FLORIDA INTERNATIONAL UNIVERSITY

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BEYOND THE JOB DESCRIPTION: THE SYNERGISTIC IMPACT OF INTRAPRENEURIAL AND CITIZENSHIP BEHAVIORS ON EMPLOYEE ENGAGEMENT IN CONTINUOUS INNOVATION STRATEGIES

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To: Dean William G. Hardin
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This dissertation, written by Brandon Deshay Brown and entitled Beyond the Job Description: The Synergistic Impact of Intrapreneurial and Citizenship Behaviors on Employee Engagement in Continuous Innovation Strategies, having been approved in respect to style and intellectual content, is referred to you for judgment.

We have read this dissertation and recommend that it be approved.

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DEDICATION

To my family.

I hope I've made you proud.

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I'd like to first acknowledge and thank my mother, Teresa R. Pharms, whose own life experiences created the path for me to get to this point. Thank you for trusting and loving me unconditionally. For you, a thousand times over!

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ABSTRACT OF THE DISSERTATION

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This study investigates the interplay between organizational factors—sense of community, organizational culture, and perceived organizational support—and employee behaviors, such as organizational citizenship behavior (OCB) and intrapreneurial behavior (IPB), in driving employee engagement in companies' continuous innovation ideologies. Grounded in social exchange theory (SET) and self-determination theory (SDT), the research examines how these organizational factors influence engagement directly and indirectly through OCB and IPB as mediators. Data was collected via a cross-sectional survey built within Qualtrics and distributed via the Cloud Research Connect platform to 400 participants from medium–to–large corporations in the United States, of which 350 were retained, representing diverse industries and demographics. The survey instrument consisted of the Brief Sense of Community Scale (Peterson et al., 2008), Ghosh and Srivastava's (2014) Organizational Culture Scale, the Perceived Organizational Support Scale (Celep & Yilmazturk, 2012), the Citizenship Behavior scale (Smith et al., 1983), an Intrapreneurial Behavior Scale by Farrukh et al. (2022), and

the Intellectual, Social, Affective Engagement Scale (Phuangthuean et al., 2018). Statistical analyses, including hierarchical regression and mediation testing using the Baron and Kenny (1986) method via SPSS 29 and Sobel tests, revealed significant findings. All hypotheses were supported, demonstrating that community, culture, and organizational support positively affect employee engagement both directly and indirectly through OCB and IPB. The results underscore the importance of fostering a sense of community, cultivating a supportive and innovation-oriented organizational culture, and providing consistent organizational support to drive extra-role and intrapreneurial behaviors. These behaviors collectively enhance employee engagement and enable organizations to sustain innovation in competitive and dynamic environments. This study contributes to the literature by advancing the understanding of the synergistic roles of OCB and IPB in the context of continuous innovation. It also bridges SET and SDT, highlighting how relational and motivational dynamics shape workplace behaviors. The results imply that organizational leaders foster environments that prioritize community-building and (organizational) cultural alignment to achieve heightened employee engagement for continuous innovation and like initiatives.

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LIST OF ABBREVIATIONS

CI	continuous innovation
CUL	organizational culture
EE	employee engagement
EECI	employee engagement in continuous innovation
IPB	intrapreneurial behavior
LMX	leader-member exchange
OCB	organizational citizenship behavior
OCBI	organizational citizenship behavior (individua)
OCBO	organizational citizenship behavior (organizational)
POS	perceived organizational support
PSCW	psychological sense of community
SDT	self-determination theory
SET	social exchange theory
SOC	sense of community

Chapter 1: Introduction

In the evolving business landscape of America post COVID-19, organizations across every industry are tasked with the challenge of remaining culturally and socially relevant, not only for customers' sake but employees' as well, while simultaneously remaining competitive in increasingly complex markets. Each equally important. One way companies strive to navigate this challenge is through a concept termed continuous innovation[1] (CI). CI is one of the most discussed topics in the innovation management sector (Lianto et al., 2018). And for good reason. The idea of innovation is generally perceived as a positive phenomenon—it is the introduction of something new, or a new idea, method or device (Merriam-Webster, 2017) and these new somethings are intended to be valuable to shareholders and consumers alike, making innovation a sought-after outcome of many businesses. However, a single innovative output is less likely to suffice for the sustained competitive advantage organizations seek and CI initiatives fail mostly due to a lack of employee engagement (Jurburg et al., 2019).

The literature review by Lianto et al. (2018) comprehensively defined CI as an innovation process and activity performed continuously, regularly, repeatedly, over an extended period of time, which results in beneficial impact for a company. Therefore, the continuous portion of CI suggests an ability to innovate sustainably. But how do organizations get there? This study posits that the golden path traces back to people (i.e., employees). Fundamentally, the premise is that successful execution of a company's strategy is contingent upon the employees' buy-in of it, manifesting as personal

[1] See also: continuous improvement (referenced interchangeably)

engagement in their work. This is supported by two complimentary theories. The first, SET, developed by George C. Homans (1958), is "among the most influential conceptual paradigms for understanding workplace behavior" (Cropanzano & Mitchell, 2005, p. 874) and focuses on the relationships and interactions between individuals within an organization. The theory suggests that employees engage in favorable behaviors when they perceive a balance of benefits and costs in their exchanges with the organization. The second is self-determination theory (SDT), which focuses on the intrinsic motivation behind employees' behavior, and suggests that employee performance and well-being are affected by the type of motivation they have, emphasizing the role of autonomy competence, and relatedness (Deci & Ryan, 1985; Deci et al., 2017; Gagne & Deci, 2005).

Employee engagement is critical for both employee and organizational performance and could even result in innovative behaviors and enhance an organization's ability to gain a competitive advantage (Albrecht et al., 2015; Garg & Dhar, 2017; Phuangthuean et al., 2018). Thus, this study focuses on employee engagement in the CI process and outcome of their organizations, and it does so by way of two related, but distinct, employee behaviors in the workplace that ultimately, and together, drive this engagement and allow innovation to happen continuously for the organizations they serve. These two behaviors are conceptualized as organizational citizenship behavior (OCB) and intrapreneurial behavior (IPB).

OCB is not a new or understudied term, spurring countless studies since Organ first coined the term, defining it as "discretionary behavior that promotes the efficient and effective functioning of the organization" (1988, p. 133; 2005, p. 3). This definition

stresses its importance in any study attempting to understand organizational culture. However, this concept is especially critical in this study because of the psychological and social component of its independent constructs. Katz (1964) identified three basic types of behavior essential for a functioning organization: (a) people must be induced to enter and remain within the system, (b) they must carry out specific role requirements in a dependable fashion; and, most relevant to our study, (c) there must be innovative and spontaneous activity that goes beyond role prescriptions. The latter type of behavior mentioned by Katz is interesting here because it speaks to an organizations' needs to remain relevant and competitive by means of innovation. Furthermore, citizenship behaviors "provide the flexibility needed to work through many unforeseen contingencies" (Smith et al., 1983, p. 654), which is necessary when it comes to entrepreneurship.

Intrapreneurship refers to taking advantage of a new opportunity and creating economic value within an existing company (Pinchot, 1985), or more simply referred to by some researchers as, "entrepreneurship within the firm" (Hernandez-Perlines et al., 2022, p. 1). The term has been approached from different perspectives, such as (but not limited to) corporate entrepreneurship, entrepreneurial orientation, and individual intrapreneurship. These concepts are related but not synonymous and have different antecedents and consequences. For this study, the idea is conceptualized as IPB and focuses on the individual (employee) level of analysis. For a more detailed review of related terms, Hernandez-Perlines et al. (2022) does it comprehensively. Here, we examine IPB and OCB as outcomes of related individual and organizational characteristics and mediators between such characteristics and the desired outcome of

increased employee engagement. The logic follows that employees who feel more supported, have a community within the workplace, and an organization or work culture that empowers them to exhibit intrapreneurial and citizenship behaviors are more engaged in the innovation process for the companies they work for.

In addition to the contribution toward OCB and entrepreneurial research, perhaps the most novel aspect of this study is its consideration of the impact a sense of community within the workplace has on employee behaviors, as well as the proposed synergistic effect of OCB and intrapreneurial behavior being employee engagement in continuous innovation (EECI). The concept of OCB, and even the importance of community in the workplace, are well-studied, but there is still much to learn about IPB and how they all come together to ultimately drive EECI. Similarly, and separately, employee engagement is well-researched and has even been linked to innovation and continuous improvement in various studies (Jurburg et al., 2019; Morton et al., 2018; Støle & Ekeren, 2015). However, EECI is unique here as a synergistic effect between OCB and IPB. Thus, we know very little about employee engagement in CI initiatives specifically and so this study sought to reveal what characteristics need to be present to keep employees interested and committed to the organization's goals of constantly delivering new products and services.

Understanding these cultural and social dynamics is crucial for firms in crafting effective corporate policies and strategies around workplace culture, employee engagement, and IPB for sure. However, a sense of community in the workplace must extend beyond the geo-ethnic specificities of culture. It deals with aspects such as mentorship, shared learning, and the development of professional networks. These

elements are crucial for personal and career development, offering pathways for knowledge exchange and professional advancement. In such an environment, employees are more likely to feel valued and invested in their work, leading to higher levels of job satisfaction and organizational loyalty (Rhoades et al., 2001). The impact of a strong workplace community is far-reaching, influencing not only employee morale and productivity but also shaping the overall organizational culture. By examining various dimensions of community, this study aimed to provide comprehensive insights into how community dynamics influence innovative and altruistic behaviors, which themselves were proposed to increase EECI.

Although much of the cited research provides justification for the subsequent proposed relationships between the constructs, it is also worth noting that this study was conducted within the context of employees in medium-to-large corporations to support the core idea of intrapreneurship and to help distinguish any findings from the context of small businesses, as the identified constructs and relationships may vary significantly for them. Thus, the following research question:

What are the factors that drive engagement in continuous innovation among employees in medium-to-large corporations in the United States?

Chapter 2: Literature Review

Sense of Community

Any examination into sense of community (i.e. psychological sense of community) likely builds upon McMillan and Chavis' (1986) theory of community, as it is arguably the most salient in the literature. Itself building upon prior, related research around group cohesiveness, McMillan and Chavis' study delved into four elements they proposed contributed to a sense of community: membership, influence, integration and fulfillment of needs, and shared emotional connection. The authors refer to membership as the feeling of belonging or of sharing a sense of personal relatedness. Influence in their study refers to a sense of mattering, of making a difference to a group and of the group mattering to its members. Reinforcement is the integration and fulfillment of needs—the feeling that members' needs will be met by the resources received through their membership in the group. Lastly, shared emotional connection is the commitment and belief that members have shared and will share history, common places, time together, and similar experiences. These dimensions in mind, McMillan and Chavis consider sense of community to be a feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith that members' needs will be met through their commitment to be together (McMillan, 1976; McMillan & Chavis, 1986). It is noted that McMillan (1996) later rearranged and renamed these four elements to spirit, trust, trade, and art. However, these are less relevant to the study at hand as they shift more from the job context as the previous iterations.

Sense of community (SOC) is instrumental for this study as community exists in a broad range of contexts, such as relating to a sense of belonging and feelings of support

within a workplace. Lampinen et al. (2015) mentioned prior studies' indications that increasing individuals' SOC at work can be associated with greater job satisfaction and psychological well-being (Burroughs & Eby, 1998; Lacy & Sheehan, 1997; McGinty et al., 2008; Milliman et al., 2003; Royal & Rossi, 1996; Winter-Collins & McDaniel, 2000), both salient in the literature on OCB.

Lampinen et al. (2015) further suggested that factors such as open communication, appreciation from superiors, and close relationships at work can enhance the SOC among social and health-care managers. However, this may have implications for other industries as well. Their research further indicates that SOC at work can reduce stress, burnout, and loneliness, and increase psychological and emotional well-being, commitment, and personal performance among employees. Conclusively, it implied that SOC at work can foster a culture of cooperation, interaction, and learning, which can improve the quality of service and innovation.

In their 1998 study, Burroughs and Eby examine the shift away from traditional communities to experiencing community in the workplace instead, since it is where individuals spend most of their time. They stated that "benefits and services commonly received from the community such as childcare, exercise facilities, and educational opportunities, are being replaced by organizations" via the form of workplace wellness programs and corporate universities. This piece of literature was relevant due to the organizational context of the study. Burroughs and Eby initially identified six dimensions of psychological SOC at work (PSCW): sense of belonging, coworker support, team orientation, emotional safety, truthtelling, and spiritual bond, the former four being adaptations of McMillan and Chavis' (1986) dimensions of community. Burroughs and

Eby's sense of belonging dimension addresses the trust and security component of McMillan and Chavis' membership. Likewise, coworker support is related to influence, team orientation addresses integration and fulfillment of needs, and shared emotional connection is similar to emotional safety. The latter two dimensions, truthtelling and spiritual bond, were unique to Burroughs and Eby's study, with truthtelling still being based on McMillan's (1996) prior study.

The PSCW framework presented in Burroughs and Eby's (1998) study positioned PSCW as a direct antecedent of job satisfaction and OCB. The results of the study supported all but one of the a priori dimensions of PSCW—truthtelling. Instead, an additional four factors emerged: tolerance for individual differences, neighborliness, sense of collectivism, and reflection. However, for our study at hand, these are seen to be less relevant as they approach the organization as a whole and deal with very personal interactions, while this study focused on the actualizations of community at work (e.g., employee resource groups, etc.). Due to the four initial dimensions capturing the same essence as McMillan and Chavis' (1986) four dimensions, the former is how the construct was operationalized for this study.

Furthermore, psychological SOC has been associated with both the well-being and empowerment of individuals, groups, and communities (Elfassi et al., 2016; Lardier et al., 2018), making it an apt contributor to the study at hand. This association should be extended to different types of communities within the workplace, such as employee resource groups. For example, Microsoft provides employee resource groups such as Women at Microsoft, Blacks at Microsoft, the Global LGBTQI+ Employees and Allies at Microsoft, and the Hispanic/Latinx Organization of Leaders in Action, to name a few. In

fact, Microsoft specifically cites community as the conduit to achieving its mission to "empower everybody to achieve more" (MSNE Staff, 2019).

Organizational Culture

Edgar H. Schein (1983) presented a comprehensive framework for understanding organizational culture as a dynamic and complex system formed through shared experiences and learning within an organization. Schein defined organizational culture as "a pattern of basic assumptions which a given group has invented, discovered, or developed in learning to cope with its problems of external adaptation and internal integration, which have worked well enough to be considered valid, and therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems." Schein emphasized that organizational culture encompasses all aspects of human functioning, affecting members' perceptions, thoughts, and feelings. He outlined the processes through which culture is formed, including learning from successes and failures in addressing external and internal challenges, and the role of leadership in guiding the evolution of cultural norms and values. Schein's model of organizational culture outlined three major levels – artifacts, espoused values, and basic underlying assumptions.

The top, most visible layer was artifacts, which are the tangible or observable aspects which can be seen, heard, and felt (e.g., dress code, ceremonies, physical environment). The middle layer represented the stated values and norms that members of an organization claim to follow. Espoused values can include company policies, public statements of values, and the organization's mission statement. They represent the explicit strategies, goals, and philosophies of the organization. The bottom level consisted of the

unconscious, taken-for-granted beliefs, perceptions, thoughts, and feelings—the ultimate source of values and actions. These assumptions are often so deeply embedded that they are difficult to recognize from within the organization. They form the foundation of organizational culture and can include assumptions about human nature, relationships, work, and the environment.

Though Schein might be one of the more prevalent figures in organizational culture research, numerous other researchers have also weighed in on the concept. Hogan and Coote (2014), investigated the relationships between different layers of organizational culture and their impact on innovation and firm performance, employing Schein's multi-layered model of organizational culture as a theoretical foundation. Their study proposed that organizational culture, encompassing values, norms, and artifacts, significantly influences innovative behaviors within organizations, which in turn affect firm performance.

Hogan and Coote (2014) differentiated between various layers of culture, namely values, norms, and artifacts, and examined how these layers collectively foster an environment conducive to innovation. The authors hypothesized that values supporting innovation influence norms for innovation, which then shape artifacts of innovation, leading to innovative behaviors and ultimately enhancing firm performance. The research employed survey data from principals of law firms to empirically test this model. The findings of the study revealed that (a) values supporting innovation are fundamental, influencing norms within an organization that foster innovation; (b) norms for innovation directly impact the manifestation of artifacts that support innovation, and these norms and artifacts together facilitate innovative behaviors; (c) artifacts of innovation, such as

rituals, stories, language, and physical arrangements, play a significant role in promoting innovative behaviors among employees; and (d) innovative behaviors, driven by the organization's culture (values, norms, and artifacts), significantly contribute to firm performance, indicating the importance of a supportive cultural environment for innovation.

Meek (1988) critically examined theories of organizational culture, arguing for a nuanced understanding that distinguishes between culture and social structure. He emphasized that organizational culture is not a unitary, universal concept that can be directly controlled or manipulated to enhance organizational effectiveness, a view also later highlighted by Ouchi and Wilkins (1985). Instead, he proposed viewing culture as a complex interplay of symbols, ideational systems, myths, and rituals that emerge from social interactions within organizations. Meek went on to critique the prevalent view in organizational studies that treats culture as a variable—a tool that management can manipulate to achieve desired outcomes. He disputed the notion that a strong, cohesive culture inherently leads to organizational effectiveness, pointing out the dangers in oversimplifying the dynamic and multifaceted nature of culture.

Furthermore, Meek (1988) discussed the political and ideological implications of focusing on culture, arguing that such an emphasis often overlooks deeper structural and power dynamics within organizations. He asserted that culture and social structure, while interconnected, should be conceptually distinguished to better understand their roles in organizational life. His study concluded by suggesting that culture should be seen as something an organization "is," rather than something it "has," (culture is to the organization what personality is to the individual) and calls for a more critical and

comprehensive approach to studying organizational culture. Meek advocates for exploring culture through its constituent elements—symbols, ideational systems, myths, and rituals—to capture the complexity of how culture influences and is influenced by organizational members' actions and interactions.

A few decades later, Ghosh and Srivastava (2014) published a paper that addressed the challenge of developing a robust measure for organizational culture. Measuring organizational culture is challenging partly because it is difficult to define, as the paper highlighted several different perspectives of what organizational culture is. For example, the paper cites Pettigrew's definition as "organizational culture is the system of … publicly and collectively accepted meanings operating for a given group at a time" (1979, p. 574), Schein's aforementioned definition of "a pattern of basic assumptions invented, discovered, or developed by a given group …" (1985, p. 9), and Schwartz and Davis' "organizational culture is a pattern of beliefs and expectations shared by the organization's members" (1981, p. 33). For our study, an amalgamation of these was adopted, to define organizational culture as a system of shared values, beliefs, and assumptions that guide how members think, feel and behave within an organization (Pettigrew, 1979; Schein, 1985; Schwartz & Davis, 1981), characterized by openness, participation, respect for individuals, action orientation, and a supportive attitude toward risk (Ghosh & Srivastava, 2014).

The authors (Ghosh & Srivastava, 2014) critiqued existing survey instruments for measuring organizational culture for their construct and methodological weaknesses, such as lacking a sound theoretical basis or providing a narrow depiction of organizational culture, which is inherently multidimensional. To overcome these limitations, the authors

proposed a new scale grounded in a comprehensive theoretical model, aiming to extensively cover the content domain of organizational culture. The study highlighted the diverse interpretations of organizational culture in literature, pointing to the complexity of defining and measuring this construct. By adopting a sound theoretical framework based on the work of Kluckhohn and Strodtbeck (1961) and ensuring methodological rigor, the authors provided a tool that captures the multidimensional nature of organizational culture more accurately than previous instruments. The final scale covers seven dimensions of organizational culture, including participation, trust, openness, respect for the individual, attitude towards risk, power distance, and action orientation. This was reduced to five dimensions (removing trust and power distance) in our study's final measurement instrument to improve flow.

Perceived Organizational Support

The research by Eisenberger et al. (1986) developed organizational support theory (OST) and explored the concept of perceived organizational support (POS) and its impact on employee behavior, specifically absenteeism. According to OST, the development of POS is encouraged by employees' tendency to assign the organization humanlike characteristics. The study investigated how employees' beliefs about their organization's commitment to them, which constitutes POS, influences their own commitment to the organization and their work attendance. The authors proposed that employees develop global beliefs about the extent to which the organization values their contributions and cares about their well-being. These beliefs, in turn, affect their work effort. A distinction to be made here is that from the aforementioned SOC construct. Whereby SOC emphasizes the emotional bonds within a community and employees' feelings of

identification and connectedness with colleagues (Burroughs & Eby, 1998), POS centers on employees' perceptions of organizational support, focusing on "the extent to which the organization values their contributions and cares about their well-being" (Eisenberger et al., 1986, p. 501).

The research presented in Eisenberger et al.'s (1986) article suggests that POS reduces absenteeism, with a stronger effect observed among employees who hold a strong exchange ideology—those who believe that the effort they put into their work should be reciprocated by the organization (Eisenberger et al., 1986). Their study's exchange ideology is built upon the SET (Homans, 1958), which posits that the relationship between an employee and an organization is based on reciprocal exchanges, i.e., employees who perceive a high level of organizational support feel an obligation to reciprocate through positive work behaviors, such as increased attendance and potentially greater effort and loyalty (Rhoades & Eisenberger, 2002).

In 2002, Rhoades and Eisenberger provided an extensive review of over 70 studies focused on POS, analyzing the empirical evidence on how employees perceive their organization's valuation of their contributions and concern for their well-being. The review highlighted that POS is significantly influenced by three major categories of treatment: fairness, supervisor support, and organizational rewards and job conditions. These factors, in turn, are associated with various positive outcomes for both employees (such as job satisfaction and positive mood) and the organization (including affective commitment, performance improvement, and reduced withdrawal behavior). The review emphasized the role of discretionary organizational actions in fostering POS, suggesting that when employees believe their organization voluntarily supports them, they feel

obligated to reciprocate through positive work attitudes and behaviors. This body of work underlines the importance of POS in creating a mutually beneficial relationship between employees and their organizations, suggesting that efforts to enhance POS can lead to significant improvements in organizational effectiveness and employee well-being (Eisenberger et al., 2020).

Like Eisenberger et al. (1986), Levinson (1965) argued that humans personify powerful entities such as the work organization and as an outcome of personification, POS meets employees' socioemotional needs (e.g., approval, affiliation, esteem, and emotional support) and indicates the potential benefits of exhibiting greater efforts on the organization's behalf (Eisenberger et al., 2020). In their assessment of antecedents, outcomes, and mechanisms involved in OST, Eisenberger and his colleagues (2020) conceptualized that POS leads to behaviors that are specified in employees' stated job responsibilities (in-role performance) and even more so in activities that go beyond standard performance and contribute to the organization's welfare (extrarole behaviors). They go on to discuss POS in the context of creativity and innovation, noting that a supportive organizational environment can enhance employees' willingness to engage in creative and innovative behaviors. POS fosters a sense of security and value, reducing the fear of failure associated with creative risks and encouraging innovative efforts.

A study by Rhoades et al. (2001) provides a detailed examination of how POS influences affective commitment in employees, and subsequently, how AC affects employee turnover. The study suggested that when employees perceive strong organizational support, their AC increases as they are more likely to develop a stronger emotional bond to the organization. This perception of support might also directly

encourage employees to engage in OCBs as a form of reciprocation. As previously mentioned, employees who feel supported are more likely to go the extra mile for the organization because they view the organization's success as congruent with their own success. Employees with high AC feel an emotional attachment to their organization and are intrinsically motivated to contribute to its welfare beyond the scope of their job requirements. This intrinsic motivation could manifest in increased OCBs, as employees actively seek out opportunities to support their colleagues and the organization.

Finally, Celep and Yilmazturk (2012) examined the interconnections between organizational trust, perceived POS, and commitment among teachers in public primary schools in Golcuk, Kocaeli. They defined POS as the belief employees have about the reliability, integrity, and competence of their organization. This trust impacts their willingness to be vulnerable to the organization's actions. The study, involving 315 teachers, revealed significant findings: (a) a strong positive correlation exists between teachers' POS and their organizational commitment; (b) female teachers exhibit higher levels of organizational commitment and perceived support compared to male teachers; and (c) increased POS leads to greater organizational commitment, demonstrating the importance of support in fostering employee dedication. These findings underscore the critical role of organizational support in enhancing trust and commitment within educational settings. However, the study can be relevant to OCB and intrapreneurship as well.

The study found that POS positively correlates with organizational commitment. Higher levels of support and commitment can lead to increased instances of OCB, as employees feel more valued and are likely to reciprocate with positive behaviors that

benefit the organization beyond their required duties. Furthermore, the positive relationship between POS and commitment suggests that when organizations provide adequate support, employees are more committed and might engage in intrapreneurial activities, such as constructing new ideas for organization improvement, idea promotion behaviors, and general measures of creativity (Eisenberger et al., 2020).

Organizational Citizenship Behavior

OCB is a well-regarded concept in organizational psychology, but it's not without its conceptual tensions and debates. These tensions arise from various aspects of OCB's definition, measurement, and implications in the workplace. For example, there is ongoing debate about what exactly constitutes OCB. While it's generally agreed that these are voluntary, extra-role behaviors that contribute to organizational effectiveness (Organ, 1988; Van Dyne et al., 1995) the boundaries of what behaviors fall under this umbrella can be unclear. This ambiguity can lead to challenges in both research and practical application. Furthermore, the motivations driving OCB are also contested, with arguments ranging from genuine altruism to self-interested actions like impression management. Measurement challenges arise due to the subjectivity and variability of OCB scales, and cultural differences may further complicate its universal applicability.

Additionally, the promotion of OCB can potentially lead to negative outcomes for employees, such as burnout or work-life imbalance, especially if OCB becomes an implicit job expectation (Brown & Roloff, 2015). Gender dynamics also play a role, with certain OCBs potentially aligning with gender stereotypes, affecting recognition and workload distribution (Kidder, 2002). Finally, the integration of OCB into formal performance evaluations raises questions about fairness and organizational justice

(Lampert et al., 2008; Moorman, 1991). These tensions underscore the complexity of effectively incorporating OCB into organizational practices.

A meta-analysis of social identification and health in organizational contexts (Steffens et al., 2017), reviewed 58 studies that examined the relationship between employees' social identification with their workgroup or organization and their health outcomes. The authors found a positive association between social identification and health, which was stronger for indicators of well-being than stress, for psychological health than for physical health, and for shared identification than for non-shared identification. This article was relevant for understanding how a SOC in the workplace can influence employees' health and well-being, which in turn can affect their OCB, job satisfaction, and organizational commitment. Previous research has shown that OCB, job satisfaction, and organizational commitment are positively related to social identification (Ashforth & Mael, 1989; Van Dick et al., 2004). Therefore, by enhancing employees' social identification, organizations can foster a healthier, happier, and more productive workforce.

Podsakoff et al. (2000) highlight the significant expansion of interest in OCBs since its introduction, noting a substantial increase in publications on the topic. Despite this growing interest, they identified a lack of clarity surrounding the construct's nature, leading to conceptual confusion. Their paper addresses this issue by clarifying the conceptual distinctions and similarities across various forms of citizenship behaviors identified in the literature. In addition to the four categories of antecedents of OCB, they identified seven main dimensions of OCB, each reflecting different facets of voluntary behaviors contributing to organizational effectiveness.

The first is helping behaviors and consists of dimensions like altruism and courtesy, previously identified by Organ (1983, 1988). The second is sportsmanship, which, surprisingly, has received much less attention in the literature, and involves maintaining a positive attitude, even in less-than-ideal circumstances. The third is organizational loyalty, which focuses on the actions that promote the organization to outsiders and demonstrates commitment. Notably, it goes beyond the individual level and focuses on benefiting the organization. The fourth dimension is compliance and involves adherence to rules, regulations and procedures, even when not explicitly monitored or enforced. The fifth is individual initiative and is about employees taking proactive steps to improve their work performance, suggesting improvements, and taking on additional responsibilities. Civic virtue is the sixth dimension and involves active participation in organizational governance, staying informed about matters affecting the organization and acting in its best interest. The final dimension is self-development, which underscores the proactive role of employees in their professional growth and organizational value. It is notable that many of these dimensions are similar in nature to those of IPB, particularly those dealing with innovativeness and proactiveness as behavioral traits, but less explicitly, even those dealing with organizational commitment and loyalty could logically reason that these are akin to intrapreneurship (Hernandez-Perlines et al., 2022; Neessen et al., 2019).

OCB has been split within much of the literature between OCBI and OCBO—OCBI directly benefitting individuals, and OCBO benefitting the organization in general, respectively (Williams & Anderson, 1991). Prior research has labeled OCBI as altruism, or more extensively, courtesy, peacemaking, and cheerleading (Organ, 1988, 1990) and

OCBO as generalized compliance (Smith et al., 1983). The distinction is rather important because whereas altruism is viewed as behavior that occurs without any external rewards, compliance is behavior that occurs because of expected rewards, or the avoidance of punishment (Williams & Anderson, 1991). This is also important to understand how OCB is measured within the context of any study. For our study, OCBI (i.e., helping behaviors, altruism) was more fitting due to the individual level of focus and the desired outcome of employee engagement, which, according to Williams and Anderson, implies willingness.

Intrapreneurial Behavior

Intrapreneurship is a form of entrepreneurship within existing organizations that involves identifying and exploiting new opportunities, creating value, and taking risks (Hernandez-Perlines et al., 2022). The term intrapreneurship has been used interchangeably with other related concepts such as corporate entrepreneurship, entrepreneurial orientation, and internal corporate entrepreneurship, but it also has some distinctive features and connotations. Intrapreneurship can be approached from different perspectives, such as the corporate, team, or individual level, and it can have different antecedents and consequences for the organization and the intrapreneur.

Intrapreneurship research has grown significantly in recent years, but it still faces some challenges and limitations. The study by Hernandez-Perlines et al. (2022) identified four. One of them is the terminological confusion and the lack of a coherent definition of intrapreneurship, which hampers the comparison and integration of different studies. Another challenge is the measurement of intrapreneurship, which requires the development and validation of reliable and valid instruments that capture the

multidimensional and dynamic nature of intrapreneurship. A third challenge is the identification of the factors that enable or hinder intrapreneurship in different contexts, such as the environment, the organization, the team, and the individual. A fourth challenge is the analysis of the outcomes and impacts of intrapreneurship, both at the organizational and individual level, such as performance, innovation, growth, satisfaction, and well-being.

For this study, I leveraged and adapted three ideas surrounding intrapreneurship from the literature. The first states that intrapreneurship is a higher-order factor in which employees show initiative, develop innovations, and take certain risks for the company (Edu Valsania et al., 2016; Felício et al., 2012; Rigtering & Weitzel, 2013). Second, social norms and employee characteristics decisively affect intrapreneurship (Ajzen, 1991; Neessen et al., 2019). Finally, the third is that one of the main consequences of intrapreneurship is improving company performance (Covin & Slevin, 1991). These ideas strengthen the basis for the inclusion of SOC as an independent variable (due to its relation to social norms) and employee engagement as the dependent variable, as a proxy for company performance.

According to Neessen et al. (2019), IPB consists of actions such as innovativeness, proactiveness, opportunity recognition/exploitation, risk-taking, and networking, and though these are individual-level behaviors, their outcomes result in organizational intrapreneurship such as new products and innovation, business venturing, and self-renewal. Given that our focus is on employees exhibiting OCB and intrapreneurship and why this is beneficial for organizations seeking innovation and

value creation, this specific behavior is necessary to include, as it shows a similar yet distinct set of actions from OCB.

Farrukh et al. (2022) defines IPB as an individual's proactive, innovative, and risk-taking actions within an organization. This behavior encompasses activities like implementing new ideas, developing new processes or products, and taking initiative to solve problems and seize opportunities. Key results of Farrukh et al.'s study indicate that both leader-member exchange (LMX) quality and leaders' expectations (Pygmalion effect) positively influence IPB. The study found that a supportive, innovation-oriented organizational climate significantly enhances these relationships. For example, high-quality LMX fosters a sense of belonging, autonomy, and higher self-esteem among employees, which leads to increased engagement in IPB. Likewise, leaders' positive expectations about subordinates' performance, when combined with a supportive organizational climate, further encourage IPB.

IPB is connected to employee engagement through the mechanisms of support and motivation provided by leaders and the organizational environment. Engaged employees are more likely to perceive their leaders' expectations and the organizational climate as supportive, which in turn motivates them to exhibit IPB (Caniels & Baaten, 2019). Consequently, Farrukh et al. suggested that fostering a supportive climate and maintaining high-quality leader-member relationships can enhance employee engagement.

Employee Engagement in Continuous Innovation

Lianto et al. (2018) provides a comprehensive overview of CI within the innovation management field. The overview addresses the CI concept by examining three

fundamental questions: What is CI and its determining factors? Why do companies need CI? How can companies develop CI? The authors proposed a new, comprehensive definition of CI as a process and activity that is continuous, regular, routine, structured, and long-term, significantly impacting a company. This process fosters a learning culture aimed at continuous improvement and self-renewal to adapt to ever-changing consumer needs. The study highlights the importance of CI for companies to navigate a turbulent competitive environment, global competition, customization, high variety of customer demands, and rapid information and communication technology and digital system developments. These factors compel companies to innovate continuously to maintain competitiveness and adapt to market changes.

In their Google case of a corporate system for CI, Steiber and Alange (2013) delved into how Google has managed to sustain CI (defined here as "the ability to renew the organization and to develop new products and business models"), a crucial factor for companies in rapidly changing industries as echoed by Lianto et al. (2018). The Google study conducted 28 interviews at Google to compare the organizational characteristics fostering CI with existing research. Google's approach was identified as a dynamic and open corporate system for innovation, emphasizing the company's culture, competent and committed individuals, and supportive leadership as key drivers. Google maintains a semi-structured and ambidextrous organization, backed by an innovation-oriented performance and incentive system. Continuous learning and external interaction through open innovation are also highlighted as important aspects. The study presented Google's strategy of balancing internal innovation drivers with external interactions and acquisitions to remain competitive and innovative. The research also underscored the

need for empirical studies to develop a comprehensive analytical framework for CI, including the roles of culture and self-organizing individuals in the innovation process. The findings from Google are positioned as a valuable contribution to understanding how to design a corporate system conducive to CI, with implications for both rapidly changing and more stable industries.

On employee engagement, a review by Kular et al. (2008) highlighted the growing interest in employee engagement, noting the lack of a clear, consistent definition and understanding of how it can be influenced by management. The review examined how engagement levels vary across different sectors and global contexts, revealing significant variations and the influence of cultural and economic factors. Furthermore, it explored how personal attributes, perceptions, and experiences influence engagement levels, highlighting the role of individual differences.

Kular et al.'s (2008) paper discusses different definitions and models of employee engagement, including Kahn (1990)'s influential work that defined engagement in terms of psychological presence in work roles. Kahn defined employee engagement as "the harnessing of organization members' selves to their work roles; in engagement, people employ and express themselves physically, cognitively, and emotionally during role performances" (p. 694). This definition highlighted three core aspects of engagement: physical, cognitive, and emotional. Physical engagement is the physical energy exerted by individuals to accomplish their roles, cognitive engagement is employees' beliefs about the organization, its leaders, and working conditions, and emotional engagement is how employees feel about each of those three factors and their positive or negative attitudes toward the organization and its leaders.

Kular et al.'s (2008) review suggested that while there are multiple ways to conceptualize employee engagement, Kahn's (1990) definition captures its essence by emphasizing the full expression of oneself in the role performance within an organization. It points out that most definitions, regardless of their variance, circle back to the central theme of how employees invest themselves entirely in their roles, encompassing emotional, cognitive, and physical energies.

Alternatively, Phuangthuean et al. (2018) cite supplemental definitions for employee engagement. One such definition refers to employee engagement as "a positive fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption" (Schaufeli et al., 2002, p. 74). The authors also cite a 2008 report by Kenexa Research Institute which states that employee engagement is the extent to which employees are motivated to contribute to organizational success and are willing to apply discretionary effort to accomplishing tasks important to the achievement of organizational goals. Relevant to the study at hand, the authors cite employee engagement as drivers of innovative behaviors (i.e., IPB) and OCB, among other things (Garg & Dhar, 2017; Saks, 2006). The review by Phuangthuean et al. (2018) focuses on measuring employee engagement, comparing several different scales such as the Utrecht Work Engagement Scale which measures engagement by vigor, dedication, and absorption; the Job Engagement Scale, which consists of physical, emotional, and cognitive dimensions; and the Intellectual, Social, Affective Engagement Scale, which measures the construct by intellectual, social and affective engagement and was the one adopted for this study.

Given the provided definitions of both employee engagement and CI, for the predicted outcome variable of this study, employee engagement in CI (EECI) builds upon Kenexa (2008)'s definition to be operationalized as the extent to which employees are motivated to contribute to the organization's ongoing process of seeking, implementing, and adopting new ideas, technologies, processes, and practices to improve products, service, and operational efficiencies and are willing to apply discretionary effort to accomplishing tasks important to the achievement of organizational goals.

Chapter 3: Research Model & Hypotheses

OCB lends itself to several theories and here we focused primarily on two of them. The first, social exchange theory (SET) (Blau, 1964), is rooted in the principle that social behavior is the result of an exchange process (Homans, 1958). According to SET, OCB is motivated by reciprocity, which suggests that when employees perceive favorable exchanges with their organization, such as fair treatment, support, and recognition, they are more likely to develop a stronger commitment to the organization (Eisenberger et al., 1986). This also may have some implications for the psychological SOC construct in that, through community, employees would receive support and thus be willing to give more to the organization (Boyd & Nowell, 2017; Burroughs & Eby, 1998). SET also influences IPB, mainly via ideas such as POS and LMX, as discussed in the literature review (Chen et al., 2008; Garg & Dhar, 2017). SET suggests that employees reciprocate favorable treatment from their organization (Cropanzano & Mitchell, 2005). For example, when employees perceive strong organizational support, they are more likely to engage in intrapreneurial activities. Supportive environments foster creativity, risk-taking, and idea generation, which align with IPB (Garg & Dhar, 2017).

The second, self-determination theory (SDT), developed by Deci and Ryan (1985), is a macro theory of human motivation and personality that concerns people's inherent growth tendencies and innate psychological needs. The theory suggests that people are driven by a need to grow and gain fulfillment, and that they become self-determined when their needs for competence, relatedness, and autonomy are met (Deci & Ryan, 2012). SDT is particularly useful in understanding how intrinsic and extrinsic

motivations impact employee behavior (Deci et al., 2017; Gagne & Deci, 2005), which fits well in the context of OCB and IPB .

Essentially, this research followed the logic that there are organizational factors that are important because they lead employees to exhibit OCB and more IPBs, which then increases EECI (Jurburg et al., 2019; Kular et al., 2008; Morton et al., 2018; Støle & Ekeren, 2015). In referencing the literature and leveraging relevant theories, the conceptual model demonstrated by Figure 1 was constructed:

Figure 1

Conceptual Model of Employee Engagement in Continuous Innovation

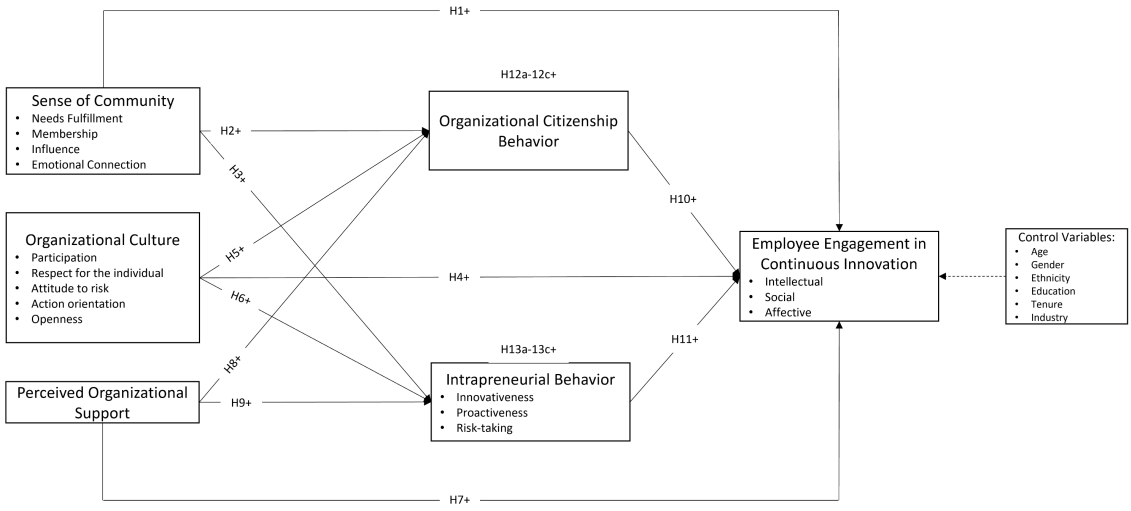

Table 1 provides definitions for each construct, accompanied by reference source.

Table 1

Construct Definitions

Variable Type	Construct	Definition
Independent	Sense of Community (SOC)	A feeling that members have [in the context of work organizations] a sense of belonging, a feeling that members matter to one another and to the group, and a shared faith that members' needs will be met through their commitment to be together [and to the organization] (McMillan, 1976, 1986).
Independent	Organizational Culture (CUL)	A system of shared values, beliefs, and assumptions that guide how members think, feel and behave within an organization (Pettigrew, 1979; Schein, 1985; Schwartz & Davis, 1981), characterized by openness, participation, respect for individuals, action orientation, and a supportive attitude toward risk (Ghosh & Srivastava, 2014)
Independent	Perceived Organizational Support (POS)	The extent to which the organization values their contributions and cares about their well-being (Eisenberger et al., 1986).
Mediator	Organizational Citizenship Behavior (OCB)	Individual behavior that is discretionary, not directly or explicitly recognized by the formal reward system, and in the aggregate promotes the efficient and effective functioning of the organization (Organ, 1988, 2005).
Mediator	Intrapreneurial Behavior (IPB)	Employees' recognition and exploitation of opportunities by being innovate, proactive and taking risks, in order for the organization to create new products, processes and services, initiate self-renewal or venture new businesses to enhance the competitiveness and performance of the organization (Neessen et al., 2019).
Dependent	Employee Engagement in Continuous Innovation (EECI)	The extent to which employees are motivated to contribute to the organization's ongoing process of seeking, implementing, and adopting new ideas, technologies, processes, and practices to improve products, service, and operational efficiencies and are willing to apply discretionary effort to accomplishing tasks important to the achievement of organizational goals.

Hypothesis Development

Sense of Community

McMillan and Chavis' (1986) theory of community, which includes dimensions such as membership, influence, integration and fulfillment of needs, and shared emotional connection, provides a robust framework for understanding how a SOC can foster behaviors that benefit the organization. These elements suggest that when employees feel a strong sense of belonging and influence within their workplace, they are more likely to engage in behaviors that are not necessarily part of their job descriptions but are crucial for the smooth functioning of the organization. Lampinen et al. (2015) and Burroughs and Eby (1998) found that the sense of belonging, coworker support, and emotional safety, which are part of psychological SOC, directly contributed to employees' willingness to go above and beyond their formal job responsibilities. Therefore, I propose the following hypotheses:

H1: A sense of community at work positively relates to employees' engagement in continuous innovation.

H2: A sense of community at work positively relates to employees' organizational citizenship behavior.

Similarly, according to McMillan and Chavis (1986), influence and integration are key components of a SOC. These elements can foster an environment where employees feel empowered and supported to initiate, innovate, and implement new ideas or projects within the organization, which are core aspects of IPB. A SOC creates a supportive environment characterized by open communication, appreciation, and close relationships (Lampinen et al., 2015). Such an environment is conducive to

intrapreneurial activities as it reduces fear of failure and encourages experimentation and innovation via social capital, as well as facilitates the sharing of ideas, resources, and knowledge, which are critical for nurturing new business initiatives within the organization (Burroughs & Eby, 1998; Tsai & Ghoshal, 1998). Thus, a strong SOC at work not only enhances OCB but also promotes intrapreneurial activities.

H3: A sense of community at work positively relates to employees' intrapreneurial behavior.

Organizational Culture

Edgar Schein's research posited that organizational culture forms through shared experiences and learnings, which evolve into basic assumptions about how organizational challenges should be addressed both internally and externally. Given Schein's model, a supportive organizational culture—characterized by norms, values, and artifacts—can enhance the engagement and participation of employees and influence their behaviors (Schein, 1983, 1985). According to Shein, the shared values and norms, which are visibly encouraged through organizational artifacts such as awards for exemplary behavior, public acknowledgments, or embedded in daily practices, actively promote an environment where going above and beyond is recognized and valued.

Further reinforcing this is the research by Hogan and Coote (2014) using Schein's model, which confirmed that organizational culture significantly influences employee behaviors that drive firm performance. Their findings indicated that values, norms, and artifacts aligned with innovation foster behaviors that lead to improved organizational outcomes. Translating this to OCB, one can extrapolate that if an organization's culture

explicitly supports elements like cooperation and flexibility, it is likely to witness enhanced OCB among its members (Liaquat & Mehmood, 2017).

The same can be reasoned for IPB: if the cultural underpinnings of an organization encourage dimensions such as innovation, risk-taking, autonomy, and proactive problem-solving, these values will strongly influence employee behavior (Ghosh & Srivastava, 2014; Hogan & Coote, 2014). A culture that values and encourages entrepreneurial thinking within the organization (intrapreneurship) by design is likely to see a manifestation of these behaviors as employees feel supported and motivated to initiate, experiment, and innovate within their roles (Olokundun et al., 2018). We propose the following hypotheses:

H4: Organizational culture positively relates to employee engagement in continuous innovation.

H5: Organizational culture positively relates to employees' organizational citizenship behavior.

H6: Organizational culture positively relates to employees' IPB.

Perceived Organizational Support

The link between POS and an employee's IPB is evident in SET (Blau, 1964; Homans, 1958). The principles of SET posit that relationships, including those between employees and their organizations, are governed by the norm of reciprocity (Blau, 1964; Homans, 1958). Employees who perceive a high level of organizational support feel a stronger obligation to reciprocate this support, which fosters a positive cycle of mutual benefit, where supportive actions by the organization lead to positive work behaviors by employees (Eisenberger et al., 1986).

The discussion by Eisenberger et al. (2020) on POS's influence on extrarole behaviors further strengthens the imminent hypotheses. They conceptualize that POS not only enhances employees' in-role performance but also encourages behaviors that exceed their stated job responsibilities. This inclination towards going beyond standard performance expectations is a critical component of IPB, which involves innovative and proactive actions to foster organizational development and success (Hernandez-Perlines et al., 2022). Finally, the acknowledgment that a supportive organizational environment reduces the fear of failure and enhances employees' willingness to engage in creative and innovative behaviors provides a direct link to intrapreneurial actions (Eisenberger et al., 2020; Neessen et al., 2019). POS fosters a sense of security and recognition, encouraging employees to take calculated risks and pursue innovative projects that can lead to new opportunities and advancements for the organization (Eisenberger et al., 2020). Thus, we propose the following hypotheses:

H7: Perceived organizational support positively relates to employee engagement in continuous innovation.

H8: Perceived organizational support positively relates to employees' organizational citizenship behavior.

H9: Perceived organizational support positively relates to employees' intrapreneurial behavior.

Organizational Citizenship Behavior

OCBs, by fostering a cooperative and supportive work environment, can significantly contribute to building a culture of mutual respect and collaboration, essential for innovation (Liaquat & Mehmood, 2017; Smith et al., 1983). CI requires a culture that

is not just open to new ideas but actively encourages experimentation and learning from failure, a culture where employees feel valued and supported to take initiative (Lianto et al., 2018; Steiber & Alange, 2013). Furthermore, OCBs, through their emphasis on helping behaviors, courtesy, and initiative, can lead to increased social identification within the workplace (Steffens et al., 2017). This increased identification can boost employee morale and well-being, factors closely tied to higher levels of engagement (Kular et al., 2008; Liaquat & Mehmood, 2017). Engaged employees, characterized by vigor, dedication, and absorption in their work (Phuangthuean et al., 2018), are more likely to contribute to and participate in innovative processes, reflecting a deeper psychological presence and commitment to their roles (Kahn, 1990). This commitment and engagement can drive the continuous search for improvement and innovation within the organization, aligning individual efforts and creativity with organizational goals (Jurburg et al., 2019; Støle & Ekeren, 2015). Thus, we propose the following hypothesis:

H10: Organizational citizenship behavior positively relates to employee engagement in continuous innovation.

Intrapreneurial Behavior

IPB promotes an organizational climate where employees feel empowered to explore new opportunities and take risks, essential for innovation and organizational self-renewal (Lianto et al., 2018). Such an environment likely increases employee engagement levels, as employees perceive their roles as meaningful and see themselves as key contributors to the organization's innovative efforts and growth (Kahn, 1990; Kular et al., 2008). Moreover, engagement driven by IPB supports the establishment of a learning culture and open innovation, both identified as vital for CI (Steiber & Alange,

2013). Therefore, encouraging IPB within firms can significantly enhance EECI, leading to sustained organizational innovation and competitive advantage.

This relationship is further supported by the literature, indicating that intrapreneurship positively affects company performance (Covin & Slevin, 1991) and the essential role of engaged employees in fostering innovative behaviors and OCB which are conducive to CI and value creation (Garg & Dhar, 2017; Saks, 2006). Hence, IPB's influence on employee engagement presents a compelling avenue for enhancing CI within organizations. We propose the following hypothesis:

H11: Intrapreneurial behavior positively relates to employee engagement in continuous innovation.

Employee Engagement in Continuous Innovation

Chen et al. (2008) illustrated how high-quality (LMX) fosters trust and perceived support, leading to enhanced OCB and suggested that support from the organizations and leaders within it fosters an environment where employees are more engaged and willing to innovate. Wu and Parker (2017) emphasized the role of leader support in promoting proactive behavior through self-efficacy and motivation, both crucial for OCB and shows the importance of secure-base support in promoting IPB. Similarly, McMillan and Chavis' (1986) theory of community highlighted how a strong SOC enhances well-being and cooperative behaviors, which align with OCB, and it stands to reason that community enhances efficacy by providing resources and additional support, enabling IPB.

Schein (1983) underscored the impact of organizational culture on employee behaviors and norms, influencing their engagement in extra-role activities like OCB as well as innovative behaviors by providing an environment that encourages risk-taking

and creativity. Lastly, Eisenberger et al. (1986) and Rhoades et al. (2001) demonstrate how POS fosters a reciprocal relationship, encouraging employees to go beyond their formal duties and further drive innovative behaviors. Together, these studies suggest that OCB and IPB both act as critical intermediaries.

Within the framework of SDT (Deci & Ryan, 1985), a strong sense of community can enhance relatedness and social cohesion, leading employees to go above and beyond their role (OCB) and feel safe to take initiative (IPB). This would make OCB and IPB motivators of discretionary behavior and innovation engagement. Additionally, Tsai (2011) found that a sense of community significantly enhances job satisfaction and positive behaviors, especially when supported by leadership and culture. However, there is an argument within SDT that community itself fulfills employees' intrinsic psychological needs for relatedness and, per SET, employees may perceive a communal work environment as organizational investment in their well-being, prompting a sense of reciprocal investment (via EECI) without necessarily passing through behavioral intermediaries (Cropanzano & Mitchell, 2005). Thus, the following hypotheses:

H12a: Organizational citizenship behavior partially mediates the relationship between sense of community and employee engagement in continuous innovation.

H13a: Intrapreneurial behavior partially mediates the relationship between sense of community and employee engagement in continuous innovation.

Organizational culture sets the stage for behavioral expectations (Schein, 1983), and when those norms reward initiative and cooperation, employees are more likely to engage in OCB and intrapreneurial activity (Van Dyne et al., 1994; Kuratko et al., 2011). These behaviors act as mechanisms translating cultural support into active innovation

engagement (Deci & Ryan, 1985). Culture also exerts a direct influence on innovation engagement by embedding innovation as a shared value, shaping expectations, and reducing fear of failure through internalized norms and symbols (Schein, 1983; Tsai, 2011). As such, while OCB and IPB reflect important behavioral pathways through which culture translates into innovation participation, they do not fully capture its broader psychological and environmental influence. Therefore, it is hypothesized that:

H12b: Organizational citizenship behavior partially mediates the relationship between organizational culture and employee engagement in continuous innovation.

H13b: Intrapreneurial behavior partially mediates the relationship between organizational culture and employee engagement in continuous innovation.

POS increases employees' felt obligation to reciprocate (Blau, 1964; Eisenberger et al., 2001) and satisfies autonomy and competence needs (Deci & Ryan, 1985), which leads them to engage in voluntary, extra-role, and risk-taking behaviors (i.e., OCB and IPB) (Rigtering & Weitzel, 2013). Such behaviors are mechanisms by which POS translates into employee engagement in continuous innovation. While an employee's perception of organizational support may or may not directly result in innovation, it is said to foster discretionary behaviors such as helping others, sharing ideas, and taking initiative—behaviors often linked to organizational citizenship and intrapreneurial action (Eisenberger et al., 1986; Deci & Ryan, 1985; Organ, 1997).

There is also empirical precedent to support a case for indirect effects here. Prior studies have found that predictors such as POS and organizational culture have stronger indirect effects on outcomes like engagement or innovation through behavioral mediators (Hartmann, 2006; Hogan & Coote, 2014; Organ, 1997). Furthermore, some employees

may feel supported and engage directly in continuous innovation out of other factors such as loyalty, trust, or intrinsic motivation even without enacting overt OCB or IPB (Deci & Ryan, 1985; Eisenberger et al., 1986). Therefore, both OCB and IPB act as behavioral mechanisms which partially mediate the effect of POS on EECI, but not fully eliminating its direct influence.

H12c: Organizational citizenship behavior partially mediates the relationship between perceived organizational support and employee engagement in continuous innovation.

H13c: Intrapreneurial behavior partially mediates the relationship between perceived organizational support and employee engagement in continuous innovation.

While organizational conditions such as a sense of community, organizational culture, and perceived organizational support are important, their influence on employee engagement in continuous innovation operates substantially through the discretionary behaviors they promote. Grounded in Self-Determination Theory (Deci & Ryan, 1985) and Social Exchange Theory (Cropanzano & Mitchell, 2005), this study posits that these predictors satisfy psychological needs or create relational obligations, leading employees to reciprocate or self-initiate behaviors beyond their formal roles (Van Dyne et al., 1995; Kuratko et al., 2011). Organizational Citizenship Behavior (OCB) and Intrapreneurial Behavior (IPB) thus serve as key mediating mechanisms, partially or fully translating environmental conditions into innovative engagement.

Chapter 4: Methodology

Informed Pilot

This study was submitted for institutional review board (IRB) approval to ensure the ethical welfare of all participants. Once approval was obtained in July 2024, an informed pilot was conducted with five other Florida International University Doctor of Business Administration candidates as the participants, split equally between male and female and nearly all identifying as part of a unique ethnicity and professional industry. The informed pilot was used to collect feedback on each measurement item in the questionnaire. The items were evaluated on several factors, including if they were clear and understandable, if they measured the variable of interest, if they were double-barreled, leading, or loaded, and if they were confusing or ambiguous.

Through this exercise, a few items attributed to the organizational culture construct were revised to be more specific. For example, all participants flagged item CUL9 as potentially confusing. This resulted in the item being changed from "there are 'holy cows' that seldom get questioned" to "there are certain employees in my organization that seldom get questioned." Another item that was amended from its original wording was CUL11—"in our meetings most decisions are expected to be finally taken by the boss," became "in our meetings, most decisions are expected to be made by the boss." Finally, CUL14, "a number of projects are initiated with gusto and enthusiasm, but they don't seem to get anywhere" was revised to remove "gusto and" as it seemed to ask two different questions. Once these changes were applied, the final survey was then created and distributed for the main comprehensive study.

Final Survey and Study Design

The final questionnaire consisted of sixty-nine items, including two qualifier questions, one red herring question, and six demographic questions (age, gender, ethnicity, education, tenure, and industry). The remaining items measured the factors identified in the literature review and conceptual model, adapting existing scales such as the Brief Sense of Community Scale (Peterson et al., 2008), Ghosh and Srivastava (2014)'s Organizational Culture Scale, the Perceived Organizational Support Scale (Celep & Yilmazturk, 2012), the Citizenship Behavior scale (Smith et al., 1983), an Intrapreneurial Behavior Scale by Farrukh et al. (2022), and the Intellectual, Social, Affective Engagement Scale (Phuangthuean et al., 2018). All items on the scale, excluding the demographic, qualifier and red herring questions, leveraged a 5-point Likert scale.

This study adopted a quantitative research methodology, followed a descriptive approach, and used deductive reasoning to explore the factors that drive engagement in CI among employees in medium-to-large corporations in the U.S. The data was collected via cross-sectional survey powered by Qualtrics. Cloud Research Connect was used to distribute the survey and recruit participants. The survey remained active for 10 days and collection was paused only once there was confirmation that it had reached the 400 targeted number of respondents.

The demographics of the respondents are noteworthy as well. Regarding participant's age, there was near equal split between the 18-29, 30-39, and 40-49 age groups. However, there were much fewer respondents 50 and above with 9.7% in the 50-59 group and only 5.1% and 1.1% in the 60-69 and 70+ groups, respectively, indicating

that those age 50 and above are underrepresented in this study. In terms of ethnicity and racial groups, those who self-identified as White/Caucasian were in the overwhelming majority, making up 59.1% of the sample population, with those self-identifying as Asian or Pacific Islander second with 15.4%. Similarly, those whose highest education level is a bachelor's degree make up 45.4% of the sample and those whose current or most recent (within the last three months of the survey date) tenure was 1-5 years make up a majority at 47.1% of respondents. Finally, the information industry (data, communications, media, etc.) was in the majority at 41.7%, with accommodation and food services being second at 18.3%. Gender was almost evenly split with 51.4% of respondents identifying as male and 48% identifying as female, which is a strength of the study. These demographic splits should be considered when interpreting the results and future research could address some of the imbalances for more insight into the study's variables.

Appendix A shows the final survey with items as they appeared to respondents, Appendix B shows the informational letter that accompanied the survey as the leading page in Qualtrics, and Appendix C shows the advertisement displayed when recruiting the participants.

Chapter 5: Analysis and Results

Data for the study was collected on September 2024, with all 400 participants received within hours via the Cloud Research Connect platform. Once all responses were collected, the Qualtrics data file was exported to Microsoft Excel where the data was assessed for completeness and attentiveness. As stated in the qualifying questions within the survey, participants needed to be either currently employed or recently employed within the last three months at a company that would be considered medium-to-large in size (i.e., not a small business). As a result of this review process, the final data set consisted of 350 responses. This final data file was then uploaded into SPSS (v29.0.2.0) to analyze the data and test the hypothesized relationships. The following sections present the demographic breakdown of the data as well as the results and their interpretations of the main study data.

Demographic Information

Of the respondents, 51.4% were male, 48% were female, with 0.6% identifying as non-binary, indicating a near-equal gender distribution. Most participants fell almost equally within the 30-39 age group (31.4%) and the 40-49 age group (29.4%), followed closely by those aged 18-29 (23.17%). Regarding race and ethnicity, the respondents overwhelmingly identified as “White / Caucasian,” representing 59.1% of total respondents, with minorities much less present (Asian or Pacific Islander at 15.4%; Black or African American at 9.1%, Hispanic or Latino at 6%) and 9.1% identifying as bi/multi-racial. Education levels were high, with 45.4% of participants reporting a bachelor's degree as their highest level of education and 23.2% earning post-graduate degrees.

Regarding tenure, 47.17% of participants had 1–5 years' experience at their current or most recent (within 3 months) job. The sample was drawn from various industries, with responses fairly distributed. When examining the work industry of the respondents, 'information' was the most represented (41.7%), comprised of jobs in data, communication, media, tech, etc., while arts, entertainment, and recreation had the least representation at 10.3%. Additional information regarding the control variables is provided in Table 2 below.

Table 2

Demographic Information

Characteristics		Frequency	Percent
Age	18–29	81	23.1
	30–39	110	31.4
	40–49	103	29.4
	50–59	34	9.7
	60–69	18	5.1
	70+	4	1.1
	Total	350	100.0
Gender	Male	180	51.4
	Female	168	48.0
	Non-binary	2	0.6
	Total	350	100.0
Ethnicity	Asian/Pacific Islander	54	15.4
	Black or African American	32	9.1
	Hispanic or Latino	21	6.0
	White/Caucasian	207	59.1
	Other	4	1.1
	Bi/Multi-racial	32	9.1
	Total	350	100.0
Education	No formal education	1	0.3
	High School Diploma/GED	62	17.7
	Associate Degree	47	13.4
	Bachelor's Degree	159	45.4
	Master's Degree	59	16.9
	Doctorate Degree	22	6.3
	Total	350	100.0
Tenure	Less than 1 year	47	13.4
	1–5 years	165	47.1
	5–10 years	62	17.7
	More than 10 years	76	21.7
	Total	350	100.0
Industry	Manufacturing	45	12.9
	Accommodation and Food Services	64	18.3
	Information (data, communication, media, etc.)	146	41.7
	Finance and Insurance	59	16.9
	Arts, Entertainment, and Recreation	36	10.3
	Total	350	100.0

Total Statistics and Construct Reliability

After reviewing the demographic information, a descriptive analysis was run to determine the item-level mean and standard deviation to assess their performance and contribution to the scale. For this study, no concerning ceiling or floor effects were identified.

Reliability was assessed using Cronbach's alpha for each construct, producing the following results: sense of community (SOC) = .933, organizational culture (CUL) = .891, perceived organizational support (POS) = .954, organizational citizenship behavior OCB = .75, IPB = .841, and employee engagement (EE) = .899. Thus, the alphas for all constructs were strong, ranging from 0.75 (OCB) to 0.954 (POS). These results indicate that the items within each construct effectively measured the same underlying factor. Table 3 shows the results.

Table 3

Cronbach's Alpha

Construct		Item	α
Sense of Community, Peterson et al. (2008)	SOC1	I can get what I need in my organization.	0.933
	SOC2	My organization helps me fulfill my needs.	
	SOC3	I feel like a member of my organization.	
	SOC4	I belong in my organization.	
	SOC5	I have a say about what goes on in my organization.	
	SOC6	People in my organization are good at influencing each other.	
	SOC7	I feel connected to my organization.	
	SOC8	I have a good bond with others in my organization.	
Organizational Culture, Ghosh & Srivastava (2014)	CUL1	Everybody in my organization is encouraged to participate in meetings.	0.891
	CUL2	In meetings we seek to understand everyone's viewpoint.	
	CUL3	Members are prepared to challenge assumptions of the group.	
	CUL4	Speaking out the truth, even if it is bitter, is encouraged.	
	CUL5	My boss trusts me to deliver on his/her expectations.	
	CUL6	My supervisor believes that good ideas and solutions to problems can come from any member of the group.	
	CUL7	My organization makes the best possible use of my intellectual capacity.	
	CUL8	If individuals in my organization make an error they will usually try to cover it up.	
	CUL9	There are certain employees in my organization that seldom get questioned.	
	CUL10	Most members believe in maintaining status quo.	
	CUL11	In our meetings most decisions are expected to be made by the boss.	
	CUL12	If I do not agree with my supervisor I feel comfortable voicing my views.	
	CUL13	In my organization, a lot of discussions happen but very little seems to get done.	
	CUL14	A number of projects are initiated with enthusiasm but they don't seem to get anywhere.	
	CUL15	We believe in the precept - 'nothing ventured, nothing gained'.	
	CUL16	The top management believes in communicating important news and events with organizational members across all levels.	

Construct	Item		α
	CUL17	Most senior members of my organization are approachable/accessible.	
Perceived Organizational Support, Celep & Yilmazturk (2012)	POS1	My manager does not care for me at all.	0.954
	POS2	Even if I do my best, my manager does not pay attention to me.	
	POS3	My manager cares for my job satisfaction.	
	POS4	My manager ignores all my complaints.	
	POS5	My manager does not appreciate my actions at all.	
	POS6	My manager cares for my contributions to work.	
	POS7	My manager is really interested in my well being.	
	POS8	My manager is proud of my accomplishments.	
Organizational Citizenship Behavior, Smith et al. (1983)	OCB1	I help others who have been absent.	0.75
	OCB2	I volunteer for things that are not required.	
	OCB3	I orient new people even though it is not required.	
	OCB4	I help others who have heavy work loads.	
	OCB5	I assist my supervisor with his or her work.	
	OCB6	I make innovative suggestions to improve my department.	
	OCB7	I do not spend time in idle conversation.	
Intrapreneurial Behavior, Farrukh et al. (2022)	IPB1	I contribute to the implementation of new ideas at work.	0.841
	IPB2	I often try to institute new work methods that are more effective for the company.	
	IPB3	In the course of my work, I develop new processes, services or products.	
	IPB4	I boldly move ahead with a promising new approach when others might be more cautious.	
	IPB5	I would be willing to give up some salary in exchange for the chance to try out my business idea if the rewards for success were adequate.	
	IPB6	I am particularly good at realizing ideas.	
	IPB7	I can spot a good opportunity long before others can.	
Employee Engagement, Phuangthuean et al. (2018)	EE1	I focus hard on my work.	0.899
	EE2	I concentrate on my work.	
	EE3	I pay a lot of attention to my work.	
	EE4	I share the same values as my colleagues.	
	EE5	I share the same work goals as my colleagues.	
	EE6	I share the same work attitudes as my colleagues.	
	EE7	I feel positive about my work.	
	EE8	I feel energetic in my work.	
	EE9	I am enthusiastic in my work.	

Descriptive Statistics and Test of Normality

The mean and standard deviation for each aggregate variable were calculated using descriptive statistics in SPSS. Table 4 displays the results.

Table 4

Variable Descriptive Statistics

	N	Mean	Std. Deviation	Skewness Statistic	Skewness Std. Error	Kurtosis Statistic	Kurtosis Std. Error
SOC_avg	350	3.6082	0.92542	-0.728	0.13	0.107	0.26
CUL_avg	350	3.2768	0.686	-0.163	0.13	-0.23	0.26
POS_avg	350	3.9289	1.01006	-1.008	0.13	0.2	0.26
OCB_avg	350	3.6224	0.69669	-0.536	0.13	0.215	0.26
IPB_avg	350	3.3269	0.77751	-0.472	0.13	0.155	0.26
EE_avg	350	3.9603	0.74244	-0.946	0.13	0.924	0.26

Running a test for normality in SPSS, the Kolmogorov-Smirnov and Shapiro-Wilk tests both indicate a significant departure from normality for all aggregate variables, indicating that we would reject the null that the data is normally distributed for each (Razali & Wah, 2011). This is evident in that for each aggregate, $p < 0.05$, as seen in Table 5. Appendix D displays the respective histograms, boxplots, and Q-Q plots for data distribution.

Table 5

Tests of Normality

Variable	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
SOC_avg	0.098	350	< .001	0.951	350	< .001

Variable	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
CUL_avg	0.06	350	0.004	0.99	350	0.014
POS_avg	0.144	350	< .001	0.885	350	< .001
OCB_avg	0.097	350	< .001	0.976	350	< .001
IPB_avg	0.085	350	< .001	0.98	350	< .001
EE_avg	0.116	350	< .001	0.936	350	< .001

Construct Validity and Correlation Analysis

A correlation analysis was done to provide insight into the relationships between the variables. Namely, the strength and direction of association between them. For this study's dataset, all the variables have positive relationships, as shown in the findings in Table 6. However, some of the variables have notably higher correlations with each other (> 0.7). For example, the correlation coefficient between CUL and SOC is 0.779. Likewise, the correlation coefficient between SOC and EE is 0.738, and between CUL and POS it is 0.725.

Table 6

Variables Correlations

		Age	Sex	Ethnicity	Education	Tenure	Industry	SOC_avg	CUL_avg	POS_avg	OCB_avg	IPB_avg	EE_avg
Age	Pearson Correlation	1											
	Sig. (2-tailed)												
	N	350											
Sex	Pearson Correlation	0.026	1										
	Sig. (2-tailed)	0.63											
	N	350	350										
Ethnicity	Pearson Correlation	.116*	0.076	1									
	Sig. (2-tailed)	0.029	0.154										
	N	350	350	350									
Education	Pearson Correlation	-0.008	-0.051	-0.074	1								
	Sig. (2-tailed)	0.884	0.345	0.166									
	N	350	350	350	350								
Tenure	Pearson Correlation	.493**	-0.018	0.064	0.094	1							

		Age	Sex	Ethnicity	Education	Tenure	Industry	SOC_avg	CUL_avg	POS_avg	OCB_avg	IPB_avg	EE_avg
	Sig. (2-tailed)	<.001	0.743	0.232	0.079								
	N	350	350	350	350	350							
Industry	Pearson Correlation	-0.064	.140**	0.09	.173**	-0.055	1						
	Sig. (2-tailed)	0.231	0.009	0.094	0.001	0.309							
	N	350	350	350	350	350	350						
SOC_avg	Pearson Correlation	0.049	-0.091	0.009	0.062	.140**	0.031	1					
	Sig. (2-tailed)	0.357	0.088	0.86	0.244	0.009	0.566						
	N	350	350	350	350	350	350	350					
CUL_avg	Pearson Correlation	0.073	-0.077	-0.032	0.073	0.105	-0.002	.779**	1				
	Sig. (2-tailed)	0.173	0.151	0.547	0.175	0.051	0.965	<.001					
	N	350	350	350	350	350	350	350	350				
POS_avg	Pearson Correlation	0.082	-0.065	0.002	.144**	.161**	-0.027	.688**	.725**	1			
	Sig. (2-tailed)	0.125	0.228	0.969	0.007	0.003	0.61	<.001	<.001				
	N	350	350	350	350	350	350	350	350	350			

		Age	Sex	Ethnicity	Education	Tenure	Industry	SOC_avg	CUL_avg	POS_avg	OCB_avg	IPB_avg	EE_avg
OCB_avg	Pearson Correlation	0.087	-0.075	0.026	0.055	.156**	-0.038	.412**	.370**	.323**	1		
	Sig. (2-tailed)	0.105	0.161	0.631	0.302	0.003	0.48	<.001	<.001	<.001			
	N	350	350	350	350	350	350	350	350	350	350		
IPB_avg	Pearson Correlation	0.08	-0.075	0.012	.117*	0.088	-0.002	.546**	.441**	.360**	.596**	1	
	Sig. (2-tailed)	0.135	0.163	0.829	0.029	0.101	0.977	<.001	<.001	<.001	<.001		
	N	350	350	350	350	350	350	350	350	350	350	350	
EE_avg	Pearson Correlation	0.098	-0.031	0.065	0.026	0.104	0.015	.738**	.614**	.560**	.532**	.524**	1
	Sig. (2-tailed)	0.068	0.557	0.227	0.629	0.052	0.784	<.001	<.001	<.001	<.001	<.001	
	N	350	350	350	350	350	350	350	350	350	350	350	350

* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).

Regression Results

To further examine the relationship between the variables and to evaluate whether they are statistically significant, a hierarchical regression analysis was conducted via SPSS. The tables below display unstandardized coefficients beta and follows the 0.05 p-value threshold in determining whether to reject or support hypothesized relationship. Since the research model includes mediating variables, mediation testing approach following Baron and Kenny (1986) steps were leveraged.

Table 7

Summary of Results for H1, H2, H10, H12a

Hypothesis 1				
Model		Beta	t	Sig.
1	(Constant)	3.545	15.455	<.001
	Age	0.038	0.955	0.34
	Sex	-0.055	-0.696	0.487
	Ethnicity	0.03	1.027	0.305
	Education	0.012	0.34	0.734
	Tenure	0.053	1.125	0.261
	Industry	0.013	0.349	0.727
2	(Constant)	1.674	9.269	<.001
	Age	0.046	1.722	0.086
	Sex	0.046	0.852	0.395
	Ethnicity	0.027	1.355	0.176
	Education	-0.006	-0.236	0.814
	Tenure	-0.029	-0.897	0.37
	Industry	-0.009	-0.345	0.73
	SOC_avg	0.596	20.205	<.001
a. Dependent Variable: EE_avg				
Hypothesis 2				
Model		Beta	t	Sig.
1	(Constant)	3.286	15.376	<.001
	Age	0.009	0.245	0.807
	Sex	-0.093	-1.27	0.205
	Ethnicity	0.013	0.488	0.626
	Education	0.029	0.841	0.401
	Tenure	0.1	2.27	0.024
	Industry	-0.018	-0.545	0.586
2	(Constant)	2.349	10.267	<.001

	Age	0.013	0.389	0.698
	Sex	-0.043	-0.634	0.527
	Ethnicity	0.012	0.465	0.642
	Education	0.02	0.623	0.534
	Tenure	0.059	1.442	0.15
	Industry	-0.029	-0.933	0.352
	SOC_avg	0.298	7.984	<.001

a. Dependent Variable: OCB_avg

Hypothesis 10

Model		Beta	t	Sig.
1	(Constant)	3.545	15.455	<.001
	Age	0.038	0.955	0.34
	Sex	-0.055	-0.696	0.487
	Ethnicity	0.03	1.027	0.305
	Education	0.012	0.34	0.734
	Tenure	0.053	1.125	0.261
	Industry	0.013	0.349	0.727
2	(Constant)	1.696	6.67	<.001
	Age	0.033	0.969	0.333
	Sex	-0.002	-0.035	0.972
	Ethnicity	0.022	0.904	0.366
	Education	-0.004	-0.119	0.906
	Tenure	-0.003	-0.076	0.94
	Industry	0.023	0.745	0.457
	OCB_avg	0.563	11.388	<.001

a. Dependent Variable: EE_avg

Hypothesis 12a

Model		Beta	t	Sig.
1	(Constant)	3.545	15.455	<.001
	Age	0.038	0.955	0.34
	Sex	-0.055	-0.696	0.487
	Ethnicity	0.03	1.027	0.305
	Education	0.012	0.34	0.734
	Tenure	0.053	1.125	0.261
	Industry	0.013	0.349	0.727
2	(Constant)	1.674	9.269	<.001
	Age	0.046	1.722	0.086
	Sex	0.046	0.852	0.395
	Ethnicity	0.027	1.355	0.176
	Education	-0.006	-0.236	0.814
	Tenure	-0.029	-0.897	0.37
	Industry	-0.009	-0.345	0.73
	SOC_avg	0.596	20.205	<.001
3	(Constant)	0.98	5.109	<.001
	Age	0.042	1.698	0.09
	Sex	0.058	1.173	0.242
	Ethnicity	0.023	1.271	0.205

	Education	-0.012	-0.504	0.614
	Tenure	-0.046	-1.543	0.124
	Industry	9.41E-05	0.004	0.997
	SOC_avg	0.508	17.021	<.001
	OCB_avg	0.295	7.452	<.001

a. Dependent variable: EE_avg

Hypothesis 1 posited that a SOC at work positively relates to employees' engagement in CI. Table 7 shows a 0.596 unstandardized coefficient beta for SOC, which is significant [$t = 20.205$, $p < .001$]. This suggests that each unit increase in SOC results in a 0.596 unit increase in EE in the same positive direction as predicted in the research model. Thus, H1 is supported.

Hypothesis 2 posited that a SOC at work positively relates to employees' OCB. Table 7 shows a 0.298 coefficient beta for SOC when regressed against OCB, which is significant [$t = 7.984$, $p < .001$]. This suggests that each unit increase in SOC results in an increase of 0.298 units in OCB in the same positive direction as predicted in the research model, making H2 supported.

Hypothesis 10 posited that OCB positively relates to employee engagement in CI. The table shows a 0.563 coefficient beta for OCB regressed against EE, which is significant [$t = 11.388$, $p < .001$]. This suggests that each unit increase in OCB results in an increase of 0.563 units in EE in the same positive direction as predicted in the research model. H10 consequently is supported.

Furthermore, OCB was hypothesized to partially mediate the relationship between SOC and employee engagement in CI in Hypothesis 12a. To investigate the mediation effect, a multiple regression analysis was performed, producing and assessing three models. Model 1 examined age, sex, ethnicity, education, tenure and industry with EE as

the dependent variable. Model 2 examined the relationship between SOC and EE, controlling for these demographic variables. When looking at Model 3 in Table 7, we find that even in the presence of OCB, SOC is still significantly related to EE at a level of 0.508 [$t = 17.021$, $p < .001$]. Given that the coefficient beta was reduced but remained significant, it is concluded that mediation is partial and thus, H12a is also supported.

With the supported H1 relationship between SOC and EE in mind, the next step examines the relationship between these two variables and a second mediator, IPB.

Table 8

Summary of Results for H3, H11, H13a

Hypothesis 3				
Model		Beta	t	Sig.
1	(Constant)	2.871	12.005	< .001
	Age	0.038	0.934	0.351
	Sex	-0.106	-1.296	0.196
	Ethnicity	0.009	0.298	0.766
	Education	0.078	2.039	0.042
	Tenure	0.037	0.749	0.455
	Industry	-0.004	-0.115	0.909
2	(Constant)	1.446	6.155	< .001
	Age	0.045	1.288	0.198
	Sex	-0.03	-0.43	0.667
	Ethnicity	0.007	0.257	0.798
	Education	0.064	1.983	0.048
	Tenure	-0.026	-0.611	0.541
	Industry	-0.021	-0.64	0.523
	SOC_avg	0.454	11.826	< .001
a. Dependent Variable: IPB_avg				
Hypothesis 11				
Model		Beta	t	Sig.
1	(Constant)	3.545	15.455	< .001
	Age	0.038	0.955	0.34
	Sex	-0.055	-0.696	0.487
	Ethnicity	0.03	1.027	0.305
	Education	0.012	0.34	0.734
	Tenure	0.053	1.125	0.261
	Industry	0.013	0.349	0.727
2	(Constant)	2.114	9.039	< .001
	Age	0.019	0.548	0.584
	Sex	-0.002	-0.027	0.979
	Ethnicity	0.025	1.02	0.309
	Education	-0.026	-0.836	0.404
	Tenure	0.035	0.86	0.391
	Industry	0.015	0.478	0.633
	IPB_avg	0.498	11.249	< .001
a. Dependent Variable: EE_avg				
Hypothesis 13a				
Model		Beta	t	Sig.
1	(Constant)	3.545	15.455	< .001
	Age	0.038	0.955	0.34
	Sex	-0.055	-0.696	0.487
	Ethnicity	0.03	1.027	0.305
	Education	0.012	0.34	0.734
	Tenure	0.053	1.125	0.261

	Industry	0.013	0.349	0.727
2	(Constant)	1.674	9.269	< .001
	Age	0.046	1.722	0.086
	Sex	0.046	0.852	0.395
	Ethnicity	0.027	1.355	0.176
	Education	-0.006	-0.236	0.814
	Tenure	-0.029	-0.897	0.37
	Industry	-0.009	-0.345	0.73
	SOC_avg	0.596	20.205	< .001
3	(Constant)	1.435	7.708	< .001
	Age	0.039	1.474	0.141
	Sex	0.051	0.966	0.335
	Ethnicity	0.026	1.328	0.185
	Education	-0.016	-0.673	0.501
	Tenure	-0.025	-0.783	0.434
	Industry	-0.005	-0.212	0.832
	SOC_avg	0.521	15.214	< .001
	IPB_avg	0.165	4.065	< .001

a. Dependent Variable: EE_avg

Hypothesis 3 proposed that having or feeling a SOC at work would positively relate to employees' IPB. Table 8 shows a 0.454 unstandardized coefficient beta for SOC when regressed against IPB, which is significant [$t = 11.826$, $p < .001$]. This suggests that each unit increase in SOC results in a 0.454 unit increase in IPB in the same positive direction as predicted in the research model. Thus, H3 is supported.

The next step following the Baron & Kenny method was to regress the mediator, IPB, against the dependent variable, EE. As such, Hypothesis 11 stated that IPB positively relates to employee engagement in CI. Table 8 shows this relationship as significant with a 0.498 coefficient beta for IPB [$t = 11.249$, $p < .001$]. This suggests that each unit increase in IPB results in a 0.498 unit increase in EE in the same positive direction as predicted in the research model. Consequently, H11 is supported.

Hypothesis 13a stated that IPB partially mediates the relationship between SOC and employee engagement in CI. To investigate the mediation effect, a multiple

regression analysis was performed, producing and assessing three models. Model 1 examined age, sex, ethnicity, education, tenure and industry with EE as the dependent variable. Model 2 examined the relationship between SOC and EE, controlling for these demographic variables. Model 3 shows the full model that results in SOC with a beta of 0.521 and significantly related to EE even when IPB is introduced as a mediator [$t = 15.214$, $p < .001$]. Given that the beta was reduced from Model 2 to Model 3 but remained significant, it is concluded that there is partial mediation and thus H13a is supported.

Table 9

Summary of Results for H4, H5, H12b

Hypothesis 4				
Model		Beta	t	Sig.
1	(Constant)	3.545	15.455	< .001
	Age	0.038	0.955	0.34
	Sex	-0.055	-0.696	0.487
	Ethnicity	0.03	1.027	0.305
	Education	0.012	0.34	0.734
	Tenure	0.053	1.125	0.261
	Industry	0.013	0.349	0.727
2	(Constant)	1.518	6.599	< .001
	Age	0.022	0.707	0.48
	Sex	0.009	0.151	0.88
	Ethnicity	0.041	1.767	0.078
	Education	-0.011	-0.387	0.699
	Tenure	0.015	0.41	0.682
	Industry	0.01	0.334	0.738
	CUL_avg	0.664	14.342	< .001
a. Dependent Variable: EE_avg				
Hypothesis 5				
Model		Beta	t	Sig.
1	(Constant)	3.286	15.376	< .001
	Age	0.009	0.245	0.807
	Sex	-0.093	-1.27	0.205
	Ethnicity	0.013	0.488	0.626
	Education	0.029	0.841	0.401
	Tenure	0.1	2.27	0.024
	Industry	-0.018	-0.545	0.586
2	(Constant)	2.187	8.632	< .001
	Age	0.001	0.016	0.987
	Sex	-0.058	-0.848	0.397
	Ethnicity	0.019	0.752	0.453
	Education	0.016	0.496	0.62
	Tenure	0.079	1.924	0.055
	Industry	-0.02	-0.635	0.526
	CUL_avg	0.36	7.057	< .001
a. Dependent Variable: OCB_avg				
Hypothesis 12b				
Model		Beta	t	Sig.
1	(Constant)	3.545	15.455	< .001
	Age	0.038	0.955	0.34
	Sex	-0.055	-0.696	0.487
	Ethnicity	0.03	1.027	0.305
	Education	0.012	0.34	0.734
	Tenure	0.053	1.125	0.261
	Industry	0.013	0.349	0.727

2	(Constant)	1.518	6.599	< .001
	Age	0.022	0.707	0.48
	Sex	0.009	0.151	0.88
	Ethnicity	0.041	1.767	0.078
	Education	-0.011	-0.387	0.699
	Tenure	0.015	0.41	0.682
	Industry	0.01	0.334	0.738
	CUL_avg	0.664	14.342	< .001
3	(Constant)	0.695	3.005	0.003
	Age	0.022	0.768	0.443
	Sex	0.031	0.551	0.582
	Ethnicity	0.033	1.595	0.112
	Education	-0.017	-0.65	0.516
	Tenure	-0.014	-0.423	0.673
	Industry	0.017	0.655	0.513
	CUL_avg	0.529	11.704	< .001
	OCB_avg	0.376	8.406	< .001

a. Dependent Variable: EE_avg

Hypothesis 4 posited that organizational culture positively relates to employee engagement in CI. Table 9 shows a 0.664 coefficient beta for CUL, which is significant [$t = 14.342$, $p < .001$]. This suggests that each unit increase in CUL results in an increase of 0.664 units in EE in the same positive direction as predicted in the research model, making H4 supported.

Hypothesis 5 stated that organizational culture positively relates to employees' OCB. Table 9 shows a 0.36 coefficient beta for CUL when regressed against the mediator, OCB, which is significant [$t = 7.057$, $p < .001$]. This suggests that each unit increase in CUL results in a 0.36 unit increase in OCB in the same positive direction as predicted in the research model. Thus, H5 is supported.

The OCB and EE relationship was already examined and shown supported in Table 7 for H10, thus the next step was to look at the mediation. Hypothesis 12b stated that OCB partially mediates the relationship between organizational culture and

employee engagement in CI. To investigate the mediation effect, three models were produced similarly as before. Model 3 here shows the full mediation model that shows CUL with a beta of 0.529 and significantly related to EE even when OCB is introduced as a mediator [$t = 11.704$, $p < .001$]. Given that the beta was reduced from 0.664 in Model 2 to 0.529 in Model 3 but remained significant, it is concluded that there is partial mediation and thus H12b is supported.

Table 10

Summary of Results for H6, H13b

Hypothesis 6				
Model		Beta	t	Sig.
1		(Unstandardized)		
	(Constant)	2.871	12.005	< .001
	Age	0.038	0.934	0.351
	Sex	-0.106	-1.296	0.196
	Ethnicity	0.009	0.298	0.766
	Education	0.078	2.039	0.042
	Tenure	0.037	0.749	0.455
	Industry	-0.004	-0.115	0.909
2	(Constant)	1.39	5.071	< .001
	Age	0.027	0.726	0.468
	Sex	-0.059	-0.798	0.425
	Ethnicity	0.017	0.617	0.538
	Education	0.06	1.751	0.081
	Tenure	0.009	0.207	0.836
	Industry	-0.007	-0.193	0.847
	CUL_avg	0.485	8.794	< .001
a. Dependent Variable: IPB_avg				
Hypothesis 13b				
Model		Beta	t	Sig.
1	(Constant)	3.545	15.455	< .001
	Age	0.038	0.955	0.34
	Sex	-0.055	-0.696	0.487
	Ethnicity	0.03	1.027	0.305
	Education	0.012	0.34	0.734
	Tenure	0.053	1.125	0.261
	Industry	0.013	0.349	0.727
2	(Constant)	1.518	6.599	< .001
	Age	0.022	0.707	0.48
	Sex	0.009	0.151	0.88
	Ethnicity	0.041	1.767	0.078
	Education	-0.011	-0.387	0.699
	Tenure	0.015	0.41	0.682
	Industry	0.01	0.334	0.738
	CUL_avg	0.664	14.342	< .001
3	(Constant)	1.099	4.929	< .001
	Age	0.014	0.477	0.634
	Sex	0.027	0.468	0.64
	Ethnicity	0.036	1.652	0.099
	Education	-0.029	-1.083	0.28
	Tenure	0.013	0.359	0.72
	Industry	0.012	0.432	0.666
	CUL_avg	0.518	10.805	< .001
	IPB_avg	0.302	7.113	< .001
a. Dependent Variable: EE_avg				

Since H4 and H11 have now already been concluded to be supported as seen in Tables 9 and 8, respectively, the next step in following the Baron and Kenny mediation method is to complete the regressions for the rest of the CUL-IPB relationship. Hypothesis 6 posited that organizational culture positively relates to employees' IPB. Table 10 shows a 0.485 coefficient beta for CUL, which is significant [$t = 8.794$, $p < .001$]. This suggests that each unit increase in CUL results in an increase of 0.485 units in IPB in the same positive direction as predicted in the research model, making H6 also supported.

Hypothesis 13b suggested that IPB partially mediates the relationship between organizational culture and employee engagement in CI. To investigate this mediation effect, three models were produced once more. As seen in Table 10 for H13b, Model 2 shows CUL with a beta of 0.664, which is significant, and in Model 3 the beta is reduced to 0.518. Here, CUL is significantly related to EE even when IPB is introduced as a mediator [$t = 10.805$, $p < .001$]. Given that there was a reduction in the beta value but it remained significant, it is concluded that there is partial mediation and thus H13b is supported.

Table 11

Summary of Results for H7, H8, H12c

Hypothesis 7				
Model		Beta	t	Sig.
1	(Constant)	3.545	15.455	< .001
	Age	0.038	0.955	0.34
	Sex	-0.055	-0.696	0.487
	Ethnicity	0.03	1.027	0.305
	Education	0.012	0.34	0.734
	Tenure	0.053	1.125	0.261
	Industry	0.013	0.349	0.727
2	(Constant)	2.216	10.128	< .001
	Age	0.033	1.005	0.315
	Sex	-0.013	-0.195	0.845
	Ethnicity	0.027	1.124	0.262
	Education	-0.038	-1.249	0.213
	Tenure	-0.007	-0.166	0.868
	Industry	0.026	0.861	0.39
	POS_avg	0.416	12.409	< .001
a. Dependent Variable: EE_avg				
Hypothesis 8				
Model		Beta	t	Sig.
1	(Constant)	3.286	15.376	< .001
	Age	0.009	0.245	0.807
	Sex	-0.093	-1.27	0.205
	Ethnicity	0.013	0.488	0.626
	Education	0.029	0.841	0.401
	Tenure	0.1	2.27	0.024
	Industry	-0.018	-0.545	0.586
2	(Constant)	2.619	11.187	< .001
	Age	0.007	0.189	0.85
	Sex	-0.072	-1.028	0.305
	Ethnicity	0.012	0.459	0.647
	Education	0.003	0.098	0.922
	Tenure	0.07	1.652	0.1
	Industry	-0.012	-0.364	0.716
	POS_avg	0.208	5.812	< .001
a. Dependent Variable: OCB_avg				
Hypothesis 12c				
Model		Beta	t	Sig.
1	(Constant)	3.545	15.455	< .001
	Age	0.038	0.955	0.34
	Sex	-0.055	-0.696	0.487
	Ethnicity	0.03	1.027	0.305
	Education	0.012	0.34	0.734
	Tenure	0.053	1.125	0.261

	Industry	0.013	0.349	0.727
2	(Constant)	2.216	10.128	< .001
	Age	0.033	1.005	0.315
	Sex	-0.013	-0.195	0.845
	Ethnicity	0.027	1.124	0.262
	Education	-0.038	-1.249	0.213
	Tenure	-0.007	-0.166	0.868
	Industry	0.026	0.861	0.39
	POS_avg	0.416	12.409	< .001
3	(Constant)	1.112	4.865	< .001
	Age	0.03	1.029	0.304
	Sex	0.018	0.3	0.764
	Ethnicity	0.022	1.026	0.306
	Education	-0.04	-1.447	0.149
	Tenure	-0.036	-1.015	0.311
	Industry	0.031	1.146	0.253
	POS_avg	0.328	10.447	< .001
	OCB_avg	0.421	9.332	< .001

a. Dependent Variable: EE_avg

Hypothesis 7 posited that POS positively relates to employee engagement in CI. Table 11 shows a 0.416 coefficient beta for POS, which is significant [$t = 12.409$, $p < .001$]. This suggests that each unit increase in POS results in an increase of 0.6416 units in EE in the same positive direction as predicted in the research model, making H7 supported.

Hypothesis 8 stated that POS positively relates to employees' OCB. Table 11 shows a 0.208 coefficient beta for POS when regressed against the mediator, OCB, and is significant [$t = 5.812$, $p < .001$]. This suggests that each unit increase in POS results in a 0.208 unit increase in OCB in the same positive direction as predicted in the research model. Thus, H8 is supported.

The next step per the Baron and Kenny method would be to examine the relationship between OCB and the dependent variable, EE. As this was done in Table 7, we moved forward to the mediation effect. Hypothesis 12c suggested that OCB partially

mediates the relationship between POS and employee engagement in CI. To investigate this mediation effect, three models were produced once more. As seen in Table 11, Model 2 for H12c shows POS with a beta of 0.416, which is significant, and in Model 3 the beta is reduced to 0.328. Here, POS is significantly related to EE even when OCB is introduced as a mediator [$t = 10.447$, $p < .001$]. Given that there was a reduction in the beta value but it remained significant, it is concluded that there is partial mediation and thus H12c is supported.

Table 12

Summary of Results for H9, H13c

Hypothesis 9				
Model		Beta	t	Sig.
1		(Unstandardized)		
	(Constant)	2.871	12.005	< .001
	Age	0.038	0.934	0.351
	Sex	-0.106	-1.296	0.196
	Ethnicity	0.009	0.298	0.766
	Education	0.078	2.039	0.042
	Tenure	0.037	0.749	0.455
	Industry	-0.004	-0.115	0.909
2	(Constant)	2.025	7.841	< .001
	Age	0.035	0.915	0.361
	Sex	-0.08	-1.029	0.304
	Ethnicity	0.007	0.256	0.798
	Education	0.045	1.255	0.21
	Tenure	-0.001	-0.024	0.981
	Industry	0.004	0.116	0.908
	POS_avg	0.264	6.683	< .001
a. Dependent Variable: IPB_avg				
Hypothesis 13c				
Model		Beta	t	Sig.
1	(Constant)	3.545	15.455	< .001
	Age	0.038	0.955	0.34
	Sex	-0.055	-0.696	0.487
	Ethnicity	0.03	1.027	0.305
	Education	0.012	0.34	0.734
	Tenure	0.053	1.125	0.261
	Industry	0.013	0.349	0.727
2	(Constant)	2.216	10.128	< .001
	Age	0.033	1.005	0.315
	Sex	-0.013	-0.195	0.845
	Ethnicity	0.027	1.124	0.262
	Education	-0.038	-1.249	0.213
	Tenure	-0.007	-0.166	0.868
	Industry	0.026	0.861	0.39
	POS_avg	0.416	12.409	< .001
3	(Constant)	1.49	6.911	< .001
	Age	0.02	0.681	0.496
	Sex	0.016	0.264	0.792
	Ethnicity	0.025	1.119	0.264
	Education	-0.055	-1.957	0.051
	Tenure	-0.006	-0.172	0.864
	Industry	0.025	0.894	0.372
	POS_avg	0.321	9.931	< .001
	IPB_avg	0.358	8.62	< .001
a. Dependent Variable: EE_avg				

The final regressions ran were to obtain a complete view of the relationship with POS and the IPB mediator. Table 11 shows the relationship between POS and the dependent variable EE and H7 being supported. Similarly, Table 8 shows support for the relationship between IPB and EE (H11). To complete the assessment for these relationships, Table 12 now shows the evaluation of H9 and H13c.

Hypothesis 9 stated that POS positively relates to employees' IPB. Table 12 shows a 0.264 coefficient beta for POS when regressed against the mediator, IPB, and is significant [$t = 6.683$, $p < .001$]. This suggests that each unit increase in POS results in a 0.264 unit increase in IPB in the same positive direction as predicted in the research model. Thus, H9 is supported.

Finally, Hypothesis 13c posited that IPB partially mediates the relationship between POS and employee engagement in CI. As seen in Table 12, Model 2 for H13c shows POS with a significant beta of 0.416, and in Model 3 the beta is reduced to 0.321, yet still significant even when IPB is introduced as a mediator [$t = 9.931$, $p < .001$]. Given that there was a reduction in the beta value but it remained significant, it is concluded that there is partial mediation and thus H13c is supported.

Sobel Test

A Sobel test was used to determine whether the supported partial mediating effects were significant. Three values are obtained from the Sobel test: the test statistic, standard error, and p-value. Table 1 provides a summary for the Sobel Test, using OCB as mediating variable between SOC and EE in CI. The results in Table 13 show that the p-value was below 0.05, indicating that the mediation effect was significant and thus, partial mediation is confirmed.

Table 13

Results of Sobel Test for OCB as a Mediator in the SOC-EE Relationship (H12a)

	Input		Test statistic	Std. Error	p-value
A	0.298	Sobel test:	5.4392	0.01616241	0.000000
B	0.295	Aroian test:	5.4165	0.01623003	0.000000
SEa	0.037	Goodman test:	5.4621	0.01609451	0.000000
SEb	0.040				

A second Sobel Test was conducted to confirm the partial mediation found for OCB regarding employee engagement in CI. The results show that the p-value was below 0.05 [$z = 5.3922$, $p < .001$], indicating a significant mediation effect of OCB in the relationship between CUL and EE and thus, partial mediation is confirmed. Table 14 displays the results.

Table 14

Results of Sobel Test for OCB as a Mediator in the CUL-EE Relationship (H12b)

	Input		Test statistic	Std. Error	p-value
A	0.360	Sobel test:	5.3922	0.02510297	0.000000
B	0.376	Aroian test:	5.3697	0.02520766	0.000000
SEa	0.051	Goodman test:	5.4148	0.02499784	0.000000
SEb	0.045				

A third Sobel Test was conducted to confirm the partial mediation found for OCB. The results show that the p-value was below 0.05 [$z = 4.9158$, $p < .001$], indicating a significant mediation effect of OCB in the relationship between POS and EE and so partial mediation is confirmed. Table 15 displays the results.

Table 15

Results of Sobel Test for OCB as a Mediator in the POS-EE Relationship (H12c)

	Input		Test statistic	Std. Error	p-value
A	0.208	Sobel test:	4.9158	0.01781331	0.000000
B	0.421	Aroian test:	4.8956	0.01788682	0.000000
SEa	0.036	Goodman test:	4.9363	0.01773949	0.000000
SEb	0.045				

Three more Sobel Tests were conducted to confirm the partial mediation found for IPB regarding employee engagement in CI. The results show that all p-values were below 0.05 and all z-scores above 3.29, confirming partial mediation of IPB in the relationships between SOC and EE, CUL and EE, and POS and EE. Tables 16–18 display the results.

Table 16

Results of Sobel Test for IPB as a Mediator in the SOC-EE Relationship (H13a)

	Input		Test statistic	Std. Error	p-value
A	0.454	Sobel test:	3.8138	0.01964164	0.000137
B	0.165	Aroian test:	3.8018	0.01970333	0.000144
SEa	0.038	Goodman test:	3.8258	0.01957975	0.000130
SEb	0.041				

Table 17

Results of Sobel Test for IPB as a Mediator in the CUL-EE Relationship (H13b)

	Input		Test statistic	Std. Error	p-value
A	0.485	Sobel test:	5.5727	0.02628363	0.000000
B	0.302	Aroian test:	5.5513	0.02638494	0.000000
SEa	0.055	Goodman test:	5.5943	0.02618192	0.000000
SEb	0.042				

Table 18

Results of Sobel Test for IPB as a Mediator in the POS-EE Relationship (H13c)

	Input		Test statistic	Std. Error	p-value
A	0.264	Sobel test:	5.2185	0.01811094	0.000000
B	0.358	Aroian test:	5.1962	0.01818869	0.000000
SEa	0.040	Goodman test:	5.2411	0.01803285	0.000000
SEb	0.042				

The overall results of the study are summarized below in Table 19.

Table 19

Hypotheses Results

Hypotheses	Supported / Not Supported
H1: A sense of community at work positively relates to employee engagement in continuous innovation	Supported
H2: A sense of community at work positively relates to employees' organizational citizenship behavior	Supported
H3: A sense of community at work positively relates to employees' intrapreneurial behavior	Supported
H4: Organizational culture positively relates to employee engagement in continuous innovation.	Supported
H5: Organizational culture positively relates to employees' organizational citizenship behavior.	Supported
H6: Organizational culture positively relates to employees' intrapreneurial behavior.	Supported
H7: Perceived organizational support positively relates to employee engagement in continuous innovation	Supported
H8: Perceived organizational support positively relates to employees' organizational citizenship behavior	Supported
H9: Perceived organizational support positively relates to employees' intrapreneurial behavior	Supported
H10: Organizational citizenship behavior positively relates to employee engagement in continuous innovation	Supported
H11: Intrapreneurial behavior positively relates to employee engagement in continuous innovation	Supported
H12a: Organizational citizenship behavior partially mediates the relationship between sense of community and employee engagement in continuous innovation	Supported
H12b: Organizational citizenship behavior partially mediates the relationship between organizational culture and employee engagement in continuous innovation	Supported
H12c: Organizational citizenship behavior partially mediates the relationship between perceived organizational support and employee engagement in continuous innovation	Supported
H13a: Intrapreneurial behavior partially mediates the relationship between sense of community and employee engagement in continuous innovation	Supported
H13b: Intrapreneurial behavior partially mediates the relationship between organizational culture and employee engagement in continuous innovation	Supported
H13c: Intrapreneurial behavior partially mediates the relationship between perceived organizational support and employee engagement in continuous innovation	Supported

Chapter 6: Discussion and Conclusion

This study and its findings contribute to the literature surrounding intrapreneurship and OCB, as well as employee engagement, using SET and SDT as overarching theories. In terms of SET, the defining characteristic in the context of this study is that of reciprocity as interdependent exchanges (Cropanzano & Mitchell, 2005; Molm, 1994). For example, the findings for H1, H4 and H7 in this study reveal that employees having or feeling a SOC in the workplace, an organizational culture that is conducive to desired behaviors, and POS all respectively have a positive effect on employee engagement in initiatives and strategies such as CI. This reflects SET's emphasis on the role of norms and expectations in shaping exchange relationships as it shows a transaction wherein the organization provides a resource or support to the employee, and the employee reciprocates with increased engagement (Cropanzano & Mitchell, 2005; Kular et al., 2008; Sun & Bunchapattanasakda, 2019). These findings also speak to basic needs of humans within the workplace to be productive and create value (Chen et al., 2008; Farrukh et al, 2022; Garg & Dhar, 2017).

Likewise, the study's results found that OCB and IPB too are positively related to employee engagement in ideas like CI as shown by the support of H10 and H11. The results suggest that when employees exhibit extra-role behaviors and are empowered to think intrapreneurially, heightened engagement is an outcome, which again fosters mutual benefit. This makes sense considering the logical relationship between the variables. For example, OCB refers to voluntary actions by employees that are not part of their formal job duties but contribute positively to the organization (Organ, 1988). This ties back to both the theoretical frameworks that support this study. SET posits that

employees engage in positive behaviors (i.e., OCB and IPB) as a form of reciprocation for the support and resources provided by the organization, causing increased motivation and engagement (Chen et al., 2008; Homans, 1958; Wu & Parker, 2017). Likewise, SDT states that when employees voluntarily engage in OCBs, they satisfy three core psychological needs—autonomy, competence, and relatedness, driving intrinsic motivation, a crucial factor in employee engagement (Ryan & Deci, 2000). This psychological satisfaction makes way for a sense of safety in the workplace where individuals feel comfortable sharing ideas and taking risks, leading to higher engagement (Edmondson, 1999).

Similarly, IPB involves employees taking initiative to innovate and drive change within the organization (Farrukh et al., 2022; Neessen et al., 2019). Support for employee intrapreneurship fosters agentic behaviors, which, if rewarded, make an employee more likely to engage in innovative behavior (Badoiu et al., 2020). These relationships lead to a few practical implications for managers. For example, encouraging OCB via recognition and reward can promote a culture where employees feel valued, engaged, and inclined to continue such behaviors and influence others to exhibit them. The same can be said for intrapreneurship, in that providing employees with the autonomy and support to pursue innovative ideas can lead to higher engagement and drive organizational success (Farrukh et al., 2022).

In short, OCB enhances engagement by fostering a supportive and meaningful work environment where employees feel valued and motivated to contribute beyond their formal job roles (Podsakoff et al., 2009). IPB further strengthens engagement by empowering employees to take ownership of innovation, problem-solving, and strategic

contributions within the organization (Rigtering & Weitzel, 2013). Thus, OCB and IPB are mutually reinforcing because they work in tandem to drive engagement.

The findings for H2 and H3 reveal that a SOC is also important for an employee to exhibit citizenship and IPBs. This also aligns with SET, as it introduces the presence of psychological contracts, which is positively related to a SOC, and consequently, OCB (Burroughs & Eby, 1998). This study also extends this logic to IPB, as having a community might provide security in the environment of the intrapreneurial employee, as well as encourage collaboration which is necessary for innovation to occur within organizations (Burroughs & Eby, 1998; Garrett et al., 2017; Lampinen et al., 2015; Scott & Bruce, 1994). Furthermore, there is something to be said about emotional and social support from like-minded peers. A strong SOC can provide such support and shared enthusiasm, enabling employees to persist despite the challenges that inevitably come with intrapreneurial efforts, which can also be expressions of motivation in connection to SDT (Deci et al., 2017).

For Hypotheses 5 and 6, the findings reveal that organizational culture that encourages OCBs and intrapreneurship enhances employees' engagement in them. This is particularly evident in that a key component of IPB is risk-taking (Farrukh et al., 2022) and when assessing organizational culture, attitude to risk is considered throughout the literature (Ghosh & Srivastava, 2014). OCB is connected here, too, with SET as its base. There is a consensus in the literature that the exchange nature relationship between employee and organization determines the intrinsic or extrinsic behavior of an employee towards their organization and that organizational culture is a medium for promoting the norms and values necessary for them to take place (Liaquat & Mehmood, 2017).

Likewise, when employees feel this alignment between organizational values and their behaviors, it fosters intrinsic and autonomous motivation, which is a tenet of SDT (Deci et al., 2017).

In Hypotheses 8 and 9, it was found that POS is also an antecedent to OCB and IPB. These findings reinforce the premise of SET, which posits when employees perceive their organization as supportive, they respond with favorable discretionary behaviors that go beyond their formal job requirements. This reciprocal exchange fosters organizational commitment and loyalty, ultimately contributed to an organizational culture characterized by proactive, innovative, and cooperative efforts (Blau, 1964; Eisenberger et al., 1986). However, beyond the lens of SET, POS also fulfills key psychological needs as outlined by SDT. Specifically, support from the organization can facilitate the need for autonomy, which is a key aspect of SDT (Gagne & Deci, 2005). When support is perceived as non-controlling, employees perceive greater psychological freedom, allowing them to engage in self-directed, intrinsically motivated behaviors that drive innovative and extra-role activities (Deci & Ryan, 2000). This autonomy supportive environment encourages employees to take initiative, experiment with novel ideas, and contribute beyond their formal roles, which are hallmarks of IPB and OCB (Ryan & Deci, 2017).

Finally, H12a–c and H13a–c are also supported, in that both OCB and IPB partially mediate the relationships between SOC, organizational culture and perceived organizational support, respectively with employee engagement in CI. These findings suggest that, in terms of SET, these behaviors are mechanisms of reciprocity in that employees translate organizational inputs into innovative engagement via these mediatory behaviors. This could also be explained via SDT, as a SOC might satisfy the

need for relatedness via being connected to others, and organizational culture and support serve as proxies for expressions of intrinsic motivation (Gagne & Deci, 2005; Ryan & Deci, 2000).

Implications and Future Research Suggestions

CI is at the center of attention for researchers and practitioners, as it has become one of the primary goals for multiple highly successful companies (Lianto et al., 2018). However, the term itself presents an always-on ideology for innovative and extra-role behaviors, which can be positively associated with burnout if not approached carefully (Chang et al., 2016). Therefore, this research extends the literature on employee engagement in the context of CI, while also contributing to the OCB and entrepreneurship literature. The theoretical support, as mentioned, rests upon SET and SDT in the logic that to keep employees engaged, there has to be a transactional contract or exchange of sorts where they also benefit, and motivation to effectively contribute to the organization's goals, respectively (Cropanzano & Mitchell, 2005; Deci et al., 2017; Kular et al., 2008).

The findings of this study imply that discretionary and innovative behaviors are driven by a mutually reinforcing exchange of resources and support, which advances SET (Blau, 1964; Eisenberger et al., 1986; Homans, 1958). Similarly, they reinforce SDT by showing how organizational factors such as community, culture, and support satisfy employees' psychological needs (autonomy, competence, and relatedness), motivating them to engage in extra-role behaviors such as OCB, intrapreneurship and CI (Gagne & Deci, 2005; Ryan & Deci, 2017). Furthermore, by linking IPB, particularly to factors like community or culture, we emphasize the importance of both environmental and relational

dynamics. Future research exploring the SOC's effect on other initiatives and engagement types, or how SOC and POS buffer against employee burnout might prove valuable contributions to the literature as well.

There are practical implications present as well. For example, the results of the study show that having a SOC positively influences employees' extra-role and IPBs, thus business leaders should continue to invest in resources such as ERGs, team-building initiatives, diversity, equity and inclusion, etc. This can boost employee engagement in CI by satisfying their need for relatedness.

Similarly, providing support by means of resources and encouragement can increase the likelihood employees will behave in ways that drive organizational success. Organizations should also develop cultures that explicitly value innovation, OCB and intrapreneurship. This can be accomplished by recognizing and rewarding extra-role behaviors and encouraging risk-taking, including tolerating failure to an extent. The results of this study imply that clear cultural values will ensure alignment between organizational goals and employee behaviors.

Moreover, there is synergy between OCB and intrapreneurship. The findings suggest that employees can simultaneously balance their need for connection with their desire for autonomy, altruism and creative expression. Recognizing this synergistic effect can allow managers to foster teams that are more versatile, making them key assets in dynamic and competitive environments, and ensure the organization adapts and evolves in response to external challenges. Fostering these two behaviors is logically conducive to building high-performing teams, making the case for talent development, especially in the presence of the organizational factors mentioned previously that would encourage

employees to reciprocate support. Leaders should adopt empowering leadership practices such as encouraging collaboration or modeling open communication to enhance autonomy and competence among employees.

Limitations

This study had a few notable limitations to be addressed. For example, the data collected for this research is cross-sectional, (i.e., captured at a single point in time), making it difficult to establish causality, supporting the suggestion that future researchers conduct a longitudinal study on employee behaviors and engagement. For example, future research could also benefit from conducting a longitudinal study to assess how the relationships between community, culture, support, and employee behaviors evolve over time, especially considering burnout related to engagement and CI. This could be done by taking a deeper look at employee tenure or examining the impact of organizational culture on OCB during times of organizational change. There is also a case to be made for factoring in specific employee motivation and needs and tailoring initiatives to strengthen their citizenship and IPBs. Future research might start with personality traits to go deeper on this aspect.

A second limitation would be the possibility of common method bias, as all data was collected via self-reported surveys with participants all recruited via a single platform. Future research should strive to collect data independently via different platforms and time for each construct in a future study to help expand conclusions made from this study. Another possible limitation is that the study's participants were restricted to employees themselves, which might limit perspectives on how their managers and peers view their OCB and intrapreneurship. This self-reporting approach may introduce

bias, as employees might have overestimated or underestimated their own behaviors due to social desirability, memory recall issues, or personal perceptions that differ from those of their managers and peers. Additionally, self-reported measures do not capture the external validation that could provide a more balanced and comprehensive assessment of these behaviors. To mitigate this limitation in future research, a multi-source data collection approach could be implemented, incorporating assessments from multiple stakeholders, such as supervisors and colleagues, to triangulate findings and reduce self-report bias. By integrating 360-degree feedback or peer evaluations alongside self-reports, future studies can provide a more robust understanding of OCB and intrapreneurship. Furthermore, longitudinal designs could be employed to track changes in these behaviors over time, reducing potential distortions caused by momentary self-perceptions.

The study was also limited to employees in medium-to-large corporations in the United Sates, excluding small businesses and those based abroad. Although this was intentional, future research could sample employees in small businesses in or outside of the U.S. to compare and assess the differences to expand the current findings. This study is also limited in that its findings may not be generalizable to other regions or cultures. For instance, the importance of a SOC might differ in individual versus collectivistic societies. So, any suggestions to improve on this? To address this limitation, future research could employ a cross-cultural comparative design, examining how these constructs manifest in different cultural contexts. This could involve collecting data from employees in diverse geographic locations, using Hofstede's cultural dimensions (1980, 2001, 2010) or similar frameworks to analyze potential variations. Additionally,

qualitative research, such as interviews or focus groups, could provide deeper insights into how cultural values shape employees' attitudes and behaviors. Longitudinal studies tracking cultural shifts in workplace behaviors over time would also be beneficial in understanding how globalization and evolving work environments influence these dynamics.

Conclusion

Employees' extra-role and IPB is driven by an exchange process wherein the organization offers them support in fulfilling psychological needs and resources to thrive at work (Chouchane et al., 2023; Gagne & Deci, 2005). This study provides significant insights into the interplay between organizational factors—SOC, culture, and perceived organizational support—and employee behaviors, including OCB, IPB, and engagement in CI. By integrating SET and SDT, it highlights the mechanisms through which employees' psychological needs for relatedness, competence, and autonomy drive their motivation to engage in extra-role behaviors and innovative initiatives (Deci et al., 2017). The findings underscore the importance of fostering supportive environments to cultivate both, demonstrating their synergistic effects on innovation.

The objective of this study was to understand organizational factors that drive employee engagement by examining the role and synergistic effect of OCB and intrapreneurship as a mechanism that explains the relationship. Theoretically, the study advances understanding of the dual pathways—OCB and intrapreneurship—through which organizational factors influence innovation. It also bridges SET and SDT, emphasizing the importance of relational and motivational dynamics in workplace behavior. These contributions pave the way for future research to explore the long-term

and cross-cultural applicability of these relationships, enhancing their relevance for diverse organizational settings.

The findings suggest that fostering a supportive and socially engaging work environment drives employees to contribute beyond their formal roles, enhancing innovation and organizational success (Podsakoff et al., 2000). Therefore, it is demonstrated that organizations should prioritize creating a strong SOC (or providing the spaces and resources to allow the employees to), cultivate a culture that values innovation and discretionary behaviors, and provide consistent support to employees. These efforts can simultaneously enhance employee engagement and foster CI.

Previous research has looked at the effect of organizational culture and support upon related constructs like job satisfaction (Belias & Koustelios, 2014; Kalleberg, 1977; Karyotakis & Moustakis, 2016; Lund, 2003; Tsai, 2011), or job satisfaction in relation to a SOC (Burroughs & Eby, 1998), but few, if any, have examined these in the context of intrapreneurship nor its synergy with OCB. I hope the findings from this study help future researchers further explore these relationships in different contexts and integrate other theories, as well as inspire them to use the SOC variable in more workplace studies. Practically, this study wishes to empower managers to bridge the research-practice gap, using theory to enrich workplace environments and employee wellbeing. Mutual and rewarding transactions and relationships is the essence of SET (Cropanzano & Mitchell, 2005). Thus, by fostering OCB and intrapreneurship, managers can create a workforce that is reasonably fulfilled and contributes to organizational goals beyond formal requirements, driving both short-term operational success and long-term innovation, allowing their organizations to remain competitive in a dynamic business environment.

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Appendix A: Measurement Instrument

Construct	Item ID	Item	Source
Qualifier	QL1	Are you currently or have been within the past 3 months primarily employed by a company in which you do not have ownership? (a) Yes (b) No	
	QL2	The U.S. Department of State requires adherence to size standards set by the U.S. Small Business Administration (SBA), which state that most manufacturing companies with 500 employees or fewer, and most non-manufacturing businesses with average annual receipts under $7.5 million, will qualify as a small business. Given this definition, please indicate if your most recent (current or within the last 3 months) primary employer qualifies as a small business. (a) My most recent primary employer qualifies as a small business (b) My most recent primary employer would be considered a medium or large business.	
Control	CTR1	Please indicate your age range. (a) 18-29 (b) 30-39 (c) 40-49 (d) 50-59 (e) 60-69 (f) 70+	
	CTR2	Please select your gender. (a) Male (b) Female (c) Non-Binary or Intersex	
	CTR3	Which race or ethnicity best describes you? Select all that apply. (a) American Indian or Alaskan Native (b) Asian / Pacific Islander (c) Black or African American (d) Hispanic or Latino/a (e) White / Caucasian	

		(f) Multiple ethnicity / Other (please specify)	
	CTR4	What is your highest level of education completed? (a) No formal education (b) High school diploma / GED (c) Associate degree (d) Bachelor's degree (e) Master's degree (f) Doctorate degree	
	CTR5	How long have you been with your current company? If not currently employed, please indicate how long you were with your most recent employer (within the last 3 months). (a) <1 yr (b) 1-5 yrs (c) 5-10 yrs (d) 10+ yrs	
	CTR6	In which industry sector do you currently work (within the last 3 months)? Select the closest. (a) Manufacturing (b) Accommodation and Food Services (c) Information (data, communication, media, etc.) (d) Finance and Insurance (e) Arts, Entertainment, and Recreation	
Red Herring	RH1	Please select "Strongly Agree" (a) Strongly Disagree (b) Disagree (c) Neither Agree nor Disagree (d) Agree (e) Strongly Agree	
Sense of Community	SOC	**Sense of Community** A feeling that members have a sense of belonging, a feeling that members matter to one another and to the group, and a shared faith that members' needs will be met through their commitment to be together. On a scale from 1- 5, where 1 = Strongly Disagree, 2 = Somewhat Disagree, 3 = Neither Agree nor Disagree, 4 = Agree, 5 = Strongly Agree **Answer the following statements.**	
	SOC1	I can get what I need in my organization.	Peterson, Speer &
	SOC2	My organization helps me fulfill my needs.	
	SOC3	I feel like a member of my organization.	

	SOC4	I belong in my organization.	McMillan (2008)
	SOC5	I have a say about what goes on in my organization.	
	SOC6	People in my organization are good at influencing each other.	
	SOC7	I feel connected to my organization.	
	SOC8	I have a good bond with others in my organization.	
Organizational Culture • 1-4: Participation • 5-7: Respect • 8-12: Attitude to risk • 13-15: Action orientation • 16-17: Openness	CUL	**Organizational Culture** A system of shared values, beliefs, and assumptions that guide and influence the behaviors and interactions of its members. On a scale from 1- 5, where 1 = Strongly Disagree, 2 = Somewhat Disagree, 3 = Neither Agree nor Disagree, 4 = Agree, 5 = Strongly Agree **Answer the following statements.**	
	CUL 1	Everybody is encouraged to participate in meetings	Ghosh & Srivastava (2014)
	CUL 2	In meetings we seek to understand everyone's viewpoint	
	CUL 3	Members are prepared to challenge assumptions of the group	
	CUL 4	Speaking out the truth, even if it is bitter, is encouraged	
	CUL 5	My boss trusts me to deliver on his/her expectations	
	CUL 6	My supervisor believes that good ideas and solutions to problems can come from any member of the group	
	CUL 7	My organization makes the best possible use of my intellectual capacity	
	CUL 8	If individuals in my organization make an error they will usually try to cover it up*	
	CUL 9	There are certain employee in my organization that seldom get questioned*	
	CUL 10	Most members believe in maintaining status quo*	
	CUL 11	In our meetings most decisions are expected to be made by the boss*	
	CUL 12	If I do not agree with my supervisor I feel comfortable voicing my views*	
	CUL 13	In this organization a lot of discussions happen but very little seems to get done*	

	CUL 14	A number of projects are initiated with enthusiasm but they don't seem to get anywhere*	
	CUL 15	We believe in the precept—'nothing ventured, nothing gained'*	
	CUL 16	The top management believes in communicating important news and events with organizational members across all levels	
	CUL 17	Most senior members of my organization are approachable/accessible	
Perceived Organizational Support	POS	**Perceived Organizational Support** The extent to which the organization values their contributions and cares about their well-being. On a scale from 1- 5, where 1 = Strongly Disagree, 2 = Somewhat Disagree, 3 = Neither Agree nor Disagree, 4 = Agree, 5 = Strongly Agree **Answer the following statements.**	
	POS1	My manager does not care for me at all*	Celep & Yilmazturk (2012)
	POS2	Even if I do my best, my manager does not pay attention to me*	
	POS3	My manager cares for my job satisfaction	
	POS4	My manager ignores all my complaints*	
	POS5	My manager does not appreciate my actions at all*	
	POS6	My manager cares for my contribution to work	
	POS7	My manager is really interested in my well being	
	POS8	My manager is proud of my accomplishments	
Organizational Citizenship Behavior	OCB	**Organizational Citizenship Behavior (OCB)** Individual behavior that is discretionary, not directly or explicitly recognized by the formal reward system, and in the aggregate promotes the efficient and effective functioning of the organization On a scale from 1- 5, where 1 = Strongly Disagree, 2 = Somewhat Disagree, 3 = Neither Agree nor Disagree, 4 = Agree, 5 = Strongly Agree **Answer the following statements.**	
	OCB 1	I help others who have been absent	Smith et al. (1983)
	OCB 2	I volunteer for things that are not required	

	OCB 3	I orient new people even though it is not required	
	OCB 4	I help others who have heavy work loads	
	OCB 5	I assist my supervisor with his or her work	
	OCB 6	I make innovative suggestions to improve my department	
	OCB 7	I do not spend time in idle conversation	
Intrapreneurial Behavior • 1-5: Risk-taking • 6-10: Proactiveness • 11-15: Innovativeness	IPB	**Intrapreneurial Behavior (IPB)** Employees' recognition and exploitation of opportunities by being innovate, proactive and taking risks, in order for the organization to create new products, processes and services, initiate self-renewal or venture new businesses to enhance the competitiveness and performance of the organization. On a scale from 1- 5, where 1 = Strongly Disagree, 2 = Somewhat Disagree, 3 = Neither Agree nor Disagree, 4 = Agree, 5 = Strongly Agree **Answer the following statements.** **In the course of my work, I…**	
	IPB1	I contribute to the implementation of new ideas at work	Farrukh et al. (2022)
	IPB2	I often try to institute new work methods that are more effective for the company	
	IPB3	In the course of my work, I develop new processes, services or products	
	IPB4	I boldly move ahead with a promising new approach when others might be more cautious	
	IPB5	I would be willing to give up some salary in exchange for the chance to try out my business idea if the rewards for success were adequate	
	IPB6	I am particularly good at realizing ideas	
	IPB7	I can spot a good opportunity long before others can	
Employee Engagement in Continuous Innovation • 1-6: Vigor	EE	**Employee Engagement in Continuous Innovation (EECI)** A state in which employees exhibit vigor, dedication, and absorption in their work in support of the organization's ongoing process of seeking, implementing, and adopting new ideas, technologies, processes, and practices to improve products, service, and operational efficiencies.	

• 7-11: Dedication • 12-17: Absorption		On a scale from 1- 5, where 1 = Strongly Disagree, 2 = Somewhat Disagree, 3 = Neither Agree nor Disagree, 4 = Agree, 5 = Strongly Agree **Answer the following statements**	
	EE1	I focus hard on my work	Intellectual, Social, Affective Engagement Scale; Phuangthuean et al. (2018)
	EE2	I concentrate on my work	
	EE3	I pay a lot of attention to my work	
	EE4	I share the same work values as my colleagues	
	EE5	I share the same work goals as my colleagues	
	EE6	I share the same work attitudes as my colleagues	
	EE7	I feel positive about my work	
	EE8	I feel energetic in my work	
	EE9	I am enthusiastic in my work	

Appendix B: Informational Letter

INFORMATIONAL LETTER

You have been chosen at random to be in a research study about employee behavior at work. This survey is intended for employees ages 18 and older, who work (or have worked in the last 3 months) in a company that is considered to be medium-to-large in nature (i.e., not a small business). If you decide to participate, you will be one of 400 people in this research study. Participation will take approximately 30 minutes of your time.

There are no known physical, psychological, or emotional risks associated with participation in this study beyond the possible mild discomfort associated with answering survey questions. It is expected that this study will benefit society by contributing to the learning of and dissemination of best practices and guidelines for business leaders to understand employee behavior and ultimately foster better working environments.

Upon the successful completion of the survey, you will receive a unique ID to be entered into CloudResearch. Once verified, a cash payment of $1.00 will be deposited into your CloudResearch account. You will remain anonymous and confidential. No identifying information is needed to gather the necessary data for this study.

If you would like to talk with someone about your rights of being a subject in this research study or about ethical issues with this research study, you may contact the FIU Office of Research Integrity by phone at 305-348-2494 or by email at ori@fiu.edu.

Your participation in this research is voluntary, and you will not be penalized if you refuse to participate or decide to stop.

You have been chosen at random to be in a research study about employee behavior at work.

Appendix C: Advertisement (Cloud Research Connect)

This is a study being carried out in the College of Business at Florida International University. The purpose of this study is to better understand considerations for employee behavior in the context of work. This survey is intended for adult employees who have work in medium-to-large organizations, age 18 or older, and live in the United States. The duration of the survey is expected to take approximately 30 minutes and will require answering basic questions about your feelings of your job and general work environment. At the end of the survey, you will be given a completion code that you must input into Connect to receive payment. Once you have completed the survey make sure to click submit.

Appendix D: Tests of Normality

Figure 2

Sense of Community Test of Normality (Histogram, Q-Q Plot, and Box Plot)

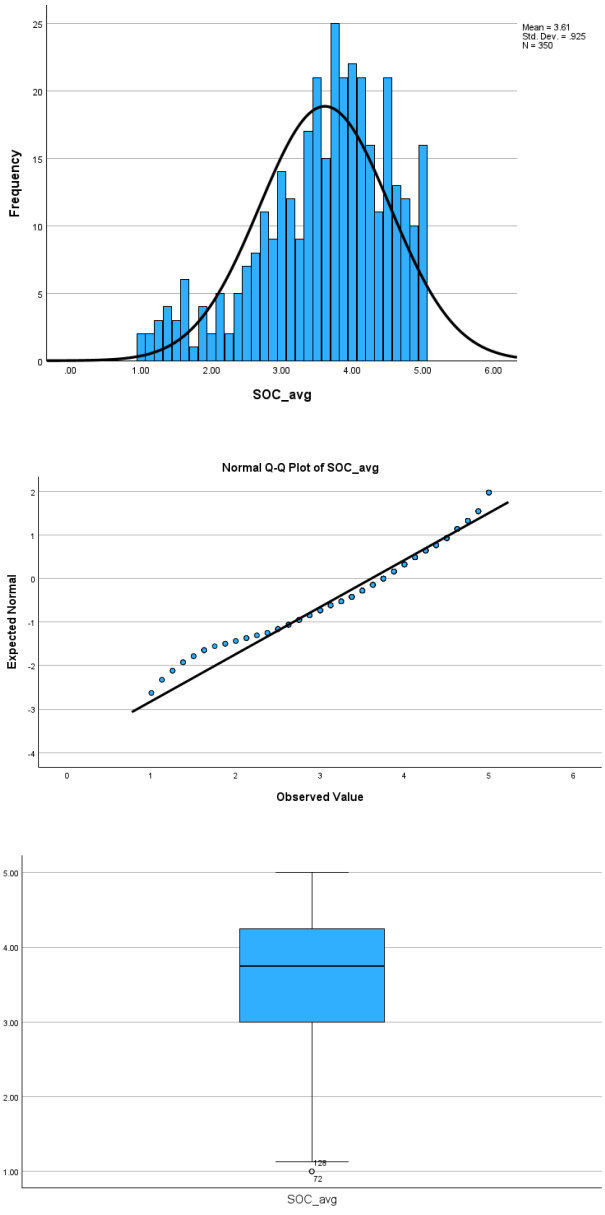
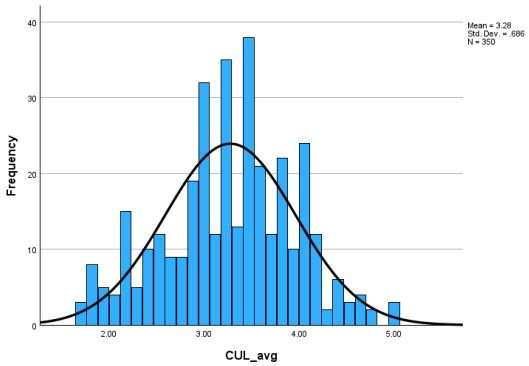
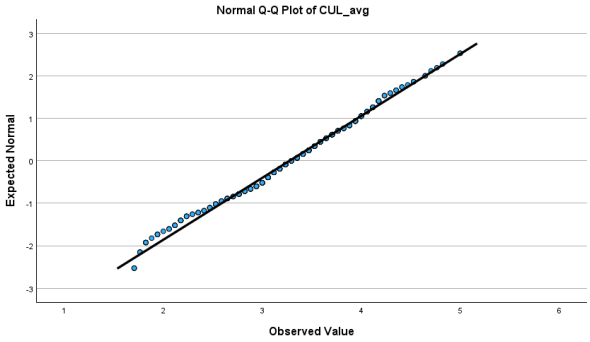


Figure 3

Organizational Culture Test of Normality (Histogram, Q-Q Plot, and Box Plot)





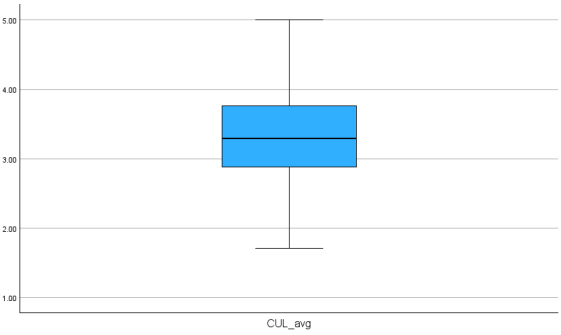


Figure 4

Perceived Organizational Support Test of Normality (Histogram, Q-Q Plot, and Box Plot)

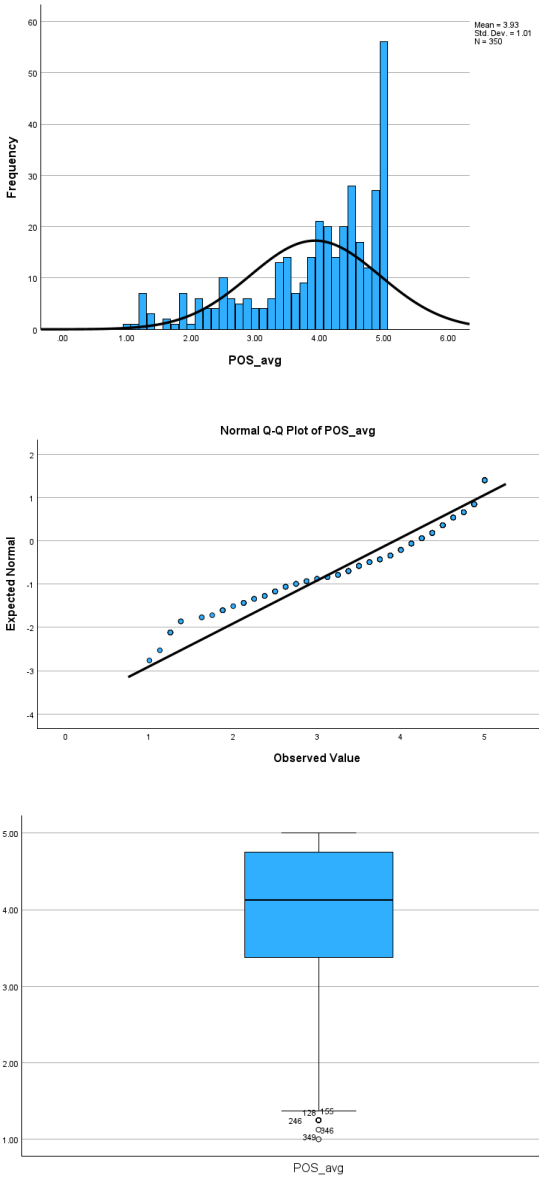


Figure 5

Organizational Citizenship Behavior Test of Normality (Histogram, Q-Q Plot, and Box Plot)

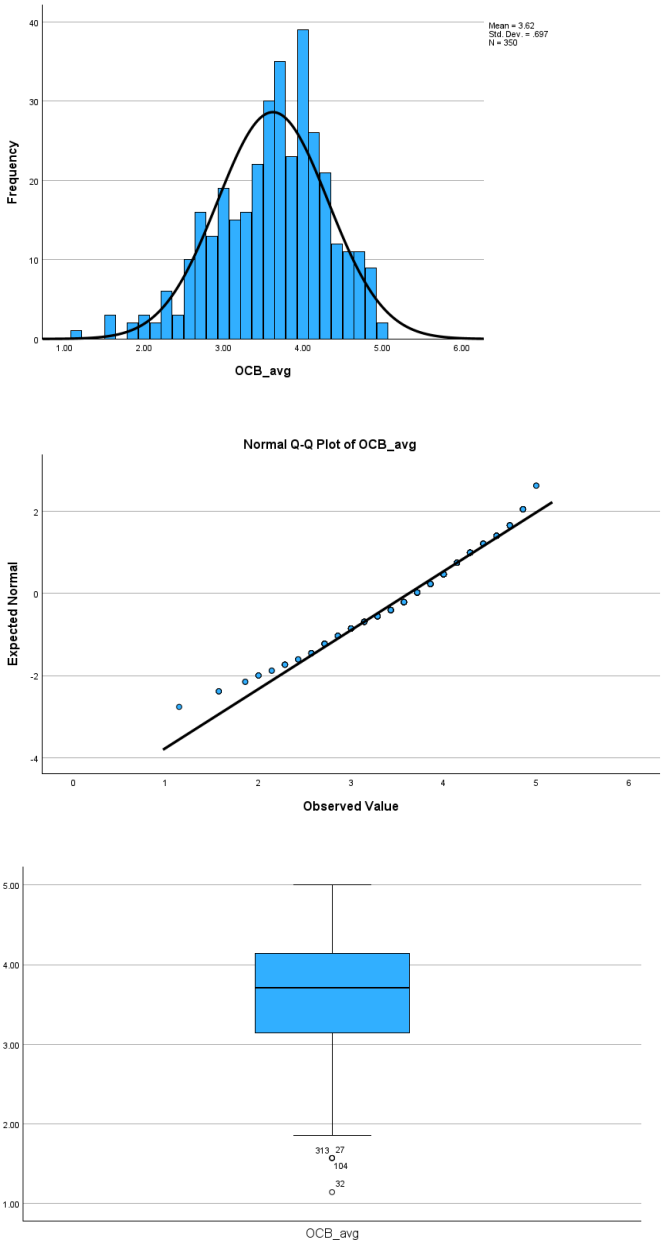
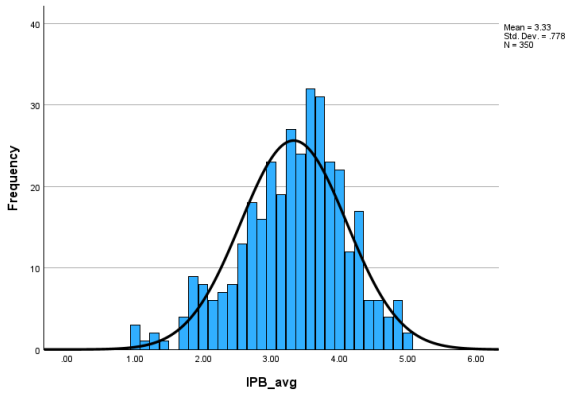
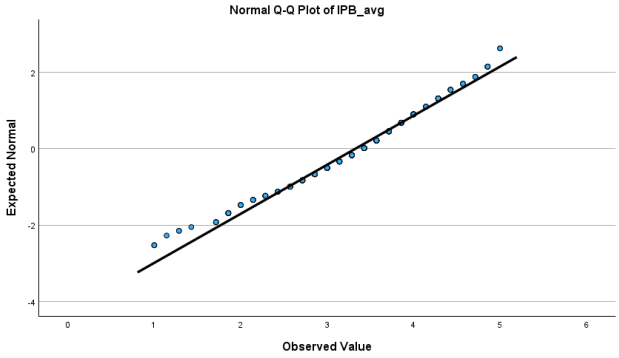


Figure 6

Intrapreneurial Behavior Test of Normality (Histogram, Q-Q Plot, and Box Plot)





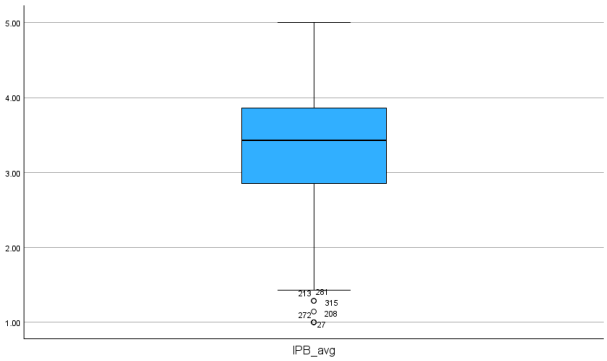
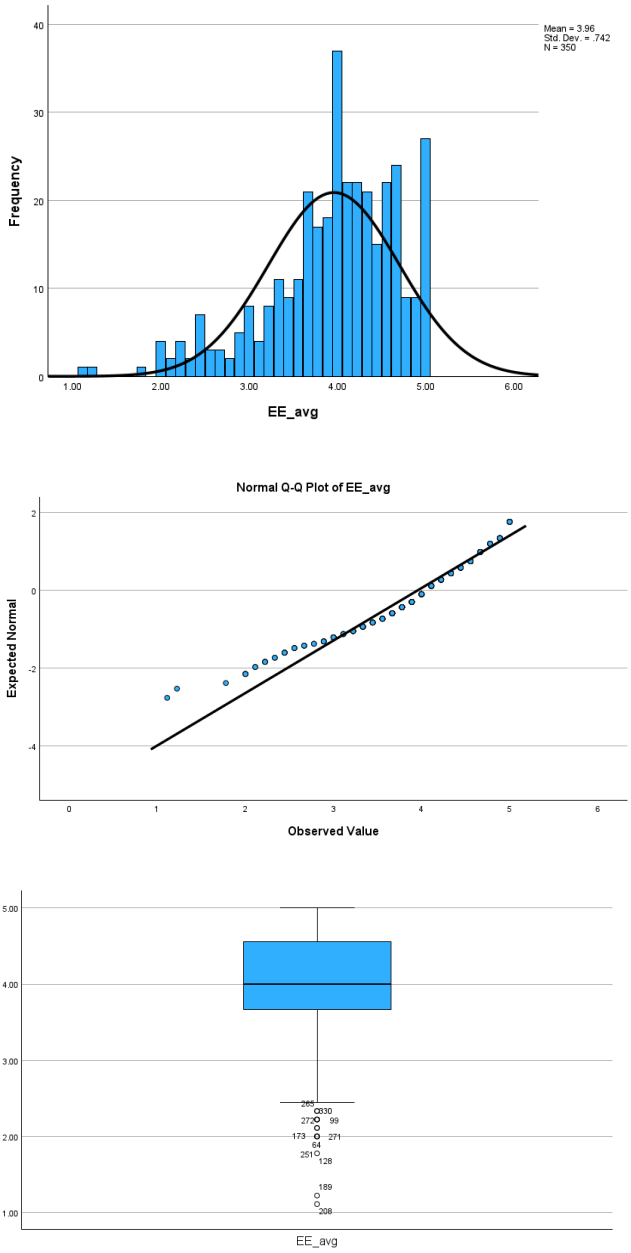


Figure 7

Employee Engagement in Continuous Innovation Test of Normality (Histogram, Q-Q Plot, and Box Plot)



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