DOES FIT MATTER? AN INVESTIGATION OF EMPLOYEE-SUPERVISOR INDIVIDUAL ENTREPRENEURIAL ORIENTATION FIT ON INNOVATIVE WORK BEHAVIOR WITHIN ESTABLISHED ORGANIZATIONS

by

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DEDICATION

I dedicate this dissertation to my wonderful family: my husband, Michael, and my children, Sarah and Matthew. Thank you for your unwavering love, support, encouragement, and belief in me throughout my doctorial journey. Thank you for the many sacrifices you made so that I could squeeze in a little more study time, which step by step made becoming a doctor a reality. I also dedicate this dissertation to my late parents, Marie E. McCann and Edward H. McCann, for their love and encouragement of lifelong learning.

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ABSTRACT

THERESA MARIE MCCANN PIWOWAR. Does Fit Matter? An Investigation of Employee-Supervisor Individual Entrepreneurial Orientation Fit on Innovative Work Behavior Within Established Organizations
(Under the direction of DR. FRANZ W. KELLERMANNS)

Within established organizations, employee innovative behavior is vital for the long-term survival of firms. Employee individual entrepreneurial orientation (IEO) represents tendencies by an individual toward innovativeness, proactiveness, and risk-taking behaviors. IEO is an emerging construct in the entrepreneurship domain, and while an important construct, contextual factors can influence the employee's demonstration of innovative work behavior (IWB). The degree of IEO similarity or fit between an employee and their supervisor is theorized to amplify the employee's innovative work behavior. To guide this research, person-supervisor fit (P-S fit) theory and strategic consensus theory provided a theoretical framework to investigate the relationships between these constructs. Drawing on a sample of employees across all levels of an established firm, two sets of data were analyzed: perceptions of supervisor IEO fit (n = 265) and matched pairs of IEO between employee-supervisor dyads (n = 132). The results suggest that employees' levels of innovativeness and proactiveness are positively associated with IWB. Additionally, the data provided partial support for the moderation effect of supervisor IEO proactiveness fit and supervisor IEO risk-taking fit on amplifying employee IWB. The results suggest that the level of supervisor IEO fit for the proactiveness and risk-taking dimensions of IEO magnify the IEO-IWB relationship when employees have low levels of proactiveness tendencies and low levels of risk-taking tendencies. This research offers theoretical and practical implications by examining IEO, within the context of supervisor fit, in promoting employee innovative behaviors within the workplace.

Keywords: individual entrepreneurial orientation, innovative work behaviors, person-supervisor fit, strategic consensus, innovativeness, proactiveness, risk-taking

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LIST OF ABBREVIATIONS

CE	Corporate Entrepreneurship
CET	Cognitive Evaluation Theory
CFA	Confirmatory Factor Analysis
EO	Entrepreneurial Orientation
HLM	Hierarchical Linear Modeling
IEO	Individual Entrepreneurial Orientation
IWB	Innovative Work Behavior
LMX	Leader-Member Exchange
MLR	Multiple Linear Regression
OCB	Organizational Citizenship Behavior
OLS	Ordinary Least Squares
P-E	Person-Environment
P-O	Person-Organization
P-S	Person-Supervisor
PSS	Perceived Supervisor Support
SEM	Structural Equation Modeling
TMT	Top Management Team
VIF	Variance Inflation Factor

CHAPTER 1: INTRODUCTION

1.1 Introduction of Context and Theory

The expected life span of a firm listed on the Standard & Poor's (S&P) 500 Index was 90 years in 1935; whereas today the average life span is a mere 18 years and projected to decline even further within the next decade (Allio, 2021). In light of predictions that half of the current S&P 500 companies will be replaced in the next ten years (Allio, 2021), corporate entrepreneurship (CE) is a vital component needed for strategic renewal within established organizations. The ability for established firms to respond dynamically to changes and create value for the organization has become increasingly difficult (Ireland & Webb, 2007). CE refers to the use of innovation within firms "as a mechanism to redefine or rejuvenate themselves, their positions within markets and industries, or the competitive arenas in which they compete" (Covin & Miles, 1999: p. 47). An internal environment conducive of the creation and sustainment of innovation producing strategies within organizations is a key aspect of CE (Hornsby, Kuratko, & Zahra, 2002; Ireland, Covin, & Kuratko, 2009; Kreiser, Kuratko, Covin, Ireland, & Hornsby, 2019). CE can assist organizations to generate innovation needed to effectively adapt and create value in the face of dynamic market conditions (Kuratko, Hornsby, & Hayton, 2015). In today's turbulent business environment, essentially all organizations of varying sizes, age, and structures are seeking to "exploit product-market opportunities through innovative and proactive behavior" (Dess, Lumpkin, & McGee, 1999: p. 85).

Entrepreneurial orientation (EO) is a key construct in entrepreneurial research. EO is an organization's strategic posture aimed at entrepreneurship that involves "the decision-making practices, managerial philosophies, and strategic behaviors that are entrepreneurial in nature" (Anderson, Kreiser, Kuratko, Hornsby, & Eshima, 2015: p. 1579). Whereas CE captures the use

of innovation and entrepreneurial behavior within existing organizations aimed at revitalization (Kuratko, Hornsby, & McKelvie, 2021), EO is a complementary concept which refers to a firm's entrepreneurial perspective within its strategy making process that is discernible by organizational patterns of decision making and behaviors (Dess & Lumpkin, 2005). While EO has been extensively studied at the organizational level (Covin, Green, & Slevin, 2006; Green, Covin, & Slevin, 2008; Kreiser et al., 2019; Rauch, Wiklund, Lumpkin, & Frese, 2009), less is known concerning how EO is manifested at the individual level (Bolton & Lane, 2012; Covin et al., 2020; Ferreira, Marques, Bento, Ferreira, & Jalali, 2015). The construct of EO has extended the work of Miller (1983) and is widely discussed in the literature to collectively comprise of three dimensions: innovativeness, proactiveness, and risk taking (Anderson, Covin, & Slevin, 2009; Kreiser et al., 2019; Miller, 1983).

This dissertation seeks to investigate how EO may manifest at the individual level and that phenomenon may influence the enactment of employee innovative behaviors in the workplace. Recent entrepreneurship research has expanded the view of EO to the individual level, in which it has been conceptualized as Individual Entrepreneurial Orientation (IEO) (Bolton & Lane, 2012; Covin et al., 2020; Santos, Marques, & Ferreira, 2020). IEO is defined as "a tendency held by individual employees of the organization towards innovative, proactive, and risk-taking behaviors in the workplace" (Covin et al., 2020: p. 2). A key aspect of the conceptualization of IEO is the tendency of individuals toward innovative, proactive, and risk-taking behaviors. Although the demonstration of IEO tendencies could be expected to lead to innovative behaviors, contextual factors in the workplace may lead employees to believe their innovative efforts will be unsuccessful, therefore prompting employees to refrain from acting innovatively. Thus, the tendencies reflected in the IEO construct may or may not translate to the actual behavioral

demonstration of those tendencies. The construct of innovative work behavior (IWB) is particularly important to understanding the behavioral outcomes of IEO. IWB is defined as "the intentional creation, introduction and application of new ideas within a work role, group or organization, in order to benefit role performance, the group, or the organization" (Janssen, 2000: p. 288). However, within organizations, not all individuals act innovatively. Individuals who engage in entrepreneurial behavior are suggested to be acting upon their ability to recognize and respond to opportunities in the environment (Shane & Venkataraman, 2000).

Economist Joseph Schumpeter (1934) most notably linked innovation to the process of entrepreneurship (Lumpkin & Dess, 1996; Schumpeter, 1934). Innovation is comprised of two distinct stages: the idea generation stage (i.e., creativity) and the implementation stage of novel ideas (Amabile, 1988; Anderson, Potočnik, & Zhou, 2014; Zhou, Fan, & Son, 2019). Innovation demonstrated by employees provides the scaffolding for coordinated firm level CE and innovation strategies to emerge. Innovative work behavior is defined as "the intentional generation, promotion and realization of new and useful ideas in the workplace" (Janssen, 2000; Montani et al., 2021: p. 588). More specifically, the successful implementation of innovative ideas is complex and dependent on organizational influences in addition to the individual employee factors (Axtell et al., 2000; Zhou et al., 2019).

Contextual factors between employees and supervisors play a critical role in the emergence of employee innovative work behavior. An employee's relationship with their supervisor is suggested to be a strong predictor of perceptions of organizational climate, perceived support for innovation, and the formulation of behavior expectations (Scott & Bruce, 1994). Employees are highly dependent on their supervisors for the information, resources, and sociopolitical support needed to implement innovations (Janssen, 2005; Kanter, 1988). Based on the importance of the

employee-supervisor relationship, the level of congruence of IEO within this dyadic relationship can therefore be posited to influence innovative work behaviors exhibited by employees.

This dissertation investigated the interaction effect that the level of fit between employee and supervisor IEO has on the outcome of employee innovative work behaviors. This investigation was conducted at the individual level unit of analysis. The level of IEO fit refers to the degree of similarity or match between an employee and their supervisor among the respective sub-dimension of the IEO construct. The investigation into this phenomenon was grounded in person-supervisor (P-S) fit theory. Research suggests that the employee-supervisor relationship is complex and may be influenced by interpersonal factors. An employee's fit with their supervisor is suggested to be an important antecedent of innovative work behavior, as the innovation process often involves sponsorship from others in the organization to seek out and build coalitions in support of innovative ideas (Scott & Bruce, 1994). P-S fit theory relates to the perceived degree of match of characteristics (e.g., personality, values, behavioral patterns) between an employee and their supervisor (Van Vianen, Shen, & Chuang, 2011). Nonetheless, the level of fit between employees and their managers may not always lead to innovative work behaviors. Within organizations, innovative work behaviors are considered discretionary (Ng & Feldman, 2010; Parker, Williams, & Turner, 2006) and may be influenced by factors that extend beyond the level of employee-supervisor congruence. An employee's work behavior is suggested to be affected by their supervisor, in part due to the power, influence, and control the supervisor holds in the relationship (Xu, Qin, Dust, & Direnzo, 2019). Additional research is therefore needed to improve our cumulative knowledge regarding the interaction of employee-supervisor fit as a determinant of innovative work behavior within organizations.

The strategic consensus literature was used as a complementary theoretical framework to guide this research. While P-S fit theory was used to help explain the extent that similarity of IEO characteristics between the employee-supervisor dyad have on IWB, strategic consensus refers to the degree that employees and supervisors have a common understanding on the role of innovation in the employee's work activities. Strategic consensus theory is based on the premise that a shared understanding of the organization's strategic priorities contributes to improved organizational performance (Kellermanns, Walter, Lechner, & Floyd, 2005; Walter, Kellermanns, Floyd, Veiga, & Matherne, 2013). While early strategic consensus theory research focused on shared understanding among top management team (TMT) members, more recent research has argued the importance of strategic consensus being applicable to all levels of the organization (Ateş, Tarakci, Porck, van Knippenberg, & Groenen, 2020; Kellermanns et al., 2005; Porck et al., 2020). This research seeks to fill a gap in our understanding related to how the degree of fit and consensus within the employee-supervisor relationship facilitates the manifestation of innovative work behavior within the context of established organizations.

1.2 Research Objectives

This dissertation utilizes two complementary theories to guide this research: person-supervisor (P-S) fit theory and strategic consensus theory. P-S fit theory is used as the primary theoretical framework to explain the micro-level influences on IWB. Congruence of personal characteristics between employees and managers (i.e., P-S fit) is a component of the broader person-organization (P-O) fit literature, which relates to the perceived degree of match of attributes between an employee and their organization (Ostroff, Shin, & Kinicki, 2005). In particular, there has been a call for further research utilizing fit theory within entrepreneurial contexts (Markman & Baron, 2003). The strategic consensus literature was used as a

complementary theoretical framework to investigate the contextual influences on IWB. Strategic consensus theory has received significant attention in the strategic management literature as it relates to improved performance based on a shared understanding of key priorities (Kellermanns et al., 2005; Tarakci et al., 2014; Walter et al., 2013). A primary objective of my dissertation was to use both P-S fit theory and strategic consensus theory to investigate the theoretical impact that employee-supervisor alignment has on the IEO-innovative work behavior relationship. Through this investigation and synthesis of the extant literature, knowledge of the predictability of these two theories on innovative behaviors within the context of established organizations can build more cumulatively. The second objective of my dissertation was to investigate the effects of individual level IEO tendencies as an antecedent of IWB across all levels of the organization.

1.3 Research Questions

My dissertation research investigated differences in strategic consensus theory and P-S fit theory in the context of CE within established organizations. This research included a comprehensive review and synthesis of the CE literature, along with empirically collecting primary survey data gathered from employees and supervisors within an existing organization. As a result of this research, I addressed the following research questions:

1. *How does an employee's level of IEO influence their propensity to demonstrate innovative work behavior within their organization?*
2. *How does the level of employee-supervisor fit of IEO magnify the employee's propensity to demonstrate innovative work behavior within their organization?*

1.4 Contributions

This research sought to make four contributions. The first contribution of this dissertation was the expansion of P-O fit theory in the context of entrepreneurship as called for by Markman

et al. (2003), and more specifically, an expansion of P-S fit theory in explaining IEO and innovative work behavior. While entrepreneurial research at the individual level has gained the interest of scholars over the past several decades, surprisingly entrepreneurial research investigating employee-supervisory innovation outcomes remains under researched. The second contribution of this dissertation was the use of strategic consensus theory as a complementary theoretical framework to ground this research. Strategic consensus theory has been investigated extensively within the upper echelons of organizations (González-Benito, Aguinis, Boyd, & Suárez-González, 2012; Knight et al., 1999). More recent research has expanded the focus to explain how strategic consensus works within all levels of the organization, however this level of focus continues to be under researched (Ateş et al., 2020; Kellermanns et al., 2005). Moreover, strategic consensus research within the context of CE is limited. Implementing innovation within established organizations can be filled with high levels of ambiguity, uncertainty, and resistance to change existing processes and ways of doing things. It is theorized that higher levels of consensus can facilitate improved employee-supervisor alignment needed for the demonstration of employee IWB to emerge. This research builds upon the broader conceptualization of strategic consensus across all organizational levels and sought to expand knowledge of strategic consensus within the context of CE. The third contribution is the expansion of research on the IEO construct as called for by Bolton and Lane (2012). Investigations of EO predominantly studied at the firm level neglects that EO may manifest at other levels of analysis, such as the individual level (Covin et al., 2020), and therefore IEO is an under represented unit of analysis in the EO literature. The final contribution was of practical importance resulting from empirically testing the conceptual model for its reliability in explaining the outcome of innovative work behavior within established organizations.

1.5 Organization of Dissertation

My dissertation is organized in five chapters. Chapter 1 introduces the theoretical foundation (i.e., strategic consensus theory and P-S fit theory), the context of the research (i.e., CE within established firms), a summary of the conceptual model, objectives, and questions that will guide this research, along with the intended contributions. Following the introduction of the theoretical framework, Chapter 2 provides a synthesis of the extant literature of the main constructs of my conceptual model and a discussion of relevant knowledge that has accumulated thus far. Chapter 3 outlines the methodology that was applied, along with the survey instrument, sample, measures, and analytical techniques. Chapter 4 reports the results from the analysis. Finally, Chapter 5 provides a discussion of the research results, along with a discussion of boundary conditions, limitations, and opportunities to extend this research in the future.

CHAPTER 2: LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

This chapter provides a review of the literature relevant to the research questions for this study. The literature review is organized in five major sections. The first section provides an overview of the strategic consensus literature and person-supervisor fit theory, as complementary frameworks used to guide this research. The second section contains a review and synthesis of the conceptualization of EO at the individual level unit of analysis and identifies gaps in the literature. Section three provides a review and synthesis of prevalent IWB research, a significant variable of interest within the context of entrepreneurship occurring within organizational settings. The fourth section integrates literature related to employee-supervisor congruence as an important contextual factor influencing entrepreneurial behaviors in the workplace. The final section presents a research model and develops hypothesized relationships that can be tested to address my research questions and fill critical gaps in the literature.

2.1 Theoretical Framework

The theoretical model presented in this dissertation draws upon person-supervisor fit theory and strategic consensus theory. These two theories were chosen to explain the central phenomena of this study and address the research questions presented in section 1.3. The role of scientific theory in research is to provide a selective point of view and orientation that guides the research toward the formulation of testable hypotheses (Pedhazur & Schmelkin, 1991). The following section provides an overview of person-supervisor fit theory and strategic consensus theory, which were used to guide this dissertation.

2.1.1 Person-Supervisor Fit Theory

This dissertation utilizes P-S fit theory to investigate the research questions outlined above. P-S fit theory falls under the larger domain of person-organization (P-O) and person-

environment (P-E) research streams. P-S fit relates to the perceived degree of congruence of characteristics (e.g., personality, values, behavioral patterns) between employees and their supervisors (Van Vianen et al., 2011). The relationship between employees and their supervisors is of critical importance in predicting innovation, due to the dependence the employee has on the supervisor for the support of innovation through the allocation of resources and their sponsorship of innovative ideas and implementation (Janssen, 2005; Kanter, 1988). P-S fit is an important determinant of IWB, as the implementation of innovative ideas frequently requires sponsorship and support from supervisors (Scott & Bruce, 1994). While strategic consensus theory helps to explain the "what" behind a shared understanding, P-S fit theory provides the theoretical framework to explain the contextual factors related to the employee-supervisory relationship and its impact on employee extra-role behaviors, such as innovative behaviors in the workplace.

Person-supervisor fit theory has been studied as part of the broader research domain of person-environment (P-E) fit (Van Vianen et al., 2011). In general, the level of P-E fit is assessed by comparing attributes internal to the individual (e.g., values, characteristics, beliefs, personality, abilities) to conceptually pertinent factors in the external environment (e.g., job demands, vocation, organizational values, supervisor's values, culture) (Astakhova, 2016; Kristof-Brown, Zimmerman, & Johnson, 2005). P-E fit is therefore considered an overarching theoretical framework consisting of various categories of fit, and its conceptualization is complex and multidimensional (Sekiguchi, 2004). Although the various dimensions of fit fall under the broader context of P-E fit, each dimension has been found to have distinctive associations with individual level attitudes and behaviors (Cable & DeRue, 2002; Kristof-Brown et al., 2005).

The overarching P-E fit theoretical perspective is based on interactional psychology, whereby attributes of both the individual and environmental factors are suggested to influence behavioral and work outcomes (Kristof-Brown et al., 2005). A central premise of organizational fit theory is that "good fit leads to positive work outcomes and poor fit results in negative work outcomes" (Astakhova, 2016: p. 956). In particular, at the organizational level, the degree of similarity between individual values and organizational values is posited to influence numerous outcomes effecting both the employee and organization (Afsar, Badir, & Khan, 2015; Kristof, 1996). Additionally, a central premise of fit theory is that similarity of values, goals, attitudes, and personal preferences affect work behaviors and task performance (Markman & Baron, 2003). Of particular importance to this dissertation, interpersonal employee dynamics are posited to influence individual level behavior and the emergence of IWB (Scott & Bruce, 1994).

As the overarching theoretical framework of fit has evolved, the conceptualizations of fit have been defined in terms of two broad categories: supplementary fit and complementary fit (Kristof-Brown et al., 2005). An essential distinction in these two conceptualizations relates to the definition of the environment (Muchinsky & Monahan, 1987). Supplementary fit refers to the degree of similarity between the person and an environmental element (e.g., organization, job, supervisor, group) and is focused around the people who inhabit the environment (Kristof-Brown et al., 2005; Muchinsky & Monahan, 1987). In person to person contexts, supplementary fit occurs when people perceive their fit is "alike or similar to other people" possessing those particular characteristics (Sekiguchi, 2004: p. 180). Conversely, complementary fit conceptualizes the environment as separate from the person, in that the "basis for a good fit is the mutually offsetting pattern of relevant characteristics between the person and the environment" (Muchinsky & Monahan, 1987: p. 272). As P-E fit research has advanced, the conceptualization

of complementary fit was later expanded to refer to instances where a person's needs are met through environmental factors that fill a particular gap (i.e., needs-supply) (Kristof-Brown et al., 2005; Kristof, 1996).

Within the overarching P-E fit research domain, value congruence is one of the most frequently studied conceptualizations of an individual's fit with their environment (Hoffman, Bynum, Piccolo, & Sutton, 2011). Value congruence refers to the degree of consistency in values between an individual and their work environment (Hoffman et al., 2011). Additional conceptualizations of a person's fit with the environment have been viewed along other workplace dimensions, such as organizational fit, job fit, team/group fit, and supervisor fit (Kristof-Brown, Jansen, & Colbert, 2002; Van Vianen et al., 2011). Moreover, individuals are suggested to interact with their environment on multiple levels that may be interdependent with each other (Astakhova, 2016; Kristof-Brown et al., 2002).

2.1.2 Strategic Consensus Theory

In addition to person-supervisor fit theory, this dissertation utilized strategic consensus theory as a complementary theoretical framework to investigate my research questions and conceptual model. A firm's strategy making process is a crucial element needed for organizational survival. The extant literature suggests that a central issue relevant to the strategy making process lies not with the formulation of strategy, but rather challenges can frequently develop within the implementation phase of the strategy process (MacMillan & Guth, 1985; Porck et al., 2020; Rapert, Velliquette, & Garretson, 2002; Wooldridge & Floyd, 1990). Furthermore, employees across the organization are expected to carry out tasks related to the organization's cascading strategy implementation. Organizational success is reliant on the ability for strategic direction to permeate throughout the firm. It is argued that a lack of strategic consensus suggests that

employees and teams within a firm are not operating under a uniform set of priorities and objectives (Noble, 1999). In today's turbulent business environment, a widespread understanding of organizational priorities and objectives is therefore critical in supporting CE.

Strategic consensus has its roots in the strategic management literature (González-Benito et al., 2012; Kellermanns et al., 2005). Early examinations of strategic consensus included research linked to strategic decision making (Wooldridge & Floyd, 1989). Superior organizational strategies need to go beyond the initial strategy formulation mode, such that successful strategy implementation is equally necessary in order to create value for the firm (Noble, 1999). The implementation of strategic initiatives can be complex; and important components of strategy implementation includes the "communication, interpretation, adoption, and enactment of strategic plans" (Noble, 1999: p. 120). As strategic plans are implemented, unforeseen issues must be resolved that require adaptation and decisions may need to be navigated due to changes in the environment (Noble, 1999). As these plans are executed, individuals must have a clear understanding of the logic behind the original plans (Kellermanns et al., 2005).

Strategic consensus is defined as "the shared understanding of (i.e., agreement on) a specific strategy-relevant content by a group of individuals that can be comprised of managers at the top, middle, and/or operating levels of the organization" (Kellermanns, Walter, Floyd, Lechner, & Shaw, 2011: p. 127). A key distinction in the definition of strategic consensus relates to the aspect of a "shared understanding." Strategic consensus relates to the degree of shared understanding concerning "what" is being agreed to in regard to strategy implementation (Noble, 1999). The focus of strategic consensus includes aspects concerning both the subject (i.e., the people involved) and the object (i.e., the strategic means and ends) of consensus (Homburg, Krohmer, & Workman. Jr, 1999).

As mentioned above, strategic consensus relates to a shared understanding of the organization's strategic priorities, and likewise does not necessarily assume personal agreement or commitment to the particular strategic priorities by organizational members (Rapert et al., 2002). As the strategic consensus literature has evolved, differing viewpoints have been posited regarding whether commitment is a specific dimension of strategic consensus (Kellermanns et al., 2005; Noble, 1999; Rapert et al., 2002; Wooldridge & Floyd, 1989). Some scholars have theorized that commitment is an integral component of strategic consensus (e.g., Noble, 1999). In earlier consensus literature, it was theorized that consensus without commitment could lead to counterproductive efforts which could then be detrimental to organizational performance (Wooldridge & Floyd, 1989). Noble (1999) argued that commitment is a mechanism that leads to improved strategic consensus as a result of reductions of uncertainties in key organizational priorities. However, more recent research considers the construct of commitment as separate from strategic consensus (Kellermanns et al., 2005; Rapert et al., 2002). In this dissertation, I follow the more recent conceptualization of strategic consensus and consider commitment a distinct construct not explicitly required as part of the phenomenon of strategic consensus.

While a shared understanding of strategic priorities is theorized to improve organizational performance, there is a distinction in the literature between strategic consensus and the strategic decision-making process. More specifically, Kellermanns et al. (2011) differentiate these two concepts and stipulate that the focal point of strategic consensus is on the outcome or product of the strategic decision-making process. As strategies are disseminated and cascade throughout the organization, the potential for increased uncertainty and ambiguity exists among team members at various levels of the firm. Therefore, strategies developed at a high level will need to be operationalized in more detail and specificity as plans are disseminated throughout the

organization. Two critical factors for strategic consensus is a shared understanding of the reasons behind a strategic decision and a fundamental understanding of the intended actions of the strategy (Kellermanns et al., 2011). In today's interconnected business environment, improved cooperation and coordination across teams is increasingly important to drive organizational performance (Porck et al., 2020). Strategic consensus was found to lead to improved performance in work settings with higher levels of ambiguity and change (e.g., knowledge intensive firms) (Jabarzadeh, Sanoubar, Vahdat, & Khosravi Saghezchi, 2019). Interestingly, the potential for misalignment on strategic priorities was found to occur in both directions, such that lower level employees with lower degrees of consensus with their leaders were found to either over-emphasize or underestimate the overarching strategic intent due to the lack of consensus between organizational hierarchies (Desmidt & George, 2016).

Early work on strategic consensus focused on the degree of consensus across the top management teams (TMT) within organizations (Homburg et al., 1999). As research involving strategic consensus has evolved, the conceptualization of strategic consensus has extended to acknowledge that consensus on strategic priorities is critical for managers across multiple levels of the organization (Desmidt & George, 2016; Kellermanns et al., 2005; Porck et al., 2020; Tarakci et al., 2014). In a recent study, Ateş et al. (2020) found that lack of alignment between managers at various organizational levels and the CEO had detrimental effects on consensus and commitment related to key strategic initiatives. Additionally, there is growing research indicating that a shared understanding among teams collectively leads to superior intergroup effectiveness (Porck & van Knippenberg, 2022).

Central to the context of this dissertation, corporate entrepreneurship (CE) is considered a strategic posture that orients firms toward the generation of innovation needed to build and

sustain competitive advantages within dynamic business environments (Kuratko et al., 2015). It is therefore posited that the shared understanding of strategic priorities, particularly those associated with CE, is a key mechanism in which increased coordination and cooperation allows individual level IEO and employee innovative behavior to emerge across multiple levels of the organization.

Central to the context of this dissertation, the interdependencies and complexities occurring in today's business environment is making it more imperative for firms and their employees to engage in entrepreneurial behaviors (Eva, Meacham, Newman, Schwarz, & Tham, 2019; Montani, Vandenberghe, Khedhaouria, & Courcy, 2020). Knowledge related to how a shared understanding and the degree of fit between employees and their supervisors within the context of corporate entrepreneurship (CE) has important implications for organizations. More specifically, knowledge related to entrepreneurial orientation at the individual level (IEO) is an underexplored construct that warrants additional attention. The following section contains a review and synthesis of the current literature related to individual level EO.

2.2 Entrepreneurial Context

2.2.1 Firm Level Entrepreneurial Orientation

Entrepreneurial orientation (EO) is one of the most extensively studied construct in the entrepreneurship domain (Rauch et al., 2009; Wales, Monsen, & McKelvie, 2011). Research has positioned EO at the intersection of the strategic management and entrepreneurship literatures. The origins of EO can be traced back to the strategy making-process domain and posited as one of the central modes within businesses for strategy formation (Mintzberg, 1973). Firm-level EO can therefore be viewed as a lens for entrepreneurial-oriented strategic management through

which “key decision makers use to enact their firm’s organizational purpose, sustain its vision, and create competitive advantage(s)” (Rauch et al., 2009: p. 763).

The conceptualization of EO has extended the work of Miller (1983) and is consistently referred to in the literature to collectively comprise of three distinct dimensions: innovativeness, proactiveness, and risk taking (Anderson et al., 2009; Kreiser et al., 2019; Miller, 1983). As early EO research emerged, two additional dimensions, competitive aggressiveness and autonomy, were proposed by Lumpkin and Dess (1996) in addition to the original three dimensions outlined by Miller (1983). Although dimensional differences in EO were debated in earlier years, there remains relative agreement within the current entrepreneurship literature on the conceptualization of EO to comprise of the three traditional dimensions (i.e., innovativeness, risk-taking, and proactiveness) as defined by Miller (1983).

Although a convergence has occurred regarding the number of dimensions of the EO construct, a central debate in the EO literature has also occurred concerning how the individual dimensions of EO co-vary with one another. Early EO researchers suggested EO represents a distinct unidimensional construct (Covin & Slevin, 1989; Knight, 1997). For example, Covin and Slevin (1989) factor analyzed EO from a sample of 161 senior managers in which the authors found high factor loadings across all EO items, supporting the measurement of EO as a single construct. However, as EO research has matured, more recent literature has conceptualized EO as a multidimensional construct, in which the three subdimensions of EO vary independent of each other and are treated as separate and unique variables (Covin et al., 2006; George & Marino, 2011; Kreiser, Marino, & Weaver, 2002; Lumpkin & Dess, 2001).

The construct of EO is widely accepted as relating to the firm level unit of analysis and is suggested to represent a strategic posture of the organization (Green et al., 2008; Wales et al.,

2011). Although entrepreneurship scholars generally agree on the use of EO as a higher order firm-level construct, there is less agreement on a consistent definition of EO. For example, in their seminal paper, Lumpkin and Dess (1996) define entrepreneurship as new entry and define EO as "*how"* new entry is carried out. EO is further defined as "the processes, practices, and decision-making activities that lead to new entry" (Lumpkin & Dess, 1996: p. 136). Covin et al. (2006) posits that EO is a criterion that reflects an organization's ability to convert "entrepreneurial opportunities into growth trajectories" (p. 58). Ireland et al. (2009) defines the construct of EO as an organizational state or quality, which is observed through entrepreneurial behavior. While some scholars define EO narrowly, some research streams conceptualize EO more broadly as an entrepreneurial process (Anderson et al., 2009; Provasnek, Schmid, Geissler, & Steiner, 2017). A summary of selected conceptualizations of EO is presented in Table 2.1. For the purposes of this dissertation, EO is defined as a firm-level strategic posture, upon which entrepreneurial behaviors can be observed as outcomes of EO. This conceptualization follows closely with Wiklund and Shepherd (2005: pp. 72-73) definition of EO as a strategic orientation of a firm involving a tendency "to innovate to rejuvenate market offerings, take risks to try out new and uncertain products, services, and markets, and be more proactive than competitors toward new marketplace opportunities". These conceptualizations of firm level EO have resulted in debate in the literature in defining how EO manifests at the individual level unit of analysis, which is discussed in more detail in the following section. In this dissertation, both firm level EO and individual level EO (i.e., IEO) are conceptualized to specifically refer to *tendencies* or *inclinations* toward certain behaviors, however the tendencies are distinct from the actual demonstration of innovative behaviors.

Table 2. 1 Conceptualizations of Entrepreneurial Orientation (EO)

Author(s), Year	EO Conceptualization (Firm level)
Miller (1983)	"An entrepreneurial firm is one that engages in product-market innovation, undertakes somewhat risky ventures, and is first to come up with 'proactive' innovations, beating competitors to the punch" (p. 771).
Covin and Slevin (1989)	"Entrepreneurial firms are those in which the top managers have entrepreneurial top management styles, as evidenced by the firms' strategic decisions and operating management philosophy" (p. 77).
Lumpkin and Dess (1996)	"EO refers to the processes, practices, and decision-making activities that lead to new entry" as characterized by one, or more of the following dimensions: "a propensity to act autonomously, a willingness to innovate and take-risks, and a tendency to be aggressive toward competitors and proactive relative to marketplace opportunities" (pp. 136–137).
Wiklund (1999)	EO conceptualized at the firm level that "emphasizes the process of entrepreneurship rather than the actors (managers) behind it" (p. 38).
Wiklund and Shepherd (2003)	EO as "a firm's strategic orientation, capturing specific entrepreneurial aspects of decision-making styles, methods, and practices" (p. 1308).
Wiklund and Shepherd (2005)	EO as an ''entrepreneurial strategic orientation'' …which "involves a willingness to innovate to rejuvenate market offerings, take risks to try out new and uncertain products, services, and markets, and be more proactive than competitors toward new marketplace opportunities" (pp. 72-73).
Rauch et al. (2009)	"EO refers to the strategy-making processes that provide organizations with a basis for entrepreneurial decisions and actions" (p. 762).
Covin and Wales (2012)	EO as "an organizational decision-making proclivity favoring entrepreneurial activities" (p. 677).

2.2.2 The Individual's Role in Corporate Entrepreneurship

The word "entrepreneur" dates back to the mid-1700s and is derived from the French term "*entreprendre*" which can be translated as meaning "to undertake" (Kuratko, 2017; Matlay, 2005). In differentiating the individual's role in entrepreneurship, Schumpeter (1934: p. 74) makes the distinction of the role of the individual entrepreneur by specifying the following: "the carrying out of new combinations we call '*enterprise'*; the individuals whose function it is to carry them out we call '*entrepreneurs'*." The individual is at the heart of the enactment and implementation of entrepreneurial ideas within the business context.

As entrepreneurship research has evolved, views about "*who*" specifically is an entrepreneur have evolved as well. Entrepreneurship research has traditionally viewed an entrepreneur as an individual proprietor or the sole creator of a business venture (Baron, 2008; Bernoster, Mukerjee, & Thurik, 2020). However, the work of Mintzberg (1973) began to link entrepreneurial actions to strategy formation modes enacted by managers within their organizations. Over time, the view of "who is an entrepreneur" evolved to include managers, top management teams (TMTs), and executives involved in the strategy making process (Covin & Slevin, 1989, 1990; Knight, 1997; Miller, 1983).

Although EO within firms can be associated with the orientation and general positioning that is supportive of entrepreneurial behavior, corporate entrepreneurship (CE) is conceptualized as entrepreneurship that takes place within established organizations. CE is suggested to exist at the intersection of the entrepreneurship and the strategic management domains (Anderson et al., 2009; Ren & Guo, 2011). More specifically, CE has been defined as the existence of entrepreneurial behaviors and processes applied to established organizations (Morris, Kuratko, & Covin, 2011). Corporate entrepreneurship refers to "the process of creating new business within established firms to improve organizational profitability and enhance a company's competitive position or the strategic renewal of existing business" (Zahra, 1991: pp. 260-261).

The strategic orientation between entrepreneurial firms compared to non-entrepreneurial firms is distinguished by the entrepreneurial firms' propensity to have strategies related to innovation and risk-taking growth initiatives (Borch, Huse, & Senneseth, 1999). Corporate entrepreneurial strategy was defined by Ireland et al. (2009: p. 21) as a "vision-directed, organization-wide reliance on entrepreneurial behavior that purposefully and continuously rejuvenates the organization and shapes the scope of its operations through the recognition and exploitation of

entrepreneurial opportunity." Strategic entrepreneurship has been defined as a process in which firms simultaneously balance the exploration and exploitation processes (Ireland & Webb, 2007). In addition, Ireland et al. (2009: p. 24) asserts that "organizations can pursue entrepreneurship as a separate and identifiable strategy."

Specific to the context of this dissertation, CE is defined as "the process whereby an individual or a group of individuals, in association with an existing organization, create a new organization or instigate renewal or innovation within that organization" (Sharma & Chrisman, 1999: p. 18). More recently, CE researchers have called for an expansion of how we view entrepreneurs inside of established organizations to include all employees (Covin et al., 2020; Kraus, Breier, Jones, & Hughes, 2019). One of the major roles of an entrepreneur is to recognize business opportunities and to then decide to exploit those opportunities (Kollmann, Christofor, & Kuckertz, 2007). Therefore, individuals at all levels of the organization are suggested to play an important role in the exploration and exploitation necessary for the enactment of entrepreneurial strategies.

As compared to non-entrepreneurs, individual entrepreneurs are suggested to possess a distinct set of abilities, knowledge, and attitudes that enable them to recognize opportunities and then decide to exploit those opportunities (Kollmann et al., 2007). An individual's personality traits and attitudes are suggested to increase an individual's propensity to engage and successfully complete entrepreneurial activities (Bolton & Lane, 2012). More specifically, individual factors, such as affect and cognitive processing, have been linked to IEO (Özgen & Tangör, 2022), as well as individual level entrepreneurial processes (Baron, 2008). Entrepreneurial passion is suggested to be associated with what motivates individuals to be an

entrepreneur (Cardon, Gregoire, Stevens, & Patel, 2013). A discussion regarding the conceptualization of individual level EO is presented in the following section.

2.2.3 Individual Entrepreneurial Orientation

The maturity of firm level research on EO has more recently acknowledged the importance of building a more cumulative understanding of how EO manifests at the individual level of analysis (Bolton & Lane, 2012; Covin et al., 2020; Ferreira et al., 2015; Kraus et al., 2019). Until recently, individuals have predominantly been examined within the context of EO in two research streams: (1) individuals within the upper echelons of organizations carrying out EO as agents or extensions of their firm (Avlonitis & Salavou, 2007; Ferreira et al., 2015; Kraus et al., 2019); and (2) the individual as a sole owner and creator of a new business venture (Bernoster et al., 2020). These two research streams are different in that individuals in the first group were studied as the TMT as a representative within established organizations (i.e., CE context) and those individuals may not be owners of the firm. The second research stream focused on sole individual owners as "being an entrepreneur" of a newly created enterprise. Historically, the extant literature failed to recognize the role that employees outside the TMT or ownership role can contribute to innovation within existing organizations. Therefore, a critical gap exists in our knowledge about how employees across all levels of the organization demonstrate EO (Ferreira et al., 2015; Kraus et al., 2019).

In their seminal paper, Shane and Venkataraman (2000) assert that the individual is the central focus of entrepreneurship. Kollmann et al. (2007) posits that the individual is positioned as the actual source of innovation related to the demonstration of EO. The extension of the EO construct to the individual level across the organization "acknowledges the fact that the success of a firm's entrepreneurial endeavors cannot be divorced from the individuals that constitute the

broader employee base of the firm" (Covin et al., 2020: p. 1). In addition to EO expressed by top managers, employees at other levels of the organization should be encouraged to exhibit entrepreneurial behaviors in order to capture the full potential of firm level EO (Kraus et al., 2019).

Earlier research to extend EO to the individual often focused on managers within organizations. In this earlier conceptualization, EO has been described as a managerial capability by which individuals or firms "embark on proactive and aggressive initiatives to alter the competitive scene to their advantage" (Avlonitis & Salavou, 2007: p. 567). In a study of SMEs in Greece, managers within firms were suggested to have characteristics classified as active entrepreneurs and passive entrepreneurs (Avlonitis & Salavou, 2007), which corresponds respectively to demonstrations of high and low levels of innovativeness, risk-taking, and proactivity.

The extension of EO research to the individual level is suggested to provide a more holistic view of EO in explaining organizational performance (Covin et al., 2020). More specifically, by viewing EO at strictly the firm level, researchers may be neglecting how EO may be manifested among other levels of analysis (Covin et al., 2020; Kraus et al., 2019). The origin of the IEO construct was adapted from the EO construct (Kraus et al., 2019; Mustafa, Gavin, & Hughes, 2018). Individual level EO is an under researched area compared to firm level EO. Individual level EO is considered a complex endeavor due to the wide array of intuition-based and subjective factors that are involved in entrepreneurial decision making processes (Ferreira et al., 2015).

Recent entrepreneurship literature has begun conceptualizing individual entrepreneurial orientation (IEO) as a distinct construct from the more mature EO construct, which is typically

conceptualized at the firm level (Bolton & Lane, 2012). Although IEO is recognized as a distinct construct from firm level EO, there is not yet agreement in the literature on how IEO is conceptualized. For example, Kollmann et al. (2007) conceptualize EO at the individual level as comprising of five dimensions: innovativeness, risk-taking, proactiveness, autonomy, and competitive aggressiveness. Additionally, more recent research by Santos et al. (2020) conceptualize IEO as containing five dimensions: the three commonly agreed dimensions of firm level EO – risk taking, innovativeness, and proactivity; plus two additional dimensions argued to be specific to the individual level – passion and perseverance. Subsequently, Howard and Floyd (2021) have called for more detailed investigations of the five dimensions of IEO proposed by Santos et al. (2020), particularly the role of passion as a component or outcome of IEO. More precise distinctions between firm level and individual level conceptualizations of EO has been called for in entrepreneurial research (Covin et al., 2020; Covin & Wales, 2019). It is argued that entrepreneurial characteristics demonstrated by individual employees may not always manifest as firm level EO (Covin & Wales, 2019). In an attempt to address boundary issues with the use of the EO construct, Covin and Wales (2019) suggest that EO should be conceptualized at strictly the firm level of analysis. Subsequently, Covin et al. (2020) distinguished EO occurring at the individual level as the IEO construct. IEO has been broadly conceptualized as an attitudinal orientation by individuals (Ferreira et al., 2015).

Although the individual's role in entrepreneurship research has been an important focus of research for many decades (e.g., Schumpeter (1934); Shane and Venkataraman (2000)), the conceptualization of IEO is relatively new and an underexplored area. A summary of the results from the IEO literature review and key findings is presented in Table 2.2. These articles are presented in alphabetical order. The IEO literature review was conducted by a search of the

terms “individual entrepreneurial orientation” or “IEO” in any field contained in the Business Source Complete database from the inception of the database through August 2022. This resulted in a total of 161 articles. The results were then filtered to include only peer reviewed and published in English, which resulted in 105 articles. As a next step, the 105 articles were filtered to include top-tiered journals specific to IEO that appear on the “50 Journals used in FT Research Rank” published by The Financial Times, Ltd. in September 2016 (Ormans, 2016), as well as selected additional journal articles that were relevant to the context of this study. As a result of this search, the final IEO literature review included a total of twelve articles. As presented in Table 2.2, these twelve articles have been categorized as follows: six articles categorized as empirical studies, four articles were related to measurement scale development, and two articles were categorized as conceptual in nature.

The three dimensions of innovativeness, proactiveness, and risk-taking represent the more recent and prevailing conceptualization of IEO (Bolton & Lane, 2012; Covin et al., 2020; Howard, 2020). Therefore, IEO in this dissertation follows the established literature and is operationalized as a multidimensional construct to collectively reflect individual level EO (Kollmann et al., 2007). Research into multidimensional constructs is typically considered more rigorous, as the effect sizes are usually larger for a multidimensional constructs as opposed to investigations into the individual predictors conducted in isolation (Cromie, 2000; Howard, 2020; Miranda, Chamorro-Mera, Rubio, & Pérez-Mayo, 2017; Mueller & Thomas, 2001). The innovativeness dimension of IEO is defined as explorative activities relating to something novel and unknown (Kraus et al., 2019) and “an employee’s amenability to and pursuit of novel solutions to work-related tasks” (Covin et al., 2020: p. 3). The IEO proactiveness dimension is defined as “an employee’s bias toward discretionary action aimed at anticipating and responding

to new value creation opportunities" (Covin et al., 2020: p. 3). Lastly, the risk-taking dimension of IEO is defined as an employee's "willingness to undertake tasks with uncertain outcomes via unrequested and unauthorized job-related behavior" (Covin et al., 2020: p. 3).

Research specific to IEO is an understudied construct and represents a current gap in the literature. An important micro level variable within entrepreneurship and organizational research includes behavioral outcomes (Eva et al., 2019; Riaz, Xu, & Hussain, 2018). Within the entrepreneurship domain, researchers have been urged to consider tighter models in which antecedent and outcome variables are within close proximity to EO (Covin & Wales, 2019). At the individual level of analysis, employee innovative behaviors that occur across the organization are considered a significant outcome expected to occur related to the demonstration of employee IEO. A review and synthesis of the literature on innovative work behavior (IWB) is discussed in the following section.

Table 2. 2 Individual Entrepreneurial Orientation: Summary of Research and Key Findings

Authors	Type of Research	Theoretical Perspective	Independent Variables	Dependent Variable	Sample	Data Analysis	Key Findings
Bernoster et al. (2020)	Empirical	Upper echelon theory	Positive affect, negative affect, firm level & individual level EO	Entrepreneurial success	Two samples: 337 Dutch sole proprietors; 254 French small business owners	Linear regression analysis	Positive affect had a positive association with EO in both samples; negative affect was negatively related to EO for sole proprietors; PA and NA are distinct dimensions of affect; PA was found to have a positive effect on entrepreneurial success and NA was found to have a negative effect on entrepreneurial success.
Bolton and Lane (2012)	Scale development	N/A – scale development	N/A	N/A	1,100 university students	Exploratory factor analysis	Established validity and reliability for three dimensions of IEO: innovativeness, risk-taking, and proactiveness.
Corrêa, Queiroz, and Shigaki (2021)	Empirical	Social Capital	Entrepreneur's social capital	IEO	20 religious entrepreneurs	Qualitative analysis; exploratory multiple case study	Dense social networks support information to disseminate quickly and improves identification of opportunities. However, excessively strong social networks can impede entrepreneurial activity.
Covin et al. (2020)	Scale development	Social exchange theory, organizational citizenship/extra-role behavior	IEO, mutual trust between manager and employee, commitment to company goals	Team performance	71 teams, representing 750 individuals, from a large company in the service sector	EFA, CFA, fsQCA	Examination of IEO at non-managerial and team levels; the interaction of the three dimensions of IEO (innovativeness, proactiveness, risk-taking) with trust and commitment to effect team performance.

Authors	Type of Research	Theoretical Perspective	Independent Variables	Dependent Variable	Sample	Data Analysis	Key Findings
Ferreira et al. (2015)	Conceptual	Not specified	N/A	N/A	N/A	Cognitive mapping & multiple criteria decision analysis (MCDA)	MCDA framework is posited as a methodology to categorize individuals based on entrepreneurial profiles.
Howard (2020)	Scale development	N/A – scale development	N/A	N/A	298 individuals from Amazon's Mechanical Turk (MTurk)	Exploratory factor analysis	IEO measurement scale using the HEXACO-100 personality inventory to develop the HEXACO-IEO subscale to measure IEO and predict IEO outcomes.
Kollmann et al. (2007)	Conceptual	N/A – conceptual paper	N/A	N/A	N/A	N/A	An individual's EO and decision to engage in entrepreneurship is impacted by social context and environmental factors, such as cultural, political/legal, macro-economic, and micro-economic influences.
Kraus et al. (2019)	Empirical	Intrapreneurship theory; Regulatory mode theory	IEO, modes of self-regulation	Individual level exploration & exploitation as two phases of CE	Survey data from 266 municipalities & cities in German-speaking regions of Europe	Regression analysis	Data supports a positive association between IEO and exploration; no support was found for the IEO-exploitation relationship; a moderation effect from locomotion (action orientation in individuals task performance) was found in the interaction of IEO-exploration; moderation effect of assessments (strategic/intentional approach to an individual's actions) was found to be negatively associated with IEO-exploration and positively associated with IEO-exploitation.

Authors	Type of Research	Theoretical Perspective	Independent Variables	Dependent Variable	Sample	Data Analysis	Key Findings
Monsen and Boss (2009)	Empirical	Social identity theory	Perceptions of department-level EO between managers and employees	Role ambiguity; intention to leave the organization	1,975 employees and managers, representing 110 unique departments	Exploratory and confirmatory factor analysis; multi-group invariance analysis; structural equation modeling	Strategic entrepreneurship can impact management and staff differently; these differences require customized design and implementation of entrepreneurial strategies.
Özgen and Tangör (2022)	Empirical	Not specified	Trait positive affect, trait negative affect, conscientiousness, and cognitive flexibility	IEO	508 undergraduate university students in Turkey	Regression analysis using IBM SPSS Process Macro to evaluate three mediation models	Trait PA and IEO are positively related; however cognitive flexibility (ability to view situations within individual's control) was found not to affect the PA-IEO relationship; Trait NA and IEO are negatively related, and cognitive flexibility was found to mediate the Trait NA-IEO relationship; Conscientiousness and IEO are positively related, with cognitive flexibility partially mediating the conscientiousness-IEO relationship.
Santos et al. (2020)	Scale development	N/A – scale development	N/A	N/A	249 Portuguese agri-food firms	Confirmatory factor analysis	The IEO construct includes the three primary dimensions of IEO (innovativeness, risk-taking, proactiveness), plus two additional dimensions of passion and perseverance.

Authors	Type of Research	Theoretical Perspective	Independent Variables	Dependent Variable	Sample	Data Analysis	Key Findings
Wang, Ali, Kim, Lee, and Hernández Perlines (2021)	Empirical	Attraction/selection/attrition (ASA) theory; institutional isomorphism theory	IEO	Value congruence (mediator), performance expectation, job involvement, organizational commitment	398 SMEs in South Korea	PLS-SEM; along with the PROCESS macro to evaluate moderated mediation effects of IEO on individual outcomes	Value congruence mediates the relationship between IEO and individual outcomes (performance expectations, job involvement, & organizational commitment); level of institutional entrepreneurial environment provides a moderated mediation effect of value congruence.

2.3 Innovative Work Behavior

Innovative work behavior (IWB) is defined as "the intentional creation, introduction and application of new ideas within a work role, group or organization, in order to benefit role performance, the group, or the organization" (Janssen, 2000: p. 288). Innovative behavior by employees is complex and considered one of the primary antecedents of corporate entrepreneurship (CE) (Mustafa et al., 2018). Within this context, individual entrepreneurial behaviors and actions are essential for the emergence of CE strategies (Ireland et al., 2009). Innovation is critical to the survival of organizations and, therefore, research to understand the drivers of individual innovative behavior is imperative (Scott & Bruce, 1994). Knowledge of innovation at the individual level of analysis is essential, as it is individuals who "develop, carry, react to, and modify ideas" (Van de Ven, 1986: p. 592). Determinants of innovative behavior requires conceptualization that extends beyond EO research and includes investigation at the individual level unit of analysis (Mustafa et al., 2018). Actions by individuals are of critical importance in the promotion of innovation and continuous improvement in the workplace (De Jong & Den Hartog, 2010). Of particular importance to the context of this dissertation, the involvement of all employees in the innovation process is needed for the organization to build competitive advantage in rapidly changing business environments (Hartman, Tower, & Sebora, 1994).

Employees' innovative behavior can occur in settings that are considered either bottom-up or top-down (Rigtering & Weitzel, 2013). Related to employees' innovative behavior, the term intrapreneurship has been defined as "the introduction and implementation of a significant innovation for the firm by one or more employees working within an established organization" (Carrier, 1996: p. 6). The process of "intrapreneuring" is suggested to benefit both the

organization and the intrapreneur (Pinchot, 1987). An intrapreneur is therefore the individual employee that carries out innovative work behaviors. Some confusion exists in the literature regarding the distinctions between intrapreneurship and CE. For example, Rigtering and Weitzel (2013) define intrapreneurship as a bottom-up process and CE as a top-down approach to innovation within established organizations. For the purposes of this dissertation, I follow Mustafa et al. (2018) and Sharma and Chrisman (1999) in conceptualizing intrapreneurship as a form of CE.

IWB is posited in the literature to benefit both the organization and the employees. The extant literature suggests organizations benefit from IWB through improved organizational performance (Shanker, Bhanugopan, Van der Heijden, & Farrell, 2017), increased growth and competitiveness (Afsar, Badir, & Saeed, 2014), and better functioning of the organization (Janssen, 2000). Employees and work groups are posited to receive social-psychological benefits as a result of engaging in IWB, such as improved alignment between job demands (Scott & Bruce, 1994), employee resources (Janssen, 2000), high performance ratings when combined with high LMX relationships (Schuh, Zhang, Morgeson, Tian, & van Dick, 2018), enhanced team effectiveness (Ramamoorthy, Flood, Slattery, & Sardessai, 2005), solutions to unsatisfied work-related needs (Wu, de Jong, Raasch, & Poldervaart, 2020), favorable performance evaluations and positive promotability evaluations (Guillén & Kunze, 2019), and improved leader-member exchange (Scott & Bruce, 1994).

Several antecedents of IWB have been researched and discussed in the literature, including organizational climate for innovation (Kang, Solomon, & Choi, 2015; Shanker et al., 2017), employee work centrality (Volery & Tarabashkina, 2021), job demands and fairness perceptions (Janssen, 2000), job autonomy (Ramamoorthy et al., 2005), human resource practices (Prieto &

Pérez-Santana, 2014), leadership style (Afsar et al., 2014; Javed, Naqvi, Khan, Arjoon, & Tayyeb, 2019; Yidong & Xinxin, 2013), psychological empowerment (Afsar et al., 2014), employee passion for inventing (Kang, Matusik, Kim, & Phillips, 2016), self-construal (Afsar et al., 2014), workload and work engagement (Montani et al., 2020), supervisor and co-worker feedback and psychological contract breach (Eva et al., 2019), expectations for performance outcomes and image consequences (Yuan & Woodman, 2010), and psychological safety (Javed et al., 2019). However, the demonstration of employee innovative behavior is complex and is a much sought after organizational output (Volery & Tarabashkina, 2021). As such, many gaps remain in building a more cumulative knowledge of IWB.

The characteristics and factors related to IWB can be broadly categorized into internal characteristics, external factors, contextual characteristics, and processual attributes. Due to the complex nature of IWB, these elements do not individually exist in a vacuum and can therefore be inter-related. Specific to the micro level unit of analysis, employees' internal and external characteristics, along with the contextual factors, are of particular importance to this research context. A discussion of these key conceptual elements of IWB follows below.

2.3.1 Internal Characteristics of Innovative Behavior

Characteristics internal to the employee are important factors related to employees' IEO and decisions to engage in entrepreneurial behavior in the workplace. The demonstration of IWB is considered an extra-role behavior which goes beyond what is defined in an employee's explicit job description (Janssen, 2000). For example, organizational citizenship behavior (OCB) is defined as a type of extra-role behavior suggested to help promote CE and build competitive advantages within organizations (Zhang, Wan, & Jia, 2008). In particular, Adam (2022) defines the voluntary nature of employee innovative behavior as a key component to the IWB construct.

Therefore, innovative employees may be willing to go beyond their prescribed job definition in demonstrating workplace entrepreneurial behavior. Higher levels of employee involvement in workplace innovation has been posited as an antecedent to employee discretionary behavior and improved organizational performance (Macey & Schneider, 2008). Nonetheless, in instances where employees perceive an unfair effort-rewards relationship, the extra-role behavior demonstrated by IWB may be withheld by employees (Janssen, 2000). Based on the extant literature, the relationship between IWB and discretionary behavior by employees may be reciprocal in nature.

Intrinsic motivational factors may contribute to employees' willingness to exhibit extra-role behavior and enhance their ability to enact IWB. Job self-efficacy and creative self-efficacy are both posited to be positive predictors of employees' entrepreneurial behavior (Hammond, Neff, Farr, Schwall, & Zhao, 2011). Moreover, intrinsic task motivation within employees has been suggested to be improved as a result of increased psychological empowerment (Afsar et al., 2014), which is a cognitive construct consisting of the following four dimensions: meaning, competence, impact, and self-determination (Spreitzer, 1995; Thomas & Velthouse, 1990). Increased states of psychological empowerment effects employees' cognitions and perceptions of their self-efficacy and autonomy, which are drawn upon to generate and implement novel and innovative ideas in the workplace (Afsar et al., 2014). Additionally, psychological empowerment was found to enhance the effect of IWB in instances where the employee's supervisor demonstrated transactional leadership (Pieterse, Van Knippenberg, Schippers, & Stam, 2010). Psychological empowerment is an important predictor of IWB as employees with high psychological empowerment are posited to "feel more able to proactively influence their work role and environment" (Pieterse et al., 2010: p. 610).

The extant literature suggests that psychological constructs are important considerations in understanding the outcome or payoffs for engaging in innovative behavior (Yuan & Woodman, 2010). For example, the expectancy theory of motivation suggests that individuals are motivated to take action based on the expected outcomes or rewards from their behavior (Vroom, 1964). Expectations of performance outcomes and the expectations of the behavioral impacts on an employee's image were found to be determinants of IWB exhibited by employees (Yuan & Woodman, 2010).

Other psychological constructs have also been linked to IWB. For example, an employee's self-construal was found to moderate the relationship between transformational leadership style and IWB (Afsar et al., 2014). Self-construal is a psychological construct that relates to an individual's perception of themselves, which can be viewed as either separate and distinct from others (i.e., an independent self-construal) or connected to others (i.e., an interdependent self-construal), whereas the self-construal is suggested to influence the employee's thoughts, feelings, and behaviors in the workplace (Afsar et al., 2014). In addition, employee psychological ownership has been linked to firm performance through the mediation effect of employee entrepreneurial behavior (Sieger, Zellweger, & Aquino, 2013).

Employee perceptions in the workplace are linked to the demonstration of workplace behaviors. For example, perceptions of equity, meritocracy, and procedural justice were found to influence IWB through the mediating role of employees' psychological contracts, which are employee beliefs concerning mutual and reciprocal contractual obligations with their organization (Ramamoorthy et al., 2005). In a study by Eva et al. (2019), performance feedback from supervisors and co-workers was found to increase employees' work engagement and perceptions that work related psychological contract obligations had occurred, which was posited

to lead to increased intrinsic motivation stimulating the demonstration of IWB. An employee's dissatisfaction with the status quo can contribute to the employee decision to attempt IWB due to the expected benefits resulting from the disruption of the status quo (Yuan & Woodman, 2010). More specifically, employees form perceptions of whether their expectations have been met or unmet, which in turn influences the employee's perceived obligations to the organization and consequently the demonstration of IWB by the employee (Ramamoorthy et al., 2005). Innovative behaviors in the workplace can also occur out of necessity. IWB may be prompted by employees felt need for an innovative solution to an unsatisfied workplace need, such as tools, processes, materials, and/or equipment (Wu et al., 2020).

Personality characteristics have been investigated in the literature as determinants of IWB. Early research theorized that individual personality traits were considered stable and measured using the Creativity Personality Scale using an array of personality descriptors for innovative individuals such as confident, unconventional, egotistical, humorous, original, inventive, and clever (Gough, 1979; Hammond et al., 2011). Personality attributes such as the Big Five personality dimension of openness to experience has been closely linked as a predictor of innovative behavior (Hammond et al., 2011). Moreover, the Big Five personality traits of openness and conscientiousness were found to be moderated by the employees tenure with the organization (Woods, Mustafa, Anderson, & Sayer, 2017). Interestingly, in the study by Woods et al. (2017), the effect of tenure on the relationships between conscientiousness-IWB and openness-IWB had opposite moderation effects among these two particular relationships. In their study, the emergence of IWB was found to be stronger among longer tenured employees that scored high on the openness personality trait, whereas IWB was found to decrease among longer tenured employees that scored high on the conscientiousness personality trait (Woods et

al., 2017). It is therefore posited that the demonstration of personality traits in predicting IWB may be related to contextual factors, such as tenure (Woods et al., 2017).

Individual cognitions have been investigated as determinants of innovative behavior by employees. In particular, non-routine jobs and tasks are suggested to be more challenging and require more cognitive processing, thus contributing to employee learning and personal growth, which leads to innovation (Huhtala & Parzefall, 2007). According to the two modes of cognition classified by Jabri (1991), individual cognitions used in problem-solving can be conceptualized as either associative cognition, characterized by logical, systematic, habitual thinking, or bisociative cognitions, which are described as intuitive and suggested to draw upon unrelated patterns of thought resulting in non-habitual thought. Specific to innovation, employees who demonstrated associative (e.g., systematic) cognitions as a problem solving mode were found to be negatively associated with the employees' demonstration of IWB (Scott & Bruce, 1994). Furthermore, Scott and Bruce (1994) posits that innovative individuals may be able to effectively draw upon both modes of thinking and apply the appropriate cognitive mode based on the stage of innovation.

In addition to cognitive processing, intense positive feelings, such as passion for inventing, are posited to influence employees' willingness to extend beyond their specified job requirements and demonstrate entrepreneurial behaviors (Cardon, Foo, Shepherd, & Wiklund, 2012; Kang et al., 2016). The implications of affect and mood have been theorized to be a determinant of innovative behavior by employees. For example, the positive and intense moods associated with an employee's entrepreneurial passion can lead to more creativity and resilience in overcoming challenges faced as part of the innovation process (Kang et al., 2016; Sy, Côté, & Saavedra, 2005). Moreover, organizational climates are suggested to impact employees'

emotions and affective states, which contributes to their task performance and propensity to innovate (Kang et al., 2016).

In addition to internal characteristics of IWB, external attributes are important to the demonstration of IWB by employees. Behavioral factors have long been associated with an interaction between a person and their environment (Kristof-Brown et al., 2002; Lewin, 1951). A discussion of the external factors associated with IWB are synthesized in the next section.

2.3.2 External Attributes of Innovative Work Behavior

Research into IWB has investigated several factors that are external to the individual associated with the emergence of innovative behavior by employees. For example, employee job demands are posited to have a positive relationship to IWB (Janssen, 2000). Job demands can be a type of psychological stressor that contributes to individuals seeking out adaptations to intensified job requirements or by modifying their work context as a form of a problem-focused coping strategy (Janssen, 2000). Job characteristics, such as job design and job autonomy, are considered conducive to employees engaging in creative and innovative behaviors (Ramamoorthy et al., 2005). The amount of workload was found to have a curvilinear effect on innovative behaviors enacted by employees, through the mediating role of employee work engagement (Montani et al., 2020). Additionally, Montani et al. (2020) found that moderate levels of employee workload had optimal effects on IWB. In a meta-analysis of 88 studies, job characteristics (e.g., autonomy, job complexity, and support for innovation) were found to be a consistent and positive predictor of IWB (Hammond et al., 2011). HR practices within organizations designed to be characterized with high involvement (i.e., ability-enhancing and opportunity-enhancing HR practices) are determinants of employee IWB (Prieto & Pérez-Santana, 2014). The perceptions by employees related to their job roles and responsibilities are

also linked to IWB. In particular, Yuan and Woodman (2010) posit that employees who perceive innovation as distal to their job roles (e.g., non-R&D roles) are less likely to enact IWB due to perceived lack of benefit to the employee or due to the potential negative social-political implications they may experience.

Related to IWB, organizational climates were found to play an important role in influencing employee behaviors and attitudes, and multiple climates can exist simultaneously (Kang et al., 2016). Organizational climates are important mechanisms in the employee sense-making process and are described as the "collectively shared perceptions among employees about organizational attributes in a given work environment" (Kang et al., 2016: p. 629). Individual perceptions of organizational climate are said to reflect the psychological interpretations of the situation (Scott & Bruce, 1994). In a study of 147 employees, researchers found a strong relationship between team perceptions of innovation climate and innovation outcomes (Mathisen, Martinsen, & Einarsen, 2008). An organization's climate for innovation is suggested to send signals to employees regarding the potential outcomes of innovation (Scott & Bruce, 1994; Yuan & Woodman, 2010).

The role of leadership has been linked to employees' IWB. For example, Yidong and Xinxin (2013) found that ethical leadership had a positive indirect effect on IWB, through the mediation effect of intrinsic motivation. The literature suggests that ethical leadership is characterized by several important aspects of how the leader interacts with their subordinates, such as: the leader's values and visions reflected in the leader's conduct and decisions; the establishment of clear performance standards for the employee; two-way communication between the leader-subordinate that is based on trust, ethics, and openness; and a people orientation (Yidong & Xinxin, 2013). In addition to ethical leadership, transformational leadership has also been

posited to increase the demonstration of innovative behavior by employees (Pieterse et al., 2010). These particular leadership behaviors could help establish the foundational interactions between the supervisor and employee that facilitates the creation of a shared understanding and alignment contributing to IWB.

The strength of the relationship between the supervisor and employee is suggested to predict the employee's IWB. Using social network theory and leader-member exchange (LMX) theory, Wang, Fang, Qureshi, and Janssen (2015) assert that in high LMX relationships, the leader provides the employee with strategic guidance, support, interesting work assignments, and autonomy. These high quality LMX relationship promote IWB through information sharing and higher levels of employee performance and commitment, and favorable performance ratings by the supervisor (Schuh et al., 2018; Wang et al., 2015). Furthermore, the higher autonomy and decision making authority associated with high LMX relationships was found to have a positive effect on employees' IWB (Scott & Bruce, 1994). Interestingly, the strength of the relationship between leader and subordinate has potential implications that extend more broadly to the organization. In particular, Scott and Bruce (1994) found that employees' who reported high-quality relationships with their respective supervisors also reported high levels of perceived organizational support for innovation and high perceptions of available resource supply. Central to the context of this dissertation, these findings support the importance of the leader-subordinate relationship on the emergence of employee IWB. In addition to the strength of the employee-supervisor relationship, the leader is influential in shaping the behaviors of their subordinates. The performance expectations by leaders are suggested to have a Pygmalion effect (Livingston, 2009), whereby the supervisor's expectations of their employees' IWB is posited to be linked to the demonstration of IWB by the employees (Scott & Bruce, 1994).

Support for innovation is an important mechanism in the emergence of employee IWB. Given the complex nature of organizations, support for employees' innovation can occur in a variety of ways. The employee's leader provides support through knowledge sharing, autonomy, encouragement, defining role expectations, and access to resources (Scott & Bruce, 1994; Wang et al., 2015). Moreover, in a study by Riaz et al. (2018), organizational support for innovation was found to have a mediating effect on the positive relationship between an employee's thriving at work and the employee's IWB.

In addition to leaders, support for innovation can exist in other areas of the organization. Work environments with a high level of co-worker support for innovation is linked to trust, knowledge sharing, and interpersonal support that encourages employees to take the risks that are often associated with workplace innovative behavior (Prieto & Pérez-Santana, 2014). Knowledge sharing in particular is posited to mediate the relationship between employees' IWB and the outcome of the change management process (Adam, 2022). It is within the change management process that innovations can be implemented. In addition, the employees' relationship with other individuals beyond their supervisor are suggested to influence the emergence of IWB. For example, Wang et al. (2015) posit that strong within-group network ties that consist of dense networks of individuals can provide the employee with the support and knowledge exchange necessary to advance workplace innovations. Interestingly, these authors also suggest that weak out-group network ties contributes more to IWB as a result of the employee's connection with a wide social network and an exposure to a wide range of thoughts and ideas (Wang et al., 2015). Social-political contextual factors, such as employees' expectations of image risks, were suggested to be considerations by employees in their decisions to engage in innovative behaviors in the workplace (Yuan & Woodman, 2010).

Specific to the context of this research, characteristics regarding an employee's relationship with their organization have important implications on the demonstration of employee innovative behavior within the workplace. A more detailed discussion of these specific relational characteristics is presented in the next section.

2.3.3 Characteristics of the Employee-Organization Relationship on IWB

Although there are attributes that are specifically related to internal and external influences, the literature also suggests specific relational factors between employees and their organizations also contribute to IWB. For example, Woods et al. (2017) conducted research into determinants of IWB using an interactionist perspective in which they found the relationship between individual personality traits and IWB was moderated by contextual factors from the employees job (i.e., the employee's tenure with the organization). The interactionist perspective relies on trait activation theory to explain how personality traits predict job performance based on situational cues, such as job demands (Tett & Burnett, 2003).

Psychologically safe work environments have been examined in the literature as a determinant of IWB. The construct of psychological safety is defined as "feeling able to show and employ one's self without fear of negative consequences to self-image, status, or career" (Kahn, 1990: p. 708). Within environments of high psychological safety, employees are suggested to be motivated to generate and implement innovative ideas in the workplace (Edmondson & Lei, 2014; Javed et al., 2019; Rank, Pace, & Frese, 2004). Conversely, in environments with low perceived psychological safety, employees are suggested to withhold their demonstration of IWB (Javed et al., 2019).

The interaction of employees with environmental context have been linked to IWB. These interaction effects draw on both the individual employee characteristics and contextual factors related to their work environment. For example, Yidong and Xinxin (2013) investigated the effect of ethical leadership on influencing intrinsic motivation as a predictor of IWB in employees. The authors' grounded their research in cognitive evaluation theory (CET), which posits that external factors influence intrinsic motivation (e.g., employee autonomy and perceptions of competence) (Yidong & Xinxin, 2013). Similarly, leaders who demonstrate a servant leadership style are suggested to influence their employees' IWB through developing a trusting and open work environment that is supportive of employees taking on challenging and difficult work tasks (Ji & Yoon, 2021). Employees' perceptions of trust and respect in the workplace were found to be important antecedents of types of self-efficacy (i.e., creative, persuasive, and change-related) that lead to increased IWB on the part of the employee (Ng & Lucianetti, 2016). As such, the contextual factors stemming from the interaction of the employee and their work environment are particularly important for the emergence of IWB within organizations.

Within organizational settings, the process of IWB is an important consideration to understanding how IWB is manifested by employees. The following section includes an overview of the IWB process discussed in the extant literature.

2.3.4 The Process of Innovative Work Behavior

Within the context of CE, innovation carried out by employees is considered paramount to organizational performance (Janssen, 2000; Shanker et al., 2017). The innovation process is

considered complex and the stages occur in a discontinuous manner, rather than occurring sequentially (Scott & Bruce, 1994). Successful organizations are suggested to face specific challenges in managing employees' behavior and the attention necessary in order to identifying new ideas, needs, and opportunities for the organization (Van de Ven, 1986). The process of IWB is suggested to be multifaceted and contain the following three behavioral components: idea generation, idea promotion, and idea realization (Janssen, 2000). Idea generation is linked to creativity and relates to the creation of novel and useful ideas (Amabile, Conti, Coon, Lazenby, & Herron, 1996; Janssen, 2000; Woodman, Sawyer, & Griffin, 1993). Generating new ideas has been posited as the starting point of the innovation process (Basadur, 2004; Javed et al., 2019). However, IWB goes beyond the process of creativity. IWB includes a wider range of actions (Wang et al., 2015) and is explicitly intended to provide a benefit and includes a presumption of innovative output (De Jong & Den Hartog, 2010).

Although much of the innovation literature agrees that IWB is comprised of two broad processes: the ideation/creativity stage and the implementation stage, there is a lack of agreement on the specific sub-dimensions that make up IWB (De Jong & Den Hartog, 2010). For example, Scott and Bruce (1994) operationalize IWB as containing three stages: idea generation, idea promotion, and idea realization. Alternatively, De Jong and Den Hartog (2010) conceptualize the IWB process as consisting of the following four stages: idea exploration, idea generation, idea championing, and idea implementation. Moreover, IWB has been conceptualized broadly into the two distinct dimensions of idea generation and idea implementation (Yuan & Woodman, 2010). For the purpose of this dissertation, I follow the classification of the innovation process established in the literature by Scott and Bruce (1994) consisting of three distinct stages: idea generation, idea promotion, and idea realization, which are discussed below.

The beginning point of IWB contains an element of chance related to the discovery of an opportunity or the need to solve a problem (De Jong & Den Hartog, 2010). Within the context of workplace innovations, idea generation is linked to creativity and the starting point of the innovation process. Scholars generally acknowledge creativity to be related to ideas that are both novel and useful (Amabile, 1988; Oldham & Cummings, 1996; Yuan & Woodman, 2010). However, differences between the conceptualization of creativity and innovation have been distinguished in the extant literature. IWB incorporates a wide range of activities and extends beyond creativity to include the actual promotion and implementation of innovative ideas (Ji & Yoon, 2021). In particular, Hammond et al. (2011: p. 91) distinguishes these differences as:

> "Although creativity focuses on the generation of novel ideas, innovation in work organizations is concerned with the generation of possible alternatives, selection from among those alternatives, and implementation of the chosen alternative(s). As such, workplace innovation can be understood as a broader process that includes idea generation (creativity), but also the implementation of ideas within the work setting."

Within the idea generation stage, the focus of innovation is on identifying ideas that are novel and useful. Early stages of the innovation process involve problem recognition and the generation of possible solutions (Scott & Bruce, 1994). Prospective innovations are posited to derive from seven sources of opportunity: the unexpected; incongruity between reality and a desired state; innovation based on process need; changes in industry structure or market structure; demographic changes; changes in perception, mood, and meaning; and the emergence of new knowledge (Drucker, 1985).

The second stage of the innovation process relates to the promotion of the ideas and solutions generated. Within the promotion stage, "an innovative individual seeks sponsorship for an idea

and attempts to build a coalition of supporters for it" (Scott & Bruce, 1994: p. 582). It is within the idea promotion stage that employees may leverage their social-political networks to gain support needed to bring innovation to the implementation stage.

Distinct from the idea generation and idea promotion phases, the implementation stage of the innovation process includes the evaluation of ideas and opportunities, selected alternative(s) are enacted, and iterative adjustments are considered (Hammond et al., 2011). Within this final stage of the innovation process, a tangible outcome or prototype can be implemented within the organization (Scott & Bruce, 1994). Whereas the idea generation stage can be viewed as more preparatory in nature, the idea implementation stage is said to be more action oriented (Hammond et al., 2011). The implementation of innovative ideas requires effort and an outcome orientation (De Jong & Den Hartog, 2010). Furthermore, the implementation phase is said to "encompass elements of developing ideas and putting them to use" (Amabile, 1988: p. 126).

The enactment of employee IWB is considered complex and multidimensional (Axtell et al., 2000; Scott & Bruce, 1994; Zhou et al., 2019). Antecedents of IWB can be broadly categorized as internal employee characteristics, factors external to the employee, contextual factors related to the workplace environment, and the process in which IWB is enacted. A summary of selected IWB research studies and findings are presented in alphabetical order in Table 2.3. The articles included in the review of the IWB literature were selected by searching the Business Source Complete database using author-supplied keywords containing the terms "innovative work behavior or innovative work behaviour or innovative behavior or innovative behaviour" from the inception of the database through August 2022, which resulted in 562 articles. These articles were then filtered to include only peer-reviewed articles and articles written in English, which produced a list of 454 journal articles. Next, after filtering the results for IWB specific articles

published in top-tiered journals as defined by the "50 Journals used in FT Research Rank" published by The Financial Times, Ltd. in September 2016 (Ormans, 2016), the search produced a final list of 13 journal articles. In order to provide a more comprehensive examination of the IWB literature, selected additional articles in journal publications not included in the Financial Times top 50 journal listing, however considered relevant to the context of this study, are included in the review and are included in Table 2.3.

Table 2. 3 Innovative Work Behavior: Summary of Research and Key Findings

Authors	Type of Research	Theoretical Perspective	Independent Variables	Dependent Variable	Sample	Data Analysis	Key Findings
Adam (2022)	Empirical	Not specified	Employee IWB; Knowledge sharing	Phases of the change management process (unfreezing, change process, and refreezing phases)	320 employees from 10 governmental organizations in Saudi Arabia	Partial least squares SEM analysis (PLS-SEM)	Employee knowledge sharing allows IWB to have a positive impact to the various phases of the change management process. The IWB-knowledge management mediating relationship was strongest during the beginning (unfreezing) and ending (refreezing) stages of the change management process.
Afsar et al. (2014)	Empirical	Not specified	Transformational leadership; psychological empowerment; interdependent self-construal; independent self-construal	IWB	639 employees and 87 leaders from 5 companies across industries in China	Structural equation modeling	Transformational leadership has a positive association with employees' IWB; employees' perceptions of psychological empowerment mediated the relationship between transformational leadership and IWB; employees' self-construal moderated the transformational leadership-IWB relationship, such that the moderation effect was stronger for employees with a high interdependent self-construal than with a high independent self-construal.

Authors	Type of Research	Theoretical Perspective	Independent Variables	Dependent Variable	Sample	Data Analysis	Key Findings
De Jong and Den Hartog (2010)	Scale development	N/A – scale development	N/A	N/A	Pilot study of 81 pairs of knowledge workers & their supervisors; main study of 693 leader-subordinate dyads	EFA on pilot study sample; CFA and hierarchical multi-level regression analysis on main study sample	Each of the four dimensions of IWB (idea exploration, idea generation, idea championing, & idea implementation) contributes to explaining IWB; however, high intercorrelations of the four dimensions suggest IWB is a one-dimensional construct.
Eva et al. (2019)	Empirical	Job demands-resources (JD-R) theory; Social exchange theory	Supervisor feedback; co-worker feedback; work engagement; psychological contract breach	IWB	300 employees and 64 supervisors employed within the public sector in China	Regression analysis	Feedback from both supervisors and co-workers are important HRM practices contributing to IWB. Feedback to employees promotes work engagement and employee perceptions of fulfillment of work-related psychological contracts, which motivates employees to engage in IWB.

Authors	Type of Research	Theoretical Perspective	Independent Variables	Dependent Variable	Sample	Data Analysis	Key Findings
Guillén and Kunze (2019)	Empirical	Cognitive ability theory	Age; interdepartmental collaboration; innovative behavior	Performance evaluations; promotability evaluations	305 project managers from an international social work organization headquartered in Southern Europe	Logistic regression; structural equation modeling	Age was found to have a curvilinear effect on innovative behavior, which was moderated by interdepartmental collaboration. Older employees in work environments with high interdepartmental collaboration were found to be as innovative as younger employees. Innovative behavior was found to be positively associated with favorable performance evaluations and positive promotability evaluations.
Hammond et al. (2011)	Meta-analysis	N/A – meta-analysis	Creative personality, demographic, motivational factors, job characteristics, contextual factors, stage of innovation process	IWB & creative behavior	88 independent samples	Meta-analysis	Personality has a small direct relationship to IWB; links from education and tenure were not supported; intrinsic and extrinsic motivational factors were positive predictors of IWB and creative behavior; job characteristics (autonomy and leadership support) were also positive determinants of IWB.

Authors	Type of Research	Theoretical Perspective	Independent Variables	Dependent Variable	Sample	Data Analysis	Key Findings
Janssen (2000)	Empirical	Social exchange theory	Job demands; fairness perceptions	IWB	170 non-managerial employees; and 110 supervisor ratings of the 170 non-managerial employees	Hierarchical multiple regression	Non-managerial employees responded more innovatively to job demands when perceptions of effort-reward were fair; and conversely, non-managerial employees responded less innovatively to job demands when the relationship of effort spent to reward were perceived as unfair.
Javed et al. (2019)	Empirical	Leader-member exchange theory	Inclusive leadership; psychological safety	IWB	180 employee-manager paired dyads in SME from the Pakistani textile industry	Structural equation modeling; confirmatory factor analysis	Inclusive leadership style was found to be positively associated with employees' IWB; the indirect effect of psychological safety mediating the relationship between inclusive leadership and IWB was only partially supported.
Ji and Yoon (2021)	Empirical	Ethical leadership; social cognitive theory	Servant leadership; self-efficacy; vocational calling	Innovative behavior	174 community service participants in a NGO setting in Korea	Regression analysis; SPSS Process macro	An individual's self-efficacy fully mediates the relationship between servant leadership and IWB; vocational calling was found to have a conditional effect (self-consciousness & calling as a religious belief) on the servant leadership-IWB relationship.

Authors	Type of Research	Theoretical Perspective	Independent Variables	Dependent Variable	Sample	Data Analysis	Key Findings
Kang et al. (2016)	Empirical	Organizational climate	Organizational climate (innovative, proactive, risk-taking); individual passion for inventing	IWB	105 managers and 39 CEOs	Multi-level structural equation modeling (MSEM)	Employee passion for inventing mediated the relationship between innovative climate and IWB; proactive climate had a positive moderation effect on the relationship between innovative climate and passion for inventing; risk-taking climate had a positive moderation effect on the relationship between passion for inventing and IWB.
Kang et al. (2015)	Empirical	Expectancy theory	Founding CEO's transformational leadership style; founding CEO's transactional leadership style; innovative climate	Manager's innovative behavior	39 CEOs and 105 managers in U.S. firms	Multi-level structural equation modeling (MSEM); multi-level indirect analysis (1-2-1 model)	The results suggest both transformational and transactional CEO leadership style are positively related to their immediate followers' IWB; innovative climate had a positive mediation effect on the CEO transformational leadership-IWB relationship; however, innovative climate had no mediation effect on the CEO transactional leadership-IWB relationship.

Authors	Type of Research	Theoretical Perspective	Independent Variables	Dependent Variable	Sample	Data Analysis	Key Findings
Montani et al. (2020)	Empirical	Job demands-resources (JD-R) theory	Workload; work engagement; mindfulness	IWB	3 studies: (1) two-wave time lagged study of 160 Canadian employees; (2) three-wave time lagged study of 153 U.S. employees; (3) two-wave panel study of 208 U.S. employees	CFA; polynomial regression analysis	Workload has a non-linear effect on IWB; work engagement mediates the relationship between workload and IWB, such that moderate levels of workload were found to have optimal levels of simulation as an antecedent to IWB.
Mustafa et al. (2018)	Systematic Literature Review	N/A	N/A	N/A	N/A	N/A	Entrepreneurial behavior exhibited by employees is complex and influenced by three broad categories of contextual determinants: (1) the employee's job/role; (2) the organization/work context; and (3) the external environment/firm characteristics.
Ng and Lucianetti (2016)	Empirical	Social cognitive theory	Organizational trust; perceived respect; creative self-efficacy; persuasion self-efficacy; change self-efficacy; psychological collectivism	3 types of IWB (idea generation, idea dissemination, idea implementation)	Longitudinal design collected data over 3 time periods within an 8-month period; 303 employees participated at Time 1, 281 employees at Time 2, and 267 employees at Time 3	Latent growth modeling (LGM); multiple regression analysis	Results found that three types of self-efficacy (creativity, persuasiveness, change) increased the three types of IWB; additionally, perceptions of trust and respect were found to indirectly contribute to employee IWB.

Authors	Type of Research	Theoretical Perspective	Independent Variables	Dependent Variable	Sample	Data Analysis	Key Findings
Pieterse et al. (2010)	Empirical	Not specified	Transformational leadership; transactional leadership; psychological empowerment	IWB	230 governmental employees in the Netherlands	Hierarchical regression analysis	Psychological empowerment moderated the positive relationship between transformational leadership and IWB; psychological empowerment also moderated the transactional-IWB relationship, such that high levels of psychological empowerment had a negative effect on the transactional-IWB relationship.
Prieto and Pérez-Santana (2014)	Empirical	Not specified	High involvement HR practices; supportive work environment	IWB	198 Spanish firms	OLS regression analysis	Ability-enhancing and opportunity-enhancing HR practices have a positive relationship with IWB; supportive work environment from managers and co-workers mediates the relationship between HR involvement HR practice and IWB.
Ramamoorthy et al. (2005)	Empirical	Not specified	Psychological contracts (met expectations & obligation to innovate); meritocracy; justice perceptions; pay; and job autonomy	IWB	204 blue collar employees from manufacturing organizations in Ireland	Path analysis	The psychological contract of obligation to innovate, pay, and job autonomy each had a direct effect on IWB. Perceptions of equity, meritocracy, and procedural justice each had indirect effects on IWB through the mediation effects of the two elements of psychological contracts (met expectations and obligation to innovate).

Authors	Type of Research	Theoretical Perspective	Independent Variables	Dependent Variable	Sample	Data Analysis	Key Findings
Riaz et al. (2018)	Empirical	Social cognitive theory	Thriving at work; organizational support for innovation; external work contacts	IWB	402 employees in China	PLS-SEM; multilevel regression analysis	Organizational support for innovation was found to mediate the relationship between employee thriving at work and IWB. Employee external contacts resulted in a moderated mediated the organizational support for innovation-IWB relationship, and increased the positive effects of employee thriving.
Sanders et al. (2018)	Empirical	Situational strength theory	Performance based rewards; HR strength; country level uncertainty avoidance	Innovative behavior	3 levels of data: 1589 employees and 186 managers within 29 organizations across 10 countries	Hierarchical linear modeling (HLM) of nested data	Higher perceptions of HR strength and low country level uncertainty avoidance were found to moderate the relationship between performance-based rewards and innovative behavior. The combination of performance-based rewards and HR communications creates a synergistic effect on employee innovative behavior.
Schuh et al. (2018)	Empirical	Social cognition theory	Employee IWB; supervisor perceptions of employee IWB; leader member exchange	Supervisor ratings of employee performance	Study 1 consisted of 143 employees and 29 supervisors from an engineering firm in China; study 2 consisted of 132 employee-supervisor dyads from a variety of industries in China	Hierarchical linear modeling (HLM) of nested data from study 1; hierarchical regression analysis for the data collected in study 2.	Employee IWB has a positive effect on supervisor's ratings of the employee's performance; high quality leader-member exchange relationships had a positive moderation effect on the IWB-supervisor performance rating relationship.

Authors	Type of Research	Theoretical Perspective	Independent Variables	Dependent Variable	Sample	Data Analysis	Key Findings
Scott and Bruce (1994)	Empirical	Social interactionist theory	Support for innovation; resource supply; leader role expectations; leader-member exchange; intuitive problem-solving style; career stage; systematic problem-solving style	IWB	172 employees (engineers, scientists, and technicians) from a large R&D unit within a major U.S. industrial company	Structural equation modeling	Leader-member exchange, support for innovation, leader role expectations, and career stage all were shown to have positive relationship to IWB; an individual's systematic problem-solving style was found to be negatively associated to IWB.
Shanker et al. (2017)	Empirical	Organizational climate theory	IWB; organizational climate for innovation	Organizational performance	Sample of 202 mangers in Malaysia	CFA; hierarchical regression analysis	IWB mediates the relationship between organizational climate for innovation and organizational performance; organizational climate for innovation is a positive predictor of IWB.
Volery and Tarabashkina (2021)	Empirical	Social exchange theory; creativity theory	Organizational factors: organizational climate, rewards, LMX; Individual factors: employee creativity, work centrality	IWB	2 samples of employees: one from Australia (n=203); and one from mainland China (n=198)	Partial least squares SEM analysis (conducted in two steps to incrementally test the organizational factors and the employee factors)	Both organizational and individual factors need to be considered to increase employee IWB; organizational climate, employee creativity, and work centrality influence IWB at varying effects; rewards and LMX were not found to significantly predict IWB.

Authors	Type of Research	Theoretical Perspective	Independent Variables	Dependent Variable	Sample	Data Analysis	Key Findings
Wang et al. (2015)	Empirical	Social network theory; leader-member exchange (LMX) theory	Out-group weak ties; LMX; within-group strong ties	Employee innovative behavior	135 employees in an entrepreneurial firm in China	Structural equation modeling (SEM) – single-level SEM and multi-level SEM	The positive effect of out-group weak network ties on IWB was fully mediated by LMX; the positive relationship between LMX and IWB was negatively moderated by strong within-group network ties; within-group strong ties negatively moderated the indirect positive relationship between out-group weak ties on IWB via LMX.
Woods et al. (2017)	Empirical	Trait activation theory	Conscientiousness trait; openness trait; organizational tenure	IWB	146 employees in the financial industry in the United Kingdom	Hierarchical regression analysis	Employee tenure with the organization had a negative moderation effect with the conscientiousness-IWB relationship; conversely, employee tenure had a positive moderation effect on the openness-IWB relationship.
Wu et al. (2020)	Empirical	Lead user framework	Work-process related lead userness (WPLU); IWB; self-efficacy; job autonomy	User innovation in the workplace	104 employees and 13 supervisors in a forensic services organization	Design-based regression analysis	IWB is related to both work-process related lead userness (WPLU) and user innovation outcomes; findings suggest individual innovations can result from an employee's felt need for change when job autonomy is controlled.

Authors	Type of Research	Theoretical Perspective	Independent Variables	Dependent Variable	Sample	Data Analysis	Key Findings
Yidong and Xinxin (2013)	Empirical	Cognitive evaluation theory	Group ethical leadership; perceptions of ethical leadership; group and individual intrinsic motivation	IWB	302 employees, representing 34 work groups, from 2 multi-national companies located in mainland China	Hierarchical linear modeling (HLM); multilevel mediation analysis	Individual perceptions of ethical leadership and group ethical leadership are both positively associated with IWB; individual intrinsic motivation mediated the two relationships (individual ethical leadership-IWB and group ethical leadership-IWB); group ethical leadership-IWB relationship was mediated by group intrinsic motivation.

Authors	Type of Research	Theoretical Perspective	Independent Variables	Dependent Variable	Sample	Data Analysis	Key Findings
Yuan and Woodman (2010)	Empirical	Expectancy theory; performance expectations; image outcome expectations	Expected performance outcomes; expected image risks & image gains; perceived support for innovation; supervisor relationship quality; job requirement for innovation; reputation for innovation; dissatisfaction with the status quo	Individual innovative behavior	287 full time employees and 84 direct supervisors from US companies; 238 matched pairs of employee-supervisor	Confirmatory factor analysis	Employees' expectations of potential performance and image outcomes predicted IWB; expected image risk mediated the IWB-perceived organizational support for innovation and IWB-innovativeness as a job requirement relationships; expected image gains mediated the IWB-supervisor relationship quality, IWB-innovativeness as a job requirement, IWB-dissatisfaction with the status quo relationships; expected positive performance outcomes mediated the IWB-supervisor relationship quality, IWB-innovativeness as a job requirement, IWB-reputation as innovative; and IWB-dissatisfaction with the status quo relationships.

In organizational settings, an employee's relationship with their supervisor is anticipated to have significant implications on the employee's behavior in the workplace. More specifically, contextual factors between an employee and their supervisor are suggested to play an important role in the employee IEO-IWB relationship. A detailed discussion of the employee-leader relationship follows in the subsequent section.

2.4 Employee-Supervisor Congruence in Promoting IWB

Within the social science research domain, a well-known premise is that human behavior is a function of the interaction between a person and their environment (Kristof-Brown et al., 2002; Lewin, 1951). In particular, Lewin's (1951) long-standing formula of behavior is expressed by the following term: $B = f(P,E)$ and represents the interaction of the person-environment relationship in explaining human behavior (Kristof-Brown et al., 2002). Uncertainty and interdependencies in work systems often requires employees to enact proactive work behaviors that expand beyond the tasks specifically defined in their job descriptions (Griffin, Neal, & Parker, 2007). In particular, the relationship between employees and their supervisors have important implications for predicting IWB in the workplace (Yuan & Woodman, 2010).

An employee's relationship with their supervisor has important implications for the demonstration of innovation in the workplace (Scott & Bruce, 1994). The process of innovation is posited to be a sociopolitical process that draws upon an interactionist perspective of personal and environmental determinants (Janssen, 2005). Leaders influence IWB enacted by their employees through a variety of ways, such as providing support for innovation, allocation of necessary resources, and by helping to shape perceptions of job characteristics and emotions experienced within the work context (Hammond et al., 2011).

Through the interactions between supervisors and their employees, a shared understanding and fit can influence work behaviors enacted by employees. In particular to the context of innovation, Covin et al. (2020) suggests that managers can foster IEO through building trusting relationship and ensuring that employees throughout the organization are made aware of critical company-level objectives. More specifically, the interaction of IEO on performance is suggested to be influenced by trust between the employee and their supervisor, as well as influenced by the level of commitment to the organization's goals and objectives (Covin et al., 2020). Research conducted investigating person-entrepreneurship fit indicate that "the more similar the match between personality traits of an individual and the required traits of being an entrepreneur, individuals would become more successful entrepreneurs" (Markman & Baron, 2003; Özgen & Tangör, 2022: p. 118). An overview of the employee-supervisor relationship is discussed in the next section.

2.4.1 Employee-Supervisor Relationship

Individuals have a strong desire for fit within their work environment (Van Vianen et al., 2011; Zhang, Ling, Zhang, & Xie, 2015). Employees are suggested to seek out organizations with high fit, and conversely, individuals will leave jobs with which they perceive a low fit (Van Vianen et al., 2011). Within the workplace, the relationship between the employee and supervisor is of critical importance in influencing employee performance outcomes. There is an old adage related to employee satisfaction and retention that states people don't leave their company, they leave their leaders (Bryant & Allen, 2013; Goler, Gale, Harrington, & Grant, 2018). Of particular importance to this dissertation, research indicates that when employees perceive high congruence with their supervisors, employees are better able to anticipate the

leader's expectations, leading to improved performance and involvement with the organization (Astakhova, 2016).

Specific attributes of the employee-supervisor relationship have been linked to the demonstration of employee IWB. For example, leaders who demonstrate an inclusive leadership style are suggested to convey their visions for the workplace, which then in turn promotes IWB (Javed et al., 2019). The process of creating a shared vision between this important leader-subordinate dyad could be an antecedent to creating a shared understanding of goals and strategic priorities enacted through IWB. For instance, through the process of communicating their values and visions, transformational leaders were found to influence their employees' work performance through the mediating role of value congruence (Jung & Avolio, 2000). Additionally, high quality relationships between an employee and their leaders is suggested to increase the employee's confidence that the innovative behavior will be favorably viewed and will be beneficial to the employee through their improved social-political image within the organization (Yuan & Woodman, 2010).

Supervisors are significant actors in the eyes of their employees due in part to the supervisor's control of many of the organizational resources (Zhang et al., 2015). IWB enacted through employees' IEO often requires the use of organizational resources during both the idea generation phase and idea implementation phase of innovation. For example, perceived supervisor support is suggested to be an interpersonal level resource that is particularly important during the implementation phase of workplace innovations (Škerlavaj, Černe, & Dysvik, 2014). Additionally, when employees perceive social exchanges with their supervisor as genuine, the interaction has been found to contribute to positive work related outcomes, such as improved employee job performance (McLarty, Vardaman, & Barnett, 2019). Specific to the context of

innovation, employees are suggested to take cues from interactions with their leaders, which then can influence the employee's behavior in the workplace (Janssen, 2005).

In general, views and assessments by employees direct supervisors play an important role in shaping employees' attitudes in the workplace (Kuvaas & Dysvik, 2010). The construct of perceived supervisor support (PSS) is a contextual factor influencing the demonstration of workplace innovative behaviors. PSS is suggested to be linked to the social capital that supervisors provide to their employees, which can stimulate "cooperation and coordination of joint activities" (Bhatnagar, 2014: p. 1408; Burt, 2007). Furthermore, employees' PSS has been linked to positive effects on the employee's in-role performance and extra-role performance (e.g., helping co-workers or their supervisor) (Shanock & Eisenberger, 2006). Due to environmental uncertainty and ambiguity, IWB enacted by employees often extends beyond formal job roles and is a form of extra-role behaviors in the workplace (Janssen, 2000). A review of the literature as it relates to the view of the supervisor as an extension of the firm is discussed in the next section.

2.4.2 The Supervisor as an Extension of the Organization

Within organizational research, it is widely acknowledged that supervisors are seen by employees as acting as a representative or agent of the organization (Eisenberger, Stinglhamber, Vandenberghe, Sucharski, & Rhoades, 2002; Maertz Jr, Griffeth, Campbell, & Allen, 2007). An employee's perceptions of fit with their supervisor can therefore serve as a representation of the employee's perceived fit with the organization (Astakhova, 2016; Van Vianen et al., 2011). Supervisors therefore fulfill an important sense-making role for their employees (Hoffman et al., 2011). Additionally, managers are posited to fill a vital role in conveying and reinforcing organizational values and culture to their employees (Kristof-Brown et al., 2002). Employees

have been found to consider both organizational culture and the leader's characteristics as highly important factors in assessing the employee's fit with the organization (Van Vianen et al., 2011). Specific to these particular factors and emphasizing the significance of the supervisory sense-making role, it was found that employees' perceptions of organizational culture were deemed to be more distal, whereas employee observations of their supervisor's actions and behaviors were considered to be more proximal to the employees' work environment (Van Vianen et al., 2011). A synthesis of the literature specific to employee-supervisor congruence within CE contexts is discussed in the following section.

2.4.3 Employee-Supervisor Congruence in the Context of Entrepreneurship

Within the context of CE, high levels of employee congruence with their supervisor is suggested to create an environment supportive of workplace innovation. Van Vianen et al. (2011) found that employees who perceive a high degree of similarity with their supervisor have higher levels of commitment to the organization, are more attached to their supervisor, and have higher quality leader member exchange. Additionally, high levels of congruence between individual personality traits and entrepreneurial job requirements were suggested to improve entrepreneurial outcomes (Markman & Baron, 2003; Özgen & Tangör, 2022).

The demonstration of IWB within organizations is complex and often involves a network of individuals. Supervisors therefore can play a critical role in either supporting or obstructing their employees' IWB. Supervisors hold sociopolitical power, which can be used to either support or impede the enactment of innovative behavior by their employees (Janssen, 2005). Moreover, related to knowledge sharing across the organization in support of IWB, supervisors were found to restrict knowledge outflow to other organizational teams due to concerns for losing valuable resources or bargaining power between competing teams (Lai, Lui, & Tsang, 2016).

Specific to the domain of innovative work behavior, an employee's perception of interactions with their supervisor can significantly impact the employee's innovative behavior in the workplace. For example, in a study investigating managerial and non-managerial employees' innovative work behavior, it was found that "the extent to which workers actually respond innovatively to job demands is regulated by perceptions of effort–reward fairness" in the workplace (Janssen, 2000: p. 297). Employee perceptions made as a result of interactions between leaders and their employees was found to be a significant predictor of IWB in the workplace (Afsar et al., 2014; Ramamoorthy et al., 2005; Yidong & Xinxin, 2013). As a result of the gaps identified as a result of the literature review, my research model and hypotheses development, which will be used to guide my empirical investigation, are discussed in the following section.

2.5 Research Model and Hypotheses Development

This dissertation seeks to address the research questions discussed earlier and resolve several gaps identified as a result of the review of the extant literature. The research model is presented in Figure 2.1. Previous research has called for the application of strategic consensus theory to help explain how a shared understanding of essential goals and objectives impacts organizational performance beyond the TMT (Ateş et al., 2020; Kellermanns et al., 2005). Similarly, a greater understanding is needed to explain how EO is manifested at the individual level through the enactment of employee innovative behaviors within the context of CE. It is through this individual level unit of analysis that the degree of strategic consensus and P-S fit theories complement each other to improve our cumulative knowledge on how employee IEO is related to IWB.

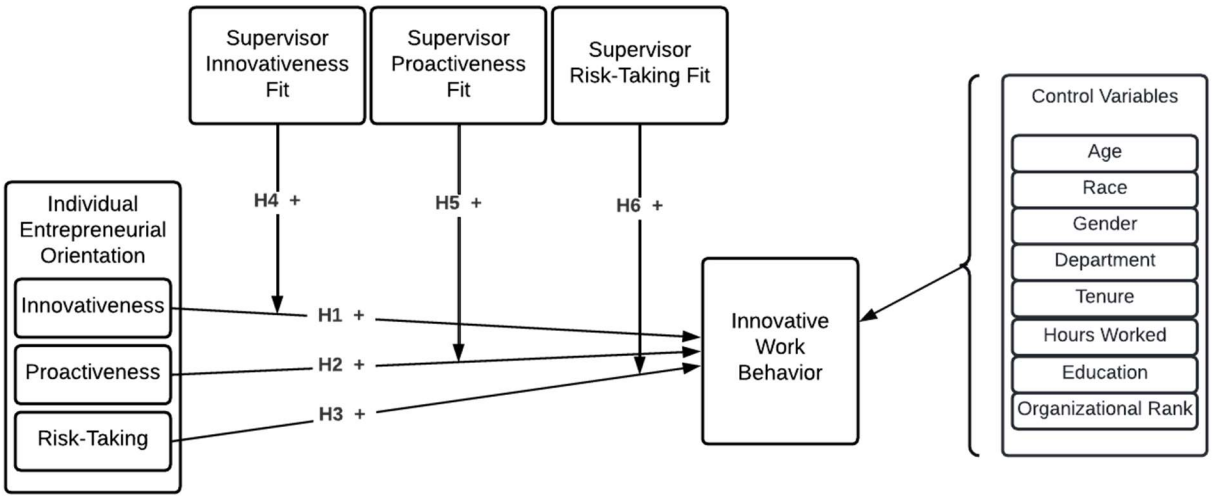

Figure 2. 1 Research Model

The hypothesized relationships between the primary constructs in the research model are summarized in Table 2.4.

Table 2. 4 Hypothesized Relationships

	Direct Relationships to IWB
H1	An employee's level of innovativeness is positively related to the employee's innovative work behavior.
H2	An employee's level of proactiveness is positively related to the employee's innovative work behavior.
H3	An employee's level of risk-taking is positively related to the employee's innovative work behavior.
	Indirect Relationships to IWB
H4	A high level of innovativeness congruence between an employee and their supervisor magnifies the positive relationship between employee IEO and innovative work behavior.
H5	A high level of proactiveness congruence between an employee and their supervisor magnifies the positive relationship between employee IEO and innovative work behavior.
H6	A high level of risk-taking congruence between an employee and their supervisor magnifies the positive relationship between employee IEO and innovative work behavior.

2.5.1 Individual Entrepreneurial Orientation and Innovative Work Behavior

Within today's fast-changing and VUCA (volatility, uncertainty, complexity, and ambiguity) environment, leaders are seeking to build innovation mindsets and entrepreneurial behaviors across their teams in order to develop competitive advantages (Goyette, 2019). Within organizational research there is increased interest in improving our understanding of contextual factors associated with the demonstration of employee IEO within the workplace (Bolton & Lane, 2012; Covin et al., 2020; Özgen & Tangör, 2022). Ireland et al. (2009) defines the firm level construct of EO as an organizational state or quality, which is observed through entrepreneurial behavior. While EO literature has started to reach a mature state (Bolton &

Lane, 2012; Covin et al., 2020; Ferreira et al., 2015; Kraus et al., 2019), recent EO research is said to have produced diminishing returns and, therefore, there has been a call for new conceptualizations to explain in greater specificity how EO is manifested (Wales, Covin, & Monsen, 2020). Given that employees play an important role in the innovation process, building a more cumulative knowledge of the IEO construct is called for in the entrepreneurship literature (Bolton & Lane, 2012; Covin et al., 2020; Kraus et al., 2019).

Firm level EO is one of the most agreed upon constructs in the entrepreneurship domain (Covin & Lumpkin, 2011; Rauch et al., 2009; Wales, 2016). Nonetheless, to gain a more comprehensive understanding of the manifestation of EO within organizations, an increased understanding of how EO is enacted by employees at the micro level fills a critical gap in the literature. Similar to the construct of firm-level EO, the construct of IEO is conceptualized as a multidimensional construct consisting of the following three dimensions: innovativeness, proactiveness, and risk-taking.

Innovation at its core is an individual level phenomenon. The management of innovation within organizations is stated to be "first and foremost, a human issue" due to the dependence upon individuals to develop and implement innovative ideas (Kianto, Sáenz, & Aramburu, 2017: p. 11). The innovativeness sub-dimension of IEO is characterized as exploratory activities that are related to something novel and unknown (Kraus et al., 2019). Covin et al. (2020: p. 2) refers to the IEO-innovativeness sub-dimension as an "employee's amenability to and pursuit of novel solutions to work-related tasks." Within the innovation and entrepreneurship research domains, the construct of innovativeness is generally agreed to as referring to the exploration of "something new that has not yet existed before" (Cho & Pucik, 2005: p. 556). This exploratory

activity is posited to be closely linked to the demonstration of work behaviors by individuals within organizational settings.

An important outcome of employee innovativeness is the actual demonstration of innovative behaviors in the workplace. Innovative work behavior is the "intentional creation, introduction and application of new ideas within a work role, group or organization, in order to benefit role performance, the group, or the organization" (Janssen, 2000: p. 288). Although the constructs of both IEO and IWB have been linked to employee extra-role behavior (Covin et al., 2020; Janssen, 2000), the occurrence of employee extra-role behavior is often difficult to predict or influence. Additionally, not all innovative work behaviors are considered to be discretionary, extra-role behaviors (Kraus et al., 2019). The entrepreneurship literature acknowledges that employees across the entire organization have the ability to recognize opportunities and vary in their propensity toward innovativeness (Covin et al., 2020). However, within the context of CE, not all employees are interested in carrying out innovative behaviors. At the individual level, a strong exploratory approach by employees is suggested to be a determinant of innovative behavior within established organizations (Kraus et al., 2019). Furthermore, innovativeness is argued to be one of the most common determinates of individual level entrepreneurial behavior (Kraus et al., 2019; Mustafa et al., 2018). Generally, a high level of employee IEO-innovativeness is suggested to be associated with a greater propensity of the employee to engage in innovative behavior in the workplace. In order to establish this baseline relationship, I formally hypothesize that:

> ***H1: An employee's level of innovativeness is positively related to the employee's innovative work behavior.***

Innovation enacted by employees within established firms can occur in terms of top-down (i.e., strategic entrepreneurship) and bottom-up (i.e., intrapreneurship) (Rigtering & Weitzel, 2013). Employee proactiveness is therefore an important attribute in initiating actions leading to the exploitation of novel and useful ideas in the workplace. The individual level characteristic of proactiveness is an essential component of the IEO construct (Bolton & Lane, 2012; Kraus et al., 2019). The proactiveness dimension of IEO is defined as "an employee's bias toward discretionary action aimed at anticipating and responding to new value creation opportunities" (Covin et al., 2020: p. 3). Proactive individuals are said to "scan for opportunities, show initiative, take action, and persevere until they reach closure by bringing about change" (Bateman & Crant, 1993: p. 105). Employee's proactive behaviors are anticipatory in nature, which can lead to organizational change (Crant, 2000; Grant & Ashford, 2008; Grant, Gino, & Hofmann, 2011).

Innovative behaviors are based on both personal attributes and environmental factors (Scott & Bruce, 1994). For instance, employees who perceive an organizational culture supportive of entrepreneurship are suggested to act more proactively on their entrepreneurial potential (Mustafa et al., 2018). More specifically, individuals' proactive tendencies are linked to a strong inclination to identify opportunities in their environment and take steps to initiate change (Bateman & Crant, 1993; Crant, 2000; Kang et al., 2016). Proactivity can include an individual taking initiative to identify and exploit opportunities (Kraus et al., 2019). Although individual proactivity is recognized as an important determinant of an individual's behaviors and actions, additional research is needed to understand how the proactiveness dimension of IEO is associated to entrepreneurial behaviors. In particular, Howard and Floyd (2021) suggest entrepreneurial passion is a closely related, yet distinct, construct to individual proactivity, and

call for additional research into the dimensions of IEO. Employee proactiveness is argued to lead to early discovery of new opportunities and work options (Kraus et al., 2019). Specific to the context of this dissertation, it is argued that employee's orientation toward proactiveness is a significant determinant of employee IWB. This is formally stated as,

> ***H2: An employee's level of proactiveness is positively related to the employee's innovative work behavior.***

An individual's risk-taking propensity is suggested to be attributed to personality traits and also based on the individual's past experiences that are said to influence positive or negative attitudes toward risk-taking (Bolton & Lane, 2012). Although traditional entrepreneurial activities can involve financial and reputational risks to the sole entrepreneur, the risk-taking dimension of IEO to employees can involve more personal risks, such as risky outcomes from challenging established norms or the potential loss of leadership support if an innovative initiative fails (Kraus et al., 2019). The risk-taking dimension of an employee's IEO is defined as a "willingness to undertake tasks with uncertain outcomes via unrequested and unauthorized job-related behavior" (Covin et al., 2020: p. 3).

The demonstration of IWB by entrepreneurial employees can pose particular challenges and risks to the employee. For instance, an employee's reputation for being innovative can be risky to the employee if others perceive the employee as a troublemaker or wanting to upset the status quo (Yuan & Woodman, 2010). Engaging in the process of innovation is suggested to entail substantial risks to the employee's career as a result of merely proposing innovative initiatives to their supervisor (Howard & Floyd, 2021). Entrepreneurial behaviors by employees involves persistent levels of uncertainty and risk, which can result in negative performance outcomes

within the workplace (Covin et al., 2020); and a high level of personal risks (Kraus et al., 2019). Furthermore, employees by the economic nature of their employment relationship (e.g., fixed salary), may not necessarily have a high risk-taking appetite, unless that characteristic occurs intrinsically (Kraus et al., 2019). More specifically to the context of CE, the implementation of innovation within organizations can be considered risky due to the high levels of uncertainty and ambiguity often related to the enactment of IWB (Anderson, De Dreu, & Nijstad, 2004; Kang et al., 2015). As such, an employee with higher levels of risk-taking propensity will be associated with higher levels of IWB demonstrated by the employee. This relationship is formally hypothesized as follows:

> ***H3: An employee's level of risk-taking is positively related to the employee's innovative work behavior.***

2.5.2 Supervisor IEO Congruence and the IEO-IWB Relationship

In increasingly turbulent business environments, innovation has become an important area of focus for many firms as a way to improve performance and ensure the organization's long-term survival (Camelo, Fernández-Alles, & Hernández, 2010). Within the context of innovation inside existing organizations, contextual factors can magnify the relationship between employees' IEO and the demonstration of IWB. Individual behaviors have long been considered a function of the interaction between a person and their environment (Baron, 2008; Lewin, 1951; Monsen & Boss, 2009; Mustafa et al., 2018). Of the contextual factors influencing workplace behaviors, an employee's relationship with their supervisor is highly important to work outcomes. The employee-supervisor relationship can serve as a sense-making function and the supervisor is considered proximal to the employee's perceptions of their work environment and

culture (Van Vianen et al., 2011). A case might be made that when employees and supervisors have differing levels of individual entrepreneurial orientation, misalignment on key work objectives tied to innovation could occur. That is, in instances where an employee has a high level of IEO and their supervisor has low IEO, the employee's innovation efforts may not be endorsed by their leader and lead to innovative behaviors being withheld by the employee. However, the possibility exists that differing levels of IEO in this dyadic relationship might create favorable increases in work content conflict leading to more heterogeneous thinking and increased innovative behaviors in the workplace.

Specifically, entrepreneurial behavior in individuals is considered to be transitory in nature and as individuals respond to environmental opportunities "it is improbable that entrepreneurship can be explained solely by reference to a characteristic of certain people independent of the situations in which they find themselves" (Shane & Venkataraman, 2000: p. 218). The extant literature posits that employees that do not fit their entrepreneurial environment are at risk of quitting and leaving the organization (Monsen & Boss, 2009). More specifically, the "organizational context and the environment in which individuals work and perform their duties play a crucial role in predicting innovative work behavior of employees" (Afsar et al., 2015: p. 107). For instance, Janssen (2000) found that employees' perceptions of effort-reward fairness moderated the relationship between job demands and IWB. The supervisor's proclivity toward an innovation orientation is therefore expected to provide situational cues that influence employees' behaviors in the work environment that match their leader's IEO.

As argued by Janssen (2005), employees assess the sociopolitical elements and their supervisor's support for innovation before the employee decides to engage in IWB. The reasoning for this position is stated as follows:

> "Supervisors perceived as non-supportive cause employees to believe that they are likely to fail in getting the support necessary to succeed in an innovative course of action. Owing to this expectation of failure, influential employees are not likely to jeopardize their influence in the workplace and will refrain from exhibiting innovative behaviour. However, when employees perceive that their supervisors respond to employee innovation in a supportive and respectful manner, they feel stimulated to use their influence to persuade supervisors and other actors to support the development and realization of their new ideas" (Janssen, 2005: p. 574).

In the workplace, a shared vision and understanding of key objectives is highly important between a leader and their employees. It has been suggested that the process of creating a shared understanding of the leader's vision is considered a key element in influencing an employee's passion and motivation for entrepreneurial behaviors (Kang et al., 2016). In a study involving mid-level and lower level managers, Ateş et al. (2020) found that when managers were misaligned from the CEO's visionary leadership, organizational team members reported a lack of consensus and commitment on strategy implementation. It is suggested that teams that lack a shared commitment to a set of objectives can experience negative implications within the innovation process (West, 2002).

Strategic consensus is suggested to contribute to improved organizational performance in environments with high amounts of change and ambiguity (Jabarzadeh et al., 2019). Increasingly, the consensus literature is emphasizing the importance of a shared understanding of priorities across all levels of the organization (Kellermanns et al., 2005; Porck et al., 2020). Given the relevant of CE in today's turbulent business environment, it is imperative for employees throughout organizations to act entrepreneurially (Eva et al., 2019; Montani et al.,

2020). Although many details of employee IWB may not be specified and defined in advance, it is posited that differences in individual orientation toward innovativeness between employees and their supervisors will lead to behavioral outcomes with regard to innovation initiatives. More specifically, when there are high levels of fit between the employee and their supervisor on their orientation toward innovativeness, I expect the importance given to innovation endeavors will be viewed similarly between the dyad and the demonstration of IWB will be reflective of the level of importance given. For example, in situations where the employee and their supervisor both have low levels of an orientation towards innovativeness, it is expected that innovation will not be viewed as a key priority between both individuals, thus resulting in low levels of employee IWB. Likewise, instances in which both the employee and supervisor share a high level of individual innovativeness orientation, it is anticipated that innovation will be viewed as a key priority by both members of the dyad, therefore leading to higher levels of employee IWB. Specific to innovative behavior, employees are suggested to view their supervisor as a salient extension of their organization and make assessment regarding the level of support for innovation (Scott & Bruce, 1994). Additionally, employees have been found to take cues from interactions with their leaders before deciding to engage in innovative behavior (Janssen, 2005). In these instances, the similarity of the pair's orientation toward innovation is highly congruent and innovative behaviors are expected to be consistent with the pair's orientation toward innovation.

Conversely, when there is a low level of similarity of innovativeness orientation between employee and their supervisor, it is expected the incongruence will lead to a lack of consensus on innovation initiatives and will result in a decreased demonstration of employee IWB. In particular, a supervisor with a low orientation toward innovativeness that leads employees with

high levels of innovativeness could result in ineffective use of workplace resources toward innovations that may not gain enough traction and support, leading to a decrease in employee IWB. Moreover, in situations where employees with low levels of innovativeness that have a supervisor with a high innovativeness orientation might result in lack of commitment by the employee and a lower likelihood of IWB demonstrated as an extra-role behavior. Leaders can influence employees' behavior by shaping situational context, such as climate for innovation, which lead to behavioral outcomes (Kang et al., 2015). Employees are believed to filter perceptions of their supervisor's personal tendencies, which assist the employee in formulating their own cognitive framework affecting their behavior in the workplace (Xu et al., 2019).

Thus, it is argued that innovative employees may be willing to engage in IWB when there are higher degrees of innovativeness fit occurring between the employee and their supervisor. Taken together, I expect that under the condition of high levels of innovativeness fit, the relationship between employee IEO and innovative work behavior is amplified because employees and supervisors share a similar perspective on the importance of IWB within the employee's job responsibilities. This relationship is formally hypothesized as:

> ***H4: A high level of innovativeness congruence between an employee and their supervisor magnifies the positive relationship between employee IEO and innovative work behavior.***

EO at the firm level is suggested to represent the organization's managerial capabilities to engage in proactive and aggressive initiatives in order to gain competitive advantage (Atuahene-Gima & Ko, 2001; Avlonitis & Salavou, 2007). However, as innovative initiatives are disseminated throughout the organization, congruence of the level of proactiveness between leaders and their teams is posited to impact the occurrence of IWB. At the micro level,

entrepreneurial employees are suggested to have distinct abilities that assist them in recognizing and taking steps to exploit opportunities (Kollmann et al., 2007). More specifically, in instances where employees and their supervisors have a high degree of a proactiveness orientation, the employees are suggested to feel safe and supported when initiating workplace improvements (Xu et al., 2019).

A shared understanding of key priorities and the employee's work role can therefore support the employee in initiating innovative behaviors. Proactive work behaviors have been linked to work systems with high levels of uncertainty and interdependencies (Griffin et al., 2007). The emergence of IWB by employees can often occur as extra-role behavior and not explicitly outlined in the employee's formal job description (Janssen, 2000). Additionally, employees who viewed innovation as more distal to their job roles, were found to be less likely to demonstrate proactive steps in support of IWB due to the potential socio-political implications and a perceived lack of benefit (Yuan & Woodman, 2010).

The outcome of IWB has been conceptualized in terms of three distinct stages: idea generation, idea promotion, and idea implementation (Janssen, 2000; Scott & Bruce, 1994). All three stages are action focused activities and posited to involve a high degree of proactiveness to carry out. While early stages of innovation can include problem recognition and generation of potential solutions (Scott & Bruce, 1994), the implementation of innovation requires effort and an outcome focus (De Jong & Den Hartog, 2010). A shared understanding between employees and supervisors on work related priorities can ensure alignment of time and resources expended by the employee and leader.

Employees that perceive high levels of congruence with their supervisors are suggested to allow the employees to anticipate their supervisor's expectations and lead to improved

performance and involvement in the organization (Astakhova, 2016). Additionally, perceptions of the supervisor's support for innovation is argued to provide social capital and improve the coordination of activities between networks of employees (Bhatnagar, 2014). Specific to the outcome of IWB, an incongruence of proactiveness between the employee and their supervisor could lead to a greater tendency for the employee to maintain the status quo with regard to workplace behaviors.

An employee's orientation toward proactive behaviors involves individual level tendencies to take initiative and engage in actions aimed at exploiting value-creating opportunities (Covin et al., 2020). A person's proactive orientation is therefore action focused with the underlying intent to exploit opportunities that may exist in their environment. Within the workplace, a shared understanding and consensus on key priorities is crucial for improving performance and applies to employees throughout the organization (Desmidt & George, 2016; Kellermanns et al., 2005; Porck et al., 2020; Tarakci et al., 2014). Recent literature on consensus has asserted that a shared understanding among work teams contributes to intergroup effectiveness (Porck & van Knippenberg, 2022). Moreover, the underlying logic in organizational fit theory suggests that improved levels of fit leads to enhanced work-related outcomes (Astakhova, 2016). Therefore, it is posited that consensus between employees and their supervisors regarding the underlying fit of their respective orientation toward proactiveness, provides situational cues within the dyadic relationship that influences an employee's willingness to engage in discretionary IWB. In situations where there is a low level of proactiveness fit between the employee-supervisor dyad, it is expected that discretionary action by the employee will be either misaligned to the supervisor's objectives or the employee may withhold IWB altogether. Research has indicated that some leaders prefer their employees act more cautiously and not engage their proactive

tendencies (Xu et al., 2019). In directing work priorities, supervisors may encourage employees to focus their work to tasks narrowly defined in the employee's job description. The literature suggests that employees who do not view innovation as central to their job responsibilities may withhold the proactive steps needed for IWB due to potential negative views from others (Yuan & Woodman, 2010).

Conversely, in situations with high levels of individual level proactiveness fit between employees and their supervisors, it is expected the similarity in orientation toward proactiveness will provide contextual cues to facilitate behavior expectations that match their shared approach toward IWB. High levels of P-S fit has specifically been linked to employees' willingness to act on their proactive tendencies in order to improve their work environments (Xu et al., 2019). Moreover, perceived supervisor support for innovation has been suggested to provide a form of social capital and facilitates coordination of interdependent work activities (Bhatnagar, 2014; Burt, 2007). Taken together, I expect the under the condition of high levels of proactiveness fit, the relationship between employee IEO and innovative work behavior is amplified because perceptions of behavioral expectations will be closer aligned between the employee and supervisor, prompting the employee to feel more willing to act on their proactive tendencies through the demonstration of IWB. This relationship is formally hypothesized as:

> ***H5: A high level of proactiveness congruence between an employee and their supervisor magnifies the positive relationship between employee IEO and innovative work behavior.***

Within organizations, a paradox can exist specific to the higher levels of risk, uncertainty, and ambiguity frequently associated with bringing innovative ideas and initiatives to fruition. On one hand, organizations often encourage its employees to speak up in order to facilitate

triggering innovative ideas (Xu et al., 2019). However, on the other hand, employees who initiate IWB are said to go against established organizational systems, and initiated innovations can be expected to be met with resistance by individuals within the firm who are committed to the existing structures and practices (Janssen, 2005). Given the significance of the employee-supervisor relationship, congruence of risk-taking propensity between this dyadic pair is posited to impact the demonstration of employee IWB. In particular, employee "perceptions of how supervisors respond to innovative ideas encourage employees to use their influence to carry out innovative activities, or inhibit them from doing so" (Janssen, 2005: p. 578). Moreover, the quality and strength of the leader-subordinate relationship is posited to contribute to the employee feeling comfortable taking risks associated with IWB (Javed et al., 2019).

The leader serves as a crucial sensemaking role for their employees, on which the employees can make perceptions regarding risks and uncertainty. High quality relationships between employees and their supervisors has been found to increase the employees' IWB and confidence in attempting innovation in the workplace (Scott & Bruce, 1994; Yuan & Woodman, 2010). Additionally, the employee's perceptions of an innovative climate and their potential image risks from entrepreneurial behaviors were determinants of the employee's decision to engage in IWB following their risk assessment (Yuan & Woodman, 2010). Contextual cues and perceptions made by employees regarding their supervisor's IEO is suggested to influence innovation outcomes within this dyadic team.

The quality and strength of the employee-supervisor relationship is suggested to contribute to the employee feeling comfortable taking risks that are associated with IWB (Javed et al., 2019). Innovations within the workplace can challenge established practices and routines, making it difficult for employees to be able to implement IWB on their own (Wang et al., 2015). The

extra-role behavior associated with employee IEO can be uncertain and risky to both the employee and organization (Covin et al., 2020). Therefore, a shared understanding and congruence between an employee and their supervisor can help to reduce the risks tied to key objectives, such as entrepreneurial behavior. Specifically, a shared understanding related to the underlying intention and value created through entrepreneurial endeavors, may allow an employee to feel more comfortable in their demonstration of IWB. The nature of this phenomenon was discussed by Covin et al. (2020: p. 3) as follows:

> "IEO can be either a positive or negative force. Employee-initiated projects can be in line with the current operations and/or goals of the organization, in which case they are expected to create value for the organization. On the other hand, autonomously initiated projects may represent unwelcomed deviations from current business activities, operations, routines, and standard procedures (Campbell & Park, 2004; Rigtering, Weitzel, & Muehlfeld, 2019; Sassenberg, Moskowitz, Fetterman, & Kessler, 2017). When the latter is the case, many employees may experience more mediocre task performance owing to unintended consequences from their entrepreneurial behavior."

In situations with low levels of risk-taking fit between the employee and their supervisor, I expect the employee will not feel safe in taking on potentially risky endeavors due to the misalignment of risk-taking tendencies between the dyad. In these instances, IWB is expected to be withheld by the employee because the employee can fear negative consequences, such as unfavorable performance reviews, loss of support, and lack of consideration for projects and/or future promotions, as a result of engaging in behaviors that are misaligned with their supervisor (Xu et al., 2019). Within the workplace, supervisors play an important role in shaping the

workplace environment and "an environment that encourages individuals to be creative or innovative or an environment that is safe for risk taking is likely to enable an individual to take a risk in terms of suggesting a new idea or trying something new" (Hammond et al., 2011: p. 101). An environment with low levels of risk-taking fit is therefore suggested to inhibit the demonstration of IWB due to the employee's misalignment on risk-taking orientation.

Conversely, when there are high levels of risk-taking fit between the employee and their supervisor, I expect that the employee will feel more confident in their shared views on appropriate levels of risk that is implied in the employee's work role. The employee's propensity to engage in IWB will therefore be amplified due to the similarity in risk-taking orientation between the dyad. It is therefore posited that employees' IEO congruence provides a contextual factor that facilitates the alignment to the underlying key entrepreneurial objectives. In other words, employees may have the autonomy and flexibility to engage in IWB, however the degree of congruence between the employee-supervisor dyad provides situational cues related risk tolerance of key workplace objectives. Therefore, I expect the under the condition of high levels of risk-taking fit, the relationship between employee IEO and innovative work behavior is amplified because the employee and supervisor share assessments of the risk-taking that is acceptable in the employee's work responsibilities. This relationship is formally stated as:

> ***H6: A high level of risk-taking congruence between an employee and their supervisor magnifies the positive relationship between employee IEO and innovative work behavior.***

CHAPTER 3: RESEARCH METHODOLOGY

The current chapter provides a detailed account of the methodology that will be used to evaluate the research questions and hypotheses outlined in this study. The chapter is organized in the following subsections: a general overview, a description of the sample and data collection, a detailed description of the measurement instruments and control variables, and a discussion of the analysis that will be performed on the data.

3.1 Overview

To empirically test my research model, I collected quantitative data via a survey instrument. The use of survey instruments is a common method in the context of corporate entrepreneurship research (Barringer & Bluedorn, 1999; Kreiser et al., 2019). A unique aspect of my approach is assessing the theoretical basis of congruence of IEO between an employee and their supervisor across all levels of an organization. In this research context, utilization of a survey instrument is deemed appropriate. The survey will be administered to individuals living in the United States.

3.2 Sample and Data Collection

The sample for my dissertation will consist of employees of a medium sized organization located in the southeastern United States. My research questions are directed towards innovative work behavior across all levels of an organization, and therefore, the sampling frame for this research includes all employees of this firm. The total employee population of this organization was estimated at 2,200 employees. A central theoretical premise of this dissertation is the application of strategic consensus theory and measurement of the effects of IEO across all levels of the organization. Therefore, the survey will be open to all employees of the organization, which will provide a mix of employee demographic characteristics (e.g., gender, tenure with the organization, age, position within organization). Social science research often uses a sample of

the overall population in which results can be generalized due to the practicality (Vanderstoep & Johnson, 2009) and efficiency in reaching the research objectives. The sample frame used in this dissertation, employees across all organizational levels, is appropriate to the context of this research within the corporate entrepreneurship domain.

An important aspect of the research design includes planning for the estimated sample size needed. A key premise in scholarly research is determining the probability that a statistical test will yield statistically significant results (Cohen, 2013). There are four main data components that create statistical power and precision of the estimates: sample size, Type I error (α), Type II error (β), and effect size (f^2) (Pedhazur & Schmelkin, 1991). Therefore, to estimate the minimum sample size needed in this research, I used G*Power, version 3.1.9.7 (Faul, 2020) to ensure appropriate precision of the statistical estimates. G*Power is a stand-alone software program and is frequently used in social science research to conduct *a priori* power analysis for statistical tests (Faul, Erdfelder, Buchner, & Lang, 2009; Faul, Erdfelder, Lang, & Buchner, 2007). Based on a total of 14 predictor variables (3 direct effect variables, 3 moderator variables, and 8 control variables) in this study, a power analysis holding minimum effect size (f^2) at 0.15, $\alpha = 0.05$, Power $(1 - \beta) = 0.80$, produced a minimum sample size needed for this study of 135 survey respondents. The output from the power analysis is shown in Figure 3.1. As part of the power analysis, I compared the relationships between statistical power and sample size while holding significance levels constant at $\alpha = 0.05$. Additionally, I compared the relationship between effect size and sample size while similarly holding α constant. These results are provided in Figures 3.2 and 3.3 and illustrate the corresponding need for higher sample sizes needed in order to achieve higher power or smaller potential effect sizes at alternative increments.

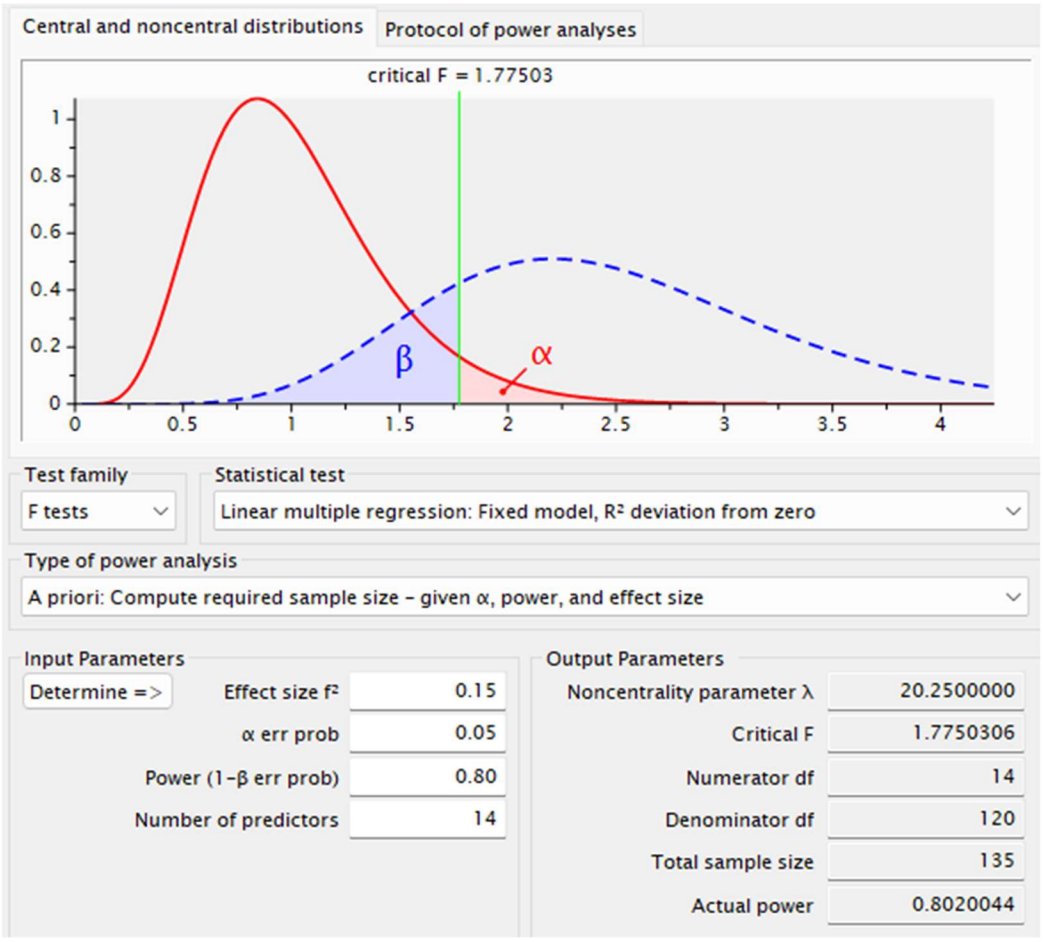

Figure 3. 1 A priori power analysis of minimum sample size, linear multiple regression

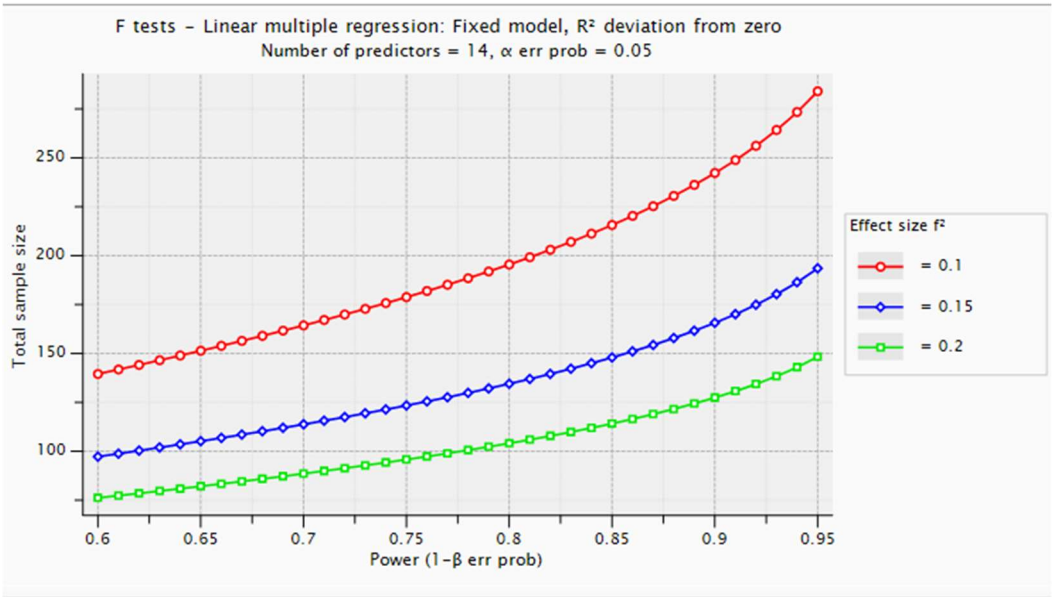

Figure 3. 2 Sample size as a function of power

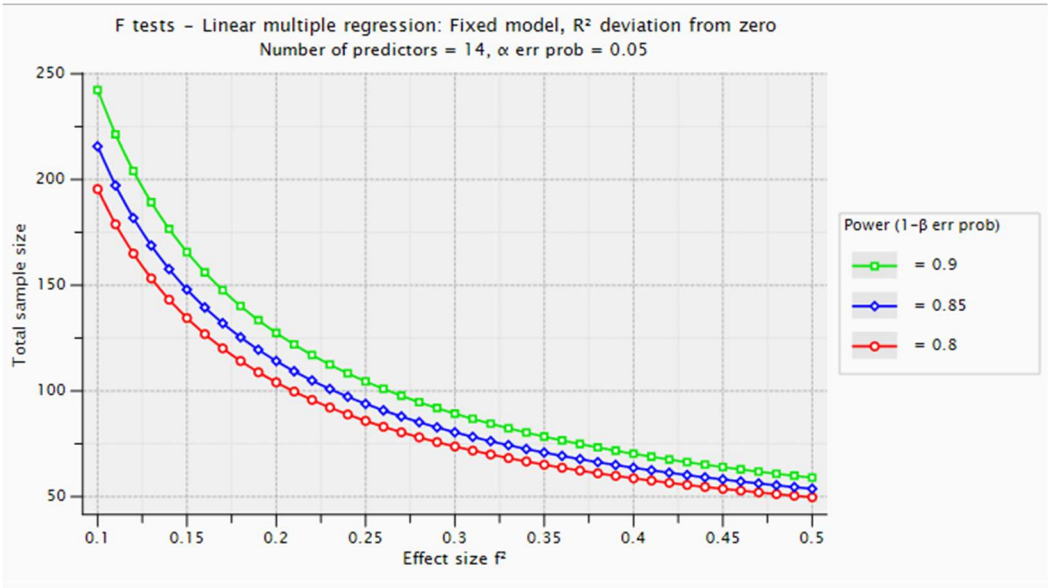

Figure 3. 3 Sample size as a function of effect size

3.3 Measures

The proposed survey in this research will utilize established and adapted scales for the variables from the conceptual model based on prevailing literature. The survey scales used for the dependent, independent, and moderator variables are discussed below in more detail. All items in the survey will be measured on a seven-point Likert-type scale.

Dependent variable. *Innovative work behavior* (IWB) is defined as "the intentional creation, introduction and application of new ideas within a work role, group or organization, in order to benefit role performance, the group, or the organization" (Janssen, 2000: p. 288). Employee innovative work behavior is a key outcome variable critical to the context of firm-level corporate entrepreneurship. Innovative work behavior will be measured by the use of a nine item, seven-point Likert type scale (Never = 1, Always = 7), selected from Janssen (2000). The Janssen (2000) IWB scale was constructed from prior literature to measure workplace innovative behaviors and actions more accurately at the individual level. The IWB scale contains three items in each of the three sub-dimensions of IWB that follow Kanter's (1988) three stages of innovative behavior: idea generation, idea promotion, and idea realization (Janssen, 2000; Kanter, 1988). These stages of innovative behaviors represent important factors related to the discovery and exploitation of unrecognized entrepreneurial opportunities. Janssen (2000) reported Cronbach's alpha of 0.95 for employee rated responses and 0.96 for supervisor rated responses. A list of the scale items for innovative work behavior is contained in Table 3.1.

Table 3. 1 Construct Measurement: Innovative Work Behavior

Innovative Work Behavior – Dimensions and Items
Idea generation
I often create new ideas for difficult issues at work.
I often search out new working methods, techniques, or instruments at work.
I often generate original solutions for problems at work.
Idea promotion
I often mobilize support for innovative ideas at work.
I often take action to acquire approval for innovative ideas.
I often work to make important organizational members enthusiastic of innovative ideas.
Idea realization
I often transform innovative ideas into useful applications at work.
I often introduce innovative ideas into the work environment in a systematic way.
I often evaluate the utility of innovative behaviors in the workplace.

Independent variable. *Individual entrepreneurial orientation* (IEO) is defined as "a tendency held by individual employees of the organization towards innovative, proactive, and risk-taking behaviors in the workplace" (Covin et al., 2020: p. 2). Although the prevailing conceptualization of IEO follows the same three subdimensions as the more established construct of firm level EO (i.e., innovativeness, proactiveness, and risk-taking), the unit of analysis differences calls for a separate measurement from traditional EO scales (Bolton & Lane, 2012). Indeed, in regard to IEO measurement, the established firm-level EO measures "were never intended to measure this phenomenon as an individual-level construct" (Covin et al., 2020: p. 2).

This research follows the predominant conceptualization of IEO to be comprised of the following three sub-dimensions: innovativeness, proactiveness, and risk-taking (Bolton & Lane, 2012; Covin et al., 2020; Howard, 2020). IEO will therefore be measured using a nine item,

seven point Likert style scale by Covin et al. (2020), consisting of three-items measuring IEO-innovativeness, three-items measuring IEO-proactiveness, and three-items measuring IEO-risk-taking. The details of the sub-dimensions and corresponding items are reported in Table 3.2. The Covin et al. (2020) IEO scale was adapted from established firm level EO measurements to measure EO more accurately at the individual level. The selected IEO scale in this study was validated by Covin et al. (2020) in a two-wave longitudinal survey design, comprising of 1,104 individuals in the first wave and 628 individuals in the second wave. The Cronbach alphas for the IEO scale assessed by Covin et al. (2020) were averaged at the team level for each of the scale sub-dimensions as follows: IEO-Innovativeness = 0.789, IEO-Proactiveness = 0.851, and IEO-Risk-taking = 0.699.

Table 3. 2 Construct Measurement: Individual Entrepreneurial Orientation

Individual Entrepreneurial Orientation – Dimensions and Items
Innovativeness
I have very little problems with renewal and change
I quickly master new routines, procedures and new ways of working
When it comes to problem solving, I always search for creative solutions instead of familiar ones
Proactiveness
I always try to find if internal and/or external guests have wishes or desires that they are not consciously aware of
I always actively help internal and/or external guests, and not only when I am asked or approached to do so
I am constantly looking for new ways to improve my performance on the job
Risk-taking
I value new plans and ideas, even if I feel that they could fail in practice
I sometimes provide assistance to internal and/or external guests without first discussing this with my supervisor

In order to be more productive, I sometimes act without the permission of my supervisor

Moderator variable. *Employee-Supervisor IEO fit* is defined as the degree of congruence between an employee's IEO and their leader's IEO. The interaction of employee-supervisor IEO fit is hypothesized to be an important predictor of employee innovative behavior while at work. The moderation effect of employee-supervisor IEO congruence will follow the three sub-dimension conceptualization of IEO (i.e., innovativeness, proactiveness, and risk-taking). The research design of this dissertation allowed for two options for measuring employee-supervisor IEO fit: (1) paired matching of IEO responses between employees and their respective supervisor or (2) fit between employee IEO and their perceptions of their supervisor's IEO. Final survey responses yielded a sufficient sample size to analyze employee-supervisor IEO fit using both of these two measurements. Therefore, to strengthen the study, I analyzed employee-supervisor IEO fit using both perceptions of IEO and matched pairs of employee-supervisor IEO. The analysis using direct pairs of IEO dyads was aimed to help reduce possible common method bias concerns and provided an objective measure of employee-supervisor IEO fit for each employee response.

The planned measurement of employee-supervisor IEO fit will be calculated by taking the differences in IEO by matched pairs of employees and their respective supervisor. However, as mentioned above, if the number of paired responses is not adequate, employee-supervisor IEO fit will be alternatively measured using the employee's perceptions of their supervisor's IEO. The measurement scale for perceived supervisor IEO was developed using scales adapted from extant literature and is comprised of the following components: three items as originally developed by Hoffman et al. (2011); three items adapted from the Hoffman et al. (2011) scale to assess each of

the three sub-dimensions of supervisor IEO as perceived by the employee; and nine items from the Covin et al. (2020) IEO scale. The original Hoffman et al. (2011) scale is a three item instrument and is well established in the literature to measure person-supervisor fit specific to value congruence (e.g., "my personal values match my supervisor's values and ideals"; "the things that I value in life are similar to the things my supervisor values"; and "my supervisor's values provide a good fit with the things I value"). The Hoffman et al. (2011) scale was further adapted to measure IEO congruence, in addition to value congruence (e.g., "while at work, my approach to innovation matches my supervisor's approach to innovation"; "while at work, my level of risk-taking matches my supervisor's level of risk-taking"; "while at work, my approach to acting proactively matches my supervisor's approach to acting proactively"). Additionally, the Covin et al. (2020) IEO scale was adapted to shift the focus to measure employee-supervisor IEO fit to capture the employee's perceptions of their supervisor's level of IEO. All items will be measured on a seven-point Likert-style scale. Table 3.3 contains a list of the measurement items for employee-supervisor IEO fit.

Table 3. 3 Construct Measurement: Employee-Supervisor IEO Fit

Employee-Supervisor IEO Fit – Dimensions and Items
P-S Fit
My personal values match my supervisor's values and ideals.
The things that I value in life are similar to the things my supervisor values.
My supervisor's values provide a good fit with the things I value.
IEO – Innovativeness
While at work, my approach to innovation matches my supervisor's approach to innovation.
My supervisor has very little problems with renewal and change.
My supervisor quickly masters new routines, procedures and new ways of working.

When it comes to problem solving, my supervisor always searches for creative solutions instead of familiar ones.

IEO – Proactiveness

While at work, my approach to acting proactively matches my supervisor's approach to acting proactively.

My supervisor always tries to find if internal and/or external guests have wishes or desires that they are not consciously aware of.

My supervisor always actively helps internal and/or external guests, and not only when he/she is asked or approached to do so.

My supervisor is constantly looking for new ways to improve performance on the job.

IEO – Risk-Taking

While at work, my level of risk-taking matches my supervisor's level of risk-taking.

My supervisor values new plans and ideas, even if he/she feels that they could fail in practice.

My supervisor sometimes provides assistance to internal and/or external guests without first discussing this with their upline leadership.

In order to be more productive, my supervisor sometimes acts without the permission of their upline leadership.

3.4 Control Variables

This study takes into account possible confounding effects that could lead to spurious relationships in the hypothesized variables through the use of selected control variables. In quantitative research, control variables can be used to protect against alternative or counterfactual explanations to improve the generalizability and replicability of research findings (Creswell & Creswell, 2018). The control variables were selected based on current strategic consensus theory, P-S fit theory, and corporate entrepreneurship literature. In this dissertation, the control variables used include the participants' age (Guillén & Kunze, 2019; Rigtering & Weitzel, 2013; Wallace, Butts, Johnson, Stevens, & Smith, 2016), gender (De Clercq, Dimov, & Thongpapanl, 2010; Rigtering & Weitzel, 2013), race (Adachi & Hisada, 2017), department/work team (Lumpkin, Cogliser, & Schneider, 2009; Wójcik-Karpacz, Kraus, &

Karpacz, 2021), hours worked (Wallace et al., 2016; Welbourne, Johnson, & Erez, 1998), tenure with the organization (De Clercq et al., 2010), education (Liu, Yan, Fan, & Chen, 2021; Rigtering & Weitzel, 2013), and organizational rank (El-Kassar, Dagher, Lythreatis, & Azakir, 2022; Monsen & Boss, 2009).

Gender differences could affect levels of risk-taking by employees and the strength of relationships within the employee-supervisor dyad. Gender is operationalized as a single-item categorical variable that the respondent self-identified as their gender. Gender was dummy coded with 1 representing males and 0 representing females. The technique of assigning dummy variables allows for the use of categorical information to be transformed and used in regression estimations (Hardy, 1993). Race and ethnicity differences across the organization and within the employee-supervisor relationship could also affect IEO. Race is operationalized as a single item categorical variable self-assessed by survey participants based on four possible race categories. Responses for race were then dummy coded into two dichotomous variables, with 1 representing white and 0 representing non-white. Team composition and levels of autonomy across departments could influence employees' willingness to engage in entrepreneurial behaviors. A longer-term employee's approach to entrepreneurship could be impacted by deeply embedded institutional practices and status quo biases resulting in high levels of resistance to change. Yet, employees newer to the organization may not have the socio-political capital and relationship with their supervisor necessary to bring innovative ideas to fruition. Employee tenure is operationalized by a single survey item capturing, as a continuous variable, the number of years the participant has been employed with the organization. Similarly, the age and education level of employees could affect how IEO is manifested through the behavior of employees. Employee age was operationalized as a single item, continuous variable based on years. Education level

was operationalized as a single item capturing highest level of education achieved based on four multiple choice options. Education levels were coded as the following nominal variables: 1 = high school; 2 = junior college; 3 = undergraduate degree; 4 = graduate degree or higher. The number of hours worked by employees has been linked to individual motivation associated with innovation (Sauermann & Cohen, 2010). Number of worked hours were operationalized by asking respondents to provide an estimate of the average number of hours they typically work for the organization, captured as a continuous variable. Organizational rank may influence the demonstration of IEO, as lower level employees may have fewer options to diversify risks associated with entrepreneurial behavior (Monsen & Boss, 2009). The sample for this study included all employees within the organization to test the hypothesized relationship in my research model. Organizational rank was operationalized as a single item with four multiple choice options to capture the respondent's position level within the firm. Organizational rank was coded as the following nominal variables: 1 = employees with no supervisory experience; 2 = frontline managers; 3 = directors; and 4 = vice presidents & executives. Lastly, particular departments within organizations could have higher job demands for innovative behavior. The respondents' department was controlled for in this study and was operationalized by departmental categories provided by the organization. The departments were dummy coded into three departmental categories: customer-facing departments, administrative departments, and other departments.

3.5 Analysis

The research design in this dissertation provided an assessment of the measurement model prior to an assessment of the structural model of this research. The analysis of the measurement model was conducted in order to establish sufficient levels of reliability and validity of the data

collected in this study, which will support the generalizability of the results to the population within the corporate entrepreneurship context of this dissertation. The measurement model assessment included an evaluation of the Cronbach's alpha for each measurement scale to ensure adequate internal consistency of the respective constructs. Additionally, I analyzed the factor loadings and Cronbach's alpha to ensure reliability and validity measurements are sufficient and are consistent with each scale's findings provided in the extant literature. Combined, these analytical steps were performed to first establish sufficient measurement model validity and reliability, and then turn to the assessment of the structural model.

After I performed an assessment of the measurement model, my analysis then turned to the structural model assessment. In order to evaluate the direct effect and moderating effect of the conceptual model, a multiple hierarchical regression analysis of the data was performed. Regression analysis is considered one of the most widely used and versatile techniques used to evaluate dependencies (Hair, Black, Babin, & Anderson, 2019). Multiple regression analysis is a statistical procedure used in instances where there is a single dependent variable and two or more independent variables (Hair et al., 2019). Given the two primary research questions addressed in this dissertation, multiple hierarchical regression was used to evaluate differences in R^2 values between the direct effect relationships and moderating relationships in my conceptual model.

CHAPTER 4: RESULTS

In this chapter, I discuss the details of the quantitative analysis conducted on the survey data which was used to evaluate my research model. IBM SPSS Statistics version 28 was used to conduct the data analysis. This chapter contains a preliminary analysis of the data, a review of the descriptive statistics and correlation results, findings from the regression analysis, a summary of the hypothesized relationships, and concludes with a post-hoc analysis.

4.1 Preliminary Analysis

The survey instrument was distributed to all employees at a mid-sized company located in the southeastern United States. A list of employee email addresses was obtained from the organization's human resource department prior to launching the survey. This list originally contained 2,248 email addresses, of which 16 email addresses were duplicated. Additionally, 40 email addresses were invalid and bounced back as undelivered. As a result, 2,192 surveys were successfully emailed to potential participants using the Qualtrics XM platform. Of the 2,192 surveys distributed, Qualtrics recorded 395 surveys as started and 265 surveys as completed. This represents a 12.1% response rate and a 67.1% completion rate of the distributed survey. In entrepreneurial research, low response rates to survey-based research is a particular concern for the generalizability of the results to non-respondents (Scheaf, Loignon, Webb, & Heggestad, 2023). In order to assess potential non-response bias, I asked two executives in the human resource department of the sponsoring organization to review the summary level demographic results for this study. These two executives confirmed the sample demographics were representative of the employee population for the organization as a whole. A summary of the survey responses is presented in Table 4.1.

Table 4. 1 Summary of Survey Responses

Initial List of Emails	Invalid or Duplicate Emails	Successful Surveys Emailed	Surveys Started	Surveys Completed	Survey Completion Rate	Survey Response Rate
2,248	56	2,192	395	265	67.1%	12.1%

The dataset was reviewed and cleaned before proceeding with the analysis. A review of the survey responses revealed that the data contained some missing values. A summary of the missing data statistics is shown in Table 4.2. A major concern with missing data is to understand the nature and extent of the missing data, such as the randomness and prevalence of the missing data (Hair et al., 2019). In multiple regression analysis, missing data below 10% is generally considered acceptable (Allison, 2010; Hair et al., 2019). With the exception of age, all items contained less than 10% missing values. Each missing value was replaced with the mean of the survey item to preserve the distribution of the original responses. This technique, referred to as mean substitution, replaces the missing value with the mean calculated for each item based on all valid responses and is a widely used technique in research to address missing data (Hair et al., 2019). The rationale for the use of mean substitution is that the mean values represent the best estimate for a replacement value (Hair et al., 2019). Prior to distributing the survey, the sponsoring organization requested a "prefer not to say" option added as a response to the age survey question. As a result, a large portion of survey respondents (67.2%) selected the "prefer not to say" response for the age question. Due to the high level of missing data for this survey item, the age variable was not included as a control variable in the subsequent correlation and regression analyses.

Table 4. 2 Missing Data Statistics

	Possible Responses	Actual Responses	Mean	Standard Deviation	Count Missing	Percent Missing
Dependent Variable						
IWB_IG1	265	264	5.65	1.021	1	.4%
IWB_IG2	265	261	5.63	1.118	4	1.5%
IWB_IG3	265	259	5.68	0.978	6	2.3%
IWB_IP1	265	259	5.37	1.198	6	2.3%
IWB_IP2	265	264	5.46	1.195	1	.4%
IWB_IP3	265	262	5.27	1.215	3	1.1%
IWB_IR1	265	262	5.30	1.143	3	1.1%
IWB_IR2	265	261	5.17	1.229	4	1.5%
IWB_IR3	265	264	5.39	1.129	1	.4%
Independent Variables						
IEO_I1	265	265	5.42	1.377	0	0%
IEO_I2	265	263	5.73	0.997	2	.8%
IEO_I3	265	261	5.54	1.171	4	1.5%
IEO_P1	265	262	5.11	1.265	3	1.1%
IEO_P2	265	263	6.03	0.971	2	.8%
IEO_P3	265	262	6.09	0.897	3	1.1%
IEO_RT2	265	265	5.85	0.996	0	0%
IEO_RT3	265	265	5.42	1.404	0	0%
Moderator Variables						
Perception of IEO_I1	265	259	5.14	1.352	6	2.3%
Perception of IEO_I2	265	263	5.34	1.512	2	.8%
Perception of IEO_I3	265	262	5.42	1.417	3	1.1%
Perception of IEO_I4	265	264	5.32	1.507	1	.4%
Perception of IEO_P1	265	263	5.29	1.384	2	.8%
Perception of IEO_P2	265	260	5.31	1.288	5	1.9%
Perception of IEO_P3	265	264	5.67	1.311	1	.4%
Perception of IEO_P4	265	264	5.70	1.367	1	.4%
Perception of IEO_RT1	265	264	4.75	1.466	1	.4%
Perception of IEO_RT2	265	264	5.23	1.475	1	.4%
Perception of IEO_RT3	265	263	5.10	1.412	2	.8%
Perception of IEO_RT4	265	264	4.82	1.429	1	.4%
Control Variables						
Age	265	87	42.57	13.844	178	67.2%
Tenure	265	248	9.63	8.59	17	6.4%
Average Hours Worked	265	258	38.71	10.24	7	2.6%
Gender	265	265			0	0%
Race	265	265			0	0%
Organizational Rank	265	263			2	.8%
Education	265	264			1	.4%

In order to test my hypotheses, the survey instrument was distributed to all employees across the organization. The demographic composition was analyzed from the 265 completed surveys. In terms of the racial composition of completed survey responses, 81.9% of respondents identified as White, 3.4% as Hispanic or Latino, 1.1% as Black or African American, 0.4% as Native American, 0.4% as Asian, 1.9% as Other, and 10.9% preferred not to disclose their race. Race was dummy coded into two categorical variables: 1 representing White and 0 representing Non-White. Gender of the respondents was comprised of 56.6% female and 43.4% male. The age of the respondents ranged from 20 years old to 76 years of age. However, a large portion of the respondents (67.2%) did not report their age or selected "prefer not to say." As mentioned above, the "prefer not to say" option for age was added to the survey at the request of the sponsoring organization. As a result of the low response rate for this item, age was not tested as a control variable. The education level of respondents was comprised of high school (9.4%), junior college (18.9%), undergraduate degree (44.2%), and graduate degree or higher (27.5%).

The respondents' tenure with the organization, in years, was captured in the survey responses as a continuous variable. The distribution of the respondents' tenure was comprised of 34.7% of participants employed 5 years or less with the organization, 5-10 years (31.4%), 11-15 years (11.3%), 16-20 years (10.6%), 21-25 years (7.5%) and greater than 25 years tenure (4.5%). The rank within the organization was comprised of employees with no supervisory responsibilities (51.7%), frontline managers (16.6%), director (26.0%), and vice president/executive (5.7%). The respondents' department within the organization was provided by the organization. The departments were coded into three categorical variables: customer facing departments, office

departments, and other departments. The distribution of respondents comprised of customer facing departments (41.2%), office departments (37.7%), and other departments (21.1%).

The next step of the data analysis included a test of the scale reliability for each construct. Cronbach's alpha is considered one of the most common methods to establish reliability of self-reported survey items (Vanderstoep & Johnson, 2009). Cronbach's alpha is calculated for scale items and scores range from 0 to 1.0. The Cronbach's alpha score represents the degree of similarity that items on a survey instrument are related to other items in the scale (Vanderstoep & Johnson, 2009). In scientific research, Cronbach's alpha scores greater than 0.70 are considered sufficient to establish scale reliability (Creswell & Creswell, 2018; Nunnally, 1978). None of the survey items used in this research needed to be reversed coded.

The Cronbach's alpha for the three IEO sub-dimensions each fell below the 0.70 threshold. The original three item IEO Risk-taking scale developed by Covin et al. (2020) produced a Cronbach's alpha of 0.404 in my dataset. Upon analyzing the statistics for the individual items in the scale, the first risk-taking item, "I value new plans and ideas, even if I feel that they could fail in practice," was found to be statistically unreliable in relation to the other two scale items. This item was removed from the scale, increasing the Cronbach's alpha to 0.658 for the two-item scale for IEO Risk-taking. All other survey scales were found to have Cronbach's alpha statistics above the 0.70 threshold for internal consistency. Interestingly, the Cronbach's alpha for perceptions of each IEO sub-dimension were found to be statistically higher internal consistency than the original IEO sub-scales that they were adapted from. The composite multi-item reliability statistics are summarized in Table 4.3.

Table 4. 3 Multi-Item Scale Reliability Analysis

Construct	Number of Items	Cronbach's Alpha
Dependent Variable		
Innovative Work Behavior	9	0.921
Independent Variables		
IEO – Innovativeness	3	0.668
IEO – Proactiveness	3	0.666
IEO – Risk Taking	2	0.658
Moderator Variables		
Perception of Supervisor IEO – Innovativeness	4	0.894
Perception of Supervisor IEO – Proactiveness	4	0.844
Perception of Supervisor IEO – Risk Taking	4	0.732

Note: None of the study's control variables used multi-item scales.

The primary theoretical framework used to guide this research was the use of P-S fit theory. The moderation effect of my research model stipulates that an increased fit within each of the three sub-dimensions of IEO between an employee and their supervisor will lead to higher levels of innovative work behavior. In order to reduce potential common method bias and strengthen the analysis of this research, I collected data that would allow for two measurements of the moderation effect. The first measurement of the moderation effect was conducted using the respondents' perceptions of their supervisor's IEO (n = 265), incorporating the three subdimensions of IEO. These results are included in the overall survey responses discussed above and in the statistics presented in Table 4.2 and 4.3. The second measurement of the moderation effect utilized a subset of the original sample, which contained 132 matched pairs measuring the degree of IEO fit between the employee and their supervisor. Each employee

responses were matched with the responses of their respective supervisor, if available. As a result, supervisor responses had the potential to be used more than once. However, unique pairings of IEO were uniquely matched to the particular employee in predicting the employee's IWB. In order to conduct this second analysis of the study's moderation effect, paired employee-supervisor responses to the 9-item IEO scale were uniquely coded for each pair and then aggregated to compute the standard deviation between the responses to the IEO scale. This approach has been used in the extant literature by Kellermanns et al. (2005). The standard deviations were then multiplied by -1 to aid in the interpretation. The measurement of IEO fit is therefore interpreted by higher scores indicating higher levels of IEO fit between the employee and their supervisor. All independent and moderators were mean centered prior to conducting the regression analysis. This step was performed in SPSS, in which I transformed the independent and moderators into z-scored variables for use in the regression analysis. A summary of the mean scores of each IEO sub-dimension is provided in Table 4.4.

Table 4. 4 Mean scores of IEO Sub-dimensions

Perceived Fit (n = 265)	Raw Mean	
	Employee Self Rated IEO	Perceived Supervisor IEO
IEO Innovativeness	5.5618	5.3058
IEO Proactiveness	5.7430	5.4910
IEO Risk Taking	5.6358	4.9726
Paired Fit (n = 132)	**Raw Mean**	
	Employee Self-Rated IEO	Supervisor Self-Rated IEO
IEO Innovativeness	5.5916	5.8893
IEO Proactiveness	5.6902	5.9154
IEO Risk Taking	5.8258	6.2424

The research was designed to minimize the risk of potential common method bias. As mentioned above, the study included a separate measurement of the moderation effect using paired survey responses between employees and supervisors. Survey items were developed using separately developed survey scales from the extant literature. Additionally, I captured and analyzed a secondary, non-scale measurement of the dependent variable, innovative work behavior. To evaluate potential common method bias among the survey scaled responses, I performed a test in SPSS in which I loaded the control variables, independent variables, dependent variable, and moderating variables into a single factor analysis. I performed this test at both the item level and at the construct level. The single factor analysis explained 23.32% of the variance at the item level, and 20.11% of the variance at the construct level. These results suggest that common method bias is not a problem in the data.

4.2 Descriptive Statistics and Correlation Analysis

Upon completing the preliminary analysis of the data, the next step in my analysis was to evaluate the bivariate correlations and descriptive statistics. Pearson's r product-moment correlation coefficients were examined to assess the relationship between pairs of variables in the data. The Pearson correlation statistic measures the correlation between two variables, and scores range between -1.0 to + 1.0 (Vanderstoep & Johnson, 2009). An understanding of the variables used in this research is important in order to draw conclusions regarding the hypotheses being investigated. A correlation analysis is a technique used in scientific research to evaluate the magnitude and direction of two quantitative variables (Sharma, 2020). The closer the correlation statistic is to +1.0 or -1.0, the stronger the relationship between the pair of variables (Sharma, 2020). A positive correlation coefficient indicates that the two variables move in the same direction. Conversely, a negative correlation coefficient suggests the variables move in opposite directions, such that an increase in one variable leads to a decrease in the other variable being examined. In interpreting the effect size of the correlation coefficient, the following general guidelines were considered: 0 to .1 is considered weak or no relationship; .2 is considered a weak to moderate relationship; .3 is considered a moderate relationship; .4 is considered a moderate to strong relationship; and .5 to 1.0 is considered a strong relationship (Salkind & Frey, 2020).

Due to a sufficient sample size obtained in this research, I analyzed the research model using two measurements of employee-supervisor IEO fit. The first measurement of IEO fit utilized survey respondents' self-reported perceptions of their supervisor's IEO. The second measurement of IEO fit calculated the standard deviation of paired responses between the

employee and their supervisor. The bivariate correlations and descriptive statistics of both measurements of IEO fit are discussed below.

4.2.1 Perceived IEO Fit Descriptive Statistics and Correlation Analysis

Perceived IEO fit was measured using the full dataset of completed survey responses (n = 265). On average, the respondents have been employed with the organization 9.6 years, although the standard deviation was 8.3 years. Additionally, the organization employs both full time and part time employees. As a result of differing employment statuses, average hours worked was collected as a control variable. Respondents reported working an average of 38.7 hours per week, with a standard deviation of 10.1 hours. Therefore, both tenure and average hours worked had a high level of dispersion in the data. The mean, standard deviation, and correlation coefficients for the data are shown in Table 4.5.

Several of my control variables were found to co-vary with each other at significance levels of $p < .05$ and $p < .01$. Gender and race had a weak relationship to each other. Tenure had a weak relationship with department, perhaps indicating some departments are more prone to higher employee turnover rates. Additionally, average hours worked per week was found to have a weak relationship with tenure and department. For my independent variables, IEO innovativeness had a negative weak relationship with gender. IEO proactiveness was found to have a negative weak relationship with department ($r = -.191$, $p < .01$). IEO proactiveness and IEO innovativeness have a strong positive relationship ($r = .492$, $p < .01$). IEO risk taking did not co-vary with the other IEO subdimensions. However, IEO risk taking did have a weak to moderate relationship with the following control variables: tenure, average hours worked, and organizational rank. These results may point to employees feeling more comfortable to take

risks based on their longer tenure with the organization, full time status, and/or higher organizational position.

The interaction effect of perceived IEO innovativeness fit had a weak negative relationship with employee's IEO innovativeness. IEO proactiveness fit had a strong positive relationship with IEO innovativeness ($r = .475$, $p < .01$). Perceived IEO risk taking fit had a weak negative relationship with IEO innovativeness and a weak positive relationship with IEO innovativeness perceived fit. Lastly, innovative work behavior had a weak positive relationship with race, organizational rank, and IEO risk taking; and a moderate positive relationship with average hours worked. IWB had a strong positive relationship with both IEO innovativeness ($r = .552$, $p < .01$) and IEO proactiveness ($r = .519$, $p < .01$).

Next, to assess that multicollinearity is not an issue, I examined the tolerance factors and variance inflation factor (VIF) for each variable used in the analysis. Tolerance and VIF are two commonly used diagnostic statistics used in regression analysis to assess potential collinearity issues (Miles & Shevlin, 2006). Collinearity and multicollinearity can be problematic in regression analysis if the independent variables are highly correlated to other independent variables. Collinearity and multicollinearity are said to be problems in the underlying data, not the model specification (Hair et al., 2019). Tolerance scores range from 0 to 1, with 0 representing full collinearity and 1 reflecting the variable is completely uncorrelated to the other independent variables (Miles & Shevlin, 2006). A common threshold used in research calls for VIF scores less than 10, which translates to a tolerance of 0.1, which suggests collinearity is not an issue in the data (Hair et al., 2019). For the perceived IEO dataset, all variables used contained VIF scores less than 10 (highest score = 3.507) and tolerance scores greater than 0.1

(lowest score = .285). As a result of the analysis, collinearity is not considered an issue in the data.

Table 4. 5 Descriptive Statistics and Bivariate Correlations - Perceived IEO Fit

		Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1	Race	0.82	0.39													
2	Gender	0.43	0.50	**-.280****												
3	Department	1.80	0.76	-.021	.040											
4	Tenure	9.63	8.31	.053	-.045	**.222****										
5	Hours Worked/Week	38.71	10.11	**-.125***	.079	**.130***	**.283****									
6	Education	2.91	0.91	-.081	.075	.071	-.002	-.067								
7	Organizational Rank	1.86	0.99	-.025	.060	**.139***	**.495****	**.562****	**.124***							
8	IEO-Innovativeness	5.56	0.92	-.076	**-.135***	.044	.002	.116	.076	.073						
9	IEO-Proactiveness	5.74	0.81	-.049	-.119	**-.191****	.016	.072	-.045	.064	**.492****					
10	IEO-Risk Taking	5.64	1.05	.080	.028	.081	**.259****	**.206****	.017	**.258****	.051	.116				
11	Innovativeness Fit	0.17	1.19	.088	-.048	-.102	.086	-.078	-.096	.006	**-.252****	-.020	.080			
12	Proactiveness Fit	0.28	0.94	-.012	-.095	.083	.071	.051	-.021	.002	-.029	-.032	.048	**.475****		
13	Risk Taking Fit	0.23	1.03	.055	-.058	.001	.002	-.011	.017	.076	**.128***	.114	**-.177****	-.102	-.067	
14	Innovative Work Behavior	5.45	0.88	**-.195****	-.058	.015	.087	**.298****	-.010	**.196****	**.552****	**.519****	**.183****	-.054	.099	.023

Note: N = 265; SD = Standard Deviation

** Correlation is significant at the 0.01 level (two-tailed)

* Correlation is significant at the 0.05 level (two-tailed)

4.2.2 Paired IEO Fit Descriptive Statistics and Correlation Analysis

The study yielded a sufficient sample of IEO responses paired directly between employees and their supervisors to more directly assess IEO fit between the dyad. This subset of the overall survey responses contained n = 132 paired responses to the self-reported IEO survey scale items. These paired responses to IEO fit were analyzed separately in addition to perceptions of IEO fit. The paired IEO responses strengthened the research design by overcoming potential common method bias that could be present in exclusively self-reported data. Prior to the survey being distributed, a unique number was assigned to each manager and that number was then coded to link each employee identification number to the respective manager number. The final survey responses were analyzed and coded for paired responses. The data aggregation function in IBM SPSS was used to calculate the standard deviation on the paired responses to the nine-item Covin et al. (2020) IEO scale. Next, the standard deviations of the paired IEO responses were then appended to the respective subordinate's responses. Lastly, the three IEO subdimension scores were created as a final step in the data preparation for paired IEO fit.

Compared to the full survey responses (n = 265), the data for the paired IEO responses (n = 132) indicate that the population for paired IEO were 52% male, had slightly higher average tenure (11.6 years), had slightly higher averages for both education level and organizational rank, and had slightly higher average hours worked per week (40.9 hours/week). The correlation analysis identified that some of the control variables co-varied with each other. For example, tenure with the organization had a moderate positive relationship with average hours worked. Organizational rank had a strong positive relationship with both tenure and average hours worked. IEO innovativeness was found to have a weak negative correlation with gender. IEO proactiveness had a moderately strong positive relationship with IEO innovativeness (r = .429, p

< .01). The IEO risk-taking variable was found to have a weak positive relationship with tenure, organizational rank, and average hours worked. Each of these IEO correlations were similar in effect size and direction as found in the correlation pairs in the full dataset. In addition, IEO risk-taking was found to have a weak positive relationship with IEO proactiveness ($r = .204$, $p < .05$).

Several of the IEO fit correlations were found to have a moderate negative correlation with the other variables in the research model. IEO innovativeness fit had a strong negative correlation with IEO innovativeness ($r = -.687$, $p < .01$) and a weak negative correlation with IEO proactiveness ($r = -.231$, $p < .01$). IEO proactiveness fit was found to have a negative moderate relationship with IEO innovativeness ($r = -.299$, $p < .01$) and a strong negative correlation with IEO proactiveness ($r = -.495$, $p < .01$). Additionally, IEO proactiveness fit had a moderate positive relationship with IEO innovativeness fit. IEO risk-taking fit was found to have a strong negative correlation with IEO risk taking ($r = -.638$, $p < .01$). IWB was found to have a weak correlation with race, and a moderate positive relationship with both average hours worked and organizational rank. IWB had a strong positive relationship with both IEO innovativeness ($r = .533$, $p < .01$) and IEO proactiveness ($r = .460$, $p < .01$); and found to have a moderately weak relationship with both IEO innovativeness fit ($r = -.291$, $p < .01$) and IEO proactiveness fit ($r = -.248$, $p < .01$). The full correlation and descriptive statistics of variables in the research model are shown in Table 4.6.

I next conducted an assessment of potential collinearity issues within the dataset containing the paired survey responses. The steps followed were similar to the collinearity assessment I conducted for the perceived IEO data and discussed earlier. All variables used in the regression analysis contained VIF scores less than 10 (highest VIF score = 2.944) and tolerance scored

greater than 0.1 (lowest tolerance score = 0.340). Additionally, the condition indices were examined as a second approach to determining if collinearity exists between any of the predictor variables. All condition index values in the paired survey variables were below the threshold of 30 (highest value was 28.328) generally used in multivariate regression analysis (Hair et al., 2019). Therefore, the examination of the data suggests that collinearity is not an issue in this study. A review of the regression analysis is discussed in the next section.

Table 4. 6 Descriptive Statistics and Bivariate Correlations – Paired IEO Fit

		Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1	Race	0.78	0.42													
2	Gender	0.52	0.50	**-.332****												
3	Department	1.93	0.71	.052	-.008											
4	Tenure	11.59	8.81	.110	-.052	**.173***										
5	Hours Worked/Week	40.9	9.38	-.091	.055	.109	**.268****									
6	Education	3.01	0.83	-.104	.010	-.011	**-.220***	-.027								
7	Organizational Rank	2.07	1.05	.016	-.051	.069	**.461****	**.593****	.006							
8	IEO-Innovativeness	5.59	0.86	-.070	**-.228****	.112	.045	.070	.012	.094						
9	IEO-Proactiveness	5.69	0.75	-.048	-.105	-.124	.062	.047	-.029	.126	**.429****					
10	IEO-Risk Taking	5.83	0.99	.091	.005	.048	**.280****	**.191***	-.035	**.272****	.033	**.205***				
11	IEO - Innovativeness Fit	0.53	1.81	.088	**.176***	-.085	-.070	.014	.052	-.063	**-.687****	**-.231****	.059			
12	IEO - Proactiveness Fit	0.41	1.76	.044	.124	-.078	.062	.035	-.151	.035	**-.299****	**-.495****	-.098	**.396****		
13	IEO - Risk Taking Fit	0.67	1.84	-.085	.010	-.062	-.162	-.074	.117	-.128	.008	-.049	**-.638****	.036	.065	
14	Innovative Work Behavior	5.53	0.75	**.207***	-.128	.029	.088	**.267****	.065	**.298****	**.533****	**.460****	.161	**-.291****	**-.248****	.090

Note: N = 132; SD = Standard Deviation
** Correlation is significant at the 0.01 level (two-tailed)
* Correlation is significant at the 0.05 level (two-tailed)

4.3 Regression Results

Hierarchical multiple regression analysis was used to test the hypotheses in this dissertation. Hierarchical regression is an appropriate analytical technique due to my research model having two or more independent variables used to predict one dependent variable. I used four models to run the regression analysis in SPSS on the dependent variable, innovative work behavior (IWB). The first model included the control variables. The second model included the control variables, along with the three independent variables: IEO innovativeness, IEO proactiveness, and IEO risk taking. The third model included all variables from model two, plus the three moderator variables of supervisor IEO innovativeness fit, supervisor IEO proactiveness fit, and supervisor IEO risk taking fit. Lastly, the fourth model added the interaction effect of each independent variable, employee IEO subdimensions, with the respective subdimension of supervisor IEO fit.

As discussed earlier, the data collection yielded a large enough sample of paired survey responses. As a result, the regression analysis was conducted on the full survey dataset, which measured employee perceptions of IEO fit with their supervisor (n = 265), and a sub-sample of paired employee and supervisor self-assessments of IEO (n = 132), which measured IEO fit through the standard deviation of the paired data. The regression analysis for each dataset is discussed in the following two sections.

4.3.1 Perceived IEO Fit Regression Results

The hierarchical regression analysis for the full survey data (n = 265) used employee perceptions of their supervisor's IEO as a measure of IEO fit between the dyad. There were four models used to test the overall relationship on IWB. A summary of the regression results from the four models is presented in Table 4.7. Model 1 tested the control variables in this study as predictors of IWB. There was a total of eight control variables in the model. However, the

control variable for age resulted in a low response rate (32.8% response rate). As a result of the low response rate, age was excluded from the correlation and regression analysis. The remaining seven control variables were gender, race, tenure, average hours worked, department, organizational rank, and education level. Respondents' race ($\beta = -0.199$, $p < .01$), gender ($\beta = -0.132$, $p < .05$), and average hours worked per week ($\beta = 0.246$, $p < .001$) were all significantly related to IWB. Although Model 1 was significant ($R^2 = 0.132$, $p < .001$), it explained only 13.2% of the variance in IWB and is considered weak in its predictive power.

Model 2 included the control variables and added the three independent variables, IEO innovativeness, IEO proactiveness, and IEO risk taking, to test the relationship on IWB. The relationship for these three independent variables with IWB represents hypotheses 1, 2, and 3 in my research model. In addition to race and average hours worked, IEO innovativeness ($\beta = 0.341$, $p < .001$) and IEO proactiveness ($\beta = 0.312$, $p < .001$) were both positive and statistically significant in their relationship to IWB, supporting hypothesis 1 and 2. The relationship between IEO risk taking and IWB was positive ($\beta = 0.072$, *ns*), however not statistically significant. Therefore, this provided no support for hypothesis 3. The inclusion of the three independent variables increased the R^2 for Model 2 to 0.451. which explains 45.1% of the variance in IWB and was significant at the $p < .001$ level.

Model 3 included all of the variables in Model 2 and added the three moderators of perceptions of supervisor IEO. Respondents' race and average hours worked, along with the direct effects of IEO innovativeness and IEO proactiveness, continued to be significant as found in Model 2. Perceptions of supervisors' IEO innovativeness ($\beta = 0.110$, *ns*) and perceptions of supervisors' IEO risk taking ($\beta = 0.093$, *ns*) were both positive and not statistically significant. Perceptions of supervisors' IEO proactiveness ($\beta = -0.134$, *ns*) had a negative relationship to

IWB, however this relationship was not statistically significant. Although the overall model was significant, the R^2 change was only 0.011 and the F change was not significant in explaining variances in IWB.

Lastly, model 4 included all of the variables from Model 3 and added the interaction effect of respondents' respective sub-dimension of IEO with the employees' perceptions of their supervisors corresponding IEO sub-dimension. Similar to Model 2 and Model 3, respondents' race and average hours worked, along with their IEO innovativeness and IEO proactiveness, were similar in significance and effect size. The interaction of the employee's IEO proactiveness and the supervisor's perceived IEO proactiveness were found to be significant at the $p < .10$ level and $\beta = 0.100$, supporting hypothesis 5. The interaction of employee IEO innovativeness and perceptions of supervisor IEO innovativeness ($\beta = 0.010$, *ns*) was positive and non-significant, providing a lack of support for hypothesis 4. Additionally, the interaction of employee IEO risk taking and perceptions of supervisor IEO risk taking ($\beta = -0.028$, *ns*) was negative and also not significant, providing a lack of support for hypothesis 6. The introduction of the three interaction terms had a marginal increase in R^2, whereas the change in R^2 was only 0.012 and was not statistically significant.

Table 4. 7 Regression Results - Perceived IEO Fit (n = 265)

Construct	Model 1 Controls	Model 2 Main Effects	Model 3 Moderators	Model 4 Interaction Effect
Dependent Variable: Innovative Work Behavior				
Controls				
Race	**-0.199****	**-0.141****	**-0.164****	**-0.156****
Gender	**-0.132***	-0.032	-0.035	-0.023
Department	-.015	0.041	0.045	0.041
Tenure	-0.004	-0.004	-0.027	-0.034
Hours Worked/Week	**0.246*****	**0.169****	**0.181****	**0.174****
Education	-0.004	-0.026	-0.020	-0.018
Organizational Rank	0.064	0.040	0.028	0.042
Independent Variables				
IEO–Innovativeness		**0.341*****	**0.337*****	**0.349*****
IEO–Proactiveness		**0.312*****	**0.321*****	**0.328*****
IEO–Risk Taking		0.072	0.053	0.039
Moderators				
Perceptions of Supervisor IEO–Innovativeness			0.110	0.090
Perceptions of Supervisor IEO–Proactiveness			-0.134	-0.136
Perceptions of Supervisor IEO–Risk Taking			0.093	0.104
Interaction Effects				
IEO–Innovativeness X Supervisor IEO–Innovativeness Fit				0.010
IEO–Proactiveness X Supervisor IEO–Proactiveness Fit				**0.100†**
IEO–Risk Taking X Supervisor IEO–Risk Taking Fit				-0.028
R^2	0.132	0.451	0.462	0.474
Adjusted R^2	0.106	0.428	0.432	0.437
ΔR^2	0.132	0.320	0.011	0.012
F	**5.172*****	**19.424*****	**15.406*****	**12.949*****
F Change	**5.172*****	**45.879*****	1.557	1.698

Note: These are standardized regression coefficients
† Correlation is significant at the 0.10 level.
* Correlation is significant at the 0.05 level.
** Correlation is significant at the 0.01 level.
*** Correlation is significant at the 0.001 level.

4.3.2 Paired IEO Fit Regression Results

A hierarchical regression analysis was performed on the dataset containing paired employee self-reported and supervisor self-reported IEO ratings as a measurement of the moderation effect of IEO fit. The standard deviation of each IEO sub-scale item was calculated through the aggregation function in SPSS and then appended to the appropriate employee survey responses. Similar to the hierarchical regression analysis for perceived IEO fit, the paired IEO fit analysis contained four models in the regression analysis. A summary of the regression results for the four models is presented in Table 4.8.

Model 1 contained all control variables in the study, with the exception of age excluded due to an inadequate number of participant responses to the age question in the survey. In Model 1, race was found to be significant at the $p < .01$ level, with a beta weight of $\beta = -0.261$. Gender was also significant, with $\beta = -0.204$, $p < .05$. Additionally, organizational rank was statistically significant at the $p < .05$ level, with $\beta = 0.224$, indicating that employees at higher levels of the organization were more likely to demonstrate IWB. Overall, Model 1 was statistically significant at the $p < .01$ level, however the R^2 for Model 1 was 0.181, which therefore explains only 18.1% of the variance in IWB and is considered weak in terms of its predictive power.

The analysis of Model 2 included the control variables entered in model 1, and added the three direct effect independent variables: IEO innovativeness, IEO proactiveness, and IEO risk taking. Similar to Model 1, the regression results for Model 2 also showed significance levels in race ($p < .01$) and organizational rank ($p < .10$). Of the three direct effect variables, IEO innovativeness ($\beta = 0.353$, $p < .001$) and IEO proactiveness ($\beta = 0.250$, $p < .01$) were both found

to be statistically significant. These results provide support for hypotheses 1 and 2. The results for IEO risk taking ($\beta = 0.012$, *ns*) were positive, but not statistically significant in Model 2. Therefore, the results do not provide support for hypothesis 3. The change in R^2 for Model 2 was 0.256, which brought the overall R^2 for Model 2 to 0.389, explaining 38.9% of the variance in IWB and significant at the $p < .001$ level.

Model 3 contained all of the variables in Model 2, plus the three moderator variables of paired IEO fit between the employee and their supervisor. The direct effect of IEO innovativeness ($\beta = 0.367$) and IEO proactiveness ($\beta = .0316$) both were significant at the $p < .001$ level. IEO innovativeness fit ($\beta = 0.005$, *ns*) and IEO risk taking fit ($\beta = -0.120$, *ns*) were not statistically significant. IEO proactiveness fit was found to be significant ($\beta = -0.179$, $p < .05$). The negative beta weight suggests that less proactiveness fit between an employee and their supervisor contributes more to IWB than closer alignment in IEO proactiveness between the dyad. This is an interesting finding from the analysis and discussed more in Chapter 5. Model 3 is statistically significant, with an R^2 of 0.473, explaining 47.3% of the variance in IWB. The addition of the three moderator variables however only increased R^2 by 0.035 and had an F change that was only significant at the $p < .10$ level, indicating the addition of the moderator variables contributed marginally to the overall model.

Lastly, Model 4 added the interaction effect between the moderators and the main effect of the respective employee IEO variable. The control variables of race and organizational rank were significant (both at $p < .05$). Race and organizational rank also had similar effect sizes as found for each variable in the previous regression models. In Model 4, all three main effect variables were found to be significant, with IEO innovativeness at $\beta = 0.430$, $p < .001$; IEO proactiveness at $\beta = 0.258$, $p < .01$; and IEO risk taking at $\beta = 0.214$, $p < .10$. The moderator

variable of supervisor IEO proactiveness fit was significant ($\beta = -0.247$, $p < .01$), which was similar to findings in Model 3. The interaction of employee IEO innovativeness and supervisor IEO innovativeness fit ($\beta = 0.135$, *ns*) was positive but not statistically significant. This provides a lack of support for hypothesis 4. The interaction effect of employee IEO proactiveness and supervisor IEO proactiveness fit ($\beta = -0.168$, *ns*) was negative and non-significant, providing a lack of support for hypothesis 5. The interaction of IEO risk taking with Supervisor IEO risk taking fit was significant and positive ($\beta = 0.226$, $p < .05$), providing support for hypothesis 6. The R^2 change in Model 4 was 0.041, which increased the overall R^2 to 0.514. Therefore, the variables in Model 4 contribute 51.4% in explaining variations in IWB, and the model is statistically significant at the $p < .05$ level.

Table 4. 8 Regression Results – Paired IEO Fit (n = 132)

Construct	Model 1 Controls	Model 2 Main Effects	Model 3 Moderators	Model 4 Interaction Effect
Dependent Variable: Innovative Work Behavior				
Controls				
Race	**-0.261****	**-0.200****	**-0.192***	**-0.190***
Gender	**-0.204***	-0.083	-0.057	-0.047
Department	0.022	0.033	0.047	0.030
Tenure	-0.022	-0.018	0.006	0.008
Hours Worked/Week	0.124	0.111	0.124	0.109
Education	0.033	0.040	0.054	0.007
Organizational Rank	**0.224***	**0.164†**	**0.184†**	**0.209***
Independent Variables				
IEO–Innovativeness		**0.353*****	**0.367*****	**0.430*****
IEO–Proactiveness		**0.250****	**0.316*****	**0.258****
IEO–Risk Taking		0.012	0.097	**0.214†**
Moderators				
Supervisor IEO–Innovativeness Fit			0.005	0.018
Supervisor IEO–Proactiveness Fit			**-0.179***	**-0.247****
Supervisor IEO–Risk Taking Fit			-0.120	-0.082
Interaction Effects				
IEO–Innovativeness X Supervisor IEO–Innovativeness Fit				0.135
IEO–Proactiveness X Supervisor IEO–Proactiveness Fit				-0.168
IEO–Risk Taking X Supervisor IEO–Risk Taking Fit				**0.226***
R^2	0.181	0.437	0.473	0.514
Adjusted R^2	0.132	0.389	0.412	0.442
ΔR^2	0.181	0.256	0.035	0.041
F	**3.727****	**8.944*****	**7.724*****	**7.201*****
F Change	**3.727****	**17.474*****	**2.494†**	**3.075***

Note: These are standardized regression coefficients
† Correlation is significant at the 0.10 level.
* Correlation is significant at the 0.05 level.
** Correlation is significant at the 0.01 level.
*** Correlation is significant at the 0.001 level.

The relationship between the interaction effect of employee IEO proactiveness and supervisor IEO proactiveness is shown in Figure 4.1. This interaction effect is taken from the full dataset measuring employees' perceptions of IEO fit with their supervisor (n = 265). Although both are positively correlated with innovative work behaviors, higher levels of supervisor IEO proactiveness fit leads to an increased rate of IWB, supporting hypotheses 5.

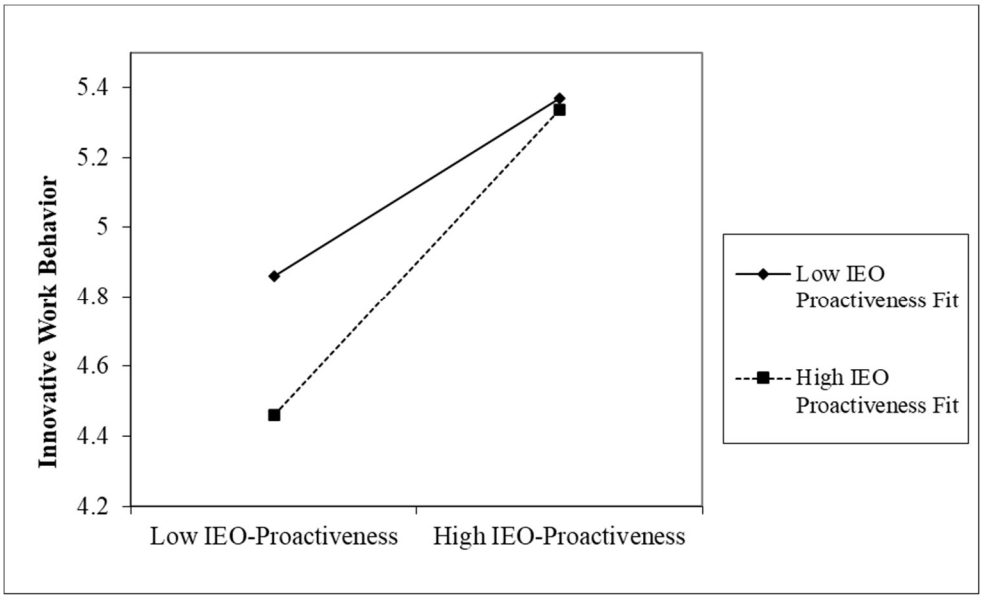

Figure 4. 1 Interaction of IEO proactiveness with supervisor IEO proactiveness fit

Next the moderating effect of IEO risk taking with supervisors' IEO risk taking fit is presented in Figure 4.2. The interaction effect is taken from the matched pairs of employee-supervisor IEO dataset (n = 132). The direct and moderation effect are both positively correlated with innovative work behaviors, higher levels of supervisor IEO risk taking fit was found to lead to an increased rate of IWB, supporting hypotheses 6.

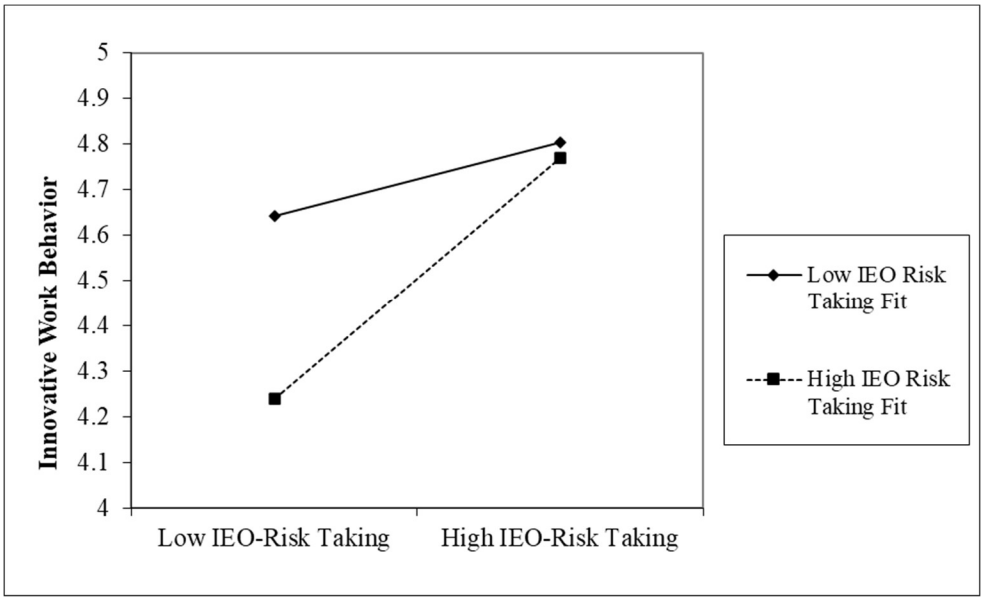

Figure 4. 2 Interaction of IEO risk taking with supervisor IEO risk taking fit

4.4 Summary of Hypothesized Relationships

A summary of the hypothesized relationships investigated in this study are presented in Table 4.9. Within each dataset, two of the six hypotheses of this dissertation were fully supported, one partially supported, and three hypotheses were not supported. A discussion of the results is included in Chapter 5.

Table 4. 9 Hypothesized Relationships and Results

Individual Entrepreneurial Orientation and Innovative Work Behavior			
		Perceived Fit (n = 265)	**Paired Fit (n = 132)**
H1	An employee's level of innovativeness is positively related to the employee's innovative work behavior.	Supported	Supported
H2	An employee's level of proactiveness is positively related to the employee's innovative work behavior.	Supported	Supported
H3	An employee's level of risk-taking is positively related to the employee's innovative work behavior.	Not supported	Not supported
Moderating Effect of Supervisor IEO Fit on Innovative Work Behavior			
		Perceived Fit (n = 265)	**Paired Fit (n = 132)**
H4	A high level of innovativeness fit between an employee and their supervisor magnifies the positive relationship between employee IEO and innovative work behavior.	Not supported	Not supported
H5	A high level of proactiveness fit between an employee and their supervisor magnifies the positive relationship between employee IEO and innovative work behavior.	Partially Supported	Not supported
H6	A high level of risk-taking fit between an employee and their supervisor magnifies the positive relationship between employee IEO and innovative work behavior.	Not supported	Partially Supported

4.5 Post Hoc Tests and Results

In order to further investigate the relationships in my research model, I performed a post-hoc analysis on the survey data and model specifications. There were three types of post-hoc analyses performed on the final survey dataset. The first post-hoc analysis evaluated the reliability and outcome of the IEO scale as one overall IEO measurement, rather than measured as the three sub-dimensions specified in my research model. The post-hoc analysis utilized all

nine items from the Covin et al. (2020) scale as a unidimensional construct of IEO. The second post-hoc analysis evaluated the effect of the research model on each of the sub-dimensions of IWB: idea generation, idea promotion, and idea realization. The third post-hoc study used average hours worked on types of innovative work behaviors, as an alternative measure of IWB.

4.5.1 Overall IEO Measurement

As reported earlier in this chapter, the scale reliability for each of the IEO sub-dimensions fell slightly below the desired Cronbach's alpha desired threshold of 0.70. The scale reliabilities for the three subdimensions of IEO as reported in Table 4.3 were: IEO innovativeness = 0.668, IEO proactiveness = 0.666, and IEO risk taking = 0.658. The IEO scale used in this study is a relatively new measurement scale developed by Covin et al. (2020). I conducted a test of the scale reliability using a single dimensional construct of IEO, the Cronbach's alpha was increased to 0.726, suggesting greater internal consistency as a unidimensional construct.

Next, I conducted a correlation and regression analysis using the unidimensional IEO construct on the full dataset (n = 265). In regard to the primary constructs in this dissertation, the overall IEO construct had a weak positive correlation with average hours worked and organizational rank, which is consistent with the earlier presented findings in Table 4.5. Employee perceptions of their supervisor's overall IEO had a positive weak correlation with tenure, average hours worked, organizational rank, and the employee's overall IEO; and a negative weak correlation with education level. Lastly, IWB was found to have a positive weak correlation with race, average hours worked, organizational rank, and perceptions of supervisor's overall IEO. IWB had a strong positive correlation with overall IEO ($r = 0.627$, $p < .01$). All variables in the analysis had VIF values less than 10 and condition indices less than 30,

suggesting multicollinearity is not an issue. The results of the correlation analysis are presented in Table 4.10.

Table 4. 10 Post-Hoc Descriptive Statistics and Correlations: Overall IEO Measurement

		Mean	SD	1	2	3	4	5	6	7	8	9	10
1	Race	0.82	0.39										
2	Gender	0.43	0.50	**-.280****									
3	Department	1.80	0.76	-.021	.040								
4	Tenure	9.63	8.31	.053	-.045	**.222****							
5	Hours Worked/Week	38.71	10.11	-.125	.079	**.130***	**.283****						
6	Education	2.91	0.91	-.081	.075	.071	-.002	-.067					
7	Organizational Rank	1.86	0.99	-.025	.060	**.139***	**.495****	**.562****	**.124***				
8	Overall IEO	5.62	0.64	-.051	-.177	-.036	.094	**.186****	.022	**.171****			
9	Perceived Overall IEO Fit	5.26	1.03	.109	-.099	.007	**.173****	**.124***	**-.123***	**.148***	**.239****		
10	Innovative Work Behavior	5.45	0.88	**-.195***	-.058	.015	.087	**.298****	-.010	**.196****	**.627****	**.206****	

Note: N = 265; SD = Standard Deviation
** Correlation is significant at the 0.01 level (two-tailed)
* Correlation is significant at the 0.05 level (two-tailed)

In terms of overall IEO's explanatory power on IWB, the overall IEO was statistically significant ($\beta = 0.583$, $p < .001$) on IWB in Model 2, representing the main effects. Model 2 was significant with $R^2 = 0.449$, explaining 44.9% of the variance in IWB. Additionally, the change in R^2 was 0.317, indicating that the addition of overall IEO contributed significantly to the model's explanatory power. The additions of the moderator (Model 3) and interaction effect (Model 4) of overall perceptions of supervisor's IEO were not significant and did not contribute to improving the model's predictive power. A summary of the post-hoc regression analysis on overall IEO is provided in Table 4.11.

Table 4. 11 Post-Hoc Regression: Overall IEO and Perceptions of Overall Supervisor IEO

Construct	Model 1 Controls	Model 2 Main Effects	Model 3 Moderators	Model 4 Interaction Effect
Dependent Variable: Innovative Work Behavior				
Controls				
Race	**-0.199****	**-0.152****	**-0.157****	**-0.160****
Gender	**-0.132***	-0.046	-0.043	-0.042
Department	-.015	0.033	0.034	0.035
Tenure	-0.004	-0.021	-0.028	-0.030
Hours Worked/Week	**0.246*****	**0.157****	**0.156†**	**0.157†**
Education	-0.004	-0.024	-0.017	-0.015
Organizational Rank	0.064	0.026	0.021	0.021
Independent Variables				
Overall IEO		**0.583*****	**0.570*****	**0.571*****
Moderating Variables				
Supervisor Overall IEO–Fit			0.061	0.059
Interaction Effects				
Overall IEO X Supervisor Overall IEO Fit				0.027
R^2	0.132	0.449	0.452	0.453
Adjusted R^2	0.106	0.430	0.431	0.429
ΔR^2	0.132	0.317	0.003	0.001
F	**5.172*****	**24.200*****	**21.709*****	**19.509*****
F Change	**5.172*****	**136.816*****	1.435	0.291

Note: These are standardized regression coefficients
N = 265
† Correlation is significant at the 0.10 level.
* Correlation is significant at the 0.05 level.
** Correlation is significant at the 0.01 level.
*** Correlation is significant at the 0.001 level.

4.5.2 Subdimensions of Innovative Work Behavior

The survey instrument was designed to capture IWB as a single, unidimensional measurement of the overall construct. However, the demonstration of innovative work behavior is defined as the creation, introduction and eventual application of innovative ideas within a work context (Janssen, 2000). The construct of IWB is defined in the literature as comprising of three distinct stages: idea generation, idea promotion, and idea realization (Janssen, 2000; Kanter, 1988). The survey scale for IWB was borrowed from Janssen (2000) and contained a total of nine items, with three survey items measuring each of the three subdimensions of IWB. For a post-hoc analysis, I ran a test on each of these three subdimensions for their individual validity and relationships with the antecedents in my research model.

To evaluate the subdimensions of IWB, I first analyzed the internal reliability for the sub-scale item responses. As reported in Table 4.3, the overall nine item IWB scale had a Cronbach's alpha of 0.921. The reliability of each subdimension was found to be: IWB-idea generation = 0.842; IWB-idea promotion = 0.830; and IWB-idea realization = 0.841. I utilized the paired dataset (n = 132) to conduct a correlation and regression analysis on each of the IWB subdimensions as individual dependent variables.

IWB- idea generation contained correlations that were similar in direction and size with the overall IWB construct. The Pearson's correlation coefficient between IWB-idea generation and IEO-risk taking was significant ($r = 0.224$, $p < .011$) whereas this relationship was not significant in the overall IWB construct. The regression analysis revealed that the variables regressed on IWB-idea generation were significant for the control variables, direct effects, and interaction effects. However, the R^2 of each of the hierarchical models were less than the R^2 reported using

the overall measurement of IWB. The reduced R^2 value indicates the antecedents in the model are a better fit to explain the overall construct of IWB.

A similar correlation and regression analysis was repeated for IWB-idea promotion and then IWB-realization. Both the IWB-idea promotion and IWB-realization subdimensions had similar correlation effect sizes and directions as in the overall IWB construct. Similarly, the regression beta weights were of similar sizes and significance levels. The IWB subdimension of idea promotion regression model was significant for Model 1 and 2; however, was not significant with the addition of the moderators and interaction effect of the moderators (Model 3 and 4). Similar results were found in the analysis of IWB-realization. The R^2 value for the direct effect (Model 2 in the respective regression analysis) was $R^2 = 0.349$ ($p < .001$) for IWB-idea promotion and $R^2 = 0.341$, $p < .001$ for IWB-idea realization. Although significant, the R^2 values for both of the direct effect models (Model 2 for the respective analysis) had less explanatory power than the overall model.

4.5.3 Alternative Measurement of Innovative Work Behavior

The final post-hoc analysis sought to evaluate the research model using an alternative measurement of IWB. In order to address potential common method bias problems resulting from self-assessed scale items, I designed the survey instrument to include four non-scale survey questions aimed at measuring IWB. The alternative measure of IWB utilized a four-item scale adapted from Welbourne et al. (1998). The four alternative questions measuring IWB are contained in Appendix A. The alternative items were open ended questions regarding how many hours per week on average the respondent spends developing new ideas, implementing new ideas, finding work improvements, and creating better processes and routines while at work. The

Cronbach's alpha for these four additional IWB items was 0.876, indicating strong internal consistency in this alternative measurement scale.

Next, I swapped out the overall IWB scale with a composite of this alternative measure of innovative work behavior. I then conducted a correlation and regression analysis following similar steps as previously performed. The correlation analysis revealed that there were no significant correlations between the alternative measurement of IWB and the antecedents. Moreover, the regression analysis reported no significance in the regression model measuring the direct effects (Model 2) and the interaction effects (Model 4) on explaining the variance in the alternative IWB measurement.

CHAPTER 5: DISCUSSION AND CONCLUSION

This chapter presents a discussion of the research findings and the conclusion of this study. The chapter is organized in six sections. The first section presents an overview of the research and its aims and research questions. Section two provides a discussion of the research findings and describes how the results fit within the extant literature. The third section discusses the contributions to the literature, theory, and practice made by this research. Section four provides a discussion of the limitations of this research. The next section provides some suggestions for future research; followed by the last section which concludes this study.

5.1 Overview

Innovation within organizations is highly sought after, however it remains mysteriously elusive for many businesses and is often difficult to achieve (Kahn, 2018). Moreover, "the constantly changing economic environment provides a continuous flow of potential opportunities if an individual can recognize a profitable idea amid the chaos and cynicism that also permeates such an environment" (Kuratko, Goldsby, & Hornsby, 2019: p. 5). The literature regarding the perspective of *"who"* is an entrepreneur has shifted in recent years to acknowledge that all employees across an organization can play a role in entrepreneurial endeavors within their work environment and contribute to firm level EO (Covin et al., 2020). Furthermore, research into the mechanisms of employee innovative behavior across all levels of the organization is considered critically important in the context of corporate entrepreneurship (Hughes, Rigtering, Covin, Bouncken, & Kraus, 2018).

The enactment of IWB begins with creativity and idea generation, however, it extends beyond this initial stage to also include idea promotion and the ultimate realization of innovative ideas (Scott & Bruce, 1994). Although research into IWB by lower-level employees is lacking

(Hughes et al., 2018), the role of individuals in carrying out innovations is not new to scholars. The locus of individuals in the innovation process within organizations has been captured by Brandt (1986) in the following excerpt:

> "*Ideas come from people. Innovation is a capability of the many. That capability is utilized when people give commitment to the mission and life of the enterprise and have the power to do something with their capabilities*" (Brandt, 1986: p. 54).

Recognizing that employees fulfill an integral part of the enactment of innovation, this study seeks to extend the knowledge related to how individual level EO contributes to IWB across the entire organization. This study is grounded in strategic consensus theory and person-supervisor fit theory to explore how a shared understanding and fit of IEO between organizational members, specifically the employee and their supervisor, can influence IWB at multiple levels of the organization. The relationship between the employee and supervisor was selected because of the importance of this relationship dyad in predicting work outcomes related to innovation (Janssen, 2005; Javed et al., 2019; Kanter, 1988; Scott & Bruce, 1994). Specific to the context of this dissertation, perceptions of a supervisor's positive views toward innovative ideas are posited to encourage employees to continue with innovative activities; and conversely, negative perceived views toward innovative ideas are suggested to stifle the continuation of innovative pursuits by the employee (Janssen, 2005).

Following a review and synthesis of the extant literature, this dissertation sought to address the following research questions.

1. *How does an employee's level of IEO influence their propensity to demonstrate innovative work behavior within their organization?*

2. *How does the level of employee-supervisor fit of IEO magnify the employee's propensity to demonstrate innovative work behavior within their organization?*

5.2 Research Findings

The empirical results of this study were mixed in regard to the research model presented in Figure 2.1. The final survey data collected yielded a sample size large enough to test the hypothesized relationships using employee's perceptions of supervisor's IEO (n = 265) and matched pairs of employees IEO with their supervisor's self-rated IEO (n = 132). Data utilizing employees' perceptions of IEO fit supported three of the six hypothesized relationships in my research model; with the direct relationship between IEO risk-taking and IWB not supported, as well as two of the moderation effect (IEO innovativeness fit and IEO risk taking fit) not supported by the data. The data analysis utilizing matched pairs of employee-supervisor IEO fit supported three of the six hypothesized relationships in my research model; with support for two direct effects of IEO subdimensions (innovativeness and proactiveness) and IWB, however the direct effect of IEO risk taking, along with the moderation effects of IEO-innovativeness fit and IEO-proactiveness fit, were not supported by the data.

Hypothesis 1 proposed a positive relationship between IEO-innovativeness and IWB. Hypothesis 1 was supported by both the full dataset (n = 265), with a coefficient of 0.345, and the paired dataset (n = 132), with a coefficient of 0.357. While there are currently no known studies directly linking IEO to IWB, the results from this study supports the notion that an individual's amenability toward exploration associated with the IEO – innovativeness dimension would increase an employee's propensity to engage in IWB as an extra-role behavior (Covin et al., 2020; Kraus et al., 2019). At a fundamental level, entrepreneurship is said to be a combination of the occurrence of opportunities and the existence of enterprising individuals

(Shane & Venkataraman, 2000; Venkataraman, 1997). The IEO innovativeness subdimension is characterized by individuals that have a proclivity toward exploratory and novel tasks (Covin et al., 2020; Kraus et al., 2019). The opportunity seeking tendencies of employees with high degrees of IEO innovativeness is therefore directly related to employees' demonstration of IWB.

IEO-proactiveness was suggested to have a positive relationship with IWB in hypothesis 2, and was supported by the data in this study, with a coefficient of 0.313 in the full dataset and a coefficient of 0.260 in the paired dataset. Proactive employees are suggested to not simply follow trends but to actively work ahead of trends, and "go beyond existing boundaries and leverage their knowledge to seek new solutions" (Kraus et al., 2019: p. 1252). The IEO proactiveness dimension refers to a proclivity toward discretionary behavior that anticipates new opportunities in the individual's environment (Covin et al., 2020). The action-oriented proactiveness tendency is therefore asserted to help spur entrepreneurial behaviors, such as IWB. The positive relationship between IEO proactiveness and IWB supported in this study are consistent with prior studies linking the IEO proactiveness dimension as an antecedent of employees' exploratory activities within organizations (Kraus et al., 2019). Taken together, employees with a high proclivity toward proactiveness are more likely to engage in IWB and take actions in support of the anticipated opportunities.

Hypothesis 3 proposed a positive association between IEO risk taking and employees' IWB. This relationship was not supported by the data in this study. One possible reason for the lack of support for hypothesis 3 may be attributable to the measurement of employee IEO risk taking used in this study. As mentioned in Chapter 4, one of the three items used to measure employee IEO risk taking was found to be unreliable in terms of the overall measurement scale, and was removed from the analysis. The measurement reduction of IEO risk taking from the original

Covin et al. (2020) three-item scale to a two-item scale in this study, could have contributed to the confounding results.

The extant literature has suggested that individuals with high levels of risk taking propensity may constrain their degree of risk taking in their workplace due to negative implications they may have experienced based on outcomes from prior risk taking within their work setting (Bolton & Lane, 2012). The lack of results linking the IEO risk taking dimension to IWB may be attributable to the complexity of risk-taking at the individual level. Risk-taking at the organizational level or for an entrepreneurial owner of a firm can typically be focused on financial and/or reputational risks. However, risk-taking for employees may be more complex and include considerations that are more personal in nature, such as the loss of promotional opportunities, and the loss of support as a result of going against potentially deeply embedded organizational norms (Kraus et al., 2019). It is therefore possible that employees with a high risk-taking tolerance may not initiate IWB due to considerations of potential personal costs to the employee. The results from this study suggest the IEO risk taking measurement may have contributed to a lack of support for hypothesis 3. The results also suggest that employees' decisions to take risks are complex and may have additional contextual considerations influencing their enactment of employee innovative behavior.

The next three hypotheses examined the moderating relationship that supervisor-employee fit across each of the three sub-dimensions of IEO would have on influencing an employee's IWB. Strategic consensus theory would suggest that a shared understanding regarding the desirability of IWB would improve the cooperation and coordination to facilitate corporate entrepreneurship at varying levels of the organization. Additionally, P-S fit theory would propose that higher

levels of fit between employees and their supervisors would lead to improved work outcomes and performance by the employee.

In particular, hypothesis 4 asserted that the level of IEO innovativeness fit between the employee and supervisor would have a positive moderation effect on the employees IEO innovativeness and IWB. This hypothesized relationship was not supported by either the dataset using perceived supervisor IEO fit or the matched pairs of IEO responses. The lack of support for hypothesis 4 is an interesting finding of this study. In their seminal paper on IWB, Scott and Bruce (1994: p. 588) assert that individuals' "needs states, such as the need to be innovative, are likely to make certain aspects of an environment – such as support of innovation – more salient." This would suggest employees would seek out situations, including workplace supervisory relationships, that value and align to their innovative tendencies and needs. Moreover, the literature has suggested that while entrepreneurial behaviors might be initiated from social relationships, such as an employee's relationship with their supervisor, some entrepreneurial behavior may be attributable to an individual being more entrepreneurially oriented (Covin et al., 2020). The lack of support for hypothesis 4 could point to employees with high levels of IEO innovativeness being more comfortable initiating IWB even if a similar tendency toward innovativeness is not an attribute of their supervisor.

Although the regression analysis did not support the relationship between IEO innovativeness fit and IWB, the data revealed an unexpected relationship between the predictor variables in the research model. In the dataset with both perceived and paired IEO fit, the relationship between IEO innovativeness fit and the employees' IEO was negatively correlated to each other, with $r = -.252$, $p < .01$ in the perceived IEO data and $r = -.687$, $p < .01$ in the paired matches of IEO fit. Additionally, IEO innovativeness fit had a negative correlation to employees' IEO proactiveness

in the paired matches of IEO fit, with a $r = -.231$, $p < .01$. These results are included in Table 4.5 and Table 4.6. This may indicate that high levels of consensus and fit are not as desirable between employee-supervisor dyads. In terms of P-S fit, it could be that complementary fit, rather than supplementary fit, is more appropriate in terms of individual innovativeness tendencies. The P-E fit literature has conceptualized supplementary fit as the closeness or similarity of characteristics between a person and their environment (Kristof-Brown et al., 2005; Muchinsky & Monahan, 1987). Complementary fit, on the other hand, refers to offsetting or missing characteristics in filling a needs-supply gap (Kristof-Brown et al., 2005; Kristof, 1996; Muchinsky & Monahan, 1987). The negative correlations between IEO innovativeness and employee-supervisor IEO innovativeness fit indicates that perhaps differences between individual proclivity toward innovativeness may actually facilitate, rather than hinder, the emergence of IWB among employees.

The relationship proposed in hypothesis 5 suggested that higher levels of supervisor IEO proactiveness fit would magnify the positive relationship between an employee's IEO proactiveness tendency and IWB. Hypothesis 5 was found to have mixed results in this study. In the data containing perceptions of supervisor's IEO, the interaction of the employee IEO proactiveness with IEO proactiveness fit was partially supported. In instances when there are low levels of employee proactiveness, the interaction of supervisor proactiveness fit contributed to changes in the slope of IWB. However, the data in this instance indicate that the moderating effect of proactiveness fit is not significant when employee IEO proactiveness is high. The interaction effect of hypothesis 5 at high and low levels of IEO proactiveness is shown in Figure 4.1. Additionally, the paired responses of employee-supervisor IEO fit did not support hypothesis 5. Prior research has suggested that the proactiveness sub-dimension of individual

level EO may have the strongest effect on employee behavior, as compared to innovativeness and risk taking by employees (Covin et al., 2020). It is argued that tendencies toward proactive behaviors may have less downside potential to the employee, as innovativeness and risk taking can more frequently include a larger loss in terms of organizational resources (Covin et al., 2020). It could be that employee IWB is demonstrated because of the proactive direction given by the supervisor, but the moderation effect of proactiveness fit magnifying the employee IEO proactiveness-IWB has only a weak interaction effect as indicated by the regression results from this study.

Hypothesis 6 suggested a positive relationship between the moderation effect of supervisor's IEO risk-taking fit with employees' IEO risk taking to predict IWB. The relationship in hypothesis 6 had mixed results in this study. There was a lack of support for hypothesis 6 in the dataset containing perceptions of supervisor's IEO. However, in the dataset containing matched pairs of employee-supervisor's assessments of IEO fit, the interaction of employee IEO risk-taking with IEO risk-taking fit was partially supported. In instances when there are low levels of employee risk-taking orientation, the interaction of supervisor risk-taking fit contributed to changes in the slope of IWB. The data indicates that the moderating effect of risk-taking fit is not significant when employee IEO risk-taking is high. The interaction effect at high and low levels of IEO risk-taking is shown in Figure 4.2. IWB is a discretionary behavior and considered complex (De Jong & Den Hartog, 2010). Employees' level of risk-taking fit is considered an important element in developing employee sensemaking. An employee's relationship with their supervisor also helps to establish the employee's risk and reward perceptions associated with carrying out innovative initiatives in the workplace. Related to consensus across the employee-supervisor dyad, "similar individuals are attracted to the same sort of settings, are socialized in

similar ways, are exposed to similar features within contexts, and share their interpretations with others in the setting" (Kozlowski & Doherty, 1989: pp. 546-547). More specifically, the strength of the leader-subordinate relationship has been found to be a predictor of employee innovative behavior (Javed et al., 2019; Scott & Bruce, 1994; Yuan & Woodman, 2010). In particular, the literature acknowledges that IWB is a risky endeavor (Javed et al., 2019). Taken together, the mixed support for hypothesis 6 suggest that there are likely additional contextual factors beyond the supervisor's IEO risk taking fit that employees consider before engaging in innovative behaviors within the workplace.

5.3 Contributions

This dissertation contributes to the extant literature in several areas. First, this study integrated P-S fit theory within entrepreneurship research domain. It is suggested that employees with higher levels of fit are suggested to be more likely to feel a sense of fairness and perceived support and are more likely to reciprocate favorably by going beyond specifically defined job requirements and engage in extra-role behaviors (Afsar & Badir, 2017; Kristof-Brown et al., 2005; Verquer, Beehr, & Wagner, 2003). Scholars have specifically linked both IEO and IWB to extra-role behavior exhibited within the workplace (Covin et al., 2020; Janssen, 2000). Although P-S fit theory provides an important theoretical framework to investigate IWB, entrepreneurial research utilizing P-S fit theory has been lacking in the literature. In particular, scholars have called for an expansion of fit theory to help explain individual level entrepreneurial phenomena (Markman & Baron, 2003). Likewise, additional combinations of fit measurements have been called for by Lauver and Kristof-Brown (2001). This dissertation contributes to the existing literature by examining P-S fit within an entrepreneurial context through the

investigation of the three dimensions of supervisor-employee IEO fit with IWB across all organizational levels.

The second theoretical contribution was the use of strategic consensus theory to investigate how a shared understanding of individual level EO between employees and their supervisors may lead to an increased demonstration of employee IWB. A key premise of strategic consensus theory is a shared understanding of priorities leads to improved cooperation and coordination, which then contributes to improved organizational performance (Kellermanns et al., 2011; Kellermanns et al., 2005; Walter et al., 2013). The strategic consensus literature has predominately been used to explain consensus among the middle and upper echelons of organizations (Amason & Mooney, 1999; Ateş et al., 2020; Kellermanns et al., 2005). However, scholars have called for a better understanding of how strategic consensus contributes to improved performance by examining consensus across all levels of the organization (Kellermanns et al., 2005; Porck et al., 2020). Specific to the context of this dissertation, this research fills this gap by examining strategic consensus across all levels of the organization and applying strategic consensus within a CE context.

A third contribution of this research was the examination of EO at the individual level unit of analysis. The construct of EO at the firm level is heavily researched and one of the most agreed upon constructs in the entrepreneurship literature (Covin & Lumpkin, 2011; Rauch et al., 2009; Wales, 2016). As a result, scholars have called for an improved understanding of EO at additional units of analysis, including how EO is manifested at the individual level (Kollmann, Stöckmann, Meves, & Kensbock, 2017; Wales et al., 2020). Moreover, as EO research has matured, scholars have debated core conceptualizations of firm level EO and how specifically it relates to related constructs (Covin & Wales, 2019). Constructs related to EO at the individual

level have been sparse. Entrepreneurial research at the individual level has predominantly focused on the upper echelons of the organization as key decision makers influencing firm level EO (Covin et al., 2020; Kollmann et al., 2017). Research therefore examining individual level EO across all levels of the organization fills a critical gap in the literature. Moreover, the ability to understand how EO manifests at other units of analysis provides a more holistic view of firm level EO and its influence on performance (Covin et al., 2020). Individual level EO is currently an under researched and emerging construct in the entrepreneurship domain and is a contribution of this research.

5.4 Limitations

While this research makes several important contributions to the literature, it is not without limitations. The limitations include the sample derived from a single company and industry, cross-sectional research design, potential selection bias, and measurement reliability of the IEO construct. The first limitation of this study is that the survey instrument was distributed within a single company and single industry, which could limit the generalizability of the results. Participants for this research study were recruited from a single company so that paired responses between employees and supervisors could be matched and analyzed. While the pairing of dyadic responses helped to overcome potential common method bias that could be susceptible in self-rated survey instruments, the design of the research required organizational sponsorship so that completed survey responses could be linked between supervisors and employees. Additionally, the results are subject to potential respondent self-selection bias, whereby potential participants may have decided not to participate in the study due to their lack of interest in the research topic that was explained in the recruitment material. Selection bias is considered an outcome of research model misspecification and an important consideration in

conducting research (Pedhazur & Schmelkin, 1991). The potential for respondent selection bias is therefore a limitation of this study, in addition to the survey recruitment derived from a single company and single industry.

A second limitation of this research was that the survey instrument was administered as a cross-sectional and single-shot design. While cross-sectional research design offers advantages, such as speed and convenience of data collection, this type of research design also has several limitations, such as difficulty in making causal inferences and data is gathered in only one point in time and results could be different if data was collected at other time periods (Levin, 2006). The cross-sectional research design utilized in this dissertation provided relationship inferences of IWB, however, the model specification does not provide a causal basis for predicting IWB. The cross-sectional research design in this dissertation can be categorized as explanatory research, which is designed to test hypotheses in order to help explain a particular phenomenon of interest (Pedhazur & Schmelkin, 1991). Therefore, the lack of prediction capabilities of the research model in this dissertation is a limitation of this study. Moreover, it is possible that the relationship between IEO and IWB could vary over time, in addition to employee-supervisor relationships. A longitudinal study to evaluate the research model contained in this dissertation could strengthen the research design.

A third limitation of this study is in the measurement of the IEO construct. As stated earlier, IEO is an underexplored unit of analysis in the entrepreneurship literature. As such, the measurement of the IEO construct is relatively new in measuring individuals' tendencies to engage in innovative, proactive, and risk-taking behaviors. The Cronbach's alpha for each of the IEO subdimensions (see Table 4.3) were each slightly below the preferred threshold of 0.70, suggesting that scale reliability for these dimensions could be improved. Although additional

evaluations of the IEO scale have been called for by scholars, the relative newness of the IEO measurement scale is a limitation in this study. This is discussed further in suggestions for future research.

5.5 Future Research

Future research can be designed to address the limitations discussed above and build a more cumulative body of knowledge in this research domain. Future research into the relationship among the constructs presented in this dissertation could be investigated through a mixed method research design which utilizes qualitative research techniques, in addition to quantitative analysis. A mixed method design might allow for improved theory building into the nature of individual level EO and employee-supervisor fit on fostering employee IWB. Additionally, a longitudinal study and investigation into other industries could further build our knowledge related to this research model. For example, conducting longitudinal research with data collected prior to and subsequent to employee and supervisor training on corporate entrepreneurship strategies could offer insights with both practical and theoretical benefits to this research stream.

Another area of future research is in the expansion of EO research at the individual and team level. As mentioned previously, IEO is a relatively new construct and considered an underexplored unit of analysis. As mentioned in chapter two, the conceptualization of IEO is not currently agreed to in the literature. Although most scholars agree with the three sub-dimensions of IEO used in this study (i.e., innovativeness, proactiveness, and risk taking), several scholars have argued that additional dimensions specifically apply to individual level EO. For example, Kollmann et al. (2007) asserts that IEO contains two additional sub-dimensions: autonomy and competitive aggressiveness. More recently, Santos et al. (2020) argued that the sub-dimensions of passion and perseverance were two additional conceptualizations of IEO, of which Howard

and Floyd (2021) called for more research into the role of passion in relation to IEO. Boundary conditions could be further defined related to IEO and similar constructs. For example, Pidduck, Clark, and Lumpkin (2021: p. 3) recently conceptualized individual entrepreneurial mindset as "the dispositional and opportunity-based schema that stimulate goal-oriented entrepreneurial behavior." As knowledge builds in regard to the conceptualization of the IEO construct, future researchers could evaluate and gain consensus on IEO as either a multidimensional construct or if IEO should be conceptualized as a unidimensional construct. In addition to future research specific to the measurement of IEO, further research could be conducted to help theoretically link firm level EO to the individual and group level EO.

The application of strategic consensus theory to an entrepreneurial context was a contribution of this research. A similar call for future research was suggested by Covin et al. (2020), in which the authors propose additional research is needed to better understand the development of employees' commitment and understanding of firm level objectives. Although the moderating effect of supervisor IEO fit yielded mixed results in this study, future research might consider how to evaluate the effects of a shared understanding in regard to innovative priorities within multiple levels of the organization, and its effects on performance. Outcomes of innovation are much sought after by both scholars and practitioners and can be a strategic focus for many organizations. Given the higher level of uncertainty in innovation related endeavors, knowledge built regarding strategic consensus within CE environments would be a particularly valuable objective for future research.

Multiple linear regression analysis was the primary analytical technique used in this study to test the hypothesized relationships in my research model. In order to evaluate the dataset containing matched pairs of IEO fit between employees and their supervisors, future research

could analyze the paired dataset using hierarchical linear modeling (HLM) to test the nesting of paired responses. Hierarchical linear modeling is an expanded form of regression analysis and can be used in organizational research to deal with nested data and potentially interdependent relationships between individuals and groups (Hofmann, 1997; Huta, 2014). More specifically, HLM allows for the calculation of both individual and group residual estimations, which is not able to be estimated in ordinary least square regression models (Hofmann, 1997). Therefore, the utilization of hierarchical linear modeling on the nested matched pairs of IEO fit between employee-supervisor dyads could more robustly analyze the nested relationships and address the possible confounding results in this study with regard to the constructs used in my research model.

Specific to the outcome of IWB, future research might seek to capture the different types of innovation outcomes by employees. This dissertation applied a general definition of IWB as "the intentional creation, introduction and application of new ideas within a work role, group or organization, in order to benefit role performance, the group, or the organization" (Janssen, 2000: p. 288). However, the types of innovation can vary significantly (e.g., radical innovation, incremental innovation) within organizations. Future research could investigate the predictor variables used in my research model on different types of innovation as the outcome.

The role and influence of supervisors in fostering employee IWB is an important area for future research. The data analyzed in this dissertation provided several significant negative correlations between supervisor IEO fit measures and other independent variables in this model. Additional research could delve deeper to investigate these unexpected findings to determine if similar results are found in other samples, as well as to examine the theoretical factors that may be contributing to this phenomenon. Future research could additionally explore other types of P-

S and P-O fit and their impact on IWB. For example, evaluations of complementary fit and supplementary fit in entrepreneurial contexts could be beneficial for both practitioners and scholars. The construct of trust has been linked as an important element in the employee-supervisor relationship and trust is suggested to have positive effects in regard to innovation outcomes (Covin et al., 2020; Ji & Yoon, 2021; Ng & Lucianetti, 2016). Future research linking trust and psychological safety with IWB and the employee-supervisor relationship could improve our understanding and effectiveness in fostering employee entrepreneurial behaviors.

A final area for future research might examine the differences between IEO perceptions by others compared to self-rated IEO. Table 4.4 provides the mean scores of each IEO sub-dimension, comparing the respondents (both employee and supervisor) self-rating of their IEO, along with employees' perceptions of their supervisor's IEO. The raw means of supervisors' self-rated assessments of their IEO were all rated higher in the matched pairs of responses (n = 132), with IEO innovativeness = 5.8893, IEO proactiveness = 5.9154, and IEO risk taking = 6.2424. Conversely, in the full dataset (n = 265), the raw means of perceptions of supervisor IEO were as follows: IEO innovativeness = 5.3058, IEO proactiveness = 5.4910, and IEO risk taking = 4.9726. Interestingly, the perceptions of IEO were consistently lower than the supervisors' self-assessments of IEO. These results, expressed as percentages, represent perceptions of supervisor's IEO being reported as 9.9% lower for IEO innovativeness fit, 7.2% lower for IEO proactiveness fit, and 20.3% lower for IEO risk taking fit, as compared to the supervisors' self-rated measurement of IEO. These differences suggest that employees' may have misperceptions of their supervisors' IEO or may point to the supervisors having more favorable self-ratings of IEO than are observed by others. The large differences in the IEO risk taking dimension of supervisors' self-rated scores versus subordinates' perceptions is particularly interesting and

worth further investigation by researchers. Within the context of CE, the potential misperceptions of risk-taking between the supervisor-employee dyad could lead to particularly detrimental effects on the successful implementation of IWB.

5.6 Conclusion

In conclusion, this dissertation provides an examination into the relationships between individual level EO and IWB, taking into account the moderating effects of supervisor IEO fit. The aim of this research was to address how IEO tendencies contribute to the demonstration of IWB by employees, and how the level of IEO fit magnifies or diminishes IWB outcomes. The IEO subdimensions of innovativeness and proactiveness were found to positively influence employee IWB. Additionally, the fit between employees and their supervisor on the IEO-proactiveness fit and IEO-risk taking fit dimensions with IWB were found to have mixed support by the data. Research to better understand individual level EO has been called for by scholars and is an important determinant of employee IWB. In addition, the focus of this research on employees across all levels of the organization acknowledges the role that all employees can play in promoting and realizing innovation within established organizations.

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APPENDIX

Appendix A – Survey Instrument

UNIVERSITY OF NORTH CAROLINA CHARLOTTE | BELK COLLEGE OF BUSINESS

EMPLOYEE ENTREPRENEURSHIP SURVEY

This questionnaire is part of a doctoral research study by the University of North Carolina at Charlotte to research employee entrepreneurship and innovation within firms. The questions below have no right or wrong answers – we are interested in your opinions. Your response will assist in the further development of corporate entrepreneurship research and understanding. All responses are confidential. The data collected will be secured and used purely for academic purposes.

Section 1: This section includes statements about your views on entrepreneurship. Please indicate your level of agreement with each of the statements below (1 = Strongly disagree; 7= Strongly agree).

	Strongly Disagree						Strongly Agree
I have very little problems with renewal and change.	1	2	3	4	5	6	7
I quickly master new routines, procedures and new ways of working.	1	2	3	4	5	6	7
When it comes to problem solving, I always search for creative solutions instead of familiar ones.	1	2	3	4	5	6	7
I always try to find if internal and/or external guests have wishes or desires that they are not consciously aware of.	1	2	3	4	5	6	7
I always actively help internal and/or external guests, and not only when I am asked or approached to do so.	1	2	3	4	5	6	7
I am constantly looking for new ways to improve my performance on the job.	1	2	3	4	5	6	7
I value new plans and ideas, even if I feel that they could fail in practice.	1	2	3	4	5	6	7
I sometimes provide assistance to internal and/or external guests without first discussing this with my supervisor.	1	2	3	4	5	6	7
In order to be more productive, I sometimes act without the permission of my supervisor.	1	2	3	4	5	6	7

Section 2a: This section includes statements about how you approach work within your organization. Please indicate how often you perform the following work activities. (1 = Strongly disagree; 7= Strongly agree).

	Never						Always
I often create new ideas for difficult issues at work.	1	2	3	4	5	6	7
I often search out new working methods, techniques, or instruments at work.	1	2	3	4	5	6	7
I often generate original solutions for problems at work.	1	2	3	4	5	6	7
I often mobilize support for innovative ideas at work.	1	2	3	4	5	6	7
I often take action to acquire approval for innovative ideas.	1	2	3	4	5	6	7

I often work to make important organizational members enthusiastic about innovative ideas.	1	2	3	4	5	6	7
I often transform innovative ideas into useful applications at work.	1	2	3	4	5	6	7
I often introduce innovative ideas into the work environment in a systematic way.	1	2	3	4	5	6	7
I often evaluate the utility of innovative ideas.	1	2	3	4	5	6	7

Section 2b: This section includes instances of innovative behaviors while at work.

On average, how many hours per week do you spend coming up new ideas at work _____

On average, how many hours per week do you work on implementing new ideas at work _____

On average, how many hours per week do you spend to find improved ways to do things at work

_____

On average, how many hours per week do you spend to create better processes and routines at work

_____

Section 3: In this section we are interested in your perceived alignment with your supervisor regarding your approach towards work. Please indicate your level of agreement with each of the statements below (1 = Strongly disagree; 7= Strongly agree).

	Strongly Disagree						Strongly Agree
My personal values match my supervisor's values and ideals.	1	2	3	4	5	6	7
The things that I value in life are similar to the things my supervisor values.	1	2	3	4	5	6	7
My supervisor's values provide a good fit with the things I value.	1	2	3	4	5	6	7
While at work, my approach to innovation matches my supervisor's approach to innovation.	1	2	3	4	5	6	7
While at work, my level of risk-taking matches my supervisor's level of risk-taking.	1	2	3	4	5	6	7
While at work, my approach to acting proactively matches my supervisor's approach to acting proactively.	1	2	3	4	5	6	7
My supervisor has very little problems with renewal and change.	1	2	3	4	5	6	7
My supervisor quickly masters new routines, procedures and new ways of working.	1	2	3	4	5	6	7
When it comes to problem solving, my supervisor always searches for creative solutions instead of familiar ones.	1	2	3	4	5	6	7
My supervisor always tries to find if internal and/or external guests have wishes or desires that they are not consciously aware of.	1	2	3	4	5	6	7
My supervisor always actively helps internal and/or external guests, and not only when he/she is asked or approached to do so.	1	2	3	4	5	6	7
My supervisor is constantly looking for new ways to improve performance on the job.	1	2	3	4	5	6	7
My supervisor values new plans and ideas, even if he/she feels that they could fail in practice.	1	2	3	4	5	6	7
My supervisor sometimes provides assistance to internal and/or external guests without first discussing this with their upline leadership.	1	2	3	4	5	6	7
In order to be more productive, my supervisor sometimes acts without the permission of their upline leadership.	1	2	3	4	5	6	7

Section 4: In this next section we are interested in demographic information pertaining to you.

Please specify your age, in years _____
(Enter N/A if you prefer not to say)

Please specify your gender:
o Male
o Female
o Other
o Prefer not to say

Please specify your race:
o Asian
o Black or African American
o Hispanic or Latino
o Native American
o Native Hawaiian or Pacific Islander
o White
o Other
o Prefer not to say

Tenure with your organization, in years _____

Average hours worked at this organization per week _____

Please specify your position level within your organization:
o Employee (no supervisory responsibility)
o Frontline manager/Supervisor
o Manager/Director
o VP/Executive

Please specify your highest level of education:
o High school or below
o Junior college
o Undergraduate degree
o Graduate degree or above

Thank you for your time and responses. We very much appreciate your participation into this research!