The unfolding model of voluntary employee turnover. Academy of Management Review, 19(1), 51-89.

Lesener, T., Gusy, B., & Wolter, C. (2019). The job demands-resources model: A meta-analytic review of longitudinal studies. Work & Stress, 33(1), 76-103.

Li, C. H. (2016). Confirmatory factor analysis with ordinal data: Comparing robust maximum likelihood and diagonally weighted least squares. Behavior Research Methods, 48(3), 936–949.

Liden, R. C., Wayne, S. J., Liao, C., & Meuser, J. D. (2014). Servant leadership and serving culture: Influence on individual and unit performance. Academy of Management Journal, 57(5), 1434–1452.

Little, R. J. A. (1988). A test of missing completely at random for multivariate data with missing values. Journal of the American Statistical Association, 83(404), 1198-1202.

Little, T. D., Cunningham, W. A., Shahar, G., & Widaman, K. F. (2002). To parcel or not to parcel: Exploring the question, weighing the merits. Structural Equation Modeling, 9(2), 151-173.

Maassen, G. H., & Bakker, A. B. (2001). Suppressor variables in path models: Definitions and interpretations. Sociological Methods & Research, 30(2), 241-270.

MacCallum, R. C., Browne, M. W., & Sugawara, H. M. (1996). Power analysis and determination of sample size for covariance structure modeling. Psychological Methods, 1(2), 130–149.

Mardia, K. V. (1970). Measures of multivariate skewness and kurtosis with applications. Biometrika, 57(3), 519-530.

Maxwell, S. E., & Cole, D. A. (2007). Bias in cross-sectional analyses of longitudinal mediation. Psychological Methods, 12(1), 23-44.

McPhail, R., Patiar, A., Herington, C., Creed, P., & Davidson, M. (2015). Development and validation of the Hospitality Employees' Job Satisfaction Index (HEJS). International Journal of Contemporary Hospitality Management, 27(5), 839-858.

Mullainathan, S., & Shafir, E. (2013). Scarcity: Why having too little means so much. Times Books.

Nahrgang, J. D., Morgeson, F. P., & Hofmann, D. A. (2011). Safety at work: A meta-analytic investigation of the link between job demands, job resources, burnout, engagement, and safety outcomes. Journal of Applied Psychology, 96(1), 71.

Ng, T. W. H., & Feldman, D. C. (2010). The relationships of age with job attitudes: A meta-analysis. Personnel Psychology, 63(3), 677-718.

Nguyen, C. N., Hoang, G., & Luu, T. T. (2023). Frontline employees' turnover intentions in tourism and hospitality sectors: A systematic literature review and research agenda. Tourism Management Perspectives, 49, 101197.

Nunnally, J. C. (1978). Psychometric theory (2nd ed.). McGraw-Hill.

Nunnally, J. C., & Bernstein, I. H. (1994). Psychometric theory (3rd ed.). McGraw-Hill.

Pek, J., & MacCallum, R. C. (2011). Sensitivity analysis in structural equation modeling: Cases and their influence. Multivariate Behavioral Research, 46(2), 202-228.

Pierce, J. R., & Aguinis, H. (2013). The too-much-of-a-good-thing effect in management. Journal of Management, 39(2), 313-338.

Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. Journal of Applied Psychology, 88(5), 879–903.

Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. Behavior Research Methods, 40(3), 879-891.

R Core Team (2023). R: A language and environment for statistical computing. R Foundation for Statistical Computing.

Rhemtulla, M., Brosseau-Liard, P. E., & Savalei, V. (2012). When can categorical variables be treated as continuous? A comparison of robust continuous and categorical SEM estimation methods under suboptimal conditions. Psychological Methods, 17(3), 354-373.

Rietze, S., & Zacher, H. (2022). Relationships between agile work practices and occupational well-being: The role of job demands and resources. International Journal of Environmental Research and Public Health, 19(3), 1258.

Rigby, D. K., Sutherland, J., & Takeuchi, H. (2016). Embracing agile. Harvard Business Review, 94(5), 40-50.

Rosseel, Y. (2012). lavaan: An R package for structural equation modeling. Journal of Statistical Software, 48(2), 1-36.

Salanova, M., Agut, S., & Peiró, J. M. (2005). Linking organizational resources, work engagement, and service climate to customer loyalty. Journal of Applied Psychology, 90(6), 1217.

Schaufeli, W. B., De Witte, H., & Desart, S. (2020). Manual Burnout Assessment Tool (BAT) – Version 2.0. KU Leuven, Belgium: Internal report.

Schippers, M. C., Den Hartog, D. N., & Koopman, P. L. (2007). Reflexivity in teams: A measure and correlates. Applied Psychology, 56(2), 189–211.

Seibert, S. E., Wang, G., & Courtright, S. H. (2011). Antecedents and consequences of psychological and team empowerment in organizations: A meta-analytic review. Journal of Applied Psychology, 96(5), 981.

Spector, P. E., & Jex, S. M. (1998). Development of four self-report measures of job stressors and strain. Journal of Occupational Health Psychology, 3(4), 356.

Spreitzer, G. M. (1995). Psychological empowerment in the workplace: Dimensions, measurement, and validation. Academy of Management Journal, 38(5), 1442–1465.

Sun, X., Li, K., & Liu, Y. (2025). "Money is not everything, but without money, everything is nothing!" The detrimental impact of financial scarcity mindset on service innovation behavior among hospitality employees. Tourism Management, 110, 105192.

Tabachnick, B. G., & Fidell, L. S. (2019). Using multivariate statistics (7th ed.). Pearson.

Thomas, K. W., & Velthouse, B. A. (1990). Cognitive elements of empowerment. Academy of Management Review, 15(4), 666-681.

Tracey, J. B., & Tews, M. J. (1995). Training effectiveness: Accounting for individual characteristics and the work environment. Cornell Hotel and Restaurant Administration Quarterly, 36(6), 36-42.

Wang, X., Guchait, P., Madera, J. M., & Pasamehmetoglu, A. (2019). The importance of psychological safety and perceived organizational support in predicting organizational commitment and turnover intention in the hospitality industry. International Journal of Hospitality Management, 76, 14-22.

Westland, J. C. (2010). Lower bounds on sample size in structural equation modeling. Electronic Commerce Research and Applications, 9(6), 476-487.

White, H. (1980). A heteroskedasticity-consistent covariance matrix estimator and a direct test for heteroskedasticity. Econometrica, 48(4), 817–838.

Wolf, E. J., Harrington, K. M., Clark, S. L., & Miller, M. W. (2013). Sample size requirements for structural equation models: An evaluation of power, bias, and solution propriety. Educational and Psychological Measurement, 73(6), 913-934.

Yuan, K.-H., & Bentler, P. M. (2000). Three likelihood-based methods for mean and covariance structure analysis with nonnormal missing data. Sociological Methodology, 30(1), 165-200.

APPENDIX A: SURVEY INSTRUMENT

Table A.1 Measurement Model

All constructs, indicators, and response formats (N = 43 items total)[†]

	Scale Reference	N Items	Survey Items	Response Format
Job Resources				
Psychological Empowerment (PE)	Spreitzer (1995)	12 (2nd-order)	Four first-order dimensions below	7-pt Agreement
PE — Meaning	Spreitzer (1995)	3	PE1: Work is meaningful; PE2: Activities meaningful; PE3: Work matters	7-pt Agreement
PE — Competence	Spreitzer (1995)	3	PE4: Confident in ability; PE5: Self-assured; PE6: Mastered skills	7-pt Agreement
PE — Self-Determination	Spreitzer (1995)	3	PE7: Significant autonomy; PE8: Decide how to work; PE9: Independence	7-pt Agreement
PE — Impact	Spreitzer (1995)	3	PE10: Large impact on dept.; PE11: Great deal of control; PE12: Significant influence	7-pt Agreement
Perceived Psychological Safety (PPS)	Edmondson (1999)	7	PPS1(R): Mistakes held against you; PPS2: Can raise problems; PPS3(R): Reject differences; PPS4: Safe to risk; PPS5(R): Difficult to ask help; PPS6: No one undermines; PPS7: Skills valued	7-pt Agreement
Perceived Team Learning Behavior (PTLB)	Edmondson (1999)	6	PTLB1: Figure out improvements; PTLB2(R): Diffs handled offline; PTLB3: Seek info from others; PTLB4: Seek info for changes; PTLB5: Stop to reflect; PTLB6: Speak up to test assumptions	7-pt Agreement
Job Demands				
Quantitative Workload (QWL)	Spector & Jex (1998)	5	QWL1: Work very fast; QWL2: Work very hard; QWL3: Little time to finish; QWL4: Great deal of work to do; QWL5: More work than can do well	5-pt Frequency
Hindrance Stressors (HS)	Cavanaugh et al. (2000)	3	HS1: Politics affect decisions; HS2: Unclear expectations; HS3: Red tape to complete job	5-pt Frequency
Outcomes				
Employee Satisfaction (ESat)	Cammann et al. (1983)	3	ESat1: Satisfied with job; ESat2(R): Does not like job; ESat3: Like working here	7-pt Agreement
Burnout (BAT-4)	Hadzibajramovic et al. (2024)	4	BAT1: Mentally exhausted; BAT2: No enthusiasm; BAT3: Trouble concentrating; BAT4: Overreact unintentionally	5-pt Frequency (Never-Always)
Turnover Intentions (TI)	Cammann et al. (1983)	3	TI1: Likely to seek new job (7-pt likelihood); TI2: Often think about quitting; TI3: Will look for new job	7-pt Agreement/Likelihood

[†] (R) = Reverse-coded item. TI Item 1 uses a 7-point likelihood format; Items 2-3 use a 7-point agreement format. All three items share the same 7-point response width; raw scores are retained without z-standardization.

Table A.2 Eligibility Screening Questions

Respondents failing any criterion were screened out before the survey

Screening Question	Response Options	Required Answer to Proceed	Rationale
Q1: Do you currently work at a hotel, resort, or the hospitality industry?	Yes / No	Yes	Confirms hospitality industry employment
Q2: Do you work as part of a team of three or more people?	Yes, I work with a team of 3+ / No, I work alone	Yes, I work with a team of 3+	Ensures team-referent items (PPS, PTLB) are valid
Q3: Are you currently employed at this establishment?	Yes, I am currently employed / No	Yes, I am currently employed	Excludes applicants and former employees
Q4: Are you in a management or supervisory role?	Yes, I am a manager/supervisor / No, I am not	No, I am not	Restricts sample to non-management (Section 3.1)

Table A.3 Demographic and Control Variables

Variables collected for sample description and structural model controls (Section 3.3.3)		
Variable	**Response Categories**	**Measurement Level**
Control Variables (Entered in SEM)		
Department Group	FOH (Front Desk, F&B, Banquets, Spa); BOH (Kitchen, Housekeeping, Maintenance); Admin (Accounting, HR, Sales, Management, Other)	Nominal (dummy-coded; reference = FOH)
Tipped Status	Yes / No	Binary (0/1)
Hourly Wage (excl. tips)	<$10; $10-14; $15-19; $20-24; $25+	Ordinal (dummy-coded; reference = most frequent)
Job Insecurity	1 = Rarely/Never to 5 = Very Often	Continuous (single Likert item)
Tenure (Industry)	<6 mo; 6-11 mo; 1-2 yr; 3-5 yr; >5 yr	Ordinal (dummy-coded; reference = most frequent)
Age	18-29; 30-39; 40-49; 50-59; 60+; Prefer not to say	Ordinal (dummy-coded; reference = most frequent)
Demographic Description Only		
Employment Status	Full-time; Part-time; Seasonal	Nominal (descriptive only)
Shift	Day; Swing; Overnight; Rotating	Nominal (descriptive only)
Gender	Male; Female; Non-binary; Prefer to self-describe; Prefer not to say	Nominal (descriptive only)

APPENDIX B: SUPPLEMENTARY STATISTICAL TABLES AND FIGURES

Table B.1 Confirmatory Factor Analysis: Standardized Factor Loadings

Factor / Item	B (Unstd.)	SE	β (Std.)	p	Factor / Item	B (Unstd.)	SE	β (Std.)	p
PE: Meaning					***Perceived Team Learning***				
PE1	1.000	—	.918	—	PTLB1	1.000	—	.773	—
PE2	1.104	.032	.964	< .001	PTLB2 (R)	0.151	.069	.130	.028
PE3	1.124	.032	.971	< .001	PTLB3	0.686	.065	.601	< .001
PE: Competence					PTLB4	1.030	.057	.877	< .001
PE4	1.000	—	.897	—	PTLB5	0.895	.061	.738	< .001
PE5	1.037	.042	.912	< .001	PTLB6	0.736	.062	.661	< .001
PE6	0.823	.092	.691	< .001	***Quantitative Workload***				
PE: Self-Determination					QWL1	1.000	—	.720	—
PE7	1.000	—	.826	—	QWL2	1.087	.066	.760	< .001
PE8	1.079	.052	.876	< .001	QWL3	1.360	.124	.764	< .001
PE9	1.144	.069	.915	< .001	QWL4	1.238	.086	.831	< .001
PE: Impact					QWL5	1.469	.145	.769	< .001
PE10	1.000	—	.805	—	***Hindrance Stressors***				
PE11	1.167	.051	.959	< .001	HS1	1.000	—	.753	—
PE12	1.182	.054	.942	< .001	HS2	0.740	.127	.526	< .001
PE (Second-Order)					HS3	0.912	.100	.691	< .001
Meaning	1.000	—	.746	—	***Employee Satisfaction***				
Competence	0.304	.063	.420	< .001	ESat1	1.000	—	.927	—
Self-Det.	0.722	.132	.716	< .001	ESat2 (R)	1.015	.041	.860	< .001
Impact	0.777	.140	.686	< .001	ESat3	0.952	.028	.918	< .001
Perceived Psych. Safety					***Burnout (BAT-4)***				
PPS1 (R)	1.000	—	.632	—	BAT1	1.000	—	.794	—
PPS2	0.687	.084	.554	< .001	BAT2	1.186	.078	.902	< .001
PPS3 (R)	1.010	.083	.646	< .001	BAT3	0.745	.056	.635	< .001
PPS4	0.902	.069	.683	< .001	BAT4	0.530	.057	.488	< .001
PPS5 (R)	0.830	.079	.577	< .001	***Turnover Intentions***				
PPS6	0.849	.083	.568	< .001	TI1	1.000	—	.972	—
PPS7	1.110	.094	.796	< .001	TI2	0.834	.030	.827	< .001
					TI3	1.007	.013	.981	< .001

Table B.2 Heterotrait-Monotrait Discriminant Validity Matrix

Construct	PE:Mng	PE:Cmp	PE:SD	PE:Imp	PPS	PTLB	QWL	HS	ESat	BAT	TI
PE: Meaning	1.000										
PE: Competence	.306	1.000									
PE: Self-Det	.427	.348	1.000								
PE: Impact	.489	.341	.678	1.000							
PPS	.384	.243	.531	.464	1.000						
PTLB	.687	.297	.462	.547	.790	1.000					
QWL	.103	.098	.149	.054	.208	.130	1.000				
HS	.154	.099	.305	.213	.460	.220	.485	1.000			
ESat	.731	.284	.514	.473	.641	.684	.203	.374	1.000		
BAT	.526	.371	.382	.403	.597	.496	.317	.505	.688	1.000	
TI	.541	.173	.416	.428	.582	.593	.177	.329	.765	.680	1.000

Table B.3 ESat Equation: Regression Coefficients with Demographic Controls

Predictor	B (Unstd.)	SE (Robust)	z	p	95% CI
Hypothesized Paths					
PE	**1.018**	**0.167**	**6.10**	**< .001*** **	**[0.691, 1.345]**
PPS	-0.119	0.232	-0.51	0.608	[-0.574, 0.336]
PTLB	0.073	0.108	0.68	0.500	[-0.139, 0.285]
QWL	0.025	0.141	0.17	0.862	[-0.253, 0.302]
HS	-0.229	0.136	-1.68	0.092	[-0.497, 0.038]
Age (ref: 18–29)					
18–29	—			*ref*	
30–39	-0.152	0.121	-1.26	0.209	[-0.389, 0.085]
40–49	-0.021	0.184	-0.11	0.910	[-0.382, 0.340]
50–59	-0.054	0.271	-0.20	0.843	[-0.585, 0.478]
60+	-0.282	0.346	-0.82	0.414	[-0.961, 0.396]
Prefer not to say	**-1.627**	**0.268**	**-6.06**	**< .001*** **	**[-2.153, -1.101]**
Tenure (ref: 3–5 yr)					
< 6 mo	0.128	0.196	0.65	0.515	[-0.257, 0.512]
6–11 mo	-0.094	0.186	-0.51	0.612	[-0.459, 0.270]
1–2 yr	-0.211	0.149	-1.42	0.157	[-0.504, 0.081]
3–5 yr	—			*ref*	
> 5 yr	-0.034	0.145	-0.23	0.816	[-0.317, 0.250]
Hourly Wage (ref: $10–14/hr)					
< $10/hr	-0.229	0.142	-1.62	0.105	[-0.507, 0.048]
$10–14/hr	—			*ref*	
$15–19/hr	-0.188	0.136	-1.39	0.165	[-0.454, 0.078]
$20–24/hr	0.014	0.159	0.09	0.930	[-0.297, 0.325]
$25+/hr	-0.312	0.280	-1.11	0.266	[-0.860, 0.237]
Department (ref: Front-of-House)					
Administrative	0.006	0.147	0.04	0.965	[-0.281, 0.294]
Back-of-House	-0.197	0.141	-1.39	0.163	[-0.474, 0.080]
Front-of-House	—			*ref*	
Other Controls					
Tipped	-0.031	0.115	-0.27	0.788	[-0.257, 0.195]
Job Insecurity	**-0.159**	**0.060**	**-2.65**	**0.008****	**[-0.277, -0.041]**
R^2 = 0.802					

Table B.4 Burnout Equation: Regression Coefficients with Demographic Controls

Predictor	B (Unstd.)	SE (Robust)	z	p	95% CI
Hypothesized Paths					
PE	**-0.561**	**0.102**	**-5.50**	**< .001*** **	**[-0.760, -0.361]**
PPS	-0.000	0.136	-0.00	0.999	[-0.267, 0.267]
PTLB	0.038	0.060	0.63	0.531	[-0.080, 0.156]
QWL	0.172	0.095	1.81	0.070	[-0.014, 0.358]
HS	**0.155**	**0.076**	**2.03**	**0.042***	**[0.006, 0.304]**
Age (ref: 18–29)					
18–29	—			*ref*	
30–39	0.061	0.080	0.75	0.451	[-0.097, 0.218]
40–49	0.008	0.099	0.08	0.936	[-0.186, 0.202]
50–59	-0.059	0.139	-0.43	0.670	[-0.332, 0.213]
60+	0.252	0.161	1.56	0.118	[-0.064, 0.567]
Prefer not to say	-0.201	0.144	-1.40	0.161	[-0.483, 0.080]
Tenure (ref: 3–5 yr)					
< 6 mo	-0.171	0.113	-1.52	0.128	[-0.392, 0.049]
6–11 mo	0.019	0.127	0.15	0.883	[-0.230, 0.268]
1–2 yr	0.084	0.089	0.95	0.344	[-0.090, 0.259]
3–5 yr	—			*ref*	
> 5 yr	0.037	0.094	0.40	0.691	[-0.147, 0.222]
Hourly Wage (ref: $10–14/hr)					
< $10/hr	0.104	0.100	1.04	0.297	[-0.091, 0.299]
$10–14/hr	—			*ref*	
$15–19/hr	0.036	0.084	0.42	0.671	[-0.128, 0.200]
$20–24/hr	-0.085	0.108	-0.78	0.436	[-0.297, 0.128]
$25+/hr	-0.104	0.149	-0.70	0.486	[-0.395, 0.188]
Department (ref: Front-of-House)					
Administrative	0.055	0.154	0.36	0.720	[-0.247, 0.357]
Back-of-House	0.004	0.075	0.05	0.957	[-0.142, 0.150]
Front-of-House	—			*ref*	
Other Controls					
Tipped	-0.105	0.071	-1.47	0.142	[-0.244, 0.035]
Job Insecurity	0.037	0.033	1.10	0.271	[-0.029, 0.102]
R^2 = 0.810					

Table B.5 TI Equation: Regression Coefficients with Demographic Controls

Predictor	B (Unstd.)	SE (Robust)	z	p	95% CI
Hypothesized Paths					
ESat	**-0.613**	**0.107**	**-5.71**	**< .001*** **	**[-0.823, -0.402]**
Burnout (BAT)	**0.597**	**0.182**	**3.29**	**0.001** **	**[0.241, 0.952]**
Age (ref: 18–29)					
18–29	—			*ref*	
30–39	**-0.437**	**0.178**	**-2.46**	**0.014***	**[-0.785, -0.088]**
40–49	**-0.863**	**0.260**	**-3.32**	**0.001** **	**[-1.372, -0.354]**
50–59	-0.616	0.414	-1.49	0.136	[-1.428, 0.195]
60+	**-0.796**	**0.346**	**-2.30**	**0.021***	**[-1.475, -0.118]**
Prefer not to say	-0.114	0.325	-0.35	0.726	[-0.751, 0.523]
Tenure (ref: 3–5 yr)					
< 6 mo	-0.135	0.283	-0.48	0.633	[-0.689, 0.419]
6–11 mo	0.067	0.264	0.26	0.799	[-0.450, 0.584]
1–2 yr	0.144	0.215	0.67	0.503	[-0.278, 0.566]
3–5 yr	—			*ref*	
> 5 yr	-0.215	0.215	-1.00	0.317	[-0.636, 0.206]
Hourly Wage (ref: $10–14/hr)					
< $10/hr	0.193	0.228	0.85	0.397	[-0.254, 0.640]
$10–14/hr	—			*ref*	
$15–19/hr	-0.168	0.193	-0.87	0.384	[-0.547, 0.211]
$20–24/hr	-0.408	0.256	-1.59	0.111	[-0.909, 0.093]
$25+/hr	-0.275	0.352	-0.78	0.436	[-0.966, 0.416]
Department (ref: Front-of-House)					
Administrative	**-0.657**	**0.284**	**-2.31**	**0.021***	**[-1.215, -0.099]**
Back-of-House	-0.344	0.219	-1.57	0.116	[-0.772, 0.085]
Front-of-House	—			*ref*	
Other Controls					
Tipped	0.153	0.161	0.95	0.340	[-0.161, 0.468]
Job Insecurity	**0.296**	**0.074**	**4.00**	**< .001*** **	**[0.151, 0.441]**
R^2 = 0.532					

Table B.6 PTLB Equation: Regression Coefficients with Demographic Controls

Predictor	B (Unstd.)	SE (Robust)	z	p	95% CI
Hypothesized Paths					
PPS	**0.886**	**0.112**	**7.90**	**< .001*** **	**[0.666, 1.106]**
Age (ref: 18–29)					
18–29	—			*ref*	
30–39	0.011	0.124	0.09	0.930	[-0.233, 0.255]
40–49	-0.231	0.169	-1.37	0.171	[-0.562, 0.100]
50–59	-0.428	0.246	-1.74	0.082	[-0.911, 0.055]
60+	**-0.555**	**0.277**	**-2.00**	**0.045***	**[-1.098, -0.011]**
Prefer not to say	-0.175	0.211	-0.83	0.407	[-0.589, 0.239]
Tenure (ref: 3–5 yr)					
< 6 mo	0.018	0.201	0.09	0.928	[-0.375, 0.411]
6–11 mo	-0.191	0.183	-1.04	0.296	[-0.549, 0.167]
1–2 yr	-0.048	0.144	-0.33	0.740	[-0.331, 0.235]
3–5 yr	—			*ref*	
> 5 yr	0.101	0.138	0.73	0.462	[-0.169, 0.372]
Hourly Wage (ref: $10–14/hr)					
< $10/hr	-0.128	0.149	-0.86	0.391	[-0.421, 0.165]
$10–14/hr	—			*ref*	
$15–19/hr	0.100	0.140	0.72	0.472	[-0.173, 0.374]
$20–24/hr	0.180	0.169	1.07	0.286	[-0.150, 0.510]
$25+/hr	0.265	0.252	1.05	0.295	[-0.230, 0.759]
Department (ref: Front-of-House)					
Administrative	0.343	0.186	1.85	0.065	[-0.021, 0.706]
Back-of-House	**-0.281**	**0.137**	**-2.05**	**0.040***	**[-0.550, -0.012]**
Front-of-House	—			*ref*	
Other Controls					
Tipped	0.051	0.113	0.45	0.654	[-0.172, 0.273]
Job Insecurity	0.036	0.052	0.69	0.487	[-0.066, 0.139]
R^2 = 0.591					

Table B.7 Measurement Model Fit: MLR vs. WLSMV Comparison (No Controls)

Index	MLR	WLSMV
CFI (robust)	.910	.837
TLI (robust)	.903	.824
RMSEA (robust)	.058	.091
SRMR	.075	.076

Note. WLSMV treats items as ordered-categorical and estimates polychoric correlations.

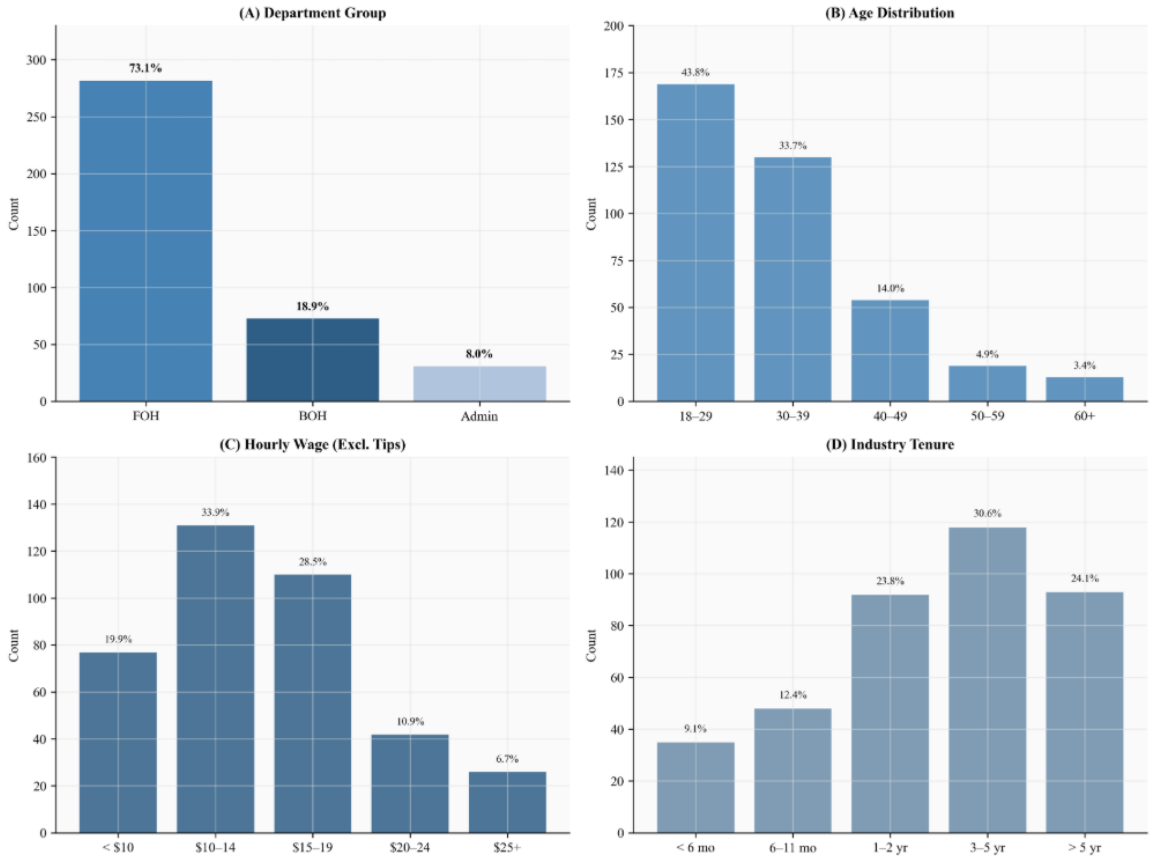


Figure B.1 Demographic Profile of the Sample (N = 386)

Hypothesis	Path	Predicted	β	p	Decision
H1a	PE → ESat	(+)	**+0.861**	<.001	● Supported
H1b	PE → BAT	(−)	**-0.814**	<.001	● Supported
H2a	PPS → ESat	(+)	**-0.086**	.608	○ Rejected
H2b	PPS → BAT	(−)	**+0.000**	.999	○ Rejected
H3a	PTLB → ESat	(+)	**+0.063**	.500	○ Rejected
H3b	PTLB → BAT	(−)	**+0.056**	.531	○ Rejected
H3c	PPS→PTLB→ESat	(+)	**+0.047**	.501	○ Rejected
H4a	QWL → ESat	(−)	**+0.012**	.862	○ Rejected
H4b	QWL → BAT	(+)	**+0.139**	.070	○ Rejected
H5a	HS → ESat	(−)	**-0.136**	.092	○ Rejected
H5b	HS → BAT	(+)	**+0.158**	.042	● Supported
H6a	ESat → TI	(−)	**-0.438**	<.001	● Supported
H6b	BAT → TI	(+)	**+0.248**	.001	● Supported

5 of 13 Hypotheses Supported

Figure B.2 Hypothesis Decision Matrix