

**CONTROLLING MY BOUNDARIES: EXPLAINING HOW AND WHEN WORKPLACE
PRIVACY PROMOTES CREATIVE PERFORMANCE**

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**CONTROLLING MY BOUNDARIES: EXPLAINING HOW AND WHEN WORKPLACE
PRIVACY PROMOTES CREATIVE PERFORMANCE**

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SUMMARY

Organizational research has rarely examined the role that privacy plays in the workplace, lacking a clear conceptualization of privacy. The current research defines privacy as a perception of having control over one's social interactions and develops a model that examines how privacy at work relates to creative performance. Taking a self-determination theory lens as the guiding theoretical framework, the current theoretical model argues that privacy leads to higher levels of creative performance through psychological empowerment because privacy enables employees to meet the need for autonomy, competence, and relatedness. The current model also theorizes that introversion and employee bonding moderate the relationship between privacy and psychological empowerment to predict creative performance. Data from a three-wave, multisource field study of 214 employees from 35 work units in multinational high-technology organization indicated that psychological empowerment mediates the relationship between privacy and creative performance. In addition, results indicated that introversion strengthens the relationship between privacy and psychological empowerment and that psychological empowerment mediates the moderated relationship between privacy and introversion. However, the results did not support the moderating role of employee bonding on this relationship. Overall, the results show that employees gain motivational benefits from having privacy at work and that privacy has important implications for creative performance.

CHAPTER 1

INTRODUCTION

Deeply rooted in humans is the desire to be connected to others, and social interaction is considered to be integral to organizational life (Rokeach, 1973). Through interacting with others, employees can be exposed to a variety of opportunities to gain feedback, exchange information, and collaborate with each other. Understanding the importance of social interactions for creative performance is clear, and both conceptual and empirical work in this area have burgeoned over the past decades (e.g., Perry-Smith, 2006; Perry-Smith & Shalley, 2003). Indeed, it has been suggested that creative performance, defined as the extent to which employees generate novel and useful ideas regarding procedures and processes at work (Oldham & Cummings, 1996; Shalley, 1991) is significantly influenced by social factors (Baer, 2010; Perry-Smith & Shalley, 2003; Shalley, Zhou, & Oldham, 2004). Over the past decade, scholars increasingly have recognized that a “lone genius” is no longer the main source of new and useful ideas, but that those creative ideas can be better produced when people interact together (Jones, Wuchty, & Uzzi, 2008). Given the interpersonal nature of creativity (e.g., Baer, 2010; Perry-Smith & Shalley, 2003), both scholars and practitioners have highlighted the importance of social and task-related interactions (e.g., soliciting and offering feedback, giving and seeking help) to foster creativity in the workplace (De Stobbeleir, Ashford, & Buyens, 2011; Mueller & Kamdar, 2011; Zhou, 2008). Moreover, research supports that social environmental factors (i.e., support of supervisor and coworkers or creative role models) are important in predicting creative performance (Madjar, Oldham, & Pratt, 2002; Shalley, Zhou, & Oldham, 2004; Tierney & Farmer, 2002; Woodman, Sawyer, & Griffin, 1993). Also, some scholars have used social network theory to interpret social interactions in terms of network ties and structures that

facilitate creativity (e.g., Baer, 2010; Perry-Smith, 2006, 2014; Perry-Smith & Shalley, 2003, 2014; Zhou, Shin, Brass, Choi, & Zhang, 2009).

The remarkable support for the role of the social context for creative performance suggests that this stream of research should be continued and expanded. According to Perry-Smith and Shalley (2003, p. 103), “Researchers should give careful thought to when a facilitating contextual factor may also constrain creativity.” They contend that there is a certain level of social interaction that can provide non-redundant ideas (e.g., weak ties) that may be optimal, and that beyond this point individuals’ ability to be creative will decrease. Since we all need significant amounts of cognitive resources, such as focused attention and mental energy in order to perform creatively (Csikszentmihalyi, 1996; Harrison & Wagner, 2016), having too many social interactions that distract from these pursuits may not leave individuals with enough of the essential time and resources (Vohs, Baumeister, & Ciarocco, 2005) needed for creative performance. For example, an employee might take advantage of workplace interactions and thus become more creative when she needs to receive feedback and hear fresh perspectives on her work. However, unwanted or excessive interactions can harm her creative performance, especially when she needs time to integrate feedbacks and new perspectives in order to come up with novel and appropriate (i.e., creative) ideas. Thus, being able to control and maintain an optimal level of social interactions is important to individuals in order to thrive and perform more creatively (Altman, 1974; Brewer, 1991). Although the extant literature shows that creative performance is a product of social interactions, we do not know what effect having control over one’s social interactions has for creative performance. By asking this question, the current research highlights a critical gap in our understanding of creative performance at work. Specifically, missing from the creativity literature is an understanding of how being able to

freely engage and disengage in social interactions, and more specifically, a consideration of having “control” over one’s social interactions is related to creative performance.

The current research provides a new theoretical perspective by proposing that privacy, defined as a perception of control that individuals have over their own social interactions (Altman, 1974), could impact creative performance. Privacy is a reflection of one’s desire to find an optimal balance between being open (i.e., seeking interactions) and being closed (i.e., avoiding interactions) from others (Altman, 1975; Margulis, 2003; Westin, 1970). Being able to experience privacy may be central to creative performance. Although research suggests that creativity benefits from the social context (Amabile, 1996; Shalley et al., 2004), in today’s dynamic world of work, where individuals work within complex social relationships, individuals may not always be able to interact with others or be able to work alone when it is needed. Given the complexity associated with creative work, determining when employees’ creative performance can benefit from workplace interactions or from the absence of them becomes more challenging for managers. The creative process consists of complex stages involving problem identification, information searching, and idea and alternative generation (Zhang & Bartol, 2010). Although employees could benefit from social interactions during the problem identification and information searching stages, they may need to be alone and be able to focus while generating ideas (Cain, 2013; Harrison & Wagner, 2016). To the extent that social interactions may benefit but also constrain creative performance, individuals will become increasingly dependent on the ability to control their workplace interactions in order to maximize their creative performance. By proposing a theoretical model of privacy and creative performance, I aim to contribute to the literature in at least three ways.

First, the present study integrates previous research in several ways. In particular, a review of the privacy literature from different disciplines is utilized to conceptualize what privacy really means in an organizational context. This is an important contribution, as previous empirical studies of privacy lacked a consensus in defining it, and have not provided a unifying measure that is applicable across different organizational settings. For example, Oldham's (1988) research, which is one of the earliest study to investigate the effect of office spatial configuration on employees' privacy, suggests that privacy is the opposite of overstimulation. This work has influenced how privacy has been operationalized in subsequent research (e.g., Alge et al., 2006; Bernstein, 2012; Laurence, Fried, & Slowik, 2013). However, Bernstein's (2012) qualitative study suggests that privacy means being able to hide one's behavior from others within organizations, defining privacy in different ways. Also, Alge and colleagues (2006) have only focused on a very specific type of privacy (i.e., informational privacy), and provided a validated scale for it. Thus, the current research helped to develop a definition of privacy that can be applied to a broader organizational context. Also, beyond defining privacy, this research also developed measure of privacy that can be used to study privacy in future research. To date, some empirical studies have measured privacy using a variation of Oldham's (1988) scale (e.g., Laurence et al., 2013), and other researchers have used self-developed scales (e.g., Alge et al., 2006), making it difficult to theoretically develop a model of privacy. Therefore, based on the literature review and a scale-development study, the current research developed a scale to reflect theoretically relevant dimensions (i.e., opening privacy and closing privacy) that represent the common aspects of privacy observed across organizations.

The second contribution is to theoretically explain *how* privacy fosters creative performance. As privacy is still a murky concept in organizational research, the literature lacks a

guiding theoretical perspective on the process through which privacy relates to creative performance. Despite several research studies alluding to the possibility that there is a positive relationship between privacy and creative performance (Bernstein, 2012; Elsbach, 2003; Pedersen, 1997; Sundstrom et al., 1980), no research has examined how privacy regulation leads to higher creative performance. A basic assumption of this dissertation is that one can gain motivational benefits from having privacy. The present model aims to conceptualize and demonstrate psychological empowerment as a significant motivational mechanism that mediates the effect of privacy on employee creative performance. Psychological empowerment is defined as a motivation manifested in a set of four psychological states reflecting an individuals' orientation toward their work: meaning, self-determination, impact, and competence (Spreitzer, 1995; Alge et al., 2006). Self-determination theory contends that satisfaction of the fundamental human needs for autonomy, relatedness, and competence determine individuals' quality of motivation (Gagne & Deci, 2005). The current model argues that privacy satisfies the need for autonomy, competence and relatedness because 1) perceiving that one can shape their social context facilitates autonomy, 2) closing oneself to others when they need to work alone will let individuals be free from external interruptions (Altman, 1975), and thus provide them with a competence supportive context, and 3) being able to interact with others when they needed will enable individuals to satisfy their need for relatedness.

The third contribution of this dissertation consists of integrating personal factors and contextual factors with privacy, providing a more nuanced view of privacy and creative performance. Creativity can be fostered not only by the organizational context that encourages creative processes but also by individuals' characteristics that facilitate the development of new and appropriate ideas (Shalley et al., 2004). In order to provide a more comprehensive and

deeper exploration of the relationship between privacy and creative performance, the current theoretical model proposes that an individual level moderator (i.e., introversion) interacts with privacy to predict psychological empowerment and a contextual moderator (i.e., employee bonding) interacts with psychological empowerment to predict creative performance. The theoretical model is presented in Figure 1.

In Chapter 2, a conceptualization of workplace privacy is presented and research connecting privacy and organizational outcomes are reviewed. Then, in Chapter 3, this prior research is connected with why privacy would lead to creative performance through psychological empowerment in order to develop the hypotheses. Chapters 4 and 5 introduce the methods and results from empirical study of 214 employees nested in 35 work units working in high-tech organization in Korea. Finally, this dissertation concludes in Chapter 6 by discussing the theoretical implications of this work, along with limitations and future directions.

CHAPTER 2

THEORETICAL BACKGROUND

2.1 Conceptualizing Privacy

The main purposes of this dissertation is to provide a clear definition of privacy in an organizational context along with developing an appropriate scale to measure privacy, and then to examine how and when having privacy can lead employees to have higher creative performance. Most humans have two conflicting impulses: sometimes we love and need to connect with others yet sometimes we desire to be alone. For example, as human beings, we are social by nature (Adler, 1927). An isolated person would not be able to maintain a fulfilling life without some presence of others (Baumeister & Leary, 1995). Too much social contact, however, also can be oppressive. We need some time alone so as to relieve ourselves of social stressors, have an opportunity for self-reflection, and gain a chance for personal, intellectual and creative development (Westin, 1970). The current research suggests that privacy is related to regulating the optimal state between connecting and disconnecting oneself from her social environment. As such, this chapter explores the conceptual underpinnings of privacy and the potential outcomes of experiencing privacy at work.

2.1.1 Privacy, what is it?

I find it wholesome to be alone the greater part of the time. To be in company, even with the best, is soon wearisome and dissipating. I love to be alone. I never found the companion that was so companionable as solitude (Thoreau & Cramer, 2006).

“All human beings have three lives: public, private and secret.” (Quote from Gabriel García Márquez) (Martin, 2008).

Privacy is considered to be a fundamental human right especially in today's modern society (Regan, 1995; Westin, 1970). According to the Merriam Webster dictionary, privacy is defined as "the quality of state of being apart from company or observation." While the dictionary definition of privacy seems to be clear and simple, given the complexity of the social world people live in, privacy as a construct might not be fully captured by this straightforward dictionary definition. Although several disciplines (e.g., psychology, sociology, political science and architecture) have studied privacy, it is surprising that the meaning of privacy varies widely across different disciplines. Therefore, it is critical to first develop a clear definition of privacy as a construct before delving into the main research questions.

Early definitions of privacy were relatively narrow, and emphasized separation, withdrawal and the avoidance of interactions. For example, Chapin (1951) defined privacy as being by oneself, relieved from the pressures of the presence of others. Similarly, privacy is defined as avoiding interaction without any intrusion from visual and auditory stimuli (Kira, 1966). While the early definitions of privacy emphasized the avoiding aspects, later groups of scholars focused on the controlling aspects of privacy. These researchers suggested that privacy does not only involve keeping away from others, but also opening and closing the self to others, as well as the freedom to choose when you are personally accessible from external factors (Altman, 1975, 1977; Westin, 1970). For example, Rapport (1972) defined privacy as the ability to control interactions, to have options, devices, and mechanisms to prevent unwanted interactions, and to achieve a desired level of interaction.

These broader definitions of privacy highlight that the nature of privacy is dynamic and reflects the ability to selectively control one's exposure to the external environment. This dissertation suggests that broadly defining privacy can be more meaningful for three reasons.

First, this broader definition explains privacy in a variety of social units. For example, Altman (1976) defined privacy to be selective control of access to the self or to one's group. He suggested that defining privacy this way allows privacy to be applied to a wider variety of social units such as individuals and groups. Moreover, highlighting the boundary controlling aspects of privacy permits the analysis of privacy as a bidirectional process that considers both inputs from others to the self and outputs from the self to others. Finally, the boundary controlling aspects of privacy is consistent with an agentic view of human beings. As both Bandura (1978) and Schneider (1987) have contended, people shape their situations as much as they are affected by those situations. Thus, defining privacy as a belief that one can shape her social environment by controlling social interactions describes an important human tendency.

Given the primacy of social interactions at work, the current research defines privacy more specifically in an organizational context as a *perception of having control* over one's social interactions. This conceptualization of privacy focuses on the *perception* of having control rather than having *objective* control over social interactions. Perceived control over one's social interactions is positively related to, yet distinct from having objective control over one's social interaction, which is the gap between one's specific experience at workplace and objective work factors (e.g., physical space) relevant to social interactions. I suggest that objective and perceived control over social interactions should not be regarded as alternative operationalizations of the same construct, but distinct constructs altogether. Perceiving that one has control over social interactions is more sensitive to her actual experience in the social context and physical work environment. For instance, two employees who work for the same team right next to each other and have similar amounts of social interactions may have different perception of whether they have control over interactions, due to the ebbs and flows of their desire to be open or closed the

differences in the quality and type of the interactions they experience. As a result, perceived and objective measures should be treated as separate constructs with different predictors and outcomes. For example, objective control may be more strongly determined by architectural configurations (e.g., working in an open-plan office versus an individual office), whereas subjective or perceived control may be determined by a variety of factors, including one's personal and contextual characteristics. As such, the current research focuses on privacy as the perception of having control over one's social interactions because it may have a stronger influence on employees' perceptions at work.

The current research suggests that privacy involves two different components of controlling social interactions. Altman (1975) explained that privacy is the "selective control" of one's interaction that involves the "*opening*" and "*closing*" of the self to others, and having freedom of choice regarding personal accessibility" (p. 17). Consistent with this dynamic conceptualization, this dissertation distinguish between these two components in terms of the control one believes she has over seeking social interactions and reaching out to others (i.e., opening oneself to others), and also the control one perceives to have over avoiding social interactions and seeking uninterrupted times (i.e., closing oneself to others). These dimensions are clearly distinct, because they reflect the perception of the opposite situations (i.e., opening and closing oneself to social interactions). The current research labels these two dimensions as *opening privacy* and *closing privacy* respectively. Combined together, these two subdimensions help explain a broader privacy construct that is critical in understanding important psychological and behavioral outcomes at work. Although these two dimensions of privacy combined will constitute one single construct, it is important to note that *opening* and *closing* privacy directly

reflect the perception that one is able to meet their desire to connect and relate to others or to be alone.

2.1.2 Some related constructs

In order to clarify what privacy is, it is also important to know what privacy is not. Some research might suggest that privacy can be similar to constructs such as social distancing (Swim, Ferguson, & Hyers, 1999; Westphal & Khanna, 2003), (lack of) self-disclosure (Collins & Miller, 1994; Cozby, 1973; Derlaga & Berg, 2013) and keeping personal secrets (Kelly & McKillop, 1996; Pachankis, 2007). These constructs do have some overlapping domains but also have some aspects that are distinct from privacy. First, social distancing occurs when individuals or groups try to differentiate themselves socially from another person or a group, which is reflected by expressing their attitudes and behaviors in a dissimilar manner when compared to the target's attitudes (Swim et al., 1999). Social distancing emphasizes the desire to cognitively differentiate oneself from the specific target, while privacy is related to controlling one's exposure to the specific or general public. Second, choosing whether or not to disclose something about oneself to others only involves controlling individual's informational privacy, while maintaining a desired level of privacy not only involves controlling the disclosure of personal information but also physical exposure to others as well. Finally, privacy is distinct from secrecy. Secrecy, defined as the intentional hiding of something from others to prevent them from learning of it (Kelly & McKillop, 1996), requires much more demanding maintenance compared to privacy. For instance, while both privacy and secrecy regulate access to and from others, only secrecy is likely to involve the denial of the very existence of secrets (Margulis, 2003a). Moreover, secrecy requires tighter controls over information than privacy because there is often more at stake and hence a greater potential vulnerability exists (Kelly & McKillop, 1996;

Margulis, 2003b; Warren & Laslett, 1977). As keeping secrets demands effortful and active processing involving deliberate behavioral and mental work (Kelly, 1999; Margulis, 2003a), it has been associated with anxiety, psychological distress and dysfunction, and even the possibility of physical illness (Kelly, 1999; Kelly & McKillop, 1996; Kelly & Yip, 2006). On the contrary, the consequence of regulating and achieving privacy is related to reducing stress and increasing positive outcomes such as productivity and job satisfaction (Altman, 1975, 1976, 1977; Margulis, 2003a; Westin, 1970).

2.1.3 Previous research on privacy within organizations

Although privacy as a construct has been examined in many disciplines including psychology, sociology, political science and architecture (Altman, 1977; Altman, Vinsel, & Brown, 1981; Pedersen, 1997; Westin, 1970), only a few researchers have been interested in exploring the role of privacy within organizations (cf., Alge, Ballinger, Tangirala, Oakley, 2006; Bernstein, 2012; Oldham & Rotchford, 1983; Sundstrom, Burt, Kamp, 1980). Although there are several studies suggesting a positive association between privacy and individual outcomes (e.g., job satisfaction), most research to date has focused on unveiling the simple main relationship between privacy and positive outcomes, without identifying the underlying mechanism of why experiencing privacy can lead to such positive outcomes. Also, previous organizational research on privacy has provided different definitions of it without reaching any consensus, which calls for the need to clear up the construct definition. For example, Sundstrom and colleagues (1980) first suggested that privacy in organizations exists in two categories: psychological privacy and architectural privacy. Furthermore, they suggested that privacy leads to a higher level of job satisfaction and performance. Building on this finding, Oldham & Rotchford (1983) suggested that privacy is directly related to one's environmental experience within organizations. Recent

work by Alge and colleagues (2010) is one of the rare attempts to investigate the underlying mechanisms of privacy leading to positive individual outcomes. By focusing on informational privacy, defined as an individual's perception about how much control they have over their personal information, this research suggested that informational privacy plays an important role in predicting discretionary work behavior through psychological empowerment. Also, a more recent qualitative quasi-experiment (Bernstein, 2012) investigated the role of group-level privacy, equating privacy as a direct opposite construct from transparency. He found that improving group-level privacy increased performance through productive deviance, localized experimentation, distraction avoidance and continuous improvement. In summary, prior theoretical and empirical research has mainly focused on privacy fostering well-being (Pedersen, 1997; Vinsel, Brown, Altman, & Foss, 1980), its positive effect on job satisfaction (Bernstein, 2012; Sundstrom et al., 1980), leading to positive outcomes such as task performance and discretionary work behaviors (Alge et al., 2010; Bernstein, 2012).

Although management research has acknowledged the importance of privacy (e.g., Bernstein, 2012; Sundstrom, Burt, & Kamp, 1980; Oldham, 1988), no research has provided a concrete conceptualization of privacy nor explored the impact of privacy at work on creative performance. Conceptual work on privacy suggested that privacy is beneficial because individuals who experience privacy may have an increased sense of autonomy, experience emotional release, and get opportunities to self-evaluate (Pedersen, 1997), and that privacy may increase creative performance because of these psychological functions of privacy (Bernstein, 2012; Kupfer, 1987). As such, it is worthwhile to identify a key process connecting privacy and creative performance at work. The next section will explain the definition of and underlying mechanisms of creative performance before connecting it with privacy.

2.2 Individual Creative Performance in Organizations

Following the consensus in the organizational creativity literature, individual creativity is defined as individuals' production of novel and useful ideas concerning product, services, methods and procedures by individuals (Amabile, 1996; Oldham & Cummings, 1996; Shalley et al., 2004; Zhou & Shalley, 2003). This definition of creativity is conceptually distinct from innovation in that creativity involves the production of novel and useful ideas, whereas innovation includes idea generation as well as the implementation of the selected ideas throughout the organization (Scott & Bruce, 1994; Zhang & Zhou, 2014). Creativity is a complex phenomenon that involves ill-defined problems requiring relatively demanding and intensive effort (Amabile & Pillemer, 2012; Shalley et al., 2004; Zhou & Shalley, 2003). For creativity to occur, individuals must be able to think divergently, see things from different perspectives, find fresh solutions to old problems and combine previously unrelated processes, products or materials into something novel and useful (Amabile et al., 1996; Shin & Zhou, 2007). Moreover, since creativity inherently involves taking risks (Mueller, Melwani, & Goncalo, 2012), individuals have to be willing to challenge the status quo, to suggest ideas that could be contrary to the accepted norm, and to try new things with the potential risk of failing (Hirst, Van Knippenberg, Chen, & Sacramento, 2011).

Creativity is required for a vast number of situations such as finding efficient solutions for pressing strategic issues, coming up with new product ideas and thus sustaining an organization's viability, and finding a unique, fun, and original place for a work team's social outing. As these examples demonstrate, not only do innovations in products and services depend heavily on employees fully utilizing their creative potential, but also everyday problems often demand that individuals are more creative (Madjar, Greenberg, & Chen, 2011). Thus, creativity

is an important and highly valued dimension of performance for coping with many different situations that employees face in their work. In order to understand creativity, it is also important to explore the within-individual mechanisms leading to creative outcomes (George & Zhou, 2007; Jaussi, Randel, & Dionne, 2007). As it is individuals who initially generate creative ideas, many researchers have focused on the internal processes that might foster or hinder individuals' creative performance. Among the within-individual mechanisms discussed, it has been suggested that motivation is important in describing the creative processes that can occur and potentially foster creative performance (George, 2007; Liu et al., 2016; Zhou & Shalley, 2011).

2.2.1 Motivational mechanisms of creativity

In research focused on organizations, the concept of intrinsic motivation has gained the most significant attention as one of the primary antecedents of creativity (e.g. Amabile, 1996; George, 2007; Shalley, Zhou &, Oldham, 2004). Intrinsic motivation is the desire to exert effort because of having interest in and enjoyment of the work task that is being performed (Ryan & Deci, 2000). The positive relationship between intrinsic motivation and creativity has been suggested by self-determination theory (Deci & Ryan, 1985). Self-determination theory posits that individuals are born with intrinsic motivation tendencies and that they require supportive conditions that can facilitate and maintain their innate propensity to be intrinsically motivated (Deci & Ryan, 1985; Ryan & Deci, 2000). According to Ryan & Deci (2000), when individuals are intrinsically motivated, they tend to “find novelty and challenges, to extend and exercise one’s capacities, to explore, and to learn (p. 70).” That is to say, intrinsic motivation, originating from the work itself and positive engagement in the task, can help one to be more creative by focusing on novel information and challenging issues. Similarly, Amabile (1985, 1996) developed the componential theory of creativity and stressed that intrinsic motivation is one

important predictor of creativity. According to this theory, creativity emerges at the intersection of three essential components: domain-relevant skills, creativity-relevant skills and intrinsic task motivation. Domain-relevant skills include knowledge, skills, and expertise in the particular domain where the person is working. Creativity-relevant skills involve a personality characteristics and cognitive style that are developmental to creative process. Among these three components, intrinsic task motivation is considered to be the most important component of these three as it determines the extent to which domain-relevant skills and creativity-relevant skills will be utilized towards successful creative performance (Amabile, 1983, 1988).

Important conceptual research (e.g. George, 2007; Shalley et al., 2004) has stressed that intrinsic motivation is positively associated with creativity. For example, Shalley and colleagues (2004) suggested that intrinsic motivation fosters creativity by increasing one's tendency to be more curious, flexible and risk taking, while the lack of it might keep individuals from investing time and effort in exploring novel alternatives and integrating information in an original way. Also, the positive relationship between intrinsic motivation and creativity has been supported by a number of empirical studies (e.g. Grant & Berry, 2011; de Jesus et al., 2013). However, it should be mentioned that there has been mixed research support among for this, with some studies showing a non-significant relationship (e.g. Shalley & Perry-Smith, 2001). According to empirical research carried out by Grant & Berry (2011), it also has been suggested that intrinsic motivation fosters creativity and, in particular, that it has a stronger effect on the novelty component of creative performance.

CHAPTER 3

HYPOTHESES DEVELOPMENT

The current theoretical model proposes that privacy is important in organizations in at least two ways. First, taking the theoretical lens of self-determination theory (Deci & Ryan, 2002; Gagne & Deci, 2005), privacy contributes to individuals' creative performance through psychological empowerment, which is defined as a psychological state that is manifested in four distinct cognitions: meaning, competence, self-determination, and impact (Spreitzer, 1995). Second, the current theoretical model provides a more nuanced view of the relationship between experiencing privacy and creative performance by suggesting an individual-level (i.e., introversion) and a contextual-level (i.e., social interaction) boundary condition that strengthens the link between privacy and psychological empowerment, which, in turn, will be positively associated with creative performance. By integrating self-determination theory (Deci & Ryan, 2002; Gagne & Deci, 2005) and research on creativity (Amabile, 1996; Oldham & Cummings, 1996; Shalley et al., 2004; Zhou & Shalley, 2003), the current model clearly explains how and when privacy is associated with creative performance. A review of self-determination theory (Deci & Ryan, 2002; Gagne & Deci, 2005) is presented before delving into the hypotheses development.

3.1. Self-Determination Theory and Motivational Processes

3.1.1. Self-determination theory: An overview

Self-determination theory started in social psychology, by examining the influence of situational factors upon intrinsic motivation, adjustment, and performance (Deci, 1975; Deci & Ryan, 1980). The basic premise of self-determination theory is that human instinctively desire to

progress towards psychological growth, internalization, and well-being and that their actions are influenced by the environment that differentially facilitates or discourages their natural progression (Deci & Ryan, 2000). According to Deci & Ryan (1985, 1991, 2002), self-determination theory views human beings as proactive actors whose natural or intrinsic functioning can be either fostered or disturbed by the social context. Like other theories related to human agency (Bandura, 1989; Hartmann & Lowenstein, 1962), self-determination theory (Deci & Ryan, 1991; 2002) views internalization as the process of translating external pressures into internal regulations. That is, self-determination theory views the internalization phenomenon as a process in which individuals proactively transform external regulation into self-regulation, becoming more integrated with one's sense of self as they do so (Deci & Ryan, 1985, 2002; Deci, Eghrari, Patrick, & Leone, 1994; Vallerand & Ratelle, 2002). This internalization process is suggested to be highly dependent upon the social context (Deci et al., 1994; Deci & Ryan, 2002; Sheldon, 2002; Vallerand & Ratelle, 2002), so the context is theorized to impact both the amount and quality of internalization.

According to the hierarchical model of motivation (Vallerand & Ratelle, 2002), motivational processes lie on a continuum of intrinsic motivation, extrinsic motivation, and amotivation. Intrinsic motivation reflects engaging in a task for the pleasure and satisfaction inherent in the activity (Deci, 1975; Deci & Ryan, 1985). In contrast to intrinsic motivation, extrinsic motivation is a wide array of behaviors having in common the fact that activities are engaged in not for the reason inherent in them but for other instrumental reasons, such as receiving a reward or recognition. Deci & Ryan (1985, 2002) have proposed a typology of extrinsic motivation where some types of extrinsically motivated behaviors reflect self-determination and autonomy. They identified four types of extrinsic motivations that vary in the

extent to which actors are self-determined and these can be rank-ordered along a self-determination continuum ranging from non self-determined to self-determined forms of extrinsic motivations.

According to Deci & Ryan (2002) and Vallerand & Ratelle (2002), the first type of extrinsic motivation is external regulation. When people are *externally regulated*, they engage in behaviors to obtain either a positive outcome (e.g., money) or to avoid a negative outcome (e.g., punishment) which are different from the activity itself. *Introjected regulation* is the first state of the internalization process. People start to internalize the reasons for their behaviors when they have this type of motivation, however, motivation is still not self-determined because this type of regulation deals with past situation that have now been internalized. The third type of extrinsic motivation is called *identified regulation*. When the reasons to perform an activity are internalized and the activity is valued by the person, she will perform the activity with a sense of choice and the behavior is regulated through their identification with the activity. The person behaving accordingly with identified reasons can be considered as relatively self-determined. Although identification involves a certain degree of autonomy, having the autonomy to engage in some actions is not always consistent with other personally endorsed values. *Integrated regulation* provides the most autonomous form of extrinsically motivated behavior. It results when identifications have been evaluated and matched with the personally endorsed values that are already part of the self.

While self-determination theory contends that all individuals have the natural desire towards psychologically develop and be well, it also highlights that the desire is not always expressed or achieved. For example, individuals may behave in a passive manner, and they may engage in counterproductive behavior that threatens their growth and well-being (Ryan & Deci,

2000). According to self-determination theory, whether individuals are able to identify and realize their inherent inclinations depends on whether they meet three fundamental needs. Specifically, just as humans need water for survival, self-determination theory argues that the satisfaction of three basic psychological needs for autonomy, competence, and relatedness are crucial for individuals to continue psychologically growing and maintaining their well-being (Deci & Ryan, 2001, 2002). That is to say, having one's needs satisfied will foster relatively autonomous forms of motivation (i.e., identified and intrinsic motivation), and therefore, improved growth and well-being. In this sense, self-determination theory highlights that meeting these basic psychological needs is the most important constructs in internalizing motivational processes.

Self-determination theory defines the *need for autonomy* as individual's desire to behave with a sense of ownership and feel psychologically unconstrained (Deci & Ryan, 2000; Gagne & Deci, 2005). The need for autonomy overlaps with locus of causality, or being the agent of one's own actions rather than being forced by external factors (Ajzen, 2002; Lefcourt, 1991; Spector, 1988). The need for competence is defined as the need to experience a feeling of mastery over the environment in order to learn and acquire new skills (Deci & Ryan, 2000). Self-determination theory views the *need for competence* as the natural tendency to explore and control the environment, in search of optimally challenging environment. Also, the need for competence overlaps with other important theories, such as social cognitive theory, where self-efficacy is considered as a key motivational process (Bandura, 1977). The final component of the basic psychological need is the *need for relatedness*. This need reflects the need to feel connected to others and belong to a social group (Baumeister & Leary, 1995).

It should be noted that self-determination theory assumes “needs” are different from “desires” (Deci & Ryan, 2000). Although individuals may desire socially attractive resources, such as power, status, and money, but they do not necessarily need these in terms of self-determination theory. For instance, not everyone has the tendency to long for power, and whether they have status or not may not influence intrinsic motivation, or other forms of internalized motivation (Deci & Ryan, 2002; Gagne & Deci, 2005).

3.1.2. Psychological empowerment as a manifestation of internalized motivation

Although being intrinsically motivated by finding pleasure and satisfaction from the task itself should be fostered in an organization, many jobs are not designed to always enable intrinsic motivation (Menges, Tussing, Wihler, & Grant, 2017). For example, across different occupations and task type, it is common for employees to have little autonomy in how they perform their tasks and decision making (Morgeson & Humphrey, 2006). According to Deci & Ryan (2002), well-internalized extrinsic motivations, such as identified and integrated regulation, can be as effective as intrinsic motivation, so organizations should help employees to internalize extrinsic motivations. It has been suggested that promoting internalized extrinsic motivation in the workplace will also enable employees to experience meaningfulness, competence, self-determination, and impact (Spreitzer, 1995; Thomas & Velthouse, 1990). As such, this current research interprets psychological empowerment as the reflection of not only intrinsic but also well-internalized extrinsic motivation. As Menon (2001) suggested, psychological empowerment broadly represents a self-determined state of motivation including a wider range of motivational states that employees experience at work.

Integrating the abovementioned reasons, the current research focuses on psychological empowerment as a core motivational mechanism rather than focusing on the narrower construct

of intrinsic motivation. Psychological empowerment is defined as a motivational state manifested with a set of four different cognitions. In earlier research, Conger and Kanungo (1988) conceptualized psychological empowerment as a motivational construct that reflects self-efficacy. Extending this definition, Thomas and Velthouse (1990) suggested that empowerment is multifaceted and specified a complete set of four cognitions (i.e., meaningfulness, competence, self-determination, and impact) that is an outcome of task assessment serving to increase intrinsic motivation. Integrating works of Conger and Kanungo (1988) and Thomas and Velthouse (1990), Spreitzer (1995) defined psychological empowerment as a “motivational construct manifested in four cognitions: meaning, competence, self-determination, and impact (p. 1444)”. In specific, *meaning* refers to a perception that one’s work is personally important. According to Thomas & Velthouse (1990), meaning also embodies the feeling that the value of one’s work role aligns with internal beliefs. *Competence* is equivalent to self-efficacy, which concerns a belief in one’s capability to successfully perform the task. Competence is consistent with an agentic view of the self which focuses on the human nature actively pursuing learning and development (Bandura, 1989). *Self-determination* is defined as individual’s perception of having choice in how to initiate and continue the task. Self-determination indicates autonomy in deciding work processes (e.g., methods, time, and effort) (Bell & Staw, 1989; Deci, Connell, & Ryan, 1989). *Impact* reflects the extent to which one views his or her work related behaviors can influence work related outcomes. Also, impact is suggested to be opposite of learned helplessness (Martinko & Gardner, 1982). Although these four dimensions (meaning, competence, self-determination, and impact) are distinct, Spreitzer (1995) contended that “the four dimensions are argued to combine additively to create an overall construct of psychological empowerment (p. 1444)”. As such, psychological empowerment is an important enabler that

promotes employees' task initiation and persistence (Conger & Kanugo, 1988; Spreitzer, 1995; Thomas & Velthouse, 1990).

3.2. Privacy and Psychological Empowerment

Having described what privacy is and discussing how psychological empowerment embodies internalized motivations, this section describes the expected impact of privacy on psychological empowerment. Building on self-determination theory (Deci & Ryan, 1991, 2002) and research on privacy (Altman, 1995), privacy helps employees meet their three basic needs, the need for autonomy, competence, and relatedness, and thus leads to higher levels of psychological empowerment.

The current research argues that there are at least three reasons for why privacy is likely to be a uniquely potent source of work motivation. First, privacy, a perception that one is able to control social interactions, facilitates the need for autonomy of employees. Westin (1970) described that the major role of privacy is to enhance individuals' sense of integrity and independence and to increase the ability to avoid being manipulated by others. Research supports that perceiving one can shape their social context facilitates autonomy and protects employees from a controlling external environment (Alge et al., 2006). Self-determination theory argues that the need for autonomy is the most central need among the three basic needs (Deci & Ryan, 1991, 2002; Gagne & Deci, 2005), and that independence and freedom from constraints increases employees' self-determination (Deci & Ryan, 2002). Since employees who believe that they have control over their social interactions experience less constraints by their group, they perceive a greater sense of self-determination and meaning in their work.

For example, Julie has a supervisor who is frequently booked with work meetings and surrounded by co-workers who continuously demand to talk to her. She feels that meetings scheduled with her supervisor are always dependent upon her supervisor's busy schedule and that she is always forced to talk with her coworkers. As a result, it is highly likely that she feels that she lacks the ability to control her work because of these factors. On the other hand, Sarah works with coworkers who tend to leave her alone when she seems busy, yet are willing to connect with her whenever she needs. Compared to Julie, Sarah may perceive that she has higher autonomy in workplace and thereby is more likely to feel psychologically empowered.

Second, opening privacy, having control over when they seek interactions can facilitate the need for relatedness. The need for relatedness is satisfied when employees are able to experience a sense of communion and develop close relationships (Baumeister & Leary, 1995). A belief that one's attempt to initiate a social interaction will be successful and reciprocated yields a high quality relational exchange (Bower, Schoorman, & Tan, 2000; Sherry & Green, 2002), and thus employees are able to fulfill their relatedness needs. The need for relatedness is sometimes perceived to serve a more distal role in internalizing motivations compared to the need for autonomy or competence. For example, an employee may intrinsically enjoy working on a task alone, meaning that the work itself does not satisfy the need for relatedness. Nonetheless, self-determination theory points that internalized motivation is less likely to be nurtured without secure relational attachments (Deci & Ryan, 2000).

Finally, closing privacy, a control one believes to have over being able to set aside time to be alone without being interrupted by others, enables employees to satisfy *the need for competence*. As much as individuals desire to be connected to others, they also desire to be alone at times (Altman, 1975; Westin, 1970). When employees perceive that one can have enough time

alone, they will be alleviated from external demands and monitoring so that they have more energy to fully invest their cognitive resources in learning new skills or working on a challenging task (Altman, 1975; Margulis, 2003). Especially within organizations, timelessness, being physically and cognitively engrossed in one's work roles, is suggested to be critical in enabling employees to integrate multiple viewpoints and generate novel ideas (Mainemelis, 2001, 2002). Having the freedom to be uninterrupted makes it easier for employees to more frequently experience timelessness at work. On the other hand, when an employee feels that she lacks control over avoiding other's intrusion or unwanted social interaction, it is highly unlikely that she can devote enough energy in order to learn and develop. Research supports this in that social interactions require a certain degree of impression management which consumes one's internal resources (Vohs, Baumeister, & Ciarocco, 2005).

Satisfaction of these three needs is directly relevant to the four facets of psychological empowerment. For example, satisfying the need for competence will foster one's belief in the capacity to successfully perform the task (Spreitzer, 1995). Moreover, satisfying the need for autonomy will lead to self-determination, which is related to one's perception of being able to choose how to complete the task (Zimmerman, 1995). Finally, satisfying the need for relatedness is closely related to the meaning and impact dimension of psychological empowerment (Spreitzer, 1995; Zhang & Bartol, 2010; Zimmerman & Rappaport, 1988). In summary, individuals will be more psychologically empowered when they experience privacy because privacy enables them to satisfy the needs for autonomy, competence, and relatedness.

Hypothesis 1. Privacy is positively related to psychological empowerment.

3.3. Psychological Empowerment and Creative Performance

The current model defines creative performance as the production of novel and useful ideas, services or products (George, 2007; Oldham & Cummings, 1996; Shalley et al., 2004). Both theoretical and empirical research support the prediction that psychological empowerment is positively associated to creative performance (e.g., Alge et al., 2006; Pieterse, Van Knippenberg, Schippers, & Stam, 2010; Sun, Zhang, Qui, & Chen, 2012; Zhang & Bartol, 2010). It has been found that internalized extrinsic and intrinsic motivation, namely psychological empowerment increases innovation and creativity (Amabile, 1988, Spreitzer, 1995). Amabile (1983) suggested that an individual's motivation plays an important role in determining their creative performance. Amabile's (1983, 1987) componential model of creativity identified intrinsic motivation is the key driver of creativity, and a number of studies have supported this relationship (de Jesus et al., 2013; Grant & Berry, 2011; Shin & Zhou, 2003; Tierney, Farmer, & Graen, 1999), although others have not (e.g., Shalley & Perry-Smith, 2001)

Previous research provides support for the positive association between all four facets of psychological empowerment (i.e., meaning, impact, self-determination, and competence) and creative performance. Psychologically empowered employees are more likely to perceive themselves capable of managing work roles (Spreitzer, 1995), and are therefore motivated to try new approaches to solving problems and executing tasks. When an employee is aware that their job requirements are meaningful and important, the employee will be more inclined to engage in creative processes by spending more effort on understanding a problem taking multiple viewpoints, exploring solutions with a variety information, and generating significant number of alternatives for integrating this diverse information (Zhang & Bartol, 2010). Such employees can invest more effort in understanding a problem from multiple sources and generate a significant

number of alternatives by connecting information from divergent sources (Gilson & Shalley, 2004). In addition, when employee feels capable of successfully performing a task (i.e., high self-determination), they are more likely to be persistent focusing on their idea or increasing effort in order to solve problems (Amabile, Gitomer, 1984; Deci & Ryan, 1991; Spreitzer, 1995). This rationale also aligns with research that has found that initial ideas are less creative, while ideas generated during later stages are more creative (Runco, 1986). Also, research supports that subordinates' psychological empowerment leads to higher creative performance (Alge et al., 2006; Pieterse, Van Knippenberg, Schippers, & Stam, 2010; Sun, Zhang, Qui, & Chen, 2012; Zhang & Bartol, 2010). As such, the current model posits that psychological empowerment will drive employees to attain higher creative performance.

Hypothesis 2. Psychological empowerment is positively related to creative performance.

Up until this point, it has been argued that privacy promotes individuals' perception of meaning, self-determination, impact and competence and that this translates into superior creative performance. In other words, a model is being described in which psychological empowerment mediates the relationship between privacy and creative performance. Prior research has suggested that privacy may be related to creative performance (Altman, 1975; Bernstein, 2012; Margulis, 2003a; Pedersen, 1997), and the current model suggests that psychological empowerment plays an important role in explaining this relationship.

This mediation hypothesis is consistent with the basic assumption of self-determination theory (Deci, 1991, 2002) that the perception of one's control over shaping their social context promotes the internalization of motivations, leading to higher performance outcomes. Consistent with self-determination theory, when employees perceive that they have control over their social

interactions, they are more likely to experience psychological empowerment, involving both highly internalized extrinsic and intrinsic motivation, and therefore perform more creatively.

Hypothesis 3. Psychological empowerment mediates the relationship between privacy and creative performance.

3.4 Personal Characteristic and Contextual Factor as Moderators

There are important reasons to identify a significant moderator that can influence the relationship between privacy, psychological empowerment, and creative performance. Self-determination theory (Deci & Ryan, 1981, 2002) and research on creativity (Amabile, 1983; Shalley et al., 2004; Woodman, Sawyer, & Griffin, 1993; Woodman & Schoenfeldt, 1990) stress that how individuals translate creativity-relevant antecedents into creative performance depends on personal and situational factors. According to self-determination theory (Deci & Ryan, 2002), “a person’s motivation, behavior, and experience in a particular situation is a function both of the immediate social context and of the person’s inner resources that have developed over time as a function of prior interactions with social contexts (p. 21)”. Also, the interactionist perspective on creativity suggests that creativity is a complex phenomenon derived from a function of a person’s cognitive and personal factors interacting with the social context, calling for a need to identify personal and contextual moderators that may influence the relationship between antecedents and creative performance (Woodman et al., 1993; Woodman & Schoenfeldt, 1990). As such, the current research extended this literature by identifying an important personal characteristic (i.e., introversion) and a contextual factor (i.e., social interaction) as critical moderators that strengthens the positive effect of privacy on psychological empowerment and therefore indirectly impact creative performance.

3.4.1. Introversion as a moderator

Introversion, one of the key personality characteristics (Barrick & Mount, 1991; Costa, McCrae, & Dye, 1991; Eysenck & Levey, 1972; McCrae & Costa, 1997), has been suggested to influence the relationship between employees' privacy and psychological experiences with a social context (Long et al., 2003). Introversion is considered to be on a continuum from high introversion to high extroversion, with introverts tending to be shy, quiet, solitary and cautious, whereas extroverts are characterized by their tendencies toward sociability and social dominance (Costa, McCrae, & Arenberg, 1983). Previous research has suggested that introverts and extroverts mainly differ in two ways. Jung (1928) described introverts and extraverts differently in their primary relational orientations. That is, the introvert's main concern is to establish autonomy and independence from other people, whereas the extravert seeks the company of others (Hills & Argyle, 2001). In addition, Eysenck (1967) had explained that because extroverts are less likely to be aroused, they seek stimulation from social interactions to compensate for their lack of arousal. Eysenck (1976) assumed that the reason why extroverts are sociable is because they actively seek to interact with people when they need stimulation. In contrast, introverts are easier to be aroused and can function better without the presence of high levels of external stimulation (Eysenck & Eysenck, 1975). Also, introverts are more sensitive and vulnerable to physical stimulus, involving pain, noise, and visual stimuli (Belojevic, Slepcevic, & Jakovljevic, 2001; Larson & Bell, 1988). In summary, introverts tend to seek autonomy and independence from social factors and have a lower threshold for cognitive arousal compared to extroverts. Building on the research in personality, the current research provides three reasons for suggesting that introversion will interact with privacy to predict psychological empowerment.

First, introverts are motivated to seek autonomy and independence from others (Hills & Argyle, 2001; Jung, 1928), which implies that introverted employees will reap more benefits from an environment which allows them to have a certain degree of autonomy in social interactions. Introverts thrive in a social environment where they are provided with personal freedom to withdraw from social interactions and interact with others (Larson & Bell, 1988). This current research suggests that when introverted employees perceive that they have control over their social interactions, they are more likely to experience psychological empowerment at work. On the other hand, extroverts reap less benefit from privacy because they enjoy socially stimulating environments. According to self-determination theory (Deci & Ryan, 1991, 2002), individuals tend to internalize extrinsic motivation or be intrinsically motivated especially when the value from the external environment is congruent with their internal value. Privacy lets individuals perceive that they have personal control or autonomy over social interactions, which aligns with introverts' internal needs and values to have personal freedom over social interactions. Therefore, we propose that introverted employees are more likely to be psychologically empowered from privacy.

Second, compared to extroverts, introverts are more sensitive to and easily stressed by external stimuli (Belojevic, Slepcevic, & Jakovljevic, 2001; Larson & Bell, 1988; Liberman & Rosenthal, 2001) and thus introverted employees will benefit more from less stimulating work environment. Research supports the view that introverts have a significantly lower threshold of stimulus screening, that is, the extent to which one is aroused and activated by a stimulus (Marshall, 1974; Mehrabian, 1977). Being high on introversion lets the employees who are exposed to a high level of stimuli at work experience a higher level of arousal (Belojevic et al., 2001; Cain, 2013; Gray, 1970), and being overly aroused by unpleasant stimuli may cause severe

stress reactions (Cavanaugh, Boswell, Roehling, & Boudreau, 2000; Ganster & Schaubroeck, 1991; Lazarus, 1990), leading to work inefficiency (Lieberman & Rosenthal, 2001). Because experiencing high levels of stress disturbs learning and task completion (LePine, LePine, & Jackson, 2004), introverted employees will find a lack of closing privacy to thwart their need for competence. When introverts feel like they do not have control over being alone to focus on a task, their need for competence will be significantly threatened. On the other hand, when employees are low on introversion (or high on extraversion), they may not be as vulnerable to external stimuli (Gray, 1970), and the absence of closing privacy may not thwart the need for competence. Also, those higher on extraversion would sometimes find that being in a stimulus-free environment is somewhat boring and even stressful (Eysenck & Levey, 1972; Gray, 1970). Therefore, introverts are more likely to fulfill the need for competence by closing privacy and be more psychologically empowered compared to extroverts.

Third, introverts are suggested to have more difficulties in initiating social relationships compared to extroverts (Hotard, McFatter, McWhirter, & Stegall., 1989). Thus, it can be expected that introverted employees will benefit more from *opening privacy*, perceiving that they have control over connecting with others at work. Because introverts have less fulfilling social relationships, research suggests that they tend to experience lower psychological well-being than extroverts (Hotard et al., 1989; Lieberman & Rosenthal, 2001). This line of reasoning aligns with self-determination theory's assumption that one needs to satisfy their need for relatedness to thrive. Since it is relatively easier for extroverts to approach and open themselves up to others to form a relationship even if they lack control over approaching others. Research findings supports that extroverted individuals tend to initiate conversations and are viewed more attractively to the strangers (Eysenck & Eysenck, 1963; Gray, 1970), while such differences between extroverts

and introverts are diminished in familiar relationships (Hills & Argyle, 2001). The perception that one can have freedom in approaching others will make it easier for introverts to fulfill their need for relatedness. As such, the current theoretical model suggests that having approach privacy compensates for an introvert's lack of sociability to satisfy the need for relatedness. As such,

Hypothesis 4. Introversion will moderate the relationship between privacy and psychological empowerment such that privacy is more likely to lead to psychological empowerment when introversion is high.

Taken as a whole, Hypotheses 1-4 imply a moderated mediation relationship. Building on the prior hypotheses, it is also hypothesized that the interaction between privacy and introversion will impact creative performance, which will occur because of a greater sense of psychological empowerment. As indicated above, experiencing privacy facilitates introverts' need for autonomy, competence, and relatedness, leading to higher levels of psychological empowerment. This resulting psychological empowerment, in turn, will lead employees to perform more creatively.

Hypothesis 5. Introversion will indirectly moderate the relationship between privacy and creative performance through psychological empowerment.

3.4.2. Employee bonding as a moderator

The current theoretical model has argued that privacy leads to creative performance via psychological empowerment. However, employees often face situations where they need to collaborate beyond their boundaries (Grant, 2007; Parker, 2014). Also, social encounters to bond with others are an inevitable component of work (Goffman, 1955). Although privacy may

provide an important pre-condition permitting one to be more psychologically empowered by enabling individuals to fulfill their basic needs (i.e., need for autonomy, competence, and relatedness), it has also been suggested that an individual's psychological empowerment can occur from various process, in which the context may provide a significant amount of support (Chiang, 2012; Deci & Ryan, 2002; Spreitzer, 1995, 1996; Zimmerman, 1995; Zhang & Bartol, 2010). Social bonding as a construct originates from social bonding theory (Hirschi, 1969) and is a way of conceptualizing the work context manifested in social dimensions (Hollinger, 1986; Rook, 1984; Sims, 2002). Employee bonding is defined as an involvement, attachment, and commitment towards others whom an individual interacts with at work (Sims, 2002). The role of social bond characterized by an informal social network (e.g., social interactions) has been highlighted as a contextual moderator in the teams literature (e.g., Kim, Bhave, & Glomb, 2013; Lovelace, Shapiro, & Weingart, 2001; Watson, Kumar, & Michaelsen, 1993). Self-determination theory also explicitly assumes an environment where individuals have some degree of interactions with others. By extension, the current theoretical model suggests the relationship between privacy and creativity, via psychological empowerment should be strengthened under high levels of employee bonding as a first stage moderator. The current research hypothesizes that the utility of perceiving that one has control over social interactions is more likely to be effectively mobilized into creative performance under high levels of employee bonding than under low levels of employee bonding for two reasons.

First, privacy becomes especially important for teams with high levels of employee bonding because such teams will require their team members to engage in frequent informal social interactions. Employee bonding involves a rather autonomous process of creating informal bonds of caring (Heaphy & Dutton, 2008). It also shapes one's interpersonal relationships and

the sense of attachment formed in an organization (Heffner & Rentsch, 2001). Furthermore, by forming such relational bonds, employees may feel more comfortable and emotionally attached to work (Heffner & Rentsch, 2001), which may lead them to realize that their work environment is trustworthy, secure, and predictable (Baumeister & Leary, 1995). Although employee bonding may bring these benefits, engaging bonding activities (e.g., informal conversation) may lead to resource depletion. That is, employees need to engage in effortful self-presentation in order to increase the quality of informal social interactions at work (Uziel, 2010; Uziel & Baumeister, 2012). To engage in high-quality social interactions is one of the profound motives underlying forming social relationships (Tidwell et al., 1996), and research suggests that physical and behavioral attractiveness increased the quality of social interactions and form a strong social bond (Reis et al., 1982). To be perceived as an attractive social interaction counterpart, individuals are more likely to consciously manage their behaviors to meet this social standard.

In addition, engaging in social bonding activities can be sometimes intrusive, especially when one really needs to focus on work without being interrupted. For example, when an employees' work team has a strong norm of having a frequent informal lunch gatherings, it is highly likely that she may not be able to get her work done. Also, if one constantly experiences interruptions in the form of engaging in informal conversations, then she may feel that she has less time to engage in challenging work or learn and develop new skills at work. As such, high levels of employee bonding may threaten employees' need for competence and privacy becomes especially important for the teams with high levels of employee bonding. When employees perceive that their personal time is respected by coworkers and can freely enjoy time working alone (i.e., have high level of privacy), they are more likely to feel self-efficacious, and thus become more psychologically empowered even under the presence of high levels of social

bonding. On the other hand, when employees experience lower levels of social bonding, they would have a lower chance of being interrupted by others, so the benefit privacy brings to them may not be as salient. In summary, the motivational benefits of privacy will be more salient for employees experiencing high levels of social bonding compared to employees experiencing lower levels of social bonding. Thus,

Hypothesis 6. Employee bonding will moderate the relationship between privacy and psychological empowerment such that experiencing privacy is more likely to lead to psychological empowerment when social interaction is high.

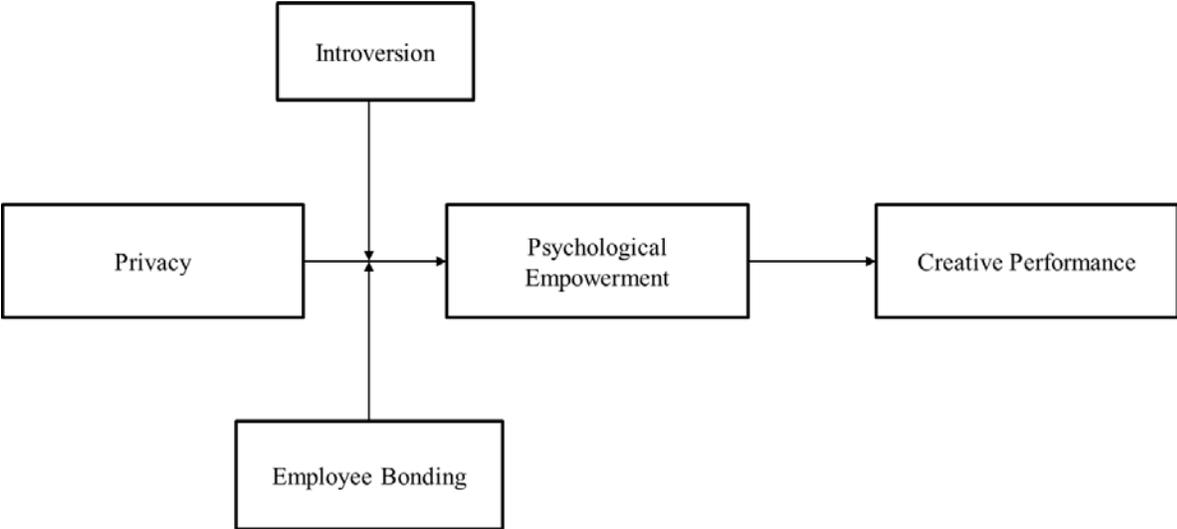
Hypothesis 6 suggests that employee bonding interacts with experiencing privacy to predict psychological empowerment. Also, the interaction between employee bonding and experiencing privacy has indirect effects on employees' creative performance. Having already proposed this relationship, the current model presents a formal hypotheses for moderated mediation for employee bonding strengthening the association between privacy and creative performance by leading to higher psychological empowerment.

Hypothesis 7. Employee bonding will indirectly moderate the relationship between privacy and creative performance through psychological empowerment.

Overall theoretical model is presented in Figure 1.

FIGURE 1.

Conceptual Model



CHAPTER 4

METHODS

4.1 Sample and procedures

The primary sample was comprised of full-time employees from a multinational high-technology company located in South Korea. An executive of the company invited the researcher to share details of their current research with the executive human resource manager of the company through a Skype meeting. Because of the geographical distance between the researcher and the executive human resource manager, meetings mediated through the computer was the best way to clearly communicate what the researcher aimed to explore in a field survey. After the meeting, the researcher was provided with the relevant target employees. In order to distribute the web-based survey, the executive human resource manager sent out the emails to target employees with the link to the web-based survey that the researcher created.

The identified set of employees were working in functional units, such as research and development, new product development, sales, marketing, finance, and human resources. These units are traditional long-term work units that provide an immediate social context for employees and their functions tend to be relatively stable over time. Data were collected through web-based surveys conducted across three data collection periods over three months with a one-month time interval between Time 1, Time 2, and Time 3. One month intervals were chosen so that the data collection could be separated in time but that it was long enough between each survey in order to decrease the carryover effects of previous survey and being short enough for the antecedents to exert influence on later outcomes. At Time 1, out of 589 employees working in 43 units who were invited to participate in the current study, 390 employees from 37 units returned the surveys that contained ratings of privacy, introversion, and social interaction. At Time 2, 360 employees

from 40 units returned their survey information on psychological empowerment and demographic and work-related information (e.g., age, gender, organizational and team tenure). There were 280 matching employees who responded to both the Time 1 and Time 2 surveys. At Time 3, the 280 matched unit managers were asked to rate their creative performance. Among 43 managers who were contacted, 35 returned their ratings of 214 employees' creative performance. Therefore, the final matched employee-manager data across the three time points was 214 employees in 35 work units, constituting a final effective response rates of 36.33% at the individual level and 81.39% at the group level. The average within-group response rate was 71%. The original unit size ranged from seven to eighteen (average = 13.58). Among employees, 76% were male (24% female), their average age was 33.43, 19% had a master's degree or above and 93% had college degree or above, and the average organizational and unit tenure was 4.70 years and 3.07 years, respectively. Among managers, 88% were male (12% female), their average age was 45.76, 40% had a master's degree or above and 100% had college degree or above, and the average organizational and unit tenure was 10.50 and 3.58 years, respectively.

4.2 Measures

4.2.1 Main variables

Unless stated differently, all measures were rated on a scale ranging from 1 = *strongly disagree* to 7 = *strongly agree* and were back-translated following the procedure recommended by Brislin (1986).

Privacy. Building from prior research on privacy (Altman, 1954; Alge et al., 2006; Berntsein, 2012; Laurence, Fried, & Slowick., 2013; Oldham, 1988), an instrument for assessing workplace privacy was developed. Because the currently existing scales on privacy do not

directly address the controlling aspects of social interactions (e.g., Oldham, 1988) or describe a specific dimension of privacy (e.g., Alge et al., 2006), the researcher developed a new scale that both integrated and expanded on these earlier scales by incorporating newly revised items. Conceptually, the current research defined privacy as perceiving that one can control one's social context by opening and closing one's boundaries (Altman, 1975). As such, two primary content dimension of privacy was proposed, including *opening privacy* and *closing privacy*. Items of privacy were written to tap into the two abovementioned content domains of privacy. Following scale development procedures from Hinkin (1995, 1998), an iterative process of matching the items to the definitions was utilized. Eight items were written to assess opening privacy (e.g., "At work, I am able to control when I interact with others") and seven items were written to assess closing privacy (e.g., "At work, I am able to avoid distractions when I am committed to focusing on my own work"). Thus, an initial pool of 13 items was developed. A full list of items are listed in Appendix A.

In order to further validate the scale, a pilot study was conducted to examine whether the newly developed scale of privacy adequately met acceptable standards of dimensionality and internal consistency (Hinkin, 1998; Hu & Bentler, 1999). The pilot study was conducted with participants recruited through Amazon Mechanical Turk (MTurk) and they were rewarded with \$.50 if they completed complete the survey, including the developed scale on privacy and basic demographic questions. Through MTurk, participants working full-time within organizations in the United States were specifically recruited because of the nature of the scale involving work-related perceptions. In total, survey data was collected from 500 participants, which exceeded Hinkin's (1998) recommended item-to-response ratio. Participants were primarily female (75%), their average age was 24.3 years ($SD = 8.76$), they were mostly Caucasian (54%), Hispanic

(28%), or Asian (9%), and undisclosed (9%). In terms of educational level, 45% had obtained bachelor's degree and above, 53% high school diploma, and for 2%, their educational level attained was undisclosed (2%).

The 13-item scale was submitted to an exploratory factor analysis. Principal axis factoring utilizing direct Oblimin rotation was used to explore the factor structure (Fabrigar, Wegner, MacCallum, & Strahan, 1999). Following Hinkin's (1998) recommendation, the following criteria was utilized to determine the number of factors: eigenvalue greater than 1 and the scree test of the percentage of variance explained (Cattell, 1966). Based on these criteria, a two-factor solution was identified. Then the factor loadings and cross-loadings of the items were examined. Items were retained if the loadings on their primary factor was higher than .40 and they had low cross-loadings on any other factor (i.e., cross-loadings were less than 50% of their primary loadings; Hinkin, 1998). Two items (one from closing privacy and one from opening privacy) were removed because they did not load adequately on any factor, and one item from opening privacy was removed because of a high cross-loading.

Utilizing the remaining 10 items, a second principal axis factoring with direct oblimin rotation was conducted. Results showed that a two-factor solution fit the data adequately. The eigenvalues of the two factors was 5.41 and 1.59, respectively, and they accounted for 72% of the variance, which met the standard proposed by Hinkin (1998). The final set of items—five for opening privacy ($\alpha = .85$) and five for closing privacy ($\alpha = .78$) showed adequate reliability. Their factor loadings from the pilot study are listed in Table 1. Based on the pilot study results, the researcher was encouraged to use this multi-dimensional conceptualization of privacy and resulted in a set of ten items that was appropriate for administration to employees at the target organization.

TABLE 1.**Privacy Items Exploratory Factor Analysis Results from the MTurk Study**

	Factor 1	Factor2
Closing privacy: Belief in one's control over "closing" oneself to others	5.41	
1. When I need to be alone, I can be alone at work.	.87	.10
2. At work, I am able to keep others from intruding on me when I am not in the mood for interactions.	.84	.05
3. At work, I am able to avoid distractions when I am committed to focusing on my own work.	.82	.08
4. My work context allows me to decide how much uninterrupted time I will have.	.76	.18
5. At work, my personal boundaries (e.g., personal space) are respected by others.	.65	.21
Opening Privacy: Belief in one's control over "opening" oneself to others		1.59
1. At work, I am able to control when I interact with others.	.07	.83
2. At work, I can decide how much interaction I will have.	.06	.82
3. At times, I can easily control my settings so that I can approach others based on my need.	.11	.80
4. My work context allows me to freely decide how much interaction I will have with others.	.17	.67
5. My work context makes it easy to interact with others whenever I want to.	.26	.65

Note: N = 500. Primary factor loadings are shown in bold.

At Time 1, employees provided ratings of their own perception of opening privacy and closing privacy using the 10-item scale developed from the pilot study. The measure has a Cronbach's alpha of .93 and .94 for opening and closing privacy. Also, the Cronbach's alpha for privacy as a single construct was .94. The final set of items used in the study are as follows: For *opening privacy*, "At work, I am able to control when I interact with others.", "At work, I can decide how much interaction I will have.", "At times, I can easily control my settings so that I can approach others based on my need.", "My work context allows me to freely decide how much interaction I will have with others.", and "My work context makes it easy to interact with others whenever I want to." For closing privacy, "When I need to be alone, I can be alone at work.", "At work, I am able to keep others from intruding on me when I am not in the mood for interactions.", "At work, I am able to avoid distractions when I am committed to focusing on my own work.", "My work context allows me to decide how much uninterrupted time I will have.", and "At work, my personal boundaries (e.g., personal space) are respected by others."

Introversion. At Time 1, introversion was measured using a 10-item scale from Goldberg's (1992) Big Five inventory. The Cronbach's alpha was .93. The items are as following: "I am the life of the party. (R)", "I feel comfortable around people. (R)", "I start conversations. (R)", "I talk to a lot of different people at parties. (R)", "I don't mind being the center of attention. (R)", "I don't talk a lot.", "I keep in the background.", "I have little to say.", "I don't like to draw attention to myself.", and "I am quiet around strangers."

Employee Bonding. At Time 1, employee bonding was measured with four items adapted from Klein and colleagues (2001) with some modification in order to fit unit-level perceptions of social interaction. Also, Kim and colleagues (2013) used this selected four-item scale in assessing unit-level perceptions of social interactions. Cronbach's alpha was .96. The

modified items are as following: “How often does your unit spend breaks or lunches socializing with your co-workers?”, “How often do you and your co-worker get together with your co-workers outside of work?”, “How much do you and your co-workers take a personal interest in one another?”, and “Are your unit-members good friends with each other?”

Psychological Empowerment. At Time 2, psychological empowerment was measured using Spreitzer’s (1995) 12-item scale. The Cronbach’s alpha was .96. The items are as following: For *meaning*: “The work I do is very important to me.”, “My job activities are personally meaningful to me.”, and “The work I do is meaningful to me.”. For *competence*: “I am confident about my ability to do my job.”, “I am self-assured about my capabilities to perform my work activities.”, and “I have mastered the skills necessary for my job.” For *self-determination*, “I have significant autonomy in determining how I do my job.”, “I can decide on my own how to go about doing my work.”, and “I have considerable opportunity for independence and freedom in how I do my job. For *impact* “My impact on what happens in my department is large.”, “I have a great deal of control over what happens in my department.”, and “I have significant influence over what happens in my department.”

Creative Performance. At Time 3, the supervisors rated their subordinate’s creative performance using Farmer, Tierney, and Kung-Mcintyre’s (1999) 4-item scale. The Cronbach’s alpha was .97. Supervisors were asked to what extent they agreed with the following statements about their employees: “This employee tries new ideas or methods first.”, “This employee seeks new ideas and ways to solve problems.”, “This employee generates ground-breaking ideas related to the field.”, and “This employee is a good role model for creativity.”

4.2.2 Control Variables.

4.2.2.1 Demographics

According to research on creativity, one's demographic properties (e.g., sex, professional experience, education level) may significantly impact creative performance (Amabile, 1983; Shin & Zhou, 2007). Therefore, demographics including age, sex, and organizational tenure were assessed at Time 1.

4.2.2.2 Individual differences

Stimulus Screening Strategies. It has been suggested that stimulus screening strategies, defined as an individual's ability to screen the numerous inputs and stimuli that may be present in their environment (Mehrabian, 1976, 1977), also impacts individuals' perception of experiencing privacy. Since individuals with high levels of stimulus screening skills will be less influenced by external stimuli (Oldham, 1988), they would experience a higher level of privacy compared to individuals with low levels of stimulus screening strategies. Therefore, stimulus screening strategies was assessed using Mehrabian's (1976) 8-item scale during Time 2. The Cronbach's alpha was .98. The items are as following: "Strong emotions don't have a lasting effect on me. (R)", "Things usually don't get me stirred up. (R)", "My moods are not quickly affected when I enter new places.", "I am strongly moved when many things are happening at once.", "Extremes in temperature don't affect me a great deal.", "I don't react much to sudden loud sounds. (R)", "I am not affected much by the feel or texture of the clothes I wear. (R)", and "I am not one to be strongly moved by an unusual odor. (R)

CHAPTER 5

RESULTS

5.1 Descriptive Statistics

Table 2 describes the means and standard deviations of, and correlation among the individual-level study variables. Stimulus screening was positively related to privacy ($r = .30, p < .01$) and introversion ($r = .33, p < .01$). Consistent with the initial prediction, privacy was positively related to psychological empowerment ($r = .46, p < .01$) and creative performance ($r = .26, p < .01$). Also, psychological empowerment was positively related to creative performance ($r = .31, p < .01$).

5.2 Attrition Analysis

Given that the response rate was 36.33%, I investigated whether there was an attrition bias within the participants. In order to check an attrition bias of the sample, Goodman and Blum (1996)'s process was utilized for testing longitudinal data for random and non-random missingness. A regression analysis of all the main variables was conducted (i.e., privacy, introversion, employee bonding, psychological empowerment, and creative performance) as predictors of the dummy coded variable for completed surveys in Time 1, 2, and 3 (1 = completed all three surveys and 0 = completed less than three surveys) utilizing each participant's Time 1 survey. The results of the regression are as follows: Privacy ($\beta = .03, p = .41$), introversion ($\beta = .07, p = .51$), employee bonding ($\beta = .02, p = .82$), psychological empowerment ($\beta = .08, p = .66$), and creative performance ($\beta = .11, p = .43$). Since none of the important variables at Time 1 predicted whether a participant chose to complete at least 80% of the surveys, this suggests that the data are randomly missing and that attrition within the sample was not biased. As such, this attrition

analysis supports the use of only the participants who completed all three surveys for the current analysis.

TABLE 2.**Means, Standard Deviations, and Correlations of the Study Variables**

Variable	M	SD	1	2	3	4	5	6	7	8	9
1. Age	33.43	5.36									
2. Sex	0.24	0.82	-.04								
3. Organization tenure	4.70	3.02	.54**	-.06							
4. Stimulus screening	4.32	1.18	-.11	-.03	-.01	(.98)					
5. Privacy	4.30	1.19	.09	.02	.12	.30**	(.94)				
6. Introversion	4.02	1.11	.06	.00	-.02	.33**	.13*	(.93)			
7. Employee bonding	4.35	1.31	.21**	-.02	.22**	.11	.38**	.10	(.93)		
8. Psychological empowerment	4.46	1.31	.15*	-.10	.09	.10	.46**	.13*	.29**	(.96)	
9. Creative performance	4.78	1.51	.03	.06	.05	.13	.26**	.14*	.22*	.31**	(.97)

Note: N=214. Coefficient alphas are in parenthesis on the diagonal. 0 = male 1 = female.

* $p < .05$, ** $p < .01$

5.3 Confirmatory Factor Analysis

A Confirmatory factor analysis was conducted to examine the distinctiveness of the employee-rated constructs including privacy, psychological empowerment, introversion, and social interaction. To prevent nonconvergence and also improve the reliability of indicators, the item parcelling approach was employed to reduce the number of observed indicators (Nasser & Wisenbaker, 2003). Item parcelling provides a more reliable factor solution compared to item-level data, especially given the factor structure of lengthy scales that we had (Floyd & Widaman, 1995; Little, Cunningham, Shahar, & Widaman, 2002), with previous studies having used item parcelling to overcome such issues (Hirst, van Knippenberg, Chen, & Sacramento, 2011; Takeuchi, Bolino, & Lin, 2015). The item parcelling yielded a total of 12 parcels from 36 observed items (i.e., three for privacy, three for introversion, three for social interaction, and three for psychological empowerment). First, the hypothesized four-factor model was tested. The results indicated that the four-factor structure fit the data well: $\chi^2 = 354.58$, $df = 129$, $p < .01$; CFI = .95, RMSEA = .06, SRMR = .05, and the model fit was superior to a three-factor model in which the privacy and psychological empowerment were set to load on a single factor: $\chi^2 = 427.56$, $df = 132$, $p < .01$; CFI = .84, RMSEA = .11, SRMR = .08, or a model in which all constructs were set to load on a single factor: $\chi^2 = 1564.62$, $df = 135$, $p < .01$; CFI = .51, RMSEA .21, SRMR = .19.

5.4 Hypothesis Testing

To test the hypotheses, random coefficient modeling analyses were conducted with STATA 13.1 software to adjust the potential nonindependence issue of creative performance rated by the same supervisor (Raudenbush & Bryk, 2002) and account for the unit-nested nature of the data (Enders & Tofighi, 2007; Snijders & Bosker, 1999). To test the mediation and

moderated mediation effect, the indirect effect was calculated by constructing bias-corrected confidence intervals based on 1,000 bootstrapped random samples (Edwards & Lamberts, 2007). In the analysis, the individual-level variables (i.e., privacy, introversion, psychological empowerment, and creative performance) were group-mean centered and the unit-level variable (employee bonding) was grand-mean centered according to Enders & Tofhighi (2007). In addition, aggregating employee rated employee bonding to a unit-level construct was justified based on the Rwg value of social interaction (.75), which is above the conventional cut-off value of .70. In order to check the variance accounted for between-team and within-team, a null model with no predictors was initially analyzed. The null model indicated that there was a between-team variations in privacy ($ICC[1] = .05$), psychological empowerment ($ICC[1] = .03$), and creative performance ($ICC[1] = .08$). The ICC values and the nested structure of the data support conducting random coefficient modeling in the current research.

Tables 3 and 4 summarize the random coefficient modeling results for testing the hypotheses. Hypothesis 1 predicted that privacy is positively related to psychological empowerment. Model 2 in Table 3 demonstrated that after including the control variables (i.e., age, sex, tenure, and stimulus screening), privacy had a positive effect on psychological empowerment ($\gamma = .45, p < .01$), providing support for Hypothesis 1. With respect to the interaction hypotheses with introversion and employee bonding as a moderator (Hypothesis 4 and 6), the results in Table 3 demonstrated that after including the main effects of privacy, introversion had a positive moderating effect ($\gamma = .14, p < .05$) on the relationship between privacy and psychological empowerment (Model 4), yet employee bonding failed to provide a significant moderating effect ($\gamma = -.03, p = n.s.$) (Model 6). Therefore, the analysis provided support for Hypothesis 3 (interaction between privacy and introversion) while failing to support

Hypothesis 6 (interaction between privacy and social interaction). Because Hypothesis 6 describing a 1st stage moderation effect was not supported, the moderated mediation hypothesis (Hypothesis 7) predicting the indirect effect of social interaction between privacy and creative performance via psychological empowerment was also not supported.

TABLE 3.**Hierarchical Linear Modeling Analysis for Hypothesis Testing (1) (Dependent Variable = Psychological Empowerment)**

Variable	First stage (dv=psychological empowerment)					
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
(Constant)	-.94 (.47)	-.70 (.43)	-1.17 (.78)	-1.12 (.78)	-.73 (.43)	-.73 (.43)
Age	.03 (.02)	.02 (.01)	.02 (.01)	.02 (.01)	.02 (.01)	.02 (.01)
Sex	-.11 (.08)	-.13 (.03)	-.13 (.08)	-.11 (.08)	-.13 (.08)	-.13 (.08)
Tenure	.00 (.02)	-.01 (.03)	-.01 (.03)	-.01 (.02)	-.01 (.02)	.01 (.02)
Stimulus screening	.13 (.06)*	.01 (.06)	.03 (.07)	.02 (.07)	.01 (.06)	.00 (.06)
Privacy		.45 (.06)**	.44 (.07)**	.42 (.07)**	.44 (.06)**	.45 (.06)**
Introversion			.06 (.08)	.05 (.08)		
Privacy x Introversion				.14 (.07)*		
Employee bonding					-.03 (.08)	-.03 (.09)
Privacy x Employee bonding						-.03 (.09)
Model deviance	616.04	569.30	568.00	564.58	569.18	569.07
Pseudo R ²	.05	.23	.23	.24	.23	.23

Note: Values are standardized random coefficient modelling coefficients. Standard errors are in parentheses. Model deviance (-2 X log-likelihood of the full maximum-likelihood estimate) is an indicator of model fit; the smaller the deviance, the better the model fit. Pseudo R₂ values were calculated on the basis of the formula $1 - \frac{[(\text{Level 1 restricted error}/n) + \text{Level 2 restricted error}]}{[(\text{Level 1 unrestricted error}/n) + \text{Level 2 unrestricted error}]}$ from Snijders and Bosker (1999). *n* is the average number of individuals in each Level 2 unit. Pseudo R₂ is solely for model comparison and cannot be interpreted as explained variance of the outcome variable or compared across the different data sets (Hox, 2010).

N = 214. * $p < .05$, ** $p < .01$,

TABLE 4.**Hierarchical Linear Modeling Analysis for Hypothesis Testing (2) (Dependent Variable = Creative Performance)**

Variable	Second stage (dv = creative performance)	
	Model 1	Model 2
(Constant)	-.20 (.55)	-.08 (.55)
Age	.00 (.02)	.00 (.02)
Sex	.10 (.10)	.12 (.10)
Tenure	.02 (.03)	.02 (.03)
Stimulus screening	.16 (.08)*	.14 (.08)
Psychological empowerment		.17 (.08)*
Model deviance	687.77	640.24
Pseudo R ²	.04	.06

Note: Values are standardized random coefficient modelling coefficients. Standard errors are in parentheses. Model deviance (-2 X log-likelihood of the full maximum-likelihood estimate) is an indicator of model fit; the smaller the deviance, the better the model fit. Pseudo R₂ values were calculated on the basis of the formula $1 - \frac{[(\text{Level 1 restricted error}/n) + \text{Level 2 restricted error}]}{[(\text{Level 1 unrestricted error}/n) + \text{Level 2 unrestricted error}]}$ from Snijders and Bosker (1999). *n* is the average number of individuals in each Level 2 unit. Pseudo R₂ is solely for model comparison and cannot be interpreted as explained variance of the outcome variable or compared across the different data sets (Hox, 2010).

N = 214. * $p < .0$

Hypothesis 2 predicted that psychological empowerment was positively related to creative performance as rated by their managers. Model 2 in Table 4 demonstrated that after including the control variables, psychological empowerment had a positive effect on creative performance ($\gamma = .17, p < .05$). Also, Hypothesis 3 predicted a mediation relationship between privacy and creative performance via psychological empowerment. The bootstrapped 95% confidence interval [.03, .12] for the indirect effect through psychological empowerment did not include zero, suggesting the statistical significance of the indirect effect. Therefore, Hypothesis 3 was also supported.

Hypothesis 5 predicted that introversion moderated the indirect effect of privacy on creative performance through psychological empowerment. Following the moderated mediation approach (Edwards & Lambert, 2007), the current analysis examined whether the indirect effect would be stronger when individuals are higher on introversion, such that introversion would strengthen the positive relationship between privacy and creative performance (first-stage moderation). The current analysis utilized bootstrapping methods in STATA 13.1 by using “mixed” and “bootstrap” commands together (Stata Corp, 2013). Table 5 demonstrates the indirect and total effects for creative performance at high (+1SD) and low (-1SD) levels of introversion. The indirect effect was significant at high levels of introversion (*estimate* = .07, 95% *CI* [.02, .13]), but marginally significant at low levels of introversion (*estimate* = .03, 90% *CI* [.01, .10]). Also, the differences of indirect effects was significant (.07 - .04 = .03, 95% *CI* [.01, .14]). Figure 2 shows the moderating relationship between introversion and privacy on psychological empowerment. Privacy was significantly related to psychological empowerment (*slope* = .58, $p < .01$) under high levels of introversion and also significantly related to

psychological empowerment under low levels of introversion ($slope = .27, p < .01$). Therefore, Hypothesis 5 was supported. A summary of the results of the hypotheses testing is presented in Table 9.

FIGURE 2.

Relationships between Privacy, Introversion, and Psychological Empowerment

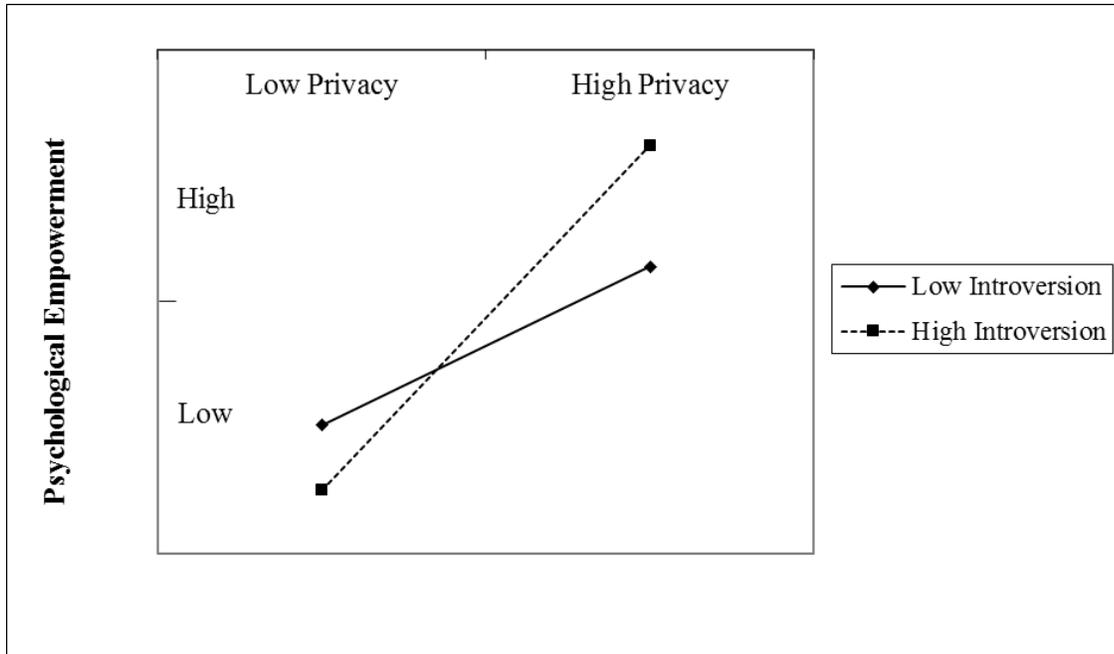


TABLE 5.**Conditional Indirect Effect of Introversion on Creative Performance via Psychological Empowerment**

Variable	First stage	Second stage	Direct effect	Indirect effect	Total effect
Simple paths for <i>high</i> introversion	.58**	.12*	.18*	.07*	.25*
Simple paths for <i>low</i> introversion	.27**	.12*	.18*	.03+	.21*
Differences	.31**	.00	.00	.04*	.04*

Note: Values are standardized random coefficient modelling coefficients. Standard errors are in parentheses. Model deviance (-2 X log-likelihood of the full maximum-likelihood estimate) is an indicator of model fit; the smaller the deviance, the better the model fit. Pseudo R₂ values were calculated on the basis of the formula $1 - \frac{[(\text{Level 1 restricted error}/n) + \text{Level 2 restricted error}]}{[(\text{Level 1 unrestricted error}/n) + \text{Level 2 unrestricted error}]}$ from Snijders and Bosker (1999). *n* is the average number of individuals in each Level 2 unit. Pseudo R₂ is solely for model comparison and cannot be interpreted as explained variance of the outcome variable or compared across the different data sets (Hox, 2010).

N = 214. * $p < .05$, ** $p < .$

5.5 Exploratory Analysis

5.5.1 Treating opening and closing privacy separately to predict psychological empowerment and privacy

To examine whether the two dimensions of privacy (i.e., opening and closing privacy) separately have an impact on both psychological empowerment and creative performance, the current research conducted an exploratory analysis with opening privacy and closing privacy as distinct constructs. The purpose of this exploratory analysis was twofold. First, the exploratory analysis aimed to uncover whether each dimension as a separate construct can also predict psychological empowerment and creative performance. Also, the current exploratory analysis examined whether each privacy dimension differentially interacted with introversion to predict psychological empowerment and creative performance. To test the exploratory research question, the same multilevel procedures was utilized (see section 5.3). In order to deepen our knowledge on the separate dimensions of privacy, current research examined each type of privacy in isolation. Given that these two types of privacy constructs were theorized to have a significant impact on their motivational process, the current analysis constrained each type of privacy as a single predictor.

As Model 2 in Table 6 indicates, *opening privacy* alone had a positive impact on psychological empowerment ($\gamma = .39, p < .01$). Also, as Model 2 in Table 7 indicates, *closing privacy* alone had a positive impact on psychological empowerment ($\gamma = .35, p < .01$). In order to further examine the indirect effect of *opening privacy* on psychological empowerment, a bootstrapping method appropriate for multi-level models was utilized by using the same method in hypotheses testing. The significant relationship between psychological empowerment and creative performance was supported from previous hypotheses testing (Table 4, Model 2), (γ

= .17, $p < .05$), the bootstrapped 95% confidence interval [.01, .13] for the indirect effect through psychological empowerment did not include zero, suggesting that the indirect effect of *opening privacy* on creative performance was significant. Also, the bootstrapped 95% confidence interval [.03, .11] did not include zero, also suggesting that the indirect effect of *closing privacy* on creative performance was significant.

TABLE 6.**Hierarchical Linear Modeling Analysis for Exploratory Analysis (1) (Dependent Variable = Psychological Empowerment)**

Variable	First stage (dv=psychological empowerment)			
	Model 1	Model 2	Model 3	Model 4
(Constant)	-.94 (.47)	-.79 (.43)	-1.58 (.79)	-1.48 (.79)
Age	.03 (.02)	.03 (.01)	.03 (.01)	.02 (.01)
Sex	-.11 (.08)	-.12 (.08)	-.12 (.08)	-.11 (.08)
Tenure	.00 (.02)	-.01 (.03)	-.01 (.03)	-.01 (.03)
Stimulus screening	.13 (.06)*	.04 (.06)	.07 (.07)	.06 (.07)
Opening privacy		.39 (.06)**	.38 (.07)**	.37 (.07)**
Introversion			.10 (.08)	.08 (.08)
Opening privacy x Introversion				.11 (.07)
Model deviance	616.04	581.22	579.80	576.43
Pseudo R ²	.05	.19	.19	.19

Note: Values are standardized random coefficient modelling coefficients. Standard errors are in parentheses. Model deviance (-2 X log-likelihood of the full maximum-likelihood estimate) is an indicator of model fit; the smaller the deviance, the better the model fit. Pseudo R₂ values were calculated on the basis of the formula $1 - \frac{[(\text{Level 1 restricted error}/n) + \text{Level 2 restricted error}]}{[(\text{Level 1 unrestricted error}/n) + \text{Level 2 unrestricted error}]}$ from Snijders and Bosker (1999). *n* is the average number of individuals in each Level 2 unit. Pseudo R₂ is solely for model comparison and cannot be interpreted as explained variance of the outcome variable or compared across the different data sets (Hox, 2010).

N = 214. * $p < .05$, ** $p < .01$

TABLE 7.

Hierarchical Linear Modeling Analysis for Exploratory Analysis (2) (Dependent Variable = Psychological Empowerment)

Variable	First stage (dv=psychological empowerment)			
	Model 1	Model 2	Model 3	Model 4
(Constant)	-.94 (.47)	-.69 (.44)	-1.31 (.80)	-1.31 (.79)
Age	.03 (.02)	.02 (.01)	.02 (.01)	.02 (.01)
Sex	-.11 (.08)	-.13 (.08)	-.12 (.08)	-.10 (.08)
Tenure	.00 (.02)	-.01 (.03)	-.01 (.03)	-.01 (.03)
Stimulus screening	.13 (.06)*	.03 (.06)	.05 (.07)	.03 (.07)
Closing privacy		.35 (.06)**	.33 (.06)**	.31 (.06)**
Introversion			.08 (.09)	.07 (.08)
Closing privacy x Introversion				.13 (.06)*
Model deviance	616.04	577.12	576.28	571.14
Pseudo R ²	.05	.20	.19	.22

Note: Values are standardized random coefficient modelling coefficients. Standard errors are in parentheses. Model deviance (-2 X log-likelihood of the full maximum-likelihood estimate) is an indicator of model fit; the smaller the deviance, the better the model fit. Pseudo R₂ values were calculated on the basis of the formula $1 - \frac{[(\text{Level 1 restricted error}/n) + \text{Level 2 restricted error}]}{[(\text{Level 1 unrestricted error}/n) + \text{Level 2 unrestricted error}]}$ from Snijders and Bosker (1999). *n* is the average number of individuals in each Level 2 unit. Pseudo R₂ is solely for model comparison and cannot be interpreted as explained variance of the outcome variable or compared across the different data sets (Hox, 2010).

N = 214. * *p* < .05, ***p* < .01

However, the interaction between *opening privacy* and introversion did not significantly predict psychological empowerment ($\gamma = .11, p = n.s.$) (Table 6, Model 4). Furthermore, the interaction between *closing privacy* and introversion significantly predicted psychological empowerment ($\gamma = .13, p < .05$) (Table 7, Model 4). Consistent with hypothesis testing, a moderated mediation approach by Edwards & Lambert (2007) was used to determine whether the indirect effect will be stronger when individuals are high in introversion such that introversion strengthens the positive relationship between closing privacy and creative performance. Table 8 shows the indirect and total effects for closing privacy at high (+1 *SD*) and low (-1 *SD*) levels of introversion. The indirect effect was significant at high levels of introversion ($estimate = .05, 95\% CI [.03, .15]$) but not significant at low levels of introversion ($estimate = .02, 95\% CI [-.02, .13]$). Also, the indirect effect was significantly weaker for high introverts ($.05 - .02 = .03, 95\% CI [.01, .12]$). Figure 3 shows the moderating role of introversion on the relationship between closing privacy and psychological empowerment. Under high levels of introversion, closing privacy was more strongly related to psychological empowerment ($slope = .45, p < .01$) compared to low levels of introversion ($slope = .17, p < .01$).

FIGURE 3.

Relationships between Closing Privacy, Introversion, and Psychological Empowerment

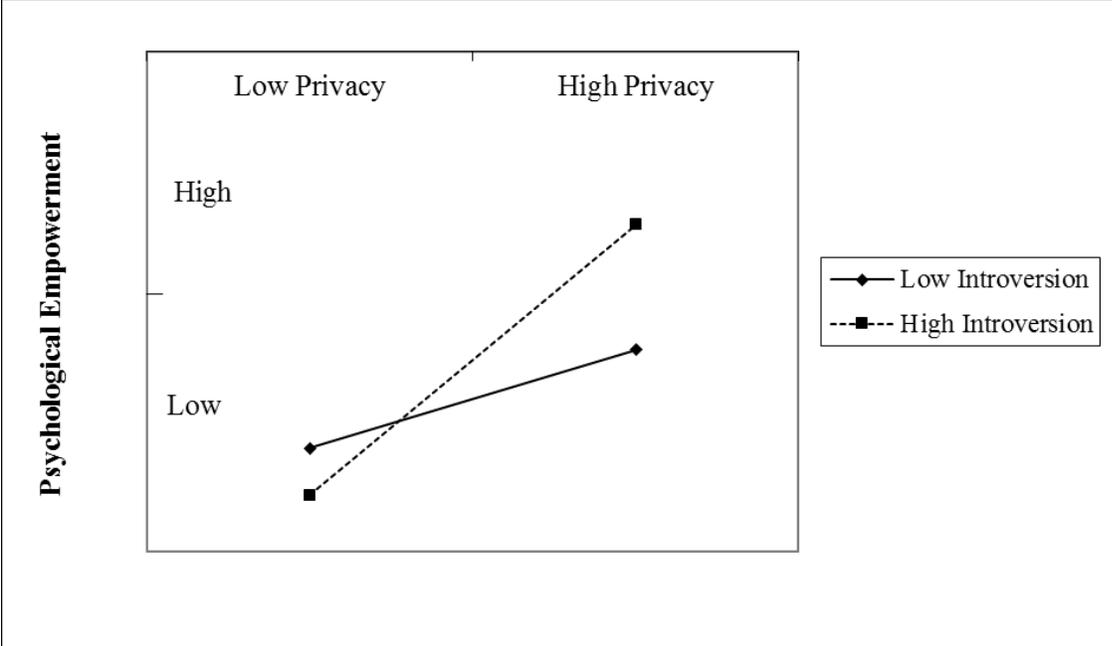


TABLE 8.**Conditional Indirect Effect of Introversion on Creative Performance via Psychological Empowerment (IV = Closing Privacy)**

Variable	First stage	Second stage	Direct effect	Indirect effect	Total effect
Simple paths for <i>high</i> introversion	.45**	.12*	.15*	.05*	.20*
Simple paths for <i>low</i> introversion	.17**	.12*	.15*	.02	.17*
Differences	.28**	.00	.00	.03*	.03*

Note: Values are standardized random coefficient modelling coefficients. Standard errors are in parentheses. Model deviance (-2 X log-likelihood of the full maximum-likelihood estimate) is an indicator of model fit; the smaller the deviance, the better the model fit. Pseudo R₂ values were calculated on the basis of the formula $1 - \frac{[(\text{Level 1 restricted error}/n) + \text{Level 2 restricted error}]}{[(\text{Level 1 unrestricted error}/n) + \text{Level 2 unrestricted error}]}$ from Snijders and Bosker (1999). *n* is the average number of individuals in each Level 2 unit. Pseudo R₂ is solely for model comparison and cannot be interpreted as explained variance of the outcome variable or compared across the different data sets (Hox, 2010).

N = 214. * $p < .05$, ** $p < .01$

5.5.2 Testing the four facets of psychological empowerment separately

In addition to exploring the two-dimensional construct of privacy, the current research aimed to examine whether each of the four dimensions of privacy (i.e., impact, competence, self-determination, and meaning) separately showed differential relationships between the remaining variables (i.e., privacy, introversion, and creative performance). As such, the current research conducted an exploratory analysis treating these four dimensions as distinct variables. To test the second exploratory research question, the same multilevel procedures were utilized (see section 5.3).

First, the significance of the relationship between privacy and each four of the dimensions of psychological empowerment was tested. As Model 3 in Tables 10 – 13 indicate, privacy significantly predicted each of the four dimensions ($\gamma = .40, .p < .01$ for *impact*; $\gamma = .39, p < .01$ for *competence*; $\gamma = .57, p < .01$ for *determination*; and $\gamma = .38, .p < .01$ for *meaning*) of psychological empowerment separately, which was similar to the relationship between privacy and psychological empowerment as a unitary construct. Second, the significance of the relationship between each of the four dimensions of psychological empowerment and creative performance was tested. As Models 1, 2, and 4 in Table 14 show, *impact*, *competence*, and *meaning* positively predicted creative performance ($\gamma = .13, .p < .05$; $\gamma = .18, .p < .05$; $\gamma = .11, .p < .10$, respectively). However, *determination* did not predict creative performance ($\gamma = .07, .p = n.s.$). Third, in order to further examine the indirect effect of privacy on creative performance through each of the four dimension of psychological empowerment, a bootstrapping method appropriate for multi-level models was utilized by using the same method in hypotheses testing. The bootstrapped 95% confidence intervals for the indirect effect through *impact* (.02, .14), *competence* (.01, .08), and *meaning* (.04, .14), did not include zero, suggesting that the indirect

effect of privacy on creative performance through these three components of psychological empowerment was significant. However, the bootstrapped confidence interval for the indirect effect through determination included zero (-.01, .14) suggesting that the indirect effect of privacy on creative performance through determination was insignificant.

Finally, the moderation effect of introversion on the relationship between privacy and each of the four dimensions of psychological empowerment, and the moderated mediation effect of introversion through each of the four dimensions of psychological empowerment was tested. As Model 4 in Table 10 indicates, introversion significantly moderated the relationship between privacy and *impact* ($\gamma = .13, p < .05$). However, introversion did not significantly moderate the relationship between privacy and the remaining three dimensions of psychological empowerment ($\gamma = .09, p = n.s.$ for competence; $\gamma = .07, p = n.s.$ for *determination*; $\gamma = .05, p = n.s.$ for *meaning*, respectively) (refer to Models 4, Tables 11, 2, and 13). Consistent with hypothesis testing, a moderated mediation approach by Edwards & Lambert (2007) was utilized to determine whether the indirect effect was stronger when individuals are high in introversion such that introversion strengthened the positive relationship between privacy and creative performance through *impact*. Table 14 shows the indirect and total effects for privacy at high (+1 *SD*) and low (-1 *SD*) levels of introversion through *impact* as a mediator. The indirect effect was significant at high levels of introversion (*estimate* = .05, 95% *CI* [.03, .15]) but not significant at low levels of introversion (*estimate* = .02, 95% *CI* [-.03, .09]). Also, the indirect effect was significantly weaker for high introverts (.05 - .02 = .03, 95% *CI* [.01, .13]). Therefore, this exploratory result indicates that introversion moderates the mediated relationship between privacy and creative performance through *impact*.

TABLE 9.**Summary of Findings**

Proposed Hypotheses		Supported?
H1	Privacy is positively related to psychological empowerment.	Yes
H2	Psychological empowerment is positively related to creative performance.	Yes
H3	Psychological empowerment mediates the relationship between privacy and creative performance.	Yes
H4	Introversion will moderate the relationship between privacy and psychological empowerment such that experiencing privacy is more likely to lead to psychological empowerment when introversion is high.	Yes
H5	Introversion will indirectly moderate the relationship between privacy and creative performance through psychological empowerment.	Yes
H6	Employee bonding will moderate the relationship between privacy and psychological empowerment such that privacy is more likely to lead to psychological empowerment when employee bonding is high.	No
H7	Employee bonding will indirectly moderate the relationship between privacy and creative performance through psychological empowerment.	No

TABLE 10.**Hierarchical Linear Modeling Analysis for Exploratory Analysis (3) (Dependent Variable = Impact)**

Variable	First stage (dv=impact)			
	Model 1	Model 2	Model 3	Model 4
(Constant)	-1.21 (.59)	-.96 (.55)	-.99 (.56)	-.98 (.55)
age	.04 (.02)	.04 (.04)	.04 (.02)	.04 (.02)
sex	-.10 (.10)	-.13 (.10)	-.12 (.10)	-.12 (.10)
tenure	-.02 (.03)	.03 (.03)	-.03 (.03)	-.03 (.03)
Stimulus screening	.07 (.08)	-.05 (.08)	.04 (.08)	-.04 (.08)
Privacy		.44 (.08)**	.42 (.08)**	.40 (.08)**
Introversion			.05 (.09)	.06 (.09)
Privacy x Introversion				.13 (.08)*
Model deviance	698.57	668.84	668.51	665.69
Pseudo R ²	.03	.15	.15	.16

Note: Values are standardized random coefficient modelling coefficients. Standard errors are in parentheses. Model deviance (-2 X log-likelihood of the full maximum-likelihood estimate) is an indicator of model fit; the smaller the deviance, the better the model fit. Pseudo R₂ values were calculated on the basis of the formula $1 - \frac{[(\text{Level 1 restricted error}/n) + \text{Level 2 restricted error}]}{[(\text{Level 1 unrestricted error}/n) + \text{Level 2 unrestricted error}]}$ from Snijders and Bosker (1999). *n* is the average number of individuals in each Level 2 unit. Pseudo R₂ is solely for model comparison and cannot be interpreted as explained variance of the outcome variable or compared across the different data sets (Hox, 2010).

N = 214. * $p < .05$, ** $p < .01$

TABLE 11.**Hierarchical Linear Modeling Analysis for Exploratory Analysis (4) (Dependent Variable = Competence)**

Variable	First stage (dv=competence)			
	Model 1	Model 2	Model 3	Model 4
(Constant)	-.51 (.49)	-.26 (.46)	-.30 (.46)	-.29 (.46)
age	.02 (.02)	.01 (.01)	.01 (.01)	.01 (.01)
sex	-.10 (.09)	-.12 (.08)	-.12 (.08)	-.12 (.08)
tenure	.01 (.03)	.00 (.02)	.00 (.03)	.00 (.07)
Stimulus screening	.15 (.07)*	.03 (.07)	.05 (.07)	.05 (.07)
Privacy		.41 (.00)**	.41 (.06)**	.39 (.07)**
Introversion			.07 (.07)	.07 (.07)
Privacy x Introversion				.09 (.07)
Model deviance				
Pseudo R ²	.04	.19	.19	.20

Note: Values are standardized random coefficient modelling coefficients. Standard errors are in parentheses. Model deviance (-2 X log-likelihood of the full maximum-likelihood estimate) is an indicator of model fit; the smaller the deviance, the better the model fit. Pseudo R₂ values were calculated on the basis of the formula $1 - \frac{[(\text{Level 1 restricted error}/n) + \text{Level 2 restricted error}]}{[(\text{Level 1 unrestricted error}/n) + \text{Level 2 unrestricted error}]}$ from Snijders and Bosker (1999). *n* is the average number of individuals in each Level 2 unit. Pseudo R₂ is solely for model comparison and cannot be interpreted as explained variance of the outcome variable or compared across the different data sets (Hox, 2010).

N = 214. * $p < .05$, ** $p < .01$

TABLE 12.

Hierarchical Linear Modeling Analysis for Exploratory Analysis (5) (Dependent Variable = Determination)

Variable	First stage (dv=determination)			
	Model 1	Model 2	Model 3	Model 4
(Constant)	-.04 (.60)	-.04 (.54)	.00 (.54)	.00 (.54)
age	.01 (.02)	.00 (.02)	.00 (.02)	.00 (.02)
sex	-.08 (.10)	-.11 (.09)	-.11 (.09)	-.11 (.09)
tenure	.03 (.03)	.01 (.03)	.01 (.03)	.01 (.03)
Stimulus screening	.14 (.08) ⁺	-.02 (.08)	-.04 (.08)	-.04 (.08)
Privacy		.56 (.08)**	.57 (.08)**	.57 (.08)**
Introversion			.07 (.09)	.07 (.08)
Privacy x Introversion				.05 (.08)
Model deviance	712.39	663.66	663.63	663.33
Pseudo R ²	.02	.20	.20	.21

Note: Values are standardized random coefficient modelling coefficients. Standard errors are in parentheses. Model deviance (-2 X log-likelihood of the full maximum-likelihood estimate) is an indicator of model fit; the smaller the deviance, the better the model fit. Pseudo R₂ values were calculated on the basis of the formula $1 - \frac{[(\text{Level 1 restricted error}/n) + \text{Level 2 restricted error}]}{[(\text{Level 1 unrestricted error}/n) + \text{Level 2 unrestricted error}]}$ from Snijders and Bosker (1999). *n* is the average number of individuals in each Level 2 unit. Pseudo R₂ is solely for model comparison and cannot be interpreted as explained variance of the outcome variable or compared across the different data sets (Hox, 2010).

N = 214. ⁺ $p < .10$, * $p < .05$, ** $p < .01$

TABLE 13.**Hierarchical Linear Modeling Analysis for Exploratory Analysis (6) (Dependent Variable = Meaning)**

Variable	First stage (dv=meaning)			
	Model 1	Model 2	Model 3	Model 4
(Constant)	-1.18 (.57)	-.92 (.55)	-.99 (.55)	-.86 (.55)
age	.04 (.02)	.04 (.02)	.04 (.02)	.03 (.02)
sex	-.14 (.09)	-.16 (.10)	-.16 (.10)	-.16 (.09)
tenure	.00 (.03)	-.02 (.03)	-.02 (.03)	-.02 (.3)
Stimulus screening	.19 (.08)*	.08 *.08)	.06 (.08)	.06 (.08)
Privacy		.39 (.08)**	.40 (.08)**	.38 (.08)**
Introversion			.06 (.08)	.05 (.09)
Privacy x Introversion				.11 (.08)
Model deviance	694.47	670.00	667.46	685.00
Pseudo R ²	.06	.15	.15	.16

Note: Values are standardized random coefficient modelling coefficients. Standard errors are in parentheses. Model deviance (-2 X log-likelihood of the full maximum-likelihood estimate) is an indicator of model fit; the smaller the deviance, the better the model fit. Pseudo R₂ values were calculated on the basis of the formula $1 - \frac{[(\text{Level 1 restricted error}/n) + \text{Level 2 restricted error}]}{[(\text{Level 1 unrestricted error}/n) + \text{Level 2 unrestricted error}]}$ from Snijders and Bosker (1999). *n* is the average number of individuals in each Level 2 unit. Pseudo R₂ is solely for model comparison and cannot be interpreted as explained variance of the outcome variable or compared across the different data sets (Hox, 2010).

N = 214. * $p < .05$, ** $p < .01$

TABLE 14.**Hierarchical Linear Modeling Analysis for Exploratory Analysis (6) (Dependent Variable = Creative Performance)**

Variable	Second stage (dv = creative performance)			
	Model 1	Model 2	Model 3	Model 4
(Constant)	-17 (.57)	-.20 (.56)	-.27 (.56)	-.17 (.57)
age	.00 (.09)	.00 (.02)	.00 (.02)	.00 (.02)
sex	.11 (.10)	.11 (.09)	.10 (.10)	.11 (.10)
tenure	.02 (.03)	.02 (.03)	.02 (.03)	.02 (.03)
Stimulus screening	.16 (.05)*	.13 (.08)	.15 (.08) ⁺	.14 (.08) ⁺
Impact	.13 (.06)*			
Competence		.18 (.08)*		
Determination			.07 (.06)	
Meaning				.11 (.07) ⁺
Model deviance	680.41	650.21	686.44	684.99
Pseudo R ²	.05	.08	.03	.04

Note: Values are standardized random coefficient modelling coefficients. Standard errors are in parentheses. Model deviance (-2 X log-likelihood of the full maximum-likelihood estimate) is an indicator of model fit; the smaller the deviance, the better the model fit. Pseudo R₂ values were calculated on the basis of the formula $1 - \frac{[(\text{Level 1 restricted error}/n) + \text{Level 2 restricted error}]}{[(\text{Level 1 unrestricted error}/n) + \text{Level 2 unrestricted error}]}$ from Snijders and Bosker (1999). *n* is the average number of individuals in each Level 2 unit. Pseudo R₂ is solely for model comparison and cannot be interpreted as explained variance of the outcome variable or compared across the different data sets (Hox, 2010).

N = 214. ⁺ $p < .10$, * $p < .05$, ** $p < .01$

TABLE 15.

Conditional Indirect Effect of Introversion on Creative Performance via Impact (IV = Privacy)

Variable	First stage	Second stage	Direct effect	Indirect effect	Total effect
Simple paths for <i>high</i> introversion	.48**	.08	.06	.05*	.10*
Simple paths for <i>low</i> introversion	.28**	.08	.06	.02	.01
Differences	.20**	.00	.00	.03*	.09*

Note: N = 214. * $p < .05$, ** $p < .01$

CHAPTER 6

DISCUSSION

6.1 Main Analysis

In order to thrive in a highly competitive business environment, organizations constantly need to be innovative. Therefore, to be successful, organizations should be aware that it is critical for their employees to perform creatively (Charan & Lafley, 2008). While extant research provides a relatively rich portrait of the social factors which are critical for fostering creative performance, we know comparatively little about the effect of one's perception of controlling workplace social interactions for creative performance. The current research highlights a new direction for improving employees' creative performance in organizations. The current research suggests that perceiving that one is in control of social interactions, in the form of reaching out to or withdrawing from others, plays an important role in achieving creative outcomes.

The findings support the argument of the current theoretical model that workplace privacy plays an important role in predicting creative performance. More specifically, privacy has a positive association with creative performance through psychological empowerment. The current research suggested that privacy can enable employees to perform more creatively because it fosters intrinsic motivation and also enables them to internalize extrinsic motivations at work. The support for a mediation mechanism of psychological empowerment answers the question of "why" workplace privacy relates to creative performance. While this main effect was of interest, the interaction effects of introversion with privacy also provide clearer understanding of "when" privacy would more saliently impact creative performance. The current theoretical model argued that introversion would moderate the relationship between privacy and psychological empowerment such that the effects of privacy on psychological empowerment for

individuals high on introversion would be stronger than for those lower on introversion. The results generally supported these hypotheses. This implies that introverts are more likely to reap the motivational benefits of privacy compared to extroverts.

In addition, the current research also suggested that employee bonding would be an important team-level moderator that shapes the relationship between privacy and psychological empowerment. More specifically, it was hypothesized that privacy matters more for units experiencing higher levels of employee bonding. Unfortunately, these results turned out to be non-significant. The non-significant moderating effect of employee bonding implies that privacy provided a similar extent of motivational benefits regardless of the levels of employee bonding. It may be due to the fact that employee bonding in the current research was conceptualized as the voluntary and positive experience, encompassing attachment, commitment, and involvement (Sims, 2002). As such, it could be that privacy's positive role would be more salient when employees are exposed to more involuntary and negative workplace relationships. Future research can replicate the current research to further confirm the impact of privacy on creative performance.

6.2 Exploratory Analysis

The exploratory analysis aimed to investigate whether different dimensions of privacy, opening and closing privacy separately had an impact on psychological empowerment and creative performance. The exploratory analysis generally supported that both opening and closing privacy as isolated constructs significantly predicted employee's creative performance via psychological empowerment. These findings imply that the perception of having control of opening and closing oneself to others can both significantly motivate employees to perform

creatively. Also, the exploratory analysis intended to find out whether a specific privacy dimension differentially interacted with introversion. Interestingly, the interaction between introversion and *opening privacy* did not significantly predict psychological empowerment. On the other hand, introversion significantly moderated the relationship between *closing privacy* and psychological empowerment. More specifically, closing privacy predicted higher levels of psychological empowerment thereby leading to higher creative performance especially for individuals high on introversion. These results reveal an interesting aspect of privacy. Although everyone may need both types of privacy, some employees may find certain types of privacy more motivating. Perceiving that one has control over avoiding social interactions facilitated more effective internalizations of motivation for introverted employees and this led to higher creative performance. On the contrary, introverted employees did not get the same motivational benefits from perceiving that they had control over reaching out to others.

The second purpose of the exploratory analyses was to examine whether the four dimensions of psychological empowerment separately had a differential relationship with the remaining study variables (i.e., privacy, introversion, and creative performance). The exploratory analysis generally supported that 1) privacy significantly predicted each of the four dimensions of psychological empowerment (i.e., impact, competence, determination, and meaning) and, 2) these four dimensions significantly predicted creative performance and also significantly mediated the relationship between privacy and creative performance. However, the moderation and moderated mediation analysis revealed that introversion had a significant moderation effect for the *impact* dimension only. For example, introversion significantly moderated the relationship between privacy and *impact* and moderated the mediated relationship between privacy and creative performance through *impact*. However, introversion did not significantly

moderate the relationship between privacy and the remaining three dimensions of psychological empowerment (i.e., competence, determination, and meaning). As such, the exploratory results suggest that introverted individuals are more likely to perceive that their work behavior will significantly influence work outcomes when they experience privacy.

6.3 Theoretical Implications

The empirical results of the current theoretical model extends research in creativity in at least three ways. First, the results of this study directly extends the recent findings that autonomy nurtures creativity in organizations. Although self-determination theory has suggested that fulfilling the need for autonomy is required to foster one of the key-driver of creative performance (i.e., intrinsic motivation), the role of autonomy in promoting creative performance has been less empirically investigated. For example, Shalley's (1991) and Liu, Chen, & Yao's (2011) study were rare attempts to investigate the relationship between autonomy and creativity. In specific, Shalley's (1991) experimental study found that participant's creative performance was the highest when they were also given a personal discretion, which is equivalent to autonomy. Also, through a series of field studies, Liu and colleagues (2011) found that having autonomy in terms of how employees perform their tasks is positively associated with employee creativity through harmonious passion, a distinct type of motivational state which reflects a fully internalized extrinsic motivation. Most of the research exploring autonomy in organizations primarily investigated autonomy in the domain of work tasks (e.g., Breugh, 1985; Langfred, 2000; Spector, 1986). As privacy is theorized as having autonomy in one's social interaction, current research enriches self-determination theory (Dec & Ryan, 2000, 2002), in that having

autonomy in a *social domain* has a profound impact on one's motivational processes and fosters creative performance.

Second, these current results help broaden our understanding of creativity. Although there is a general agreement about creativity as a social process (e.g., Perry-Smith & Shalley, 2003; Perry-Smith, 2006), coming up with new and useful ideas requires not only diverse knowledge but also a deep level cognition in order to integrate this new set of information. That is, fresh and diverse perspectives can be obtained from avid social interactions. At the same time, one also needs a significant amount of time alone to fully understand and integrate these different perspectives and information. This idea is also in line with the suggestion that creative work can be cognitively taxing (Harrison & Wagner, 2016), and that one needs to experience a complete timelessness and be engrossed in the task without external interruption (Mainemelis, 2001). The current research better captures this “tension” between social and solitary aspects of work for creative performance by finding support that having control in connecting to and withdrawing from others impacts creative performance.

Third, in order for privacy in organizations to be examined, it is critical to have a measure that taps into the construct of interest. Because the topic of privacy in organizational research was relatively underexplored, there is lack of a valid scale that directly captures privacy as a construct reflecting the current definition. Although researchers in different disciplines have developed privacy related scales (e.g., Marshall, 1974; Pedersen, 1997), the current research is the first study to validate privacy as a construct within an organizational context, including its measurement. The current research also found that the higher order privacy construct is represented by both opening privacy and closing privacy.

6.4 Practical Implications

The theoretical contributions of this study also highlight important practical concerns as well. The current research echoes recent suggestions (e.g., Amabile & Pilemer, 2012) that organizations interested in fostering creative performance should focus their effort on developing and improving the work context that can be support of creative performance. As Shalley et al (2004) suggested, such a creativity nurturing work context could be improved by letting managers and employees set creativity goals, require creativity in work tasks, and building a culture that values employee creative performance. In addition to these efforts, the current research suggests that to foster employees' privacy and enhance the creative performance of employees, organizations also need to create a nurturing work environment that enables employees to control their boundaries, perhaps by developing a fluid climate that respects employees' personal boundaries yet fosters social interactions. This suggestion is consistent with Ekvall (1996)'s research which showed a creativity relevant climate promotes innovation and creativity.

Also, by shifting to a focus on the perception of controlling one's social interaction highlights the importance of job design. Hargadon and Bechky (2006) found that employees often rely on social interactions to facilitate creativity, yet Elsbach and Hargadon (2006) suggests that employees cannot always be fully absorbed in certain tasks and they need to also carve themselves out to replenish their resources. This suggests that if creativity is critical in accomplishing an organization's goal, there is a value in regulating one's social interactions so that employees are aware of the possibility that they can easily shift from communicating with their coworkers to concentrating on a task alone or vice versa. Hence, rather than designing jobs

that only require high levels of social interaction, organizations should also make sure that employees will have their own time to concentrate without interruptions.

Finally, from an individual perspective, the current results highlights that introverted individuals are the ones who need privacy the most. Somewhat opposite from previous research highlighting the role of social interaction and communication in fostering creative performance (Hagardon & Bechky, 2006; Jia, Shaw, & Tsui, 2014), introverts are more likely to be motivated when they can freely choose to be by themselves and withdraw from social interactions. This is also supported by research in personality that introverts tend to get more depleted and experience performance loss from excessive social interactions (Aron & Aron, 1997; Gray, 1970). As such, managers should protect introverted employees from interacting too much, and make sure that they have enough time to work alone at work in order to perform more creatively.

6.5 Limitation and Future Research Directions

The limitations of this study also provide promising opportunities for future research. First, although the current theoretical model relies on self-determination theory as a guiding framework, whether the employees experience the satisfaction of these three different needs (i.e., the need for autonomy, relatedness, and competence) was not directly measured. While the current approach is consistent with other research (e.g., Liu, Chen, & Yao, 2010; Trougakos, Hidell, & Cheng, 2014) that theorizes these need satisfactions rather a mechanism for motivational internalization without directly measuring them, it cannot be definitively concluded that privacy facilitates all of these three needs. The current results show that psychological empowerment mediated the relationship between privacy and creative performance and may indirectly provide an answer for these issues. Studies have shown that psychological empowerment is preceded by the perception of control, competence, and involvement in

interactions (e.g., Peterson & Zimmerman, 2004; Spreitzer, 1995; Zimmerman, 1995). Moreover, psychological empowerment is inherently a reflection of internalized motivations which is fostered by the satisfaction of the three needs (Spreitzer, 1995). However, future research can further examine other mediating mechanisms.

Another interesting question that emerges from the findings relates to the generalizability of the relationship between privacy and other types of performance outcomes (e.g., task performance). That is, are these study results specifically applicable to creative performance or can they apply to any type of work performance on highly complex tasks? While it is also possible that task performance on highly complex and challenging tasks might show a similar pattern of relationships, creative performance indeed reflects a specific form of performance which requires a more intense amount of efforts, expertise, and knowledge. For example, creativity requires generating new and appropriate ideas at the same time (Oldham & Cummings, 1997). As such, generating something new and useful indeed requires that employees are able to learn something new, and also integrate these newly obtained ideas with what they already possess (e.g., expertise and knowledge). On the contrary, other forms of complex and challenging tasks, an accountant preparing an important auditing document or a lawyer preparing a hearing, rely on a highly routine behavior and knowledge that one already possesses. This offers an opportunity for future research to explore the differences between the type of privacy needed to excel in performing highly complicated tasks or the type of privacy needed to stimulate creative performance.

The current research has identified a critical factor for employee creative performance, that of privacy, which determines employees' motivational processes at work and explores and examines the relationship between privacy and creative performance. The current empirical

findings highlight the critical role of privacy by supporting the possibility that privacy can lead to positive outcomes, such as creative performance. However, the current research cannot answer the question of “What shapes the privacy?” Therefore, future studies should also consider identifying the determinants of workplace privacy and thus contribute to create a nomological network of privacy. Altman (1975) suggested that privacy can be achieved by a variety of factors, including 1) individual-level characteristic (e.g., personality), 2) effort, 3) spatial factors (e.g., office configuration, and 4) social factors (e.g., one’s social network). As such, it would be meaningful for future research to identify theoretically valid individual, team, and organizational level antecedents that may be positively or negatively associated with employee’s privacy.

Because the current research has emphasized the relationship between privacy and creative performance, it will be more meaningful for future research to explore how privacy impacts different workplace outcomes, such as organizational deviance or unethical behavior. Although organizational research has not explored such relationships, research in criminology suggests that withdrawing from social interactions, a similar construct to closing privacy, may prompt individuals to engage in criminal activities. For example, social control theory (Wiatrowski, Griswold, & Roberts, 1981) suggested that people are more likely to engage in delinquent behavior when they do not have the significant relationships with others within their institution because a lack of social ties within society deprives individual of the knowledge of societal norms (Agnew, 1991). Although the current research has mainly highlighted the positive side of having privacy at work, it is also possible that employees may experience the downside of having privacy such that privacy may cause maladaptive behaviors within organizations. As such, investigating the potential dark side of privacy will provide a more comprehensive nomological network of privacy.

Although the current theoretical model has mainly taken the theoretical lens of self-determination theory, the view that individuals desire control over their social interactions overlaps with the model of optimal distinctiveness' (Brewer, 1991; Leonardelli, Pickett, & Brewer, 2010) contention that individuals have opposing desires to both belong to their social groups and to be distinct from others. The optimal distinctiveness model assumes that individuals satisfy both needs by maintaining some intermediate degree of distance between the self and relevant others (Brewer, 1991). Also, these opposing needs are not static and can fluctuate over time depending on the context and the person (Leonardelli, Pickett, & Brewer, 2010). For example, one may experience times when he or she feels a strong desire to be connected with others and therefore need to have greater interactions. However, after too much social interactions, one will need to spend some time alone. The current research suggests that privacy is two dimensional, including opening and closing oneself to others. As privacy is a relatively new and underexplored construct in the organizational behavior literature, it will be important to further explore how these perception of having control over "opening" and "closing" oneself to their social environment interact together to balance the need to belong yet be distinct.

6. 6. Conclusion

Employees often face the challenge of balancing their time to interact with others in order to gain new insights and to work alone to get things done. The current research directly addresses this challenge, privacy, (i.e., the belief that they have control over social interaction) can lead to higher creative performance. The results of this field study revealed that privacy is positively associated with creative performance through psychological empowerment. In addition, the current research found an important individual-level moderator of this relationship, (i.e.,

introversion). Specifically, introverts tended to be more psychologically empowered from privacy, and therefore more likely to have creative performance, which provides meaningful theoretical and practical implications.

APPENDIX A.

Initial Pool of Privacy Items

Privacy is defined as:

“selective control of access to the self”

This definition incorporates **three key components of privacy**:

(1) Privacy is a **bi-directional** process. Privacy is not only about “closing” oneself from others, but also about “opening” oneself to others.

(2) Privacy means having a **freedom of choice regarding personal accessibility, with a greater emphasis on personal “control” over social interactions.**

(3) Privacy is an **active and dynamic** process, in which individuals’ desire to open and close themselves to others may change over time and with different circumstances.

1. I am able to avoid others when I do not want to have conversations with them.
2. I am able to keep others from intruding on me when I am not in the mood for social interaction.
3. I can be alone whenever I wish to.
4. I am able to determine when I need to work alone.
5. I cannot stop interacting with others even when I do not want to be bothered (R).
6. I find it difficult to be alone when I have to work by myself (R).
7. I can easily interact with others whenever I want to.
8. I am able to determine when I interact with others.
9. I feel comfortable to reach out to others when I need to.
10. It is easy for me to have a conversation with others when I need someone to talk to.
11. It is hard to find someone available to interact with me when I really need company (R).
12. I find it difficult to find someone available to share my thoughts when I really need to (R).
13. It is difficult for me to have a personal or private discussion (R).

APPENDIX B.

Survey Instruments Used in the Field Study

Time 1 Employee Survey Instruments

- Privacy (self-developed)

Privacy	Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
1. At work, I am able to control when I interact with others.	1	2	3	4	5	6	7
2. At work, I can decide how much interaction I will have.	1	2	3	4	5	6	7
3. At times, I can easily control my settings so that I can approach others based on my need.	1	2	3	4	5	6	7
4. My work context allows me to freely decide how much interaction I will have with others.	1	2	3	4	5	6	7
5. My work context makes it easy to interact with others whenever I want to.	1	2	3	4	5	6	7
6. When I need to be alone, I can be alone at work.	1	2	3	4	5	6	7
7. At work, I am able to keep others from intruding on me when I am not in the mood for interactions.	1	2	3	4	5	6	7
8. At work, I am able to avoid distractions when I am committed to focusing on my own work.	1	2	3	4	5	6	7
9. My work context allows me to decide how much uninterrupted time I will have.	1	2	3	4	5	6	7
10. At work, my personal boundaries (e.g., personal space) are respected by others.	1	2	3	4	5	6	7

- Introversion (Goldberg, 1992)

Introversion	Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
1. I am the life of the party.	1	2	3	4	5	6	7
2. I feel comfortable around people.	1	2	3	4	5	6	7
3. I start conversation	1	2	3	4	5	6	7
4. I talk to a lot of different people at parties.	1	2	3	4	5	6	7
5. I don't mind being the center of attention.	1	2	3	4	5	6	7
6. I don't talk a lot.	1	2	3	4	5	6	7
7. I keep in the background.	1	2	3	4	5	6	7
8. I have little to say.	1	2	3	4	5	6	7
9. I don't like to draw attention to myself.	1	2	3	4	5	6	7
10. I am quiet around strangers.	1	2	3	4	5	6	7

- Employee Bonding (Modified from Klein et al., 2001)

Employee Bonding	Never	Rarely	Occasionally	Sometimes	Frequently	Usually	Always
1. How often does your unit spend breaks or lunches socializing with your co-workers?	1	2	3	4	5	6	7
2. How often does your unit get together with your co-workers outside of work?	1	2	3	4	5	6	7
3. How much do you and your co-workers take a personal interest in one another?	1	2	3	4	5	6	7
	Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
4. Are your unit members good friends with your co-workers?	1	2	3	4	5	6	7

Control variables

- Age
- Sex
- Organizational tenure

Time 2 Employee Survey Instruments

- Psychological Empowerment (Spreitzer, 1995)

Psychological Empowerment	Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
1. The work I do is very important to me.	1	2	3	4	5	6	7
2. My job activities are personally meaningful to me.	1	2	3	4	5	6	7
3. The work I do is meaningful to me.	1	2	3	4	5	6	7
4. I am confident about my ability to do my job.	1	2	3	4	5	6	7
5. I am self-assured about my capabilities to perform my work activities.	1	2	3	4	5	6	7
6. I have mastered the skills necessary for my job.	1	2	3	4	5	6	7
7. I have significant autonomy in determining how I do my job.	1	2	3	4	5	6	7
8. I can decide on my own how to go about doing my job.	1	2	3	4	5	6	7
9. I have considerable opportunity for independence and freedom in how I do my job.	1	2	3	4	5	6	7
10. My impact on what happens in my department is large.	1	2	3	4	5	6	7
11. I have a great deal of control over what happens in my department.	1	2	3	4	5	6	7
12. I have significant influence over what happens in my department.	1	2	3	4	5	6	7

- Stimulus Screening Strategies (Mehrabian, 1976)

Stimulus Screening Strategies	Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
1. Strong emotions don't have a lasting effect on me.	1	2	3	4	5	6	7
2. Things usually don't get me stirred up.	1	2	3	4	5	6	7
3. My moods are not quickly affected when I enter new places.	1	2	3	4	5	6	7
4. I am strongly moved when many things are happening at once.	1	2	3	4	5	6	7
5. Extremes in temperature don't affect me a great deal.	1	2	3	4	5	6	7
6. I don't react much to sudden loud sounds.	1	2	3	4	5	6	7
7. I am not affected much by the feel or texture of the clothes I wear.	1	2	3	4	5	6	7
8. I am not one to be strongly moved by an unusual odor.	1	2	3	4	5	6	7

Time 3 Supervisor Survey Instrument

- Creative Performance (Farmer, Tierney, & Kung-Mcintyre, 1999)

Creative Performance	Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
1. This employee tries new ideas or methods first.	1	2	3	4	5	6	7
2. This employee seeks new ideas and ways to solve problems.	1	2	3	4	5	6	7
3. This employee generates ground-breaking ideas related to the field.	1	2	3	4	5	6	7
4. This employee is a good role model for creativity.	1	2	3	4	5	6	7

- Age
- Sex
- Organizational tenure

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