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MANAGING INVISIBLE BOUNDARIES: HOW "SMART" IS SMARTPHONE USE IN THE WORK AND HOME DOMAINS?

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ABSTRACT

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The present study sought to examine the impact of technology in permeating the boundaries between individuals' work and family domains, testing and extending the current theoretical model of boundary management. The first goal, to explore predictors of the boundary management styles (BMS) people use with respect to communication technology (CT), was accomplished by demonstrating that three factors predicted BMS for CT use: preferences for integration, identity centrality, and work/family norms. The second goal, to examine outcomes that could result from varying CT use boundary management styles, was also supported in that BMS for CT use was a predictor of work-family conflict and enrichment. However, one key component of the model was not supported in that perceived control over BMS did not moderate the relationship between BMS and outcomes. Theoretical and practical implications of these findings are discussed, as well as suggestions for future research on boundary theory and CT use. By exploring tangible boundary management behaviors, the present study offers interesting implications that could ultimately assist organizations in developing policies regarding CT use both at home and at work.

CHAPTER 1. INTRODUCTION

Communication technologies (CT), such as smartphones and tablet personal computers, have become increasingly affordable and available in recent years, resulting in a steep increase in CT product ownership (Google, 2012; Muller & Pope, 2011; Smith, 2012). Moreover, the prevalence of CT ownership and use in society has been influential in altering the physical, temporal and psychological nature of work and home domains (Major & Germano, 2006; Valcour & Hunter, 2005). Specifically, the boundaries between work and home domains have increasingly blurred as a result of CT use and the ever-changing workplace environment. This blurring of boundaries potentially allows for more positive spillover between work and life domains. However, blurred boundaries can also threaten the delicate balance between roles, introducing more possibilities for interrole conflict. Because of the rapidly changing nature of CT, the degree and nature of CT's impact on the work-family interface has not yet been sufficiently explored. As a result, it is yet unknown under which circumstances CT use results in work-family conflict (WFC) or work-family enrichment (WFE).

However, individuals' experiences of interrole conflict and enrichment have been broadly explored in the boundary theory literature. Therefore, researchers have made some progress in explaining general trends and preferences that individuals report regarding their home and work behaviors (e.g., Ashforth, Kreiner, & Fugate, 2000;

Kossek & Lautsch, 2012). Despite these efforts, this area of research is still in its infancy. As such, the overall framework of boundary theory offers insight into how individuals manage roles, but still lacks evidence of direct application to specific behaviors or communication media.

Therefore, the present study seeks to specifically examine the impact of technology in permeating the boundaries between individuals' work and family domains. The first goal will be to explore predictors of the boundary management styles people use with respect to CT (i.e., how individuals use CT products to manage the boundaries between work and home domains). The second goal will be to examine outcomes in the work and family domains that could result from these varying CT use boundary management styles. Toward this end, a broad review of the WFC and WFE literatures will first be provided. Then, boundary theory and boundary management styles will be described as they relate to WFC and WFE. Following this review, relevant CT trends will be explored and then related to previous research regarding the work family interface and boundaries. Finally, an integrative model for CT use and boundary management will be introduced, as well as a proposed study to test the model.

By exploring the role of technology in managing boundaries, the present study will test and extend the current theoretical model of boundary management styles. Whereas previous models have focused specifically on antecedents (e.g., segmentation/ integration preferences) or consequences (e.g., WFC, psychological distress, job performance) of permeation behaviors, the present study will incorporate both predictors and outcomes. In order to do so, the present study uses a model from Kossek and Lautsch's (2012) recent work on boundary management and flex-styles, which allows for

more specificity in predicting behaviors than do previous models of boundary management. Additionally, the present study will extend the current theoretical framework by including situational factors (e.g., family and work pressures). This understanding could ultimately assist organizations in developing policies regarding CT use both at home and at work (e.g., telecommuting, cyberloafing, and off-the-clock labor).

CHAPTER 2. WORK-FAMILY INTERFACE

2.1 Introduction

The interface between work and family domains can involve both negative and positive interactions. The negative interaction between work and family roles is described as WFC, and has been thoroughly explored by researchers in the past 25 years (e.g., Greenhaus & Beutell, 1985). Although conflict has typically received more attention in the literature, interest in the positive side of the work-family interface has recently increased. WFE describes the positive effects of spillover between domains. Both WFC and WFE will be reviewed in this section, as they have implications both for individuals' well-being and for work and family performance outcomes.

2.2 Work-Family Conflict

WFC describes the interference of one domain (e.g., work) into the other domain (e.g., family). Specifically, WFC is experienced when an individual is unable to fully participate in one domain as a result of participating in another domain (Greenhaus & Beutell, 1985). Interrole conflict can be categorized as time-based, strain-based, or behavior-based (Greenhaus & Beutell, 1985). Time-based conflict occurs when the time commitment of one domain interferes with events in the other domain (e.g., being late to work because a child is sick, missing a child's piano recital because of a business trip). Strain-based conflict results from the strain in one domain imposing on another domain

(e.g., being argumentative with a spouse because of a stressful situation at work, disrespecting a subordinate because of a conflict at home). Behavior-based conflict, which has not been as prominent in recent literature (Dierdorff & Ellington, 2008), occurs when one is expected to behave differently in the work and home domains (e.g., being loving and patient with a child at home, yet assertive and headstrong with a partner at work).

Although WFC was previously examined without concern for directionality, now it is understood that work-to-family (W-to-F) conflict and family-to-work (F-to-W) conflict are distinct, yet related, forms of interrole conflict (O'Driscoll, Ilgen, & Hildreth, 1992). W-to-F conflict occurs when the work domain interferes with the family domain. For instance, conflict in this direction is experienced when a parent is unable to practice baseball with their child because they have to work on a project over the weekend. F-to-W conflict occurs when the family domain interferes with the work domain. An example of this is when a parent cannot come to work because their child is sick. W-to-F conflict has been more popular in the literature (Netemeyer, Boles, & McMurrian, 1996), possibly because of the more visible effects of such conflict. That is, individuals are more likely to blame the work domain for invading the family domain when making attributions for WFC (Poposki, 2011) and W-to-F conflict is more strongly associated with negative consequences (Eby, Casper, Lockwood, Bordeaus, & Brinley, 2005). However, it is important to include both F-to-W conflict and W-to-F conflict in research, as interference between domains can undoubtedly occur in both directions (O'Driscoll et al., 1992).

2.2.1 Antecedents and Outcomes of WFC

Regardless of the nature of individual conflicts, WFC has far-reaching effects for individuals both in the work and home domains, necessitating a more thorough understanding of its antecedents and outcomes.

Antecedents to WFC in the work domain include variables such as the number of hours worked (Keith & Schafer, 1980), work load (Burke, 1988), autonomy in work, and task challenge (Jones & Butler, 1980). In the home domain, family involvement (Frone, Russell, & Cooper, 1992) and development stage of family (Keith & Schafer, 1980) are also antecedents to the experience of WFC. Additionally, individual differences such as positive coping skills and self-esteem can buffer against the negative effects of WFC (Allen, Herst, Bruck, & Sutton, 2000; Byron, 2005).

Just as many factors contribute to WFC, the outcomes of WFC are also multi-dimensional. Particularly of interest to employers, the outcomes of WFC in the work domain include higher turnover intentions, job stress and absenteeism (Anderson, Coffey, & Byerly, 2002). Additionally, WFC is related to lower overall job satisfaction (Bedeian, Burke & Moffett, 1988; Kossek & Ozeki, 1998). In the family domain, WFC has been associated with lower marital satisfaction (Bedeian et al., 1998) and family performance (Frone et al., 1992). Individually, WFC has been linked to depression and poor physical health (Frone et al., 1992; Frone, Russell & Barnes, 1996; Frone, Russell, & Cooper, 1997). Furthermore, overall life satisfaction is negatively related with WFC (Bedeian et al., 1988; Kossek & Ozeki, 1998), highlighting the importance of understanding how to prevent or ameliorate the effects of WFC.

2.3 Work-Family Enrichment

The work and family domains can also interact in a positive way. WFE occurs when participation in one domain enhances one's ability to perform in the other domain (Greenhaus & Powell, 2006). Unlike conflict, where resources are drained, enrichment involves an increase in resources that help an individual to perform. As a psychological construct, WFE is focused on the individual level. That is, WFE reflects an individual's personal experience and quality of life rather than organizational outcomes.

Greenhaus and Powell's (2006) model of WFE lists five types of resources that can be produced in one role and subsequently influence one's experience in another role. These resources include: 1) skills and perspectives (e.g., multi-tasking ability), 2) psychological and physical resources (e.g., self-efficacy), 3) social-capital resources (e.g., influence, information), 4) flexibility (e.g., discretion to determine when and where role requirements are met), and 5) material resources (e.g., money, gifts). The presence of these resources in one domain (e.g., work) can promote performance and positive affect in another domain (e.g., home) via instrumental and affective paths. The instrumental path describes the direct transfer of a resource from one domain into another domain. The affective path is utilized when a resource generated in one domain promotes positive affect within that domain, which also promotes positive affect and high performance in the other domain (Greenhaus & Powell, 2006).

2.3.1 Antecedents and Outcomes of WFE

Compared to WFC, the positive aspects of interrole interactions in general have not been well explored. However, some antecedents and outcomes of WFE have been found. In the home domain, family cohesion and relationship satisfaction (Stevens,

Minotte, Mannon, & Kiger, 2007) have been found to predict WFE. Additionally, relationship management (Seery, Corrigall, & Harpel, 2008) and emotion-work satisfaction (Stevens et al., 2007) are both associated with increased WFE. Resource-rich jobs, autonomy in job, and variety in a job (Grzywacz & Butler, 2005) have also been found to predict WFE. Also in the work domain, supervisor support is positively related to WFE (Baral & Bhargava, 2010). Antecedents of WFE in the home domain include informal or emotional support (Wayne, Randel, & Stevens, 2006). Finally, at the individual level, the strength of an individual's identity (Wayne et al., 2006) is predictive of WFE.

WFE has been linked to outcomes in the work, family, and personal domains. In the work domain, WFE has a negative relationship with job search behaviors (van Steenbergen, Ellemers & Mooijaart, 2007), and a positive relationship with job satisfaction and affective commitment (McNall, Masuda, & Nicklin, 2009; Wayne et al., 2006). In the family domain, WFE is associated with family satisfaction (McNall et al., 2009). Individually, WFE is linked to physical and mental health outcomes (McNall et al., 2009).

2.4 Conclusion

Despite the limited amount of research on WFE, it is clear that WFC and WFE both have strong implications for behavioral outcomes in multiple domains. In order to more fully understand the interaction of life roles (i.e., WFC, WFE), researchers have begun examining how individuals distinguish between the work and family domains as well as how each domain is brought into conflict with the other domain. Boundary theory explains this dynamic process in more depth (Ashforth et al., 2000; Clark, 2000).

CHAPTER 3. BOUNDARY THEORY

3.1 Introduction

Boundary theory (also referred to as "border theory") is a relatively recent model for understanding the intangible lines that mark the scope of responsibilities and behaviors for family and work domains (Ashforth et al., 2000; Clark, 2000). Boundaries between domains can be conceptualized much like borders between countries on a globe. As such, they demarcate the territories of separate domains, creating limits to the size of each domain in the overall life-space.

Work-family boundaries may be physical, temporal, or psychological in nature (Clark, 2000). Physical boundaries refer to physical separations between domains, providing a special separation of domain-relevant behavior. For example, work may be performed within the walls of an office whereas family activities may take place within the home. Temporal boundaries divide one's time between domains, dictating when (in terms of clock-time) the individual takes on each role. For example, a telecommuter might make a strict schedule for work so that the end of a shift allows for a firm transition into making dinner for his or her family. Lastly, psychological boundaries are rules that individuals create for themselves to dictate which thought processes and behaviors belong within each domain. For instance, a correctional officer may display aggressive

conflict management behaviors at work, yet display calm problem-solving strategies when interacting with a significant other.

Boundaries can also be described by their degree of flexibility and permeability. Boundary flexibility refers to the degree to which a boundary can contract or expand, depending on the demands of each domain (Clark, 2000). For instance, a telecommuter who can work in any location has a flexible physical boundary around the work domain. Boundary permeability refers to the extent to which elements from other domains can enter (Clark, 2000). For example, an individual who works with his or her spouse might experience frequent permeations of family issues into the work domain.

Importantly, boundary theory acknowledges that individuals are proactive in establishing and maintaining the borders between the two domains, rather than simply reacting to their context (Clark, 2000). That is, although contextual factors (e.g., organizational norms, family expectations) do have some influence in how individuals create and maintain boundaries, boundary management is also an active process in which individuals make decisions about the flexibility and permeability of boundaries according to their own preferences and situations. This autonomy is important to recognize, given the influence of boundary management on individuals' experience of WFC (Ashforth et al., 2000).

3.2 Boundary Management

Because boundaries do not exist as static structures, boundary management must occur as an ongoing process of intentional and circumstantial adjustment to boundary flexibility and permeability (Clark, 2000). Kossek & Lautsch's (2012) work on boundary management styles offers a nuanced and multi-dimensional perspective on how people

manage boundaries. Drawing from lines of research regarding role identity salience (Settles, 2004), job control (Karasek, 1979), and boundary management (Kossek Lautsch, & Eaton, 2006), Kossek and Lautsch (2012) identify two major elements that influence outcomes of boundary permeations: boundary management style (BMS) and perceived boundary control. The present section will first review the antecedents of BMS (i.e., boundary crossing preferences, identity centrality, outside pressures), then describe the important role of perceived boundary control in moderating the relationship between BMS and outcomes.

3.2.1 Boundary Management Style

The approach an individual adopts to maintain and negotiate boundaries between two domains is referred to as his or her BMS. The various styles are most often described as segmentation or integration. The BMS used influences the nature and frequency of cross-role permeation behaviors, which describe how individuals allow the responsibilities of one role (e.g., employee) to permeate the boundary of another role (e.g., parent). For example, a permeation behavior could include a phone call from a sick child while the parent is at work. The nature of these behaviors can be described by the directionality (e.g., F-to-W) and type of permeation (e.g., phone call). Additionally, these behaviors can be described by their frequency (e.g., once or twice a year) and duration (e.g., 30 min).

Individuals who adopt a segmenting BMS typically maintain highly differentiated roles with inflexible boundaries, resulting in very few boundary permeations (Ashforth et al., 2000). An example of an individual who strongly segments roles would be an exotic dancer who chooses not to discuss her profession with her family, or vice versa (Ashforth

et al., 2000). In contrast, domains are highly integrated when the two roles are weakly differentiated and boundaries are very flexible, resulting in frequent boundary permeations (Ashforth et al., 2000). For example, a mother who writes a blog about motherhood would frequently draw upon her family experience to help in the work context. Work and family domains are rarely as highly segregated or integrated as the above examples, but rather they vary in their degree of segmentation and integration. Kossek and Lautsch (2012) identify three key antecedents that contribute to an individual's BMS: boundary crossing preferences, identity centrality, and outside pressures.

3.2.1.1 Boundary Crossing Preferences

Individuals' boundary crossing preferences refer to individual differences reflecting one's inclination for the degree of flexibility and permeability of boundaries, as well as the preferred directionality of permeations. Individuals with high segmentation preferences typically engage in boundary management practices that allow them to psychologically detach from work when they are at home (Park, Fritz, & Jex, 2011). Typically, the preference for a certain BMS is considered an individual characteristic, which is usually determined by the degrees of flexibility and permeability that an individual desires between domains. Additionally, some individuals may prefer for F-to-W permeations to occur more often than W-to-F permeations, or vice versa. This is referred to as asymmetrical boundary-crossing preferences. Others may prefer symmetrical boundary crossings, such that they experience roughly equal permeations from F-to-W and from W-to-F.

3.2.1.2 Identity Centrality

Secondly, an individual's identity centrality of work and family roles is also an important antecedent to boundary management styles. Identity centrality refers to how central a role is to one's self-concept relative to other roles. The degree to which people place importance on their respective roles varies among individuals. For instance, a family-centric individual strongly identifies with a family role (e.g., parent, sibling, spouse), reflecting the salience of the family domain within his or her life space. Conversely, a work-centric individual has a highly salient career, thus identifying with his or her professional position more strongly than with other roles. Identity centrality is determined by where an individual falls along two separate continua (i.e., work-centrality continuum, family-central continuum). That is, an individual's family centrality is independent from his or her work centrality. Thus, some individuals experience equal centrality in both the work and home domains (i.e., dual-centrality).

Ashforth, Kreiner, and Fugate (2000) posit that the role with which one highly identifies will likely have a less flexible and permeable boundary than roles with less centrality. Additionally, these central roles will take precedence in a situation of conflict or stress, such that individuals tend to focus available resources on the role with which they most strongly identify (Thoits, 1991). This evidence supports the idea that identity centrality plays a role in determining which BMS is adopted by an individual.

3.2.1.3 Work and Family Norms

In addition to boundary crossing preferences and identity centrality, norms for integration or segmentation within the work and family roles also influence how

individuals choose to segment or integrate domains. For instance, if an individual perceives a high segmentation norm in the organization, he or she is more likely to maintain stronger home boundaries (e.g., not answering work emails while at home; Park et al., 2011). Besides the implicit pressures of organizational norms, oftentimes employers invoke organizational policies regarding the degree to which employees are expected to segment or integrate their work and home domains. For instance, managers could expect employees to answer emails during their "off" hours (i.e., integration). Alternatively, managers could have strict rules prohibiting personal phone calls in the workplace (i.e., segmentation).

Although work norms have been explored to some extent in boundary management, family norms have only been briefly mentioned in the literature. However, it is plausible that family norms would function similarly to work norms in their relationship to boundary management. That is, family members could have preferences for one's degree of domain segmentation. For instance, a lawyer's husband could prefer that she does not discuss casework in the home domain (i.e., W-to-F segmentation) or discuss family matters in the work domain (i.e., F-to-W segmentation). Conversely, family members preferring integration could differ in their preferences for directionality of permeations. For example, a librarian's son could call his parent often while they are at the library, but prefer to not hear stories about the librarian's experiences in the workplace (i.e., F-to-W integration). In the same vein, a doctor's daughter could enjoy listening to her father's stories about his experiences in the hospital, but not prefer to contact him while he is at work (i.e., W-to-F integration).

In sum, an individual's BMS reflects his or her level of integration or segmentation between domains, and is affected by boundary crossing preferences, identity centrality, and work and family norms.

3.2.1.4 Outcomes of BMS

Segmenting or integrating roles is not inherently good or bad, but rather the degree of segmentation between domains is only one factor among many in determining WFC and WFE. For instance, the benefit of segmentation is that roles are clearly demarcated, thus decreasing confusion or ambiguity and clarifying the nature of the transition. Kossek et al. (2006) found that integration predicts F-to-W conflict and that a segmentation BMS is a strong predictor of well-being. Furthermore, creating a sense of segmentation can help people mentally detach from work and recover from work stress (Park et al., 2011). However, the cost of segmentation is that transitioning between roles is more psychologically demanding than it would be with more integrated roles (Ashforth et al., 2000). On the other hand, the benefit of integration is that it affords simple transitions with minimal effort when navigating between domains. However, highly integrated domains can often be confusing and interruptions are common (Ashforth et al., 2000). Individuals must balance these costs and benefits when segmenting and integrating work and family domains.

Although BMS influences key outcomes in the work and home domains (Ashforth et al., 2000; Park et al., 2011), a more complex relationship has recently been detected (Kossek & Lautsch, 2012). That is, the BMS an individual uses (i.e., segmenting, integrating) may be less influential than whether he or she feels *control* over the BMS

s/he is using (Kossek & Lautsch, 2012). The relationship between perceived control and work/ family outcomes will be explored next.

3.2.2 Perceived Boundary Control

Individuals who believe that they can control the timing, frequency, and direction of boundary crossings have higher perceived control. In contrast, individuals with lower perceived control believe that they are not able to control boundary crossings. Unlike the individual differences described above (i.e., cross-role permeation behaviors, identity centrality), perceived control of boundaries describes one's psychological interpretation of situational and environmental factors. The concept of an individual's perceived control of boundaries is a recent addition to the boundary theory literature that offers new insight into the relationship between BMS and outcomes.

The degree of control one perceives is often a result of the strength of outside pressures. Organizations with strong policies regarding integration are referred to as *standardized* work environments. In comparison, *customized* work environments allow employees more autonomy in determining the degree of segmentation or integration between domains. Typically, customized work environments result in employee perceptions of organizational and supervisor support (Eisenberger, Armeli, Rexwinkel, Lynch, & Rhoades, 2001).

It is important to note that an individual's perceived control is independent of his or her BMS. That is, four possible combinations of BMS (i.e., segmentation, integration) and perceived control (i.e., high, low) exist. For example, consider a school teacher who is also a father. If he separates his school responsibilities from his paternal responsibilities (i.e., high segmentation BMS), but only does so because of the strong

influence of the school principal (i.e., standardized work environment), he could feel powerless to choose his own BMS (i.e., low perceived boundary control). Similarly, relationships between BMS, perceived boundary control, and outcomes could be observed with other combinations (See Table 1 for more examples).

3.2.2.1 Outcomes of Perceived Boundary Control

Aside from the consequences of one's actual BMS, Kossek et al. (2006) found that individuals' perceived control over boundaries predicted decreased negative outcomes such as W-to-F conflict, turnover intentions, and depression. In fact, further research revealed that low control in boundary management is related to lower individual effectiveness outcomes, including: job satisfaction, work engagement, work schedule fit, time adequacy, psychological distress, WFC, and turnover intentions (Kossek, Pichler, Bodner, & Hammer, 2011). Furthermore, higher perceived control has been linked with positive work-family outcomes and lower job stress (Karasek, 1979). Therefore, although BMS allows us to better understand and predict an individual's WFC and WFE (Kossek et al., 2006), whether a person perceives control over the BMS they enact is a crucial moderator of such relationships. For instance, consider the example of the schoolteacher mentioned above. The lack of control he perceives may exacerbate negative outcomes (e.g., high WFC; see Figure 1). Although initial findings regarding boundary control (Kossek et al., 2006, 2011) are theoretically consistent with previous WFC research (Karasek, 1979), these findings have not yet been replicated.

3.3 Conclusion

In conclusion, previous research regarding boundary management focused primarily upon segmentation and integration choices as a central predictor for work and family outcomes. Kossek and Lautsch's (2012) model offers a richer explanation for outcomes in work and family domains, including antecedents of BMS (i.e., preferences, identity centrality, outside pressures) and the important influence of perceived control. Although Kossek and Lautsch's (2012) model provides a more sophisticated and thorough understanding of BMS, boundary management research up to this point has been primarily abstract and theoretical, rather than behaviorally focused. Therefore, the use of CT products can be explored as one tangible venue through which boundaries are managed.

CHAPTER 4. COMMUNICATION TECHNOLOGIES

4.1 Prevalence and Impact

Although there are many ways in which roles might permeate each other, the influence of technology in this process is particularly important because it makes the physical, temporal, and psychological boundaries between domains less rigid and clear (Valcour & Hunter, 2005; Major & Germano, 2006). Due to the importance of understanding technology's role in this process, this section will more thoroughly define CT, examine its prevalence, and specify which forms of technology are most relevant to WFC.

CTs (also referred to in the literature as ICTs, MCTs, and CITs) include any technological device or application used for communication. Examples of such CT products include smartphones (e.g., iPhone, Android) and tablet personal computers (e.g., iPad).

As CT becomes more affordable, and thus available, more consumers have reported owning CT products. Specifically, there was a 13% increase in American smartphone owners between 2011 and 2012, with almost half of Americans (44%-46%) reporting smartphone ownership in 2012 (Google, 2012; Smith, 2012). Tablet personal computers have also become popular in recent years; since 2010, 15 million iPads have been sold (Muller & Pope, 2011). It is important to note that the growing prevalence of

these CT products is not a linear trend. For instance, tablet ownership nearly doubled between December 2011 and January 2012 (Rainie, 2012).

Not only are more consumers choosing to buy CT products, but also the frequency of CT use is increasing. For instance, many individuals report checking their email immediately upon waking up in the morning, as well as frequently throughout the day (e.g., while driving, during meetings; Karlson, Meyers, Jacobs, Johns, & Kane, 2009; Middleton & Cukier, 2006). Additionally, 66% of smartphone owners report accessing the internet daily, with 73% of them doing so to check email and 60% of them doing so to use a social networking site (Google, 2012).

4.2 Smartphones

Smartphones are mobile phones that include software functions (e.g., email, internet browser). This type of CT is important to consider because of its prevalence; the use of smartphone technology is rapidly increasing and projected to increase even more in the near future (Google, 2012). Besides this evidence for its prevalence, the size of the product and its ease of use make it convenient to use both at home and at work. In fact, according to Google (2012), 62% of smartphone users have used the product every day in the past week, and 80% of users will not leave their home without their smartphone. Particularly of interest, 97% of users reported using their smartphone at home, and 71% reported using it at work (Google, 2012). Other popular locations for smartphone use included on the go (83%), in a store (78%), in a restaurant (71%), at a social gathering (60%), at the doctor's office (56%), and at a café or coffee shop (50%; Google, 2012).

CHAPTER 5. MANAGING BOUNDARIES WITH COMMUNICATION TECHNOLOGIES

5.1 Introduction

Understanding CT use is not only important because of its prevalence, but also because there is evidence that it is continually changing the nature of work and home domains (Boswell & Olson-Buchanan, 2007; Valcour & Hunter, 2005). For instance, individuals often report using CTs at home for work purposes, allowing the home boundary to be permeated by work responsibilities. Examples of such W-to-F permeations include checking email and answering phone calls from co-workers or clients while at home (Boswell & Olson-Buchanan, 2007; Diaz, Chiaburu, Zimmerman, & Boswell, 2012). Similarly, F-to-W permeations are very common, with reports of emailing and calling family members being the most frequent home-related activities done on the job (D'Abate & Eddy, 2007).

These CT boundary permeations have strong implications for the work-family interface. First, CT use has increasingly blurred the physical, temporal and psychological boundaries between domains, creating more flexible and permeable boundaries. This blurring of boundaries can give individuals more autonomy in creating WFE, but can also create more experiences of WFC. It seems that individuals are aware of this paradox. A Canadian survey of WFE found that although 25% of respondents believe that technology has *increased* their ability to balance the work and life domains, roughly the same

amount of respondents reported that CT use *decreased* their experience of work-family balance (Duxbury, 2004). Recent work by Makinson, Hundley, Feldhaus, and Fernandez (2012) suggests that employees' part-time or full-time status might moderate the influence of CT use on experienced stress. Specifically, when CT usage surpassed one hour a day, significantly more part-time employees reported increased stress (from 5% to 28%). However, fewer full-time employees reported increased stress when CT usage surpassed one hour (from 37% to 30%). This could indicate that CT use is more helpful in balancing work and family roles for full-time employees than it is for part-time employees. However, it is still difficult to determine in which cases CT use promotes WFC and WFB. Assuming that individuals would prefer to experience high levels of WFE and low levels of WFC, it would be helpful to know what role CT boundary permeations will play in predicting these two important constructs.

Very little CT research has been done involving other factors associated with boundary management. However, preliminary research suggests that CT is a common avenue through which individuals navigate the boundaries between work and family roles (e.g., Diaz et al., 2012). Thus, it follows that CT use would have consistent outcomes with those of individuals' broader BMS (e.g., Boswell & Olson-Buchanan, 2007). Therefore, Kossek and Lautsch's (2012) model provides an excellent theoretical framework for viewing CT use in the context of boundary theory.

5.2 Boundary Management Style

An individual's BMS, or degree of segmentation between work and family domains, is likely to be exhibited through his or her CT use (e.g., Diaz et al., 2012; Boswell & Olson-Buchanan, 2007). Thus, Kossek and Lautsch's (2012) model is

applicable in explaining the antecedents and outcomes of using CT to segment and integrate domains. Not only is this model helpful for interpreting CT use, but also CT use is an ideal set of behaviors for testing this model. That is, the prevalence and nature of CT use makes it a key indicator of BMS. As such, boundary crossing preferences, identity centrality, and outside pressures regarding CT use will take part in determining an individual's BMS.

5.2.1 Boundary Crossing Preferences

The literature suggests that individuals' segmentation preferences influence an individual's amount of CT use and how that CT use affects their work and family domains (Diaz et al., 2012). That is, individuals who are more flexible using CT report engaging in more CT use at home for work (i.e., W-to-F permeation; Diaz et al., 2012; Olson-Buchanan & Boswell, 2006). Although such CT permeations overall are associated with higher WFC (Boswell & Olson-Buchanan, 2007), individuals who are more flexible (i.e., preference for integration) reported less WFC from CT use than those who are not flexible (i.e., preference for segmentation; Diaz et al., 2012). In the same vein, an individual with a stronger segmentation preference is likely to create more boundaries around CT use, which in turn is associated with less frequent experiences of psychological work-family interference (Park & Jex, 2011). This is consistent with the idea that boundary crossing preferences could influence BMS and subsequent outcomes (Kossek & Lautsch, 2012).

5.2.2 Identity Centrality

An individual's identity centrality, or role salience, is likely to impact their CT use. Ashforth et al. (2000) argue that the role with which one highly identifies will likely

have a less flexible and permeable boundary than roles with less salience. Thus, a family-centric person may be more likely to allow CT communications from home to interrupt work. Conversely, a work-centric person may be more likely to allow CT communications from work to interrupt home.

5.2.3 Work/Family Norms

Work and family norms also undoubtedly influence CT use. For instance, a work norm for segmenting roles has been found to relate to employees not responding to CT communications from one domain while participating in another domain (Park et al., 2011). Thus, the organizational and familial norms regarding how and when CT devices are used to cross boundaries are likely to influence the BMS that individuals employ.

5.3 Perceived Boundary Control

As was previously discussed, an individual's perceived control over boundary management plays a critical role in determining how BMS influences key outcomes. One manner in which organizations can influence employees' perception of boundary control could be through CT product ownership. For instance, if an organization pays for the employee's smartphone, implicit or explicit expectations could exist regarding who (i.e., employer) controls the boundaries between domains. The employee might feel indebted to the organization, thus engaging in more off-the-clock labor. Also, the employee could feel as if he or she lacks control, resulting in more negative outcomes (e.g., high WFC, low WFE). However, if the employee owns the smartphone, he or she might feel more control over how the device is used to manage boundaries.

Another way that organizations can influence employees' perception of boundary control is through formal CT policies. For instance, some organizations may prohibit

smartphones in the workplace (e.g., service industry), whereas other may even encourage it (e.g., consulting firm). As was discussed earlier in the boundary theory section, *standardized* organizations have strict policies, whereas *customized* organizations allow employees autonomy in determining how they use CT to permeate boundaries.

5.4 Outcomes

On a general level, CT use has strong implications for WFC and WFE. Simply put, the ease of CT use and the prevalence of CT products undoubtedly allows for more frequent permeations than would be possible without such technology (Park & Jex, 2011; Towers, Duxbury, Higgins, & Thomas, 2006). Furthermore, there is evidence that WFC is more prevalent when the boundaries between domains are permeated more frequently, as "boundary permeability epitomizes role conflict" (Hall & Richter, 1988, p. 217). However, WFE is also a feasible outcome of smartphone use. For instance, brief CT connections could provide positive spillover between domains, potentially resulting in the enhancement of performance in one domain due to a positive interaction with the other domain (Chen & Lim, 2009).

It is clear that boundary theory is directly applicable to CT use in the work and home domains. However, due to the ever-changing nature of technology, many of the above questions have gone unanswered in the literature. Therefore, the present study seeks to apply a model of boundary management specifically to CT use in order to more thoroughly understand the influence of smartphones on the way individuals navigate between roles in the work and home domains.

CHAPTER 6. PRESENT STUDY: BOUNDARY MANAGEMENT MODEL AND PREDICTIONS

The present study seeks to further examine how individuals use CT in managing family and work boundaries, as well as how individuals' boundary management styles with respect to CT influence key outcomes in the work and family domains (e.g., WFC, WFE). In doing so, the present study will expand the current WFC literature by developing a more thorough understanding of boundary management practices regarding CT use in the home and workplace.

The present study will test a model of boundary management styles using CT use behaviors. The model follows Kossek and Lautsch (2012) and draws from the literature on WFC and WFE to propose that BMS for CT use will predict key outcomes (e.g., WFE, WFC) and that this relationship is moderated by perceived boundary control (see Figure 2).

In order to apply this model (Kossek & Lautsch, 2012) specifically to CT use, the proposed model will use a narrow focus on CT use for BMS and perceived control. However, a broad scope will be used for antecedents and outcomes of BMS (e.g., *general* integration preferences, *overall* WFC). By using this combined approach, the present study will be able to establish that CT use is consistent with general BMS tendencies and that CT use can be associated with the same outcomes as general BMS.

6.1 Predictors

As was previously discussed, BMS refers to the degree of integration between an individual's work and family domains. This concept can be understood as a continuum ranging from segmentation (i.e., no integration) to integration. Following past literature, it is proposed that three key factors will predict an individual's BMS with respect to CT: boundary crossing preferences, identity centrality, and outside pressures.

6.1.1 Boundary Crossing Preferences

As described above, individual preferences for boundary crossing can be described by the preferred flexibility and permeability of the boundaries (i.e., degree of integration), as well as the directional symmetry of the permeations (i.e., W-to-F, F-to-W). The literature has shown that individuals' general preferences for segmentation or integration influence the degree of segmentation between work and family domains (Diaz et al., 2012; Olson-Buchanan & Boswell, 2006; Park & Jex, 2011). For instance, individuals who are more flexible (i.e., integration preference) using CT report engaging in more CT use at home for work (i.e., W-to-F integration; Olson-Buchanan & Boswell, 2006; Diaz et al., 2012).

Hypothesis 1: General boundary crossing preferences will be positively related to BMS for CT use such that:

a. Higher W-to-F integration preferences will be associated with higher W-to-F CT integration (BMS).

b. Higher F-to-W integration preferences will be associated with higher F-to-W CT integration (BMS).

6.1.2 Identity Centrality

The role with which one most strongly identifies also contributes to an individual's BMS. Individuals can be work-centric or family-centric. Ashforth et al. (2000) argue that a role with which one highly identifies will have more rigid and impermeable boundaries compared to those of other roles. Additionally, these salient roles will take precedence in a situation of conflict or stress, such that individuals tend to focus available resources on the role with which they most strongly identify (Thoits, 1991).

Hypothesis 2: Identity will be related to BMS for CT use such that:

a. Work-centric individuals will have greater W-to-F than F-to-W CT integration (BMS).

b. Family-centric individuals will have greater F-to-W than W-to-F CT integration (BMS).

6.1.3 Norms

The final antecedent of BMS is the environmental norms (i.e., work and family norms for integration). It has been found that if an individual perceives a high segmentation norm in the organization, he or she is more likely to maintain stronger home boundaries (e.g., not answering work emails while at home; Park et al., 2011). Similar to work norms, family norms are additional outside forces that may influence BMS. Although not included in Kossek and Lautsch's (2012) model, the present study has added this variable to the model with the expectation that family norms function similarly to work norms.

Hypothesis 3: Work and family norms for integration will be related to BMS for CT use such that:

a. Higher work and family norms for W-to-F integration will be associated with higher W-to-F CT integration.

b. Higher work and family norms for F-to-W integration will be associated with higher F-to-W CT integration.

6.2 Outcomes

The present study seeks to examine positive and negative outcomes in the work, home, and personal domains. WFC will be measured in the home domain (i.e., W-to-F conflict) and the work domain (i.e., F-to-W conflict). WFE will be measured in the home domain (i.e., W-to-F enrichment) and the work domain (i.e., F-to-W enrichment). Performance will be measured in both the home domain (i.e., family performance) and the work domain (i.e., work performance). Satisfaction will be measured in multiple domains (i.e., job satisfaction, family satisfaction, life satisfaction). Additional outcomes include turnover intentions and psychological distress.

6.2.1 Boundary Management Style

Individuals' boundary management styles have been found to relate to key outcomes in the work and family domains. Furthermore, preliminary research on CT use suggests that individuals' CT use has consistent outcomes with those of their broader BMS (e.g., Boswell & Olson-Buchanan, 2007; Diaz et al., 2012; Park & Jex, 2011). For instance, segmentation has been found to help people mentally detach from work and recover from work stress (Park et al., 2011). Thus, segmentation via CT use (e.g., not answering CT communications from domain A while participating in domain B) should

reduce one's experience of WFC. Segmentation via CT use should reduce one's experience of WFE, as well, because fewer permeations between domains reduce the amount of resources that can be transferred between work and home (Greenhaus & Powell, 2006). Furthermore, integration is associated with confusion and common interruptions, and has been associated with higher F-to-W conflict (Ashforth et al., 2000; Kossek et al., 2006). Thus, frequent CT use across boundaries should heighten individuals' experience of WFC. However, frequent CT use could also result in WFE. For instance, brief CT connections could provide positive spillover between domains, potentially resulting in the enhancement of performance in one domain do to a positive interaction with the other domain (Chen & Lim, 2009).

Hypothesis 4: BMS for CT use will be positively related to WFC and WFE such that:

a. Higher W-to-F BMS for CT use will be associated with higher W-to-F conflict and W-to-F enrichment.
b. Higher F-to-W BMS for CT use will be associated with higher F-to-W conflict and F-to-W enrichment.

6.2.2 Perceived Boundary Control

As was discussed more thoroughly in above sections, the degree to which an individual feels control over his or her BMS is a critical factor in determining outcomes in the work, home, and personal domains. The amount of control one feels over his or her BMS is largely determined by the strength of outside pressures.

6.2.2.1 Outside Pressures

The strength of work pressures for integration can be described using a continuum from *customization* (i.e., employees determine their own CT use) to *standardization* (i.e., rigid organizational policy dictating employees' CT use). The standardization of policies has been found to relate with perceived control over boundary crossing (Park et al., 2011; Valcour, 2007; Kossek et al., 2006). The present study will examine the strength of work pressure to assess whether integration policies influence perceived control over CT use. Similar to work pressure, family pressure is an additional outside force that could influence perceived control over CT use. Although not included in Kossek and Lautsch's (2012) model, the present study has added this variable to the model with the expectation that the strength of family pressure for CT use (i.e., degree of standardization) will function similarly to the strength of work pressure for CT use.

Hypothesis 5: Outside pressures and perceived control over CT use will be negatively related such that:

a. The stronger the work pressures for integration, the lower perceived level of control over CT use across boundaries.

b. The stronger the family pressures for integration, the lower perceived level of control over CT use across boundaries.

6.2.2.2 Perceived Boundary Control and Outcomes

Individuals' perceived control over boundaries has been found to be a strong predictor of WFC and individual effectiveness (Kossek et al., 2006, 2011). That is, the degree to which an individual feels autonomy in determining his or her BMS impacts his

or her experience at work and home. This can occur in one of two ways: First, high perceived control can ameliorate the negative impact of integration by reducing WFC. For instance, Kossek, Lautsch, and Eaton (2006) found that individuals' perceived control over boundaries predicted decreased negative outcomes such as W-to-F conflict, turnover intentions, and depression. Second, although not yet explored, it follows that perceived control can heighten the positive impact of integration by increasing WFE.

Consistently, low perceived control can heighten the negative effects of integration. Specifically, further research revealed that low control in boundary management is related to lower individual effectiveness outcomes, including: work schedule fit, time adequacy, psychological distress, WFC, and turnover intentions (Kossek et al., 2011). Low perceived control can also reduce the positive effects of integration, such as job satisfaction and work engagement (Kossek et al., 2011).

Hypothesis 6: Perceived control over CT use across boundaries will be related to key outcomes such that:

a. High perceived control will be associated with lower levels of WFC.

b. High perceived control will be associated with higher levels of WFE.

Hypothesis 7: Perceived control over CT use will moderate the relationship between BMS over CT use and key outcomes such that:

a. The lower the control, the stronger the relationship between BMS over CT use and WFC.

b. The higher the control, the stronger the relationship between BMS over CT use and WFE.

CHAPTER 7. METHOD

7.1 Participants and Procedures

Participants included 507 workers (234 female, 271 male, 2 unidentified) on Amazon Mechanical Turk (MTurk), an online labor market that provides low cost access to a diverse sample pool (Mason & Suri, 2012). Participants ranged in age from 18 to 64 years. The sample was 75.3% White, 8.7% Black, 7.6% Hispanic, 5.4% Asian, and 3% other. A majority of the participants had a college degree or higher (75.9%), and earned a yearly salary between $25,000 and $99,999 (83.3%). For more complete demographics, refer to Table 2 and Table 3.

MTurk has recently grown in popularity among social scientists, as the online crowdsourcing platform provides access to a large sample of individuals who are available and willing to do tasks for low pay. Specifically, MTurk requesters (i.e., researchers) create Human Intelligence Tasks (HITs), which MTurk workers then complete for compensation These HITs include tasks such as survey completion, image identification, and editing writing samples. Initial studies have found no systematic differences between MTurk workers and other populations with respect to responses to social science surveys (e.g., Buhrmester, Kwang, & Gosling, 2011; Paolacci, Chandler, & Ipeirotis, 2010).

In order to be included in the present study, respondents were required to be United States citizens, speak English, use a smartphone on a daily basis, have a full-time paid position, and live with a spouse/partner and at least one child. Additionally, in order to control for confounding influences on CT use, individuals who worked from home more than 50% of the time were excluded from the present study. For participating, each individual received $1.50.

Furthermore, four methods were employed to ensure that MTurk users responded honestly and accurately. First, MTurk users were required to have a HIT approval rate of 97 or higher, indicating a history of satisfactory HIT performance. Second, MTurk users were required to complete a short qualification survey before the full survey to determine if they were eligible for the study (i.e., met inclusion criteria listed above). Third, three validation items were included to disqualify MTurk users whose responses indicated that they were not paying full attention to the survey. Lastly, responses were individually reviewed for careless response patterns. In total, eight participants were disqualified for providing incorrect responses to validation items and/or showing evidence of careless responding.

7.2 Measures

7.2.1 Demographics

The survey included questions concerning the participants' (1) age, (2) gender, (3) income, (4) race/ethnicity, (5) education, (6) spouse/partner, (7) children, and (8) occupation. Additional demographic items included (9) the availability of organizational policies for work-life balance, and (10) a question assessing the "ownership" of the

participant's smartphone (i.e., owned by organization or self, see Appendices A-C for full survey materials).

7.2.2 Predictors

7.2.2.1 General Boundary Crossing Preferences

The survey assessed preferences for boundary crossing with an eight-item scale with two subscales: W-to-F integration preferences (α = .90) and F-to-W integration preferences (α = .86; Adapted from Kreiner, 2006). Each item was answered with a Likert-type scale ranging from 1 *(Strongly disagree)* to 5 *(Strongly agree)*. The two subscales featured identical items, and only differed in the directionality of integration. For instance, "*I don't like to have to think about [work, family] while I'm at [home, work],"* was reverse scored so that higher scores on the scale indicated higher integration preferences.

7.2.2.2 General Identity Centrality

The survey assessed identity centrality with an eight-item scale with two subscales: work centrality (α = .71) and family centrality (α = .86). The scale was developed by adapting items from previous identity centrality scales (Kossek, Ruderman, Braddy, & Hannum, 2012; Wayne et al., 2006). Each item was answered with a Likert-type scale ranging from 1 *(Strongly disagree)* to 5 *(Strongly agree)*, with higher scores indicating higher centrality in the domain. The two subscales featured identical items, and only differed in the domain of centrality. For instance, "*People see me as highly focused on my [work, family]."*

7.2.2.3 Norms

The survey assessed work and family norms with a 32-item scale with four subscales. Two subscales reflected work norms: for W-to-F integration (α = .83) and for F-to-W integration (α = .81). The other two subscales reflected family norms: for W-to-F integration (α = .85) and for F-to-W integration (α = .80). The scale was adapted from two existent scales (Kossek, Colquitt & Noe, 2001; Kreiner, 2006). Each item was answered with a Likert-type scale ranging from 1 *(Strongly disagree)* to 5 *(Strongly agree),* with higher scores indicating higher integration norms. The four subscales featured identical items, and only differed in the domain and direction of integration. For instance, the two subscales for work norms included the reverse coded item: "*In my workplace, people forget about [work, family] while they're at [home, work]."* Similarly, the two subscales for family norms included the reverse coded item: "*In my family, people forget about [work, family] while they're at [home, work]."*

7.2.2.4 Outside Pressures

The survey assessed outside pressures with a 12-item scale with four subscales. Two subscales reflected work pressure: for segmentation (α = .76) and for integration (α = .78). Two subscales reflected family pressure: for segmentation (α = .75) and for integration (α =.68). In order to increase the reliability of the subscales, one item was removed from each of the original subscales. Each item was answered with a Likert-type scale ranging from 1 *(Strongly disagree)* to 5 *(Strongly agree)*, with higher scores indicating stronger pressures. The four subscales featured similar items, and differed in the domain and direction of integration. For instance, the subscale for work pressure for

standardized segmentation included: *"I would suffer negative consequences at work if I used my smartphone to communicate (e.g., text, email, call) with family members while at work."* The subscale for family pressure for standardized integration included: *"I would suffer negative consequences from my family if I ignored smartphone communication (e.g., text, email, call) from family members while at work."*

7.2.3 Boundary Management Style for CT Use

The survey assessed BMS for CT use (i.e., smartphone use across boundaries) with an eight-item scale with two subscales: W-to-F integration (α = .79) and F-to-W integration (α = .80). The scale was developed by adapting items from a previous BMS scale (Kossek et al., 2012). Each item was answered with a Likert-type scale ranging from 1 *(Strongly disagree)* to 5 *(Strongly agree),* with higher scores indicating higher integration. The two subscales featured similar items, and differed in the direction of integration. For instance, "*I respond to [work-related, personal] smartphone communications (e.g., emails, texts, phone calls) during [my personal time away from work, work]."* Overall integration (α = .70) was computed by averaging the items from both subscales.

7.2.4 Perceived Control Over CT Use Across Boundaries

Three items were used to assess perceived control (Adapted from Kossek et al., 2012; α = .87). Each item was answered with a Likert-type scale ranging from 1 *(Strongly disagree)* to 5 *(Strongly agree)*, with higher scores indicating higher perceived control. For instance, "*When I use my smartphone, I can control to what extent I keep my work and personal life separate."*

7.2.5 Outcomes

7.2.5.1 Conflict

The survey assessed WFC with a ten-item scale with two subscales: W-to-F conflict (α = .92) and F-to-W conflict (α = .91; Netemeyer et al., 1996). Each item was answered with a Likert-type scale ranging from 1 *(Strongly disagree)* to 5 *(Strongly agree)*, with higher scores indicating higher conflict. The two subscales featured similar items, and differed in the direction of conflict. For instance, "*The demands of my [work, family] interfere with [my home and family life, work-related activities]."* Overall conflict (α = .894) was computed by averaging the items from both subscales.

7.2.5.2 Enrichment

The survey assessed WFE with a six-item scale with two subscales: W-to-F enrichment (α = .89) and F-to-W enrichment (α = .93; Wayne et al., 2006). Each item was answered with a Likert-type scale ranging from 1 *(Strongly disagree)* to 5 *(Strongly agree)*, with higher scores indicating higher WFE. The two subscales featured similar items, and differed in the direction of enrichment. For instance, "*Having a good day at [work, home] makes me a better [family member, employee] when I get [home, to work]."* Overall WFE (α = .70) was computed by averaging the items from both subscales.

7.2.5.3 Performance

The survey assessed performance with a 14-item scale with two subscales: work performance (α = .82) and family performance (α = .84; Adapted from Williams & Anderson, 1991). Each item was answered with a Likert-type scale ranging from 1 *(Strongly disagree)* to 5 *(Strongly agree)*, with higher scores indicating higher

performance. The two subscales featured similar items, and differed in the domain of performance. For instance the subscale for work performance included: "*My supervisor would state that I perform tasks that are expected of me."* Similarly, the subscale for family performance included: *"My spouse/partner would state that I fulfill his/her expectations in our relationship."*

7.2.5.4 Turnover Intentions

Three items were used to assess turnover intentions (Colarelli, 1984; $\alpha = 0.87$). Each item was answered with a Likert-type scale ranging from 1 *(Strongly disagree)* to 5 *(Strongly agree)*, with higher scores indicating higher turnover intentions. For instance, "*I am planning to search for a new job during the next 12 months."*

7.2.5.5 Psychological Distress

The K6 scale for psychological distress was used in the present survey (Kessler et al., 2002; $\alpha = 0.88$). This scale included six items, each of which was answered with a Likert-type scale ranging from 1 *(Never)* to 5 *(Always)*, with higher scores indicating higher psychological distress. Participants were asked to rate the frequency of negative feelings they had experienced in the past month. For instance, *"During the last month (30 days), how often did you feel so depressed that nothing could cheer you up?"*

7.2.5.6 Satisfaction

Three subscales, totaling 15 items, were used to assess satisfaction: work satisfaction ($\alpha = .91$), family satisfaction ($\alpha = .91$), and life satisfaction ($\alpha = .90$; adapted from Diener, Emmons, Larsen, & Griffin, 1985). Each item was answered with a Likert-type scale ranging from 1 *(Strongly disagree)* to 5 *(Strongly agree)*, with higher scores

indicating higher satisfaction. For instance, "*In most ways my [job, family, life] is close to ideal."*

CHAPTER 8. RESULTS

Structural equation modeling (SEM), correlational analyses, and multiple regression were used to examine Kossek & Lautsch's (2012) model of boundary management (see Table 14). Consistent with the recommendations of work-family researchers (Kossek & Lautsch, 2012), the present study evaluated the boundary management model with directional data. Thus, each of the hypotheses below has two parts: W-to-F and F-to-W.

8.1 Overall Model Fit

The present study used SEM to test the overall fit of the proposed model. Mean scale scores were used to represent variables, and errors were allowed to covary for both exogenous and endogenous variables. Because the initial model fit was marginal, four paths were added to improve model fit (see Figures 2-3). The first path was added between work norms for W-to-F integration and W-to-F conflict ($\beta = .19$, $p < .05$). The second path was added between family norms for W-to-F integration and W-to-F conflict ($\beta = .16$, $p < .05$). These two paths make intuitive sense, as it is common for environmental factors at work (e.g., autonomy at work) and home (e.g., development stage of family) to directly influence individuals' levels of conflict (Jones & Butler, 1980; Keith & Shafer, 1980). The third path was added between family centrality and F-to-W conflict ($\beta = -.26$, $p < .05$). The fourth path was added between family centrality and F-

to-W enrichment (β = .17, $p < .05$). Again, these two paths were not surprising, because the degree to which one identifies with his or her

family is likely to be strongly associated with family involvement and cohesion, which are tightly linked to WFC and WFE, respectively (Frone et al., 1992; Stevens et al., 2007).

After adding these four parameters, the model's fit indices indicated acceptable fit (RMSEA = 0.08; CFI = 0.92; $X^2 = 194.90$, $p < .01$; df = 43; Hu & Bentler, 1999). Individual parameter estimates further supported boundary management theory; most estimates attained significance (see Figure 3).

8.2 Predictors of BMS

The present model predicted that BMS would be predicted by preferences for integration, identity centrality, and work/family norms (Hypotheses 1-3, respectively). Descriptive statistics for predictors are reported in Table 4. Hypothesis 1 was partially supported, and Hypotheses 2-3 were fully supported. The relationships between all predictors are reported in Table 6. Direct relationships between predictors and outcomes can be found in Tables 7 and 8. Multiple regression results predicting BMS are displayed in Table 9.

Hypothesis 1, which predicted that preferences for integration would predict BMS for CT use (i.e., smartphone behaviors), was partially supported. Specifically, preferences predicted BMS in the W-to-F direction (β = .14, $p < .05$), but not in the F-to-W direction (β = -.08, $p > .05$). In other words, stronger preferences for W-to-F integration were associated with more W-to-F smartphone use. However, preferences for F-to-W integration did not relate to F-to-W smartphone use.

Hypothesis 2, which predicted that identity centrality would predict the direction of one's BMS, was supported. Specifically, work centrality predicted W-to-F BMS ($\beta = .26$, $p < .05$) and family centrality predicted F-to-W BMS ($\beta = .21$, $p < .05$). Overall, regardless of identity centrality, individuals reported more F-to-W than W-to-F smartphone use. However, individuals with high work centrality tended to engage in significantly more W-to-F smartphone use ($M = 3.22$) than did those with high family centrality ($M = 2.48$). Similarly, individuals with high family centrality tended to engage in significantly more F-to-W smartphone use ($M = 4.10$) than did those with high work centrality ($M = 3.22$).

Hypothesis 3, that work and family norms would predict BMS, was also supported. That is, W-to-F integration was predicted by work norms for W-to-F integration ($\beta = .28$, $p < .05$) and family norms for W-to-F integration ($\beta = .27$, $p < .05$). That is, individuals whose family and work norms were for higher levels of W-to-F integration reported higher W-to-F smartphone use. Additionally, F-to-W integration was predicted by work norms for F-to-W integration ($\beta = .15$, $p < .05$) and family norms for F-to-W integration ($\beta = .31$, $p < .05$). That is, individuals whose family and work norms were for higher levels of F-to-W integration reported higher F-to-W smartphone use.

8.3 BMS and Outcomes

Hypothesis 4 predicted that BMS for CT use would be positively related to WFC and WFE (see Figure 3). Overall, this hypothesis was supported. Overall BMS for CT use was positively related to both WFC ($r = .29$, $p < .01$) and WFE ($r = .26$, $p < .01$; Table 8). Refer to Table 5 for descriptive statistics and Table 10 for relationships between outcomes.

Hypothesis 4a was fully supported: W-to-F BMS predicted both W-to-F conflict ($\beta = .20$, $p < .05$) and W-to-F enrichment ($\beta = .11$, $p < .05$). That is, individuals who engaged in more W-to-F smartphone use tended to experience more W-to-F conflict and enrichment. However, Hypothesis 4b was only partially supported. Specifically, F-to-W BMS did not predict F-to-W conflict ($\beta = .03$, $p > .05$). However, F-to-W BMS did significantly predict F-to-W enrichment ($\beta = .11$, $p < .05$). That is, individuals who engaged in more F-to-W smartphone use were able to bypass a negative outcome of integration (i.e., conflict), but still benefit from a positive outcome (i.e., enrichment).

8.4 Perceived Control

Hypotheses 5 and 6 describe how perceptions of control are formed and how those perceptions can influence work and family outcomes. As discussed in the proposal, these hypotheses were examined using correlational analyses (Tables 6 and 7).

Hypothesis 5, which predicted that outside pressures and perceived control over CT use would be negatively related, was partially supported (see Table 6). Consistent with Hypothesis 5a, a significant negative correlation was found between work pressures to segment and perceived control ($r = -.10$, $p < .05$); additionally, a significant negative correlation was found between work pressures to integrate and perceived control ($r = -.20$, $p < .01$). That is, work pressures lessen individuals' perceptions of control over how they navigate the boundaries between work and family, regardless of whether those pressures are to integrate or segment the two roles. For Hypothesis 5b, a significant negative correlation was found between family pressures to segment and perceived control ($r = -.13$, $p < .01$); however, a significant negative correlation was not found between family pressures to integrate and perceived control ($r = -.07$, $p > .05$). In other words, family

pressures to segment work and family roles tend to lessen individuals' perceptions of control over BMS. However, family pressures to integrate roles do not seem to influence individuals' perceptions of control.

Hypothesis 6, which predicted that perceived control would be related to key outcomes, was fully supported (see Table 6). Specifically, Hypothesis 6a was fully supported by significant negative correlations between perceived control and both W-to-F conflict (r = -.24, p < .01) and F-to-W conflict (r = -.21, p < .01). That is, as perceived control increases, both W-to-F and F-to-W conflict decrease. Hypothesis 6b was also fully supported by significant positive correlations between perceived control and both W-to-F enrichment (r = .13, p < .01) and F-to-W enrichment (r = .27, p < .01). That is, as perceived control increases, both W-to-F and F-to-W enrichment increase. Relationships between perceived control and additional outcomes are reported in Table 7.

8.5 Moderation

Hierarchical regression was used to examine Hypothesis 7, which predicted that perceived control would moderate the relationship between BMS and key outcomes. Specifically, for each outcome BMS was entered in the first step of each regression, and perceived control was entered in the second step. The third step included the centered interaction term of BMS x perceived control. Thus, a significant ΔR^2 for the third step indicated support for the moderated relationship (Aiken & West, 1991).

Overall, Hypothesis 7 was partially supported (see Tables 11-13). Hypothesis 7a predicted that perceived control would ameliorate the negative effects of integration (i.e., WFC), and was only supported in the W-to-F direction. Specifically, perceived control moderated the influence of W-to-F BMS on W-to-F conflict (β = -.08, ΔR^2 = .01, p < .05).

That is, as W-to-F integration increased, individuals with low perceived control experienced more of an increase in W-to-F conflict than did individuals with high perceived control (see Figure 4).

For the F-to-W direction, however, perceived control moderated the influence of F-to-W BMS on F-to-W conflict in an unexpected way ($\beta = .14$, $\Delta R^2 = .02$, $p < .01$). Specifically, as F-to-W integration *decreased*, individuals with low perceived control experienced an increase in F-to-W conflict, whereas individuals with high perceived control experienced a decrease in F-to-W conflict (see Figure 5). This unexpected relationship will be examined in more detail in the discussion section.

Hypothesis 7b predicted that perceived control would heighten the positive effects of integration (i.e., WFE), and was not supported in either direction (see Table 11). Specifically, although perceived control had a main effect on W-to-F enrichment ($\beta = .16$, $\Delta R^2 = .02$, $p < .01$), there was no interaction ($\beta = .02$, $p > .05$). Similarly, perceived control had a main effect on F-to-W enrichment ($\beta = .23$, $\Delta R^2 = .05$, $p < .01$), but there was no interaction ($\beta = -.04$, $p > .05$).

8.6 Exploratory Analyses

To further explore the impact of perceived control (i.e., Hypothesis 6), additional outcomes were examined. Consistent with past research (Kossek & Lautsch, 2012), exploratory analyses indicated that perceived control is also negatively related with turnover intentions ($r = -.14$, $p < .01$) and psychological distress ($r = -.15$, $p < .01$; see Tables 12 and 13). In other words, individuals who perceive that they are in control of their work and family boundaries are more psychologically healthy and less likely to change jobs.

Additionally, exploratory analyses indicated that perceived control was also positively related with family performance ($r = .32$, $p < .01$), work performance ($r = .29$, $p < .01$), family satisfaction ($r = .31$, $p < .01$), job satisfaction ($r = .17$, $p < .01$), and life satisfaction ($r = .25$, $p < .01$; see Tables 12 and 13). In other words, individuals who perceive that they are in control of their work and family boundaries tend to perform better in both their work and family roles. These individuals are also more satisfied with their jobs, families, and lives.

To further explore the interaction between BMS and perceived control (i.e., Hypothesis 7), additional outcomes were examined. Interestingly, as shown in Figures 6 and 7, exploratory analyses demonstrated that high perceived control also ameliorates the negative effects of W-to-F BMS on work satisfaction ($\beta = .09$, $\Delta R^2 = .01$, $p < .05$) and turnover intentions ($\beta = -.09$, $\Delta R^2 = .01$, $p < .05$). That is, as W-to-F integration increased, individuals with low perceived control experienced a decrease in work satisfaction, whereas individuals with high perceived control experienced an increase in work satisfaction. Additionally, as W-to-F integration increased, individuals with low perceived control reported an increase in turnover intentions, whereas individuals with high perceived control reported a decrease in turnover intentions.

CHAPTER 9. DISCUSSION

Although researchers have made some progress in explaining general trends and preferences for boundary permeations, research on boundary management is still in its infancy. Thus, the present study provides evidence of boundary theory's direct application to specific CT behaviors, testing and extending the current theoretical model of BMS. By exploring tangible boundary management behaviors, the present study offers interesting implications that could ultimately assist organizations in developing policies regarding CT use both at home and at work. In this section the findings of the present study will be reviewed in more depth with a focus on discussing their theoretical and practical implications. Additionally, limitations of the present study and suggestions for future research will be presented.

9.1 Summary of Findings

For the most part, the present study supports the existing model of boundary management styles (Kossek & Lautsch, 2012). Overall the results supported boundary crossing preferences, identity centrality, and work/family norms as predictors of BMS, and BMS as a predictor of BMS outcomes. However, one key component of the Kossek and Lautsch (2012) model was not supported, and that is that perceived control did not moderate the relationship between BMS and outcomes. Each of these findings will now be discussed in greater detail.

9.1.1 Predictors of BMS for CT Use

The first goal of the present study was to explore predictors of the BMS individuals use with respect to CT. Overall, the first goal was achieved by providing support for the existing theoretical framework of boundary management. Specifically, boundary crossing preferences, identity centrality, and work/family norms were found to predict BMS for CT use.

With respect to boundary crossing preferences, preference for integration was only partially supported as a predictor of BMS (in the W-to-F direction), indicating that although individuals who prefer to integrate work into their family lives may be able to accomplish that goal, individuals who prefer to have F-to-W integration might not be able to make their preference a reality. This is likely because individuals have less control over their work environment than they do over their home environment, making it difficult to allow desired F-to-W permeations. This finding is not surprising, as boundary theory suggests that work boundaries tend to be less permeable than are family boundaries (Frone et al., 1992).

With respect to identity centrality, it was found that individuals with high work centrality tend to have higher levels of W-to-F integration, whereas individuals with high family centrality experience more F-to-W integration. This finding supports existing boundary theory, which posits that a role with which one highly identifies has a less flexible and permeable boundary than that of a role with less centrality (Ashforth et al., 2000). Although intuitive, this finding has interesting implications for selection procedures. For instance, if an organization tends to recruit and hire more family-centric candidates, the organization must be prepared for—perhaps even encourage—F-to-W CT

permeations. Similarly, organizations preferring employees who are available by CT after hours (i.e., W-to-F integrators) should consider using realistic job previews to ensure that candidates are aware of expectations.

With respect to work and family norms, the present study found that norms influence the actual BMS that individuals employ. This finding aligns well with the existing literature on organizational norms, which indicates that employees are strongly influenced by unwritten codes of behavior that are embedded in the organizational culture (Park et al., 2011). Thus, it is important that candidates are aware of these cultural norms, even if no formal CT policy exists, in order to ensure person-organization fit. Additionally, organizations should ensure that CT policies are congruent with cultural norms. This could mean adapting an existing CT policy to be more consistent with employees' preferences, or actively changing the cultural norm to match the existing CT policy. This suggestion echoes previous boundary research, which shows that employees are strongly influenced by organizational norms, and that employers should be sensitive to how these norms influence employees' BMS (Frone et al., 1992).

9.1.2 Direct Influence of BMS for CT Use

The second goal of the present study was to examine outcomes in the work and family domains that could result from varying boundary management styles. As expected in the W-to-F direction, as individuals experience more smartphone permeations at home from coworkers, they report more conflict and enrichment. This finding is in line with boundary theory, which shows that as integration between domains increases, both conflict and enrichment increase (e.g., Ashforth et al,, 2000; Greenhaus & Powell, 2006). Interestingly, F-to-W integration only predicted F-to-W enrichment, but not F-to-W

conflict, meaning that F-to-W CT permeations might not negatively influence individuals as much as W-to-F permeations do. Instead, these findings suggest that F-to-W CT use positively influences recipients by transferring resources from family to work (Greenhaus & Powell, 2006).

Additionally, F-to-W integration was more strongly related to all forms of enrichment than was W-to-F integration (see Table 8), suggesting that the directionality of the CT permeation could influence whether the outcome is positive or negative. In other words, answering a phone call from a spouse while at work could be more beneficial than replying to an email from a co-worker while at home. This is consistent with previous WFE research, which shows a general trend of F-to-W enrichment being higher than W-to-F enrichment (see Greenhaus & Powell, 2006, for a summary of means).

To further explore the idea that F-to-W permeations may have better overall outcomes than do W-to-F permeations, additional positive and negative outcomes were examined. Interestingly, when compared with W-to-F CT use, F-to-W CT use was more strongly related to higher levels of overall performance and satisfaction (see Table 9). Furthermore, W-to-F CT use was related to psychological distress, whereas F-to-W CT use was not. All together, these findings indicate that F-to-W integration could be beneficial for employees. On the other hand, although W-to-F integration is still associated with WFE, individuals who allow permeations from W-to-F are more vulnerable to WFC. Although much of the work-family interface literature suggests that employees should segment roles to reduce WFC (e.g., Park et al., 2011; Ashforth et al., 2000), these data provide an interesting argument for increasing F-to-W CT use (e.g.,

encouraging contact with family members while employees are at work) as a way to improve employees' productivity and well-being.

9.1.3 Perceived Control as a Moderator

Although perceived control moderated the relationship between BMS and WFC, it did not moderate the relationship between BMS and WFE. This could indicate that control does not necessarily moderate the relationship, but rather acts simply as a predictor of WFE. Interestingly, however, in exploratory analyses examining more distal outcomes (i.e., performance, satisfaction, turnover intention), control was found to be a significant moderator in the W-to-F direction (Figures 6 and 7). Thus, as the literature suggests, ensuring that employees perceive control over the frequency and nature of W-to-F CT permeations (e.g., answering work phone calls while at home) can reduce the negative influence of such permeations on important work outcomes (Kossek et al., 2006; Table 12).

In the F-to-W direction, the moderating role of perceived control was the opposite of what was expected. That is, individuals with low perceived control experienced a decrease in F-to-W conflict as F-to-W integration increased. However, it appears that the unexpected relationship could be a result of a measurement issue. Specifically, as can be seen in Figure 4, the F-to-W conflict values for this moderation all fall below the neutral value (i.e., 3 = neither agree nor disagree). In other words, it appears that individuals are either not experiencing F-to-W conflict, or the present study's measure did not adequately detect variance in the construct. Thus, it is difficult to discern the true meaning of the relationship without a stronger measure of F-to-W conflict.

However, despite the limitations of this particular outcome measure, perceived control did moderate the relationship between F-to-W BMS and other outcomes as expected. Specifically, perceived control moderated the relationship between F-to-W BMS and work performance, family performance, and family satisfaction. This finding is consistent with boundary theory, which posits that individuals who feel capable of controlling how frequently they allow F-to-W permeations do not experience some of the negative outcomes generally associated with increased integration (Kossek et al., 2006; Tables 12 and 13).

9.1.4 Direct Influence of Perceived Control

In addition to moderating the relationship between BMS and outcomes, perceived control was also found to influence outcomes directly, regardless of the BMS employed. Specifically, exploratory analyses indicate that increased control is associated with reduced turnover intentions and lower levels of psychological distress. Additionally, increased perceptions of control can increase overall performance and satisfaction (see Table 9). Thus, to increase employees' WFE and decrease their WFC, organizations should allow employees to make autonomous decisions regarding how roles are integrated and segmented through CT use. In sum, the present study overwhelmingly supports previous findings that empowering employees with control over how they use CT to permeate boundaries yields more positive outcomes (e.g., Kossek et al., 2006; 2011).

9.1.4.1 Exploration of Outside Pressures

One particularly interesting contribution of the present study is the addition of outside pressures to Kossek and Lautsch's (2012) model. Although outside pressures have been suggested as a potential influence on perceptions of boundary control (Kossek & Lautsch, 2012), this is the first empirical investigation of the construct within the BMS model. According to the present study's findings, work pressures to integrate and family pressures to segment influence individuals' perceived control over boundaries. This provides further support that one's perception of boundary control—an important predictor of key outcomes—is influenced by environmental factors (Park et al., 2011; Valcour, 2007).

9.1.4.2 Implications for CT Policy

Because perceived control clearly plays a large role in the outcomes of boundary management, it is important to understand how individuals' perceptions of control are formed. The present study's exploration of outside pressures indicates that pressures from home (e.g., family demands) and work (e.g., CT policies) can strongly influence individuals' perceptions of control. Specifically, strictly standardized policies regarding CT use across boundaries seem to reduce perceived control, which is associated in turn with negative outcomes. Thus, organizations should carefully consider the extent to which implementing CT policies is worth taking crucial autonomy away from employees.

That is, although there might be a need within the organization to develop some form of CT policy in order to prevent cyberloafing and subsequent decreases in productivity, it is clear that some degree of freedom is necessary for employees to

achieve positive outcomes in both the work and home domains. Thus, a clear tension exists between the organization's need to restrict employees' CT use and the employees' need to control their own CT use according to individual preferences. As the present study suggests, organizations must navigate this tension with caution.

The most problematic situations would likely occur when employees face conflicting pressures from work and family. For instance, if an employee's organization expects her to respond to work emails after hours (i.e., W-to-F integration), whereas her family expects her full attention when she is at home (i.e., W-to-F segmentation), she cannot possibly appease both domains. As the present study's findings would suggest, this conflict would ultimately lead to lowered performance and well-being by reducing the employee's perceptions of control. In order to avoid such conflicts, organizations should be careful to not create pressure (whether through policy or culture) that conflicts with familial pressures.

Rather, CT policies should be clear and fair. For instance, the expectation that employees segment while at work (i.e., not answer F-to-W CT permeations) but integrate while at home (i.e., be responsive to W-to-F permeations) is likely to not be well received. However, setting a standard of complete segmentation or complete integration provides employees and their families a stable expectation and signals fairness to all involved.

9.2 Limitations and Future Research

Although the present study offers theoretical and practical implications, the project is not without limitations. The following section explores the limitations of the present study and offers suggestions for future research on boundary theory as it relates to CT use.

9.2.1 Third Party Outcomes

Specifically, the method of data collection used made it impossible to measure outcomes of co-workers and family members as they related to participants' CT use. As a surrogate for this measure, we asked participants to rate their own performance at work and at home based on how they believed their managers and spouses/ partners perceive them. Although self-report measures of performance have been found to be similar to other performance measures (Williams & Anderson, 1991), individuals are not always aware of, or willing to admit to, their true performance. Thus, future research should examine how individuals' BMS with regard to CT use influences those around them. Such research could draw on the cell phone etiquette and smartphone addiction literature, and could have implications for both home and work domains.

9.2.2 Common Method Variance

Because the present study used cross-sectional data, the results might be influenced by common method variance. This type of variance, which can be attributed to the measurement method rather then to actual variance on the constructs of interest, could introduce bias in the results. Although opinions vary regarding the severity of common method variance, it is likely to have at least some impact on the results of this study (Spector, 2006). Thus, in order to draw stronger conclusions in future research, longitudinal data regarding BMS for CT use should be collected.

9.2.3 Socioeconomic Status of Participants

In order to participate in the present study, individuals were required to own a smartphone that they frequently use. Although smartphones are increasingly prevalent and affordable (Google, 2012), they are still a luxury item that is unavailable to many

individuals. Thus, the focus of the present study inherently limited the population of interest as one with relatively high socioeconomic status. However, the current sample's demographics appear to be fairly representative of a broader income bracket, with 83.3% of participants earning a yearly salary of $25,000-$99,999. This indicates that socioeconomic status might not necessarily limit the generalizability of the present study's results.

9.2.4 MTurk Limitations

Although the subject pool of MTurk is very diverse, the MTurk community is still limited to a small subset of the general population (Mason & Suri, 2011). It is likely that the participants in the present study, although diverse in many ways (see Tables 2 and 3), could have a stronger affinity for technology than other individuals. Although we have no reason to believe that MTurkers' CT use would differ from that of other individuals, future research should replicate this study with a non-MTurk sample to ensure that the CT behaviors are generalizable outside of the MTurk community.

9.2.5 CT Ownership

Future research should continue to include measures of outside pressures, such as organizational policies for CT use, which seem to be influential in determining individuals' experiences of conflict and enrichment. Besides CT policies, other organizational factors likely influence employees' perceptions of boundary control regarding CT use. For instance, whether the CT device is purchased by the organization or by the employee could determine the employee's expectations regarding W-to-F and F-to-W permeations. Although this was considered, the scope of the present study did not

allow for a deeper exploration of this population. Thus, future research should more fully explore the influence of organizational ownership of smartphones.

9.2.6 Model Fit

The present study's results for the structural equation model yielded a CFI value of .92, which meets Hu and Bentler's (1999) cutoff criteria (CFI ≥ .90) for acceptable fit. However, recent trends in the literature show increasingly stringent criteria for model fit indices. Specifically, recent cutoff criteria have suggested that CFI values should fall at or above .95 (Hooper, Coughlan, & Mullen, 2008). Thus, the present study's results should be replicated in order to draw stronger conclusions regarding model fit.

CHAPTER 10. CONCLUSION

In summary, the present study focused on the role of technology in managing boundaries between work and family domains. In so doing, work-family interface theory was briefly explained, as well as the antecedents and outcomes of WFC and WFE. Because it has been suggested that WFC and WFE are influenced by individuals' boundary management styles (Ashforth et al., 2000), boundary theory was enlisted to explain how boundaries between work and family are created, managed and permeated. By exploring the role of technology in managing boundaries, the present study tested and extended the current theoretical model of boundary management styles. Results were largely supportive of the current model of boundary management. Practical applications were offered to assist organizations in developing policies regarding CT use both at home and at work.

TABLES

Table 1. Examples of Perceived Control and BMS Combinations

	Low Perceived Control	**High Perceived Control**
Integration BMS *Integrates school and paternal roles*	Despite John's protests, the principal at his school placed John's son in his classroom. His son often comes into his classroom when he is on a lunch break or grading papers between classes, even though John would rather be alone at those times. At home, John's son will ask him for extra help on homework, even when John is trying to rest or spend time with his wife.	There is no school-wide policy regarding how often he is allowed to interact with his son, but John enjoys seeing his son often while he is at work. His son also enjoys seeing John at school, and often drops by his father's office between classes or during lunch. At home, John will sometime ask his son for advice on activities to do for lessons, because he is roughly the same age as the rest of John's students.
Segmentation BMS *Separates school role from paternal role*	Despite John's desire to see his son more often at work, there is a school-wide policy to prevent parents from showing favoritism to their children. Thus, John is only allowed to briefly talk to his son between classes. However, John's son is embarrassed to talk to his father at school, so he purposefully does not walk past his classroom throughout the day. At home, if John tries discussing school with his son, his son changes the subject or ignores him.	There is no school-wide policy regarding how often he is allowed to interact with his son, but John tends to keep his work and family domains separate. His son knows that "dad" becomes "teacher" when he is at school, and never interrupts John while he is working. At home, John's family has an understanding that whatever happens at school stays at school, and that their home life is completely unrelated.

Note: Consider John, a schoolteacher who works at the school that his son attends. The above table describes what different combinations of BMS and perceived control might look like for him.

Table 2. General Demographics

	N	Percent
Sex		
Female	234	46.2
Male	271	53.5
Prefer not to say	2	.4
Age		
18-25	51	10.1
26-30	134	26.4
31-35	144	28.4
36-40	75	14.8
41-45	56	11.0
46-50	25	4.9
51-55	13	2.6
56-60	6	1.2
61-65	3	.6
Race		
EuroAmerican/ White	374	73.8
African American/ Black	43	8.5
Hispanic/ Latino	38	7.5
Asian/ Asian American	27	5.3
Indian/South Asian	7	1.4
Pacific Islander	4	.8
Native American	4	.8
Prefer not to say	10	2.0

Table 3. Professional Demographics

	N	Percent
Education		
Completed some high school	2	.4
High school diploma	119	23.5
College degree	299	59.0
Master's degree	68	13.4
Doctorate	15	3.0
Prefer not to say	4	.8
Income		
Less than $25,000	45	8.9
$25,000 - 49,999	201	39.6
$50,000 - 74,999	159	31.4
$75,000 - 99,999	54	10.7
$100,000 - 124,999	26	5.1
$125,000 - 149,999	4	.8
$150,000 - 174,999	2	.4
$175,000 - 199,999	3	.6
$200,000 or more	3	.6
Prefer not to say	10	2.0
Occupation		
Computer and Mathematical	66	13.0
Office and Administrative Support	66	13.0
Business and Financial Operations	54	10.7
Education, Training, and Library	46	9.1
Sales and Related	43	8.5
Management	42	8.3
Arts, Design, Entertainment, Sports, and Media	28	5.5
Healthcare Practitioners and Technical	23	4.5
Healthcare Support	20	3.9
Construction and Extraction	18	3.6
Architecture and Engineering	16	3.2
Community and Social Services	16	3.2
Military Specific	14	2.8
Life, Physical, and Social Science	12	2.4
Legal Occupations	9	1.8
Food preparation and Serving Related	7	1.4
Installation, Maintenance, and Repair	6	1.2
Other	21	4.2

Table 4. Descriptive Statistics for Predictors

	Min	Max	M	SD	Skew	Kurtosis
Predictors of BMS						
Preference for Integration						
W-to-F	1.00	5.00	1.80	.75	1.10	1.76
F-to-W	1.00	5.00	2.97	.91	.29	-.30
Overall	1.00	4.25	2.38	.60	.40	.17
Identity Centrality						
Work Centrality	1.00	5.00	3.26	.69	.10	.27
Family Centrality	1.75	5.00	4.23	.62	-.78	.93
Work Norms						
W-to-F Integration	1.00	5.00	3.07	.67	-.06	-.21
F-to-W Integration	2.00	5.00	3.53	.62	-.08	-.30
Overall Integration	2.06	4.88	3.30	.48	.08	-.09
Family Norms						
W-to-F Integration	1.00	5.00	3.01	.70	.17	-.24
F-to-W Integration	1.75	5.00	3.36	.61	.06	.01
Overall Integration	1.94	4.69	3.19	.52	.14	-.24
Work Pressures						
to Segment	1.00	5.00	2.19	.91	.64	-.16
to Integrate	1.00	5.00	2.69	.98	.05	-.69
Family Pressures						
to Segment	1.00	5.00	2.12	.75	.78	.94
to Integrate	1.00	5.00	2.93	.82	.02	-.13
BMS						
W-to-F Integration	1.00	5.00	2.89	.90	-.13	-.55
F-to-W Integration	1.25	5.00	3.81	.70	-.87	1.48
Overall Integration	1.13	5.00	3.35	.59	-.20	.46
Moderator						
Perceived Control	1.00	5.00	3.98	.66	-.72	1.63

Table 5. Descriptive Statistics for Outcomes

	Min	Max	M	SD	Skew	Kurtosis
Outcomes						
Conflict						
W-to-F	1.00	5.00	2.73	1.00	.22	-.71
F-to-W	1.00	5.00	2.23	.83	.57	-.07
Overall	1.00	5.00	2.48	.76	.18	-.34
Enrichment						
W-to-F	1.00	5.00	4.07	.72	-1.11	2.81
F-to-W	1.00	5.00	4.14	.67	-.83	2.07
Overall	1.00	5.00	4.10	.60	-.83	2.19
Performance						
Work	2.43	5.00	4.35	.52	-.45	-.29
Family	1.43	5.00	4.08	.66	-.71	.87
Satisfaction						
Work	1.00	5.00	3.36	.92	-.47	-.21
Family	1.00	5.00	4.16	.69	-.97	1.58
Life	1.00	5.00	3.69	.82	-.61	.37
Turnover Intention	1.00	5.00	2.53	1.16	.34	-.86
Psychological Distress	1.00	5.00	1.91	.77	.89	.47

Table 6. Correlations between Predictors

	1	2	3	4	5
Predictors of BMS					
Preference for Integration					
1. W-to-F	1.00				
2. F-to-W	.05	1.00			
3. Overall	.65**	.79**	1.00		
Identity Centrality					
4. Work Centrality	.14**	-.30**	-.14**	1.00	
5. Family Centrality	-.19**	.25**	.07	-.15**	1.00
Work Norms					
6. W-to-F Integration	.19**	-.02	.10*	.10*	-.03
7. F-to-W Integration	-.11**	.30**	.16**	-.15**	.17**
Family Norms					
8. W-to-F Integration	.17**	.03	.13**	.07	-.11*
9. F-to-W Integration	-.09*	.52**	.34**	-.23**	.23**
Work Pressures					
10. to Segment	-.08	-.18**	-.19**	.09*	-.15**
11. to Integrate	.13**	-.14**	-.03	.22**	-.09*
Family Pressures					
12. to Segment	.04	-.16**	-.10*	.10*	-.28**
13. to Integrate	-.07	.02	-.03	.05	-.01
BMS					
14. W-to-F Integration	.28**	-.15**	.06	.32**	-.14**
15. F-to-W Integration	-.12**	.18**	.06	-.15**	.29**
16. Overall Integration	.14**	-.01	.08	.16**	.06
Moderator					
17. Perceived Control	-.11*	-.04	-.10*	.09*	.28**

Table 6 continued.

	6	7	8	9	10	11	12	13	14	15	16
6)	1.00										
7)	.13**	1.00									
8)	.53**	.18**	1.00								
9)	.15**	.49**	.25**	1.00							
10)	-.10*	-.17**	.00	-.12**	1.00						
11)	.43**	-.13**	.32**	-.06	.12**	1.00					
12)	-.10*	-.21**	-.11*	-.22**	.42**	.14**	1.00				
13)	.19**	.10*	.20**	.20**	-.01	.30**	.23**	1.00			
14)	.47**	-.11*	.46**	-.04	-.08	.59**	.01	.19**	1.00		
15)	.13**	.32**	.12**	.39**	-.39**	-.03	-.29**	.24**	.06	1.00	
16)	.44**	.11*	.42**	.20**	-.29**	.44**	-.16**	.29**	.80**	.64**	1.00
17)	-.16**	.13**	-.19**	.03	-.10*	-.20**	-.13**	-.07	-.17**	.18**	-.02

Note. The above table reports Pearson's r correlation coefficients. ** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed).

Table 7. Correlations between Predictors and Key Outcomes

	Conflict			Enrichment		
	W-to-F	*F-to-W*	*Overall*	*W-to-F*	*F-to-W*	*Overall*
Predictors of BMS						
Preference for Integration						
W-to-F	.04	.12**	.09	-.10*	-.17**	-.15**
F-to-W	-.07	-.05	-.07	-.12**	-.10*	-.13**
Overall	-.03	.03	-.00	-.15**	-.18**	-.19**
Identity Centrality						
Work Centrality	.15**	.09	.14**	.15**	.17**	.18**
Family Centrality	-.19**	-.28**	-.28**	.19**	.28**	.27**
Work Norms						
W-to-F Integration	.40**	.13**	.33**	.06	.07	.07
F-to-W Integration	-.02	-.06	-.04	.12**	.13**	.15**
Family Norms						
W-to-F Integration	.39**	.20**	.37**	.05	-.01	.03
F-to-W Integration	.04	-.02	.02	.07	.10*	.10*
Work Pressures						
to Segment	.26**	.21**	.29**	-.12**	-.06	-.10*
to Integrate	.52**	.22**	.46**	.05	.04	.05
Family Pressures						
to Segment	.09*	.32**	.24**	-.12**	-.14**	-.15**
to Integrate	.29**	.26**	.33**	.05	.02	.04
BMS						
W-to-F Integration	.42**	.26**	.42**	.15**	.06	.12**
F-to-W Integration	-.03	-.06	-.05	.24**	.25**	.28**
Overall Integration	.30**	.16**	.29**	.24**	.19**	.26**
Moderator						
Perceived Control	-.24**	-.21**	-.27**	.13**	.27**	.23**

Note. The above table reports Pearson's r correlation coefficients. ** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed).

Table 8. Correlations between Predictors and Additional Outcomes

	Performance		**Satisfaction**			**Turnover**	**Psych.**
	Work	*Family*	*Work*	*Family*	*Life*	**Intention**	**Distress**
Predictors of BMS							
Preference for Integration							
W-to-F	-.15**	-.15**	.17**	-.11*	-.01	-.18**	-.04
F-to-W	.06	.12**	-.03	.21**	.16**	-.02	-.13**
Overall	-.05	-.01	.08	.09*	.11*	-.13**	-.12**
Identity Centrality							
Work Centrality	.05	-.04	.23**	.01	.07	-.18**	.05
Family Centrality	.39**	.50**	.08	.49**	.37**	-.08	-.16**
Work Norms							
W-to-F Integration	.00	-.15**	-.13**	.00	-.08	.17**	.21**
F-to-W Integration	.21**	.04	-.11*	.09*	-.05	.08	.08
Family Norms							
W-to-F Integration	-.02	-.16**	-.13**	-.15**	-.17**	.12**	.23**
F-to-W Integration	.17**	.14**	-.03	.14**	.04	-.02	.04
Work Pressures							
to Segment	-.24**	-.18**	-.25**	-.20**	-.20**	.23**	.13**
to Integrate	-.10*	-.25**	-.12**	-.08	-.09*	.14**	.15**
Family Pressures							
to Segment	-.35**	-.27**	-.07	-.23**	-.12**	.13**	.11*
to Integrate	-.02	-.19**	-.02	-.13**	-.08	.09*	.18**
BMS							
W-to-F Integration	-.08	-.19**	.05	-.04	-.05	.03	.13**
F-to-W Integration	.34**	.19**	.09*	.23**	.12**	.00	-.00
Overall Integration	.14**	-.03	.09*	.10*	.04	.02	.10*
Moderator							
Perceived Control	.29**	.32**	.17**	.31**	.25**	-.14**	-.15**

Note. The above table reports Pearson's r correlation coefficients. ** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

Table 9. Multiple Regression Predicting BMS

	B	**SE *B***	**β**	**t**	**p**
Overall BMS					
(constant)	.70	.27		2.61	.01
Preference for Integration	-.02	.04	-.02	-.44	.66
Work Centrality	.17	.03	.20**	4.98	.00
Family Centrality	.05	.03	.06	1.42	.16
Work Norms for Integration	.24	.06	.20**	4.16	.00
Family Norms for Integration	.35	.06	.31**	6.33	.00
W-to-F BMS					
(constant)	-.71	.22		-3.32	.00
Preference for W-to-F Integration	.17	.04	.14**	3.96	.00
Work Centrality	.34	.05	.26**	7.20	.00
Work Norms for W-to-F Integration	.37	.06	.28**	6.59	.00
Family Norms for W-to-F Integration	.35	.05	.27**	6.47	.00
F-to-W BMS					
(constant)	1.17	.24		4.95	.00
Preference for F-to-W Integration	-.06	.04	-.08	-1.74	.08
Family Centrality	.24	.05	.21**	5.17	.00
Work Norms for F-to-W Integration	.17	.05	.15**	3.38	.00
Family Norms for F-to-W Integration	.36	.06	.31**	6.15	.00

Note. For the regression predicting overall BMS, $F(5,501) = 30.70$, $p < .001$. For W-to-F BMS, $F(4,502) = 76.17$, $p < .001$. For F-to-W BMS, $F(4, 502) = 35.13$, $p < .001$. ** β value is significant at the .01 level.

Table 10. Correlations between Outcomes

	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Conflict												
1. W-to-F	1.00											
2. F-to-W	.37**	1.00										
3. Overall	.86**	.79**	1.00									
Enrichment												
4. W-to-F	-.02	-.07	-.05	1.00								
5. F-to-W	.02	-.11*	-.05	.48**	1.00							
6. Overall	.00	-.11*	-.06	.87**	.85**	1.00						
Performance												
7. Work	-.12**	-.35**	-.27**	.24**	.32**	.33**	1.00					
8. Family	-.38**	-.34**	-.43**	.16**	.19**	.20**	.40**	1.00				
Satisfaction												
9. Work	-.31**	-.07	-.24**	.18**	.15**	.19**	.12**	.23**	1.00			
10. Family	-.24**	-.26**	-.31**	.21**	.23**	.25**	.33**	.58**	.29**	1.00		
11. Life	-.31**	-.18**	-.30**	.14**	.13**	.15**	.19**	.43**	.51**	.68**	1.00	
12. Turnover Intention	.33**	.14**	.30**	-.10*	-.09*	-.11*	-.12**	-.23**	-.74**	-.19**	-.37**	1.00
13. Psych. Distress	.35**	.20**	.34**	.03	.03	.04	-.18**	-.33**	-.29**	-.34**	-.47**	.32**

Note. The above table reports Pearson's r correlation coefficients. ** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed).

Table 11. Hierarchical Regression: Moderation Predicting Key Outcomes

	Conflict			Enrichment		
	1	*2*	*3*	*1*	*2*	*3*
Overall						
Step 1: Overall BMS	.29**	.28**	.28	.26**	.27**	.27
Step 2: Perceived Control		-.26**	-.27		.23**	.24
Step 3: Overall BMS x Perceived Control			.02			-.05
R sq.	.08	.15	.15	.07	.12	.12
ΔR sq.		.07	.00		.05	.00
F	45.74	44.99	30.06	37.68	35.31	23.95
Significant ΔF	.00	.00	.57	.00	.00	.27
Work-to-Family						
Step 1: W-to-F BMS	.42**	.39**	.40*	.15**	.18**	.17
Step 2: Perceived Control		-.17**	-.16*		.16**	.15
Step 3: W-to-F BMS x Perceived Control			-.08*			.02
R sq.	.17	.20	.20	.02	.05	.05
ΔR sq.	.17	.03	.01	.02	.02	.00
F	105.77	63.65	43.98	11.62	12.10	8.14
Significant ΔF	.00	.00	.05	.00	.00	.607
Family-to-Work						
Step 1: F-to-W BMS	-.06	-.03**	-.03**	.25**	.21**	.21
Step 2: Perceived Control		-.20**	-.23**		.23**	.24
Step 3: F-to-W BMS x Perceived Control			.14**			-.04
R sq.	.00	.04	.06	.06	.11	.12
ΔR sq.		.04	.02		.05	.00
F	2.10	11.31	11.04	34.20	32.56	21.97
Significant ΔF	.15	.000	.00	.00	.00	.37

Note. The above table reports standardized Beta (β) values. ** ΔF is significant at the .01 level. * ΔF is significant at the .05 level.

Table 12. Hierarchical Regression: Moderation Predicting Work Outcomes

	Work Performance			**Work Satisfaction**			**Turnover Intention**		
	1	*2*	*3*	*1*	*2*	*3*	*1*	*2*	*3*
Overall BMS									
Step 1: Overall BMS	.14**	.15**	.16**	.09*	.10**	.09	.02	.02**	.03
Step 2: Perceived Control		.29**	.34**		.17**	.15		-.14**	-.13
Step 3: Overall BMS x Perceived Control			-.23**			.09			-.08
R sq.	.02	.11	.16	.01	.04	.05	.00	.02	.03
ΔR sq.		.09	.05		.03	.01		.02	.01
F	10.39	29.53	31.16	4.26	9.88	7.90	.29	5.41	4.78
Significant ΔF	.00	.00	.00	.04	.00	.05	.59	.00	.06
Work-to-Family BMS									
Step 1: W-to-F BMS	-.08	-.03**	-.02*	.05	.08**	.07*	.03	.01**	.02*
Step 2: Perceived Control		.28**	.30*		.18**	.17*		-.14**	-.13*
Step 3: W-to-F BMS x Perceived Control			-.10*			.09*			-.09*
R sq.	.01	.08	.09	.00	.03	.04	.00	.02	.03
ΔR sq.		.08	.01		.03	.01		.02	.01
F	3.04	23.04	17.35	1.22	9.08	7.52	.44	5.30	4.86
Significant ΔF	.08	.00	.02	.27	.00	.04	.51	.00	.05
Family-to-Work BMS									
Step 1: F-to-W BMS	.34**	.30**	.31**	.09*	.06**	.06	.00	.03**	.03
Step 2: Perceived Control		.24**	.28**		.16**	.15		-.15**	-.15
Step 3: F-to-W BMS x Perceived Control			-.24**			.02			-.02
R sq.	.12	.17	.22	.01	.03	.03	.00	.02	.02
ΔR sq.		.05	.05		.02	.00		.02	.00
F	65.55	51.02	47.92	4.15	8.44	5.69	.00	5.50	3.75
Significant ΔF	.00	.00	.00	.04	.00	.63	.96	.00	.61

Note. The above table reports standardized Beta (β) values. ** ΔF is significant at the .01 level. * ΔF is significant at the .05 level.

Table 13. Hierarchical Regression: Moderation Predicting Family and Life Outcomes

	Family Performance			Family Satisfaction			Life Satisfaction			Psychological Distress		
	1	*2*	*3*	*1*	*2*	*3*	*1*	*2*	*3*	*1*	*2*	*3*
Overall BMS												
Step 1: Overall BMS	-.03	-.03**	-.02	.10*	.11**	.12**	.04	.04**	.04	.10*	.09**	.10
Step 2: Perceived Control		.32**	.33		.31**	.34**		.25**	.26		-.15**	-.14
Step 3: Overall BMS x Perceived Control			-.08			-.13**			-.04			-.05
R sq.	.00	.10	.11	.01	.11	.12	.00	.07	.07	.01	.03	.03
ΔR sq.		.10	.01		.10	.02		.06	.00		.02	.00
F	.53	28.35	19.98	5.45	30.17	23.24	.64	17.45	11.83	4.64	8.10	5.83
Significant ΔF	.47	.00	.08	.02	.00	.00	.43	.00	.43	.03	.00	.26
Work-to-Family BMS												
Step 1: W-to-F BMS	-.19**	-.14**	-.14	-0.04	0.01**	0.02	-.05	-.00**	-.00	.13**	.10**	.11
Step 2: Perceived Control		.29**	.29		0.31**	0.32		.25**	.25		-.13**	-.13
Step 3: W-to-F BMS x Perceived Control			-.00			-0.08			-.00			-.04
R sq.	.04	.12	.12	.00	.10	.10	.00	.06	.06	.02	.03	.04
ΔR sq.		.08	.00		.09	.01		.06	.00		.02	.00
F	19.13	34.43	22.91	1.00	26.40	18.74	1.06	16.97	11.30	8.15	8.64	6.01
Significant ΔF	.00	.00	.92	.32	.00	.04	.30	.00	.93	.00	.00	.38
Family-to-Work BMS												
Step 1: F-to-W BMS	.19**	.14**	.14*	.23**	.18**	.18*	.12**	.08**	.08	-.03	.02**	.03
Step 2: Perceived Control		.29**	.31*		.28**	.29*		.24**	.25		-.16**	-.15
Step 3: F-to-W BMS x Perceived Control			-.10*			-.10*			-.05			-.04
R sq.	.04	.12	.13	.05	.12	.13	.01	.07	.07	.00	.02	.03
ΔR sq.		.08	.01		.07	.01		.06	.00		.02	.00
F	19.58	34.31	24.95	28.55	36.65	26.41	7.26	18.62	12.82	.01	6.00	4.27
Significant ΔF	.00	.00	.02	.00	.00	.02	.01	.00	.27	.95	.00	.37

Note. The above table reports standardized Beta (β) values. ** ΔF is significant at the .01 level. * ΔF is significant at the .05 level.

Table 14. Summary of Hypotheses and Support

	Hypothesis	Analysis	Evidence	Support
1	General boundary crossing preferences will be positively related to BMS for CT use such that:	SEM	Table 9; Figure 3	**Partial**
1a	Higher work-to family integration preferences will be associated with higher W-to-F CT integration.		A significant positive path coefficient was found between W-to-F integration preferences and W-to-F integration BMS for CT use (β = .14, $p < .05$).	**Yes**
1b	Higher F-to-W integration preferences will be associated with higher F-to-W CT integration.		A significant positive path coefficient was not found between F-to-W integration preferences and F-to-W integration BMS for CT use was not found (β = -.08, $p > .05$).	**No**
2	Identity will be related to BMS for CT use such that:	T-test	Table 9; Figure 3	**Yes**
2a	Work centric individuals will have greater W-to-F than F-to-W CT integration.		A significant t-test indicated that the mean value of W-to-F integration was higher for individuals with high high work centrality (M = 3.22) than it was for those with high family centrality (M = 2.48). Additionally, a significant positive path coefficient was found between work centrality and W-to-F BMS for CT use (β = .26, $p < .05$).	**Yes**
2b	Family-centric individuals will have greater F-to-W than W-to-F CT integration.		A significant t-test indicated that the mean value of F-to-W integration was higher for individuals with high high family centrality (M = 4.10) than it was for those with high family centrality (M = 3.22). Additionally, a significant positive path coefficient was found between family centrality and F-to-W BMS for CT use (β = .21, $p < .05$).	**Yes**

Table 14 continued.

	Hypothesis	Analysis	Evidence	Support
3	Work and family norms for integration will be related to BMS for CT use such that:	SEM	Table 9; Figure 3	**Yes**
3a	Higher work and family norms for W-to-F integration will be associated with higher W-to-F CT integration.		A significant positive path coefficient was found between work norms for W-to-F integration and W-to-F integration BMS for CT use ($\beta = .28$, $p < .05$). Additionally, a significant positive path coefficient was found between family norms for W-to-F integration and W-to-F integration BMS for CT use ($\beta = .27$, $p < .05$).	**Yes**
3b	Higher work and family norms for F-to-W integration will be associated with higher F-to-W CT integration.		A significant positive path coefficient was found between work norms for F-to-W integration and F-to-W integration BMS for CT use ($\beta = .15$, $p < .05$). Additionally, a significant positive path coefficient was found between family norms for F-to-W integration and F-to-W integration BMS for CT use ($\beta = .31$, $p < .05$).	**Yes**
4	BMS for CT use will be positively related to WFC and WFE such that:	SEM	Tables 7 & 9; Figure 3	**Partial**
4a	Higher W-to-F BMS for CT use will be associated with higher W-to-F conflict and W-to-F enrichment.		A significant positive path coefficient was found between W-to-F BMS for CT use and W-to-F conflict ($\beta = .20$, $p < .05$). Additionally, a significant positive path coefficient was found between W-to-F BMS for CT use and W-to-F enrichment ($\beta = .11$, $p < .05$).	**Yes**
4b	Higher F-to-W BMS for CT use will be associated with higher F-to-W conflict and F-to-W enrichment.		A significant positive path coefficient was not found between F-to-W BMS and F-to-W conflict ($\beta = .03$, $p > .05$). However, a significant positive path coefficient was found between F-to-W BMS and F-to-W enrichment ($\beta = .11$, $p < .05$).	**Partial**

Table 14 continued.

	Hypothesis	Analysis	Evidence	Support
5	Outside pressures and perceived control over CT use will be negatively related such that:	Correlation	Table 6	**Partial**
5a	The stronger the work pressures for integration, the lower perceived level of control over CT use across boundaries.		A significant negative correlation was found between work pressures to segment and perceived control ($r = -.10$, $p < .05$). Additionally, a significant negative correlation was found between work pressures to integrate and perceived control ($r = -.20$, $p < .01$).	**Yes**
5b	The stronger the family pressures for integration, the lower perceived level of control over CT use across boundaries.		A significant negative correlation was found between home pressures to segment and perceived control ($r = -.13$, $p < .01$). However, a significant negative correlation was not found between home pressures to integrate and perceived control ($r = -.07$, $p > .05$).	**Partial**
6	Perceived control over CT use across boundaries will be related to key outcomes such that:	Correlation	Table 7	**Yes**
6a	High perceived control will be associated with lower levels of WFC.		A significant negative correlation was found between perceived control and W-to-F conflict ($r = -.24$, $p < .01$) and F-to-W conflict ($r = -.205$, $p < .01$).	**Yes**
6b	High perceived control will be associated with higher levels of WFE.		A significant positive correlation was found between perceived control over CT use across boundaries and W-to-F enrichment ($r = .13$, $p < .01$) and F-to-W enrichment ($r = .27$, $p < .01$).	**Yes**

Table 14 continued.

	Hypothesis	Analysis	Evidence	Support
7	Perceived control over CT use will moderate the relationship between BMS over CT use and key outcomes such that:	Hierarchical Regression	Table 11; Figures 4, & 5	**Partial**
7a	The lower the control, the stronger the relationship between BMS over CT use and WFC (i.e., W-to-F conflict, F-to-W conflict)		Perceived control moderated the influence of W-to-F BMS on W-to-F conflict (β = -.08, p = .048) such that as W-to-F integration increased, individuals with low perceived control experienced more of an increase in W-to-F conflict than did individuals with high perceived control. Perceived control moderated the influence of F-to-W BMS on F-to-W conflict (β = .14, p = .002) in the opposite direction of what was expected. That is, as F-to-W integration decreased, individuals with low perceived control experienced an increase in F-to-W conflict, whereas individuals with high perceived control experienced a decrease in F-to-W conflict.	**Partial**
7b	The higher the control, the stronger the relationship between BMS over CT use and WFE (i.e., W-to-F enrichment, F-to-W enrichment).		No support.	**No**

Table 14 continued.

Hypothesis	Analysis	Evidence	Support
Further Analyses			
Additional Moderation Outcomes (Extension of Hypothesis 6)	Correlation	Table 8	**Yes**
High perceived control will be associated with lower levels of turnover intentions and psychological distress.		After support was shown for Hypothesis 6a, further analyses revealed negative correlations between perceived control and turnover intentions ($r = -.14$, $p < .01$) and psychological distress ($r = -.15$, $p < .01$).	**Yes**
High perceived control will be associated with higher levels of performance and satisfaction.		After support was shown for Hypothesis 6b, further analyses revealed positive correlations between perceived control and family performance ($r = .32$, $p < .01$), work performance ($r = .29$, $p < .01$), family satisfaction ($r = .31$, $p < .01$), job satisfaction ($r = .17$, $p < .01$), and life satisfaction ($r = .25$, $p < .01$).	**Yes**
Additional BMS Outcomes (Extension of Hypothesis 7)	Hierarchical Regression	Tables 12 & 13; Figures 6 & 7	**Partial**
The lower the control, the stronger the relationship between BMS over CT use and negative outcomes (i.e., turnover intentions, psychological distress).		After partial support was shown for Hypothesis 7a, further analyses revealed that perceived control moderated the influence of W-to-F BMS on turnover intentions ($\beta = -.09$, $p = .048$). However, there was no interaction between control and BMS on psychological distress.	**Partial**
The higher the control, the stronger the relationship between BMS over CT use and positive outcomes (i.e., family/ work performance, family/work/life satisfaction).		In order to extend Hypothesis 7b, further analyses revealed that perceived control moderated the influence of overall BMS on work performance ($\beta = -.23$, $p < .001$) and family satisfaction ($\beta = -.13$, $p = .004$). Perceived control moderated the influence of W-to-F BMS on work performance ($\beta = -.10$, $p = .019$) and work satisfaction ($\beta = .09$, $p = .039$). Perceived control moderated the influence of F-to-W BMS on family performance ($\beta = -.10$, $p = .018$), work performance ($\beta = -.24$, $p < .001$), and family satisfaction ($\beta = -.10$, $p = .021$).	**Partial**

FIGURES

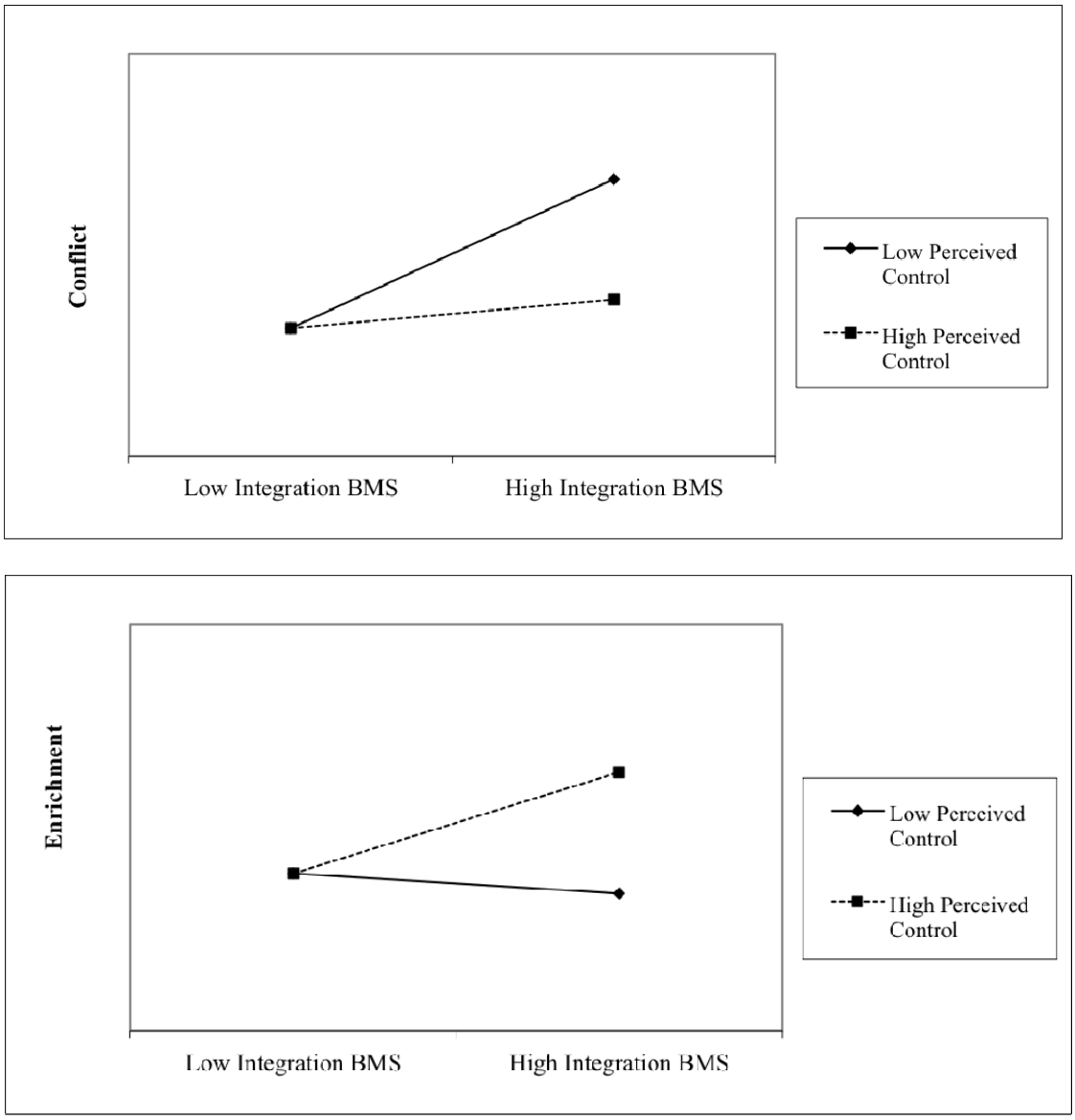


Figure 1. Hypothesized Moderation Predicting Conflict and Enrichment

Consider the example of the schoolteacher mentioned above (Table 1). The amount of control he perceives may influence the relationship between his BMS and outcomes. The above figure corresponds to Table 1 in describing the likely *outcomes* from each combination of BMS and degree of perceived control.

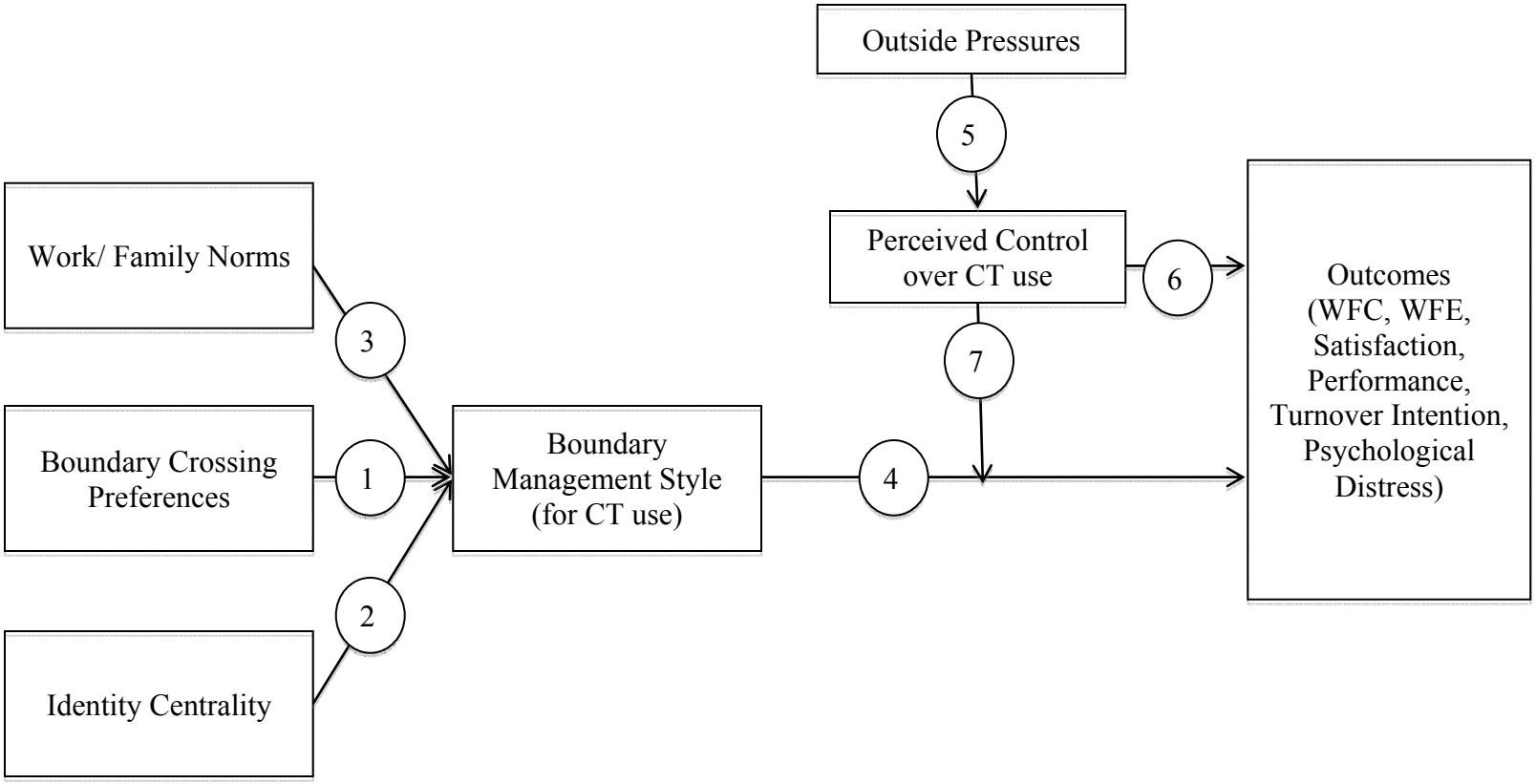


Figure 2. Boundary Management Style Model (adapted from Kossek & Lautsch, 2012)

The above model was used in the present study. Numbers on path coefficients correspond with hypotheses.

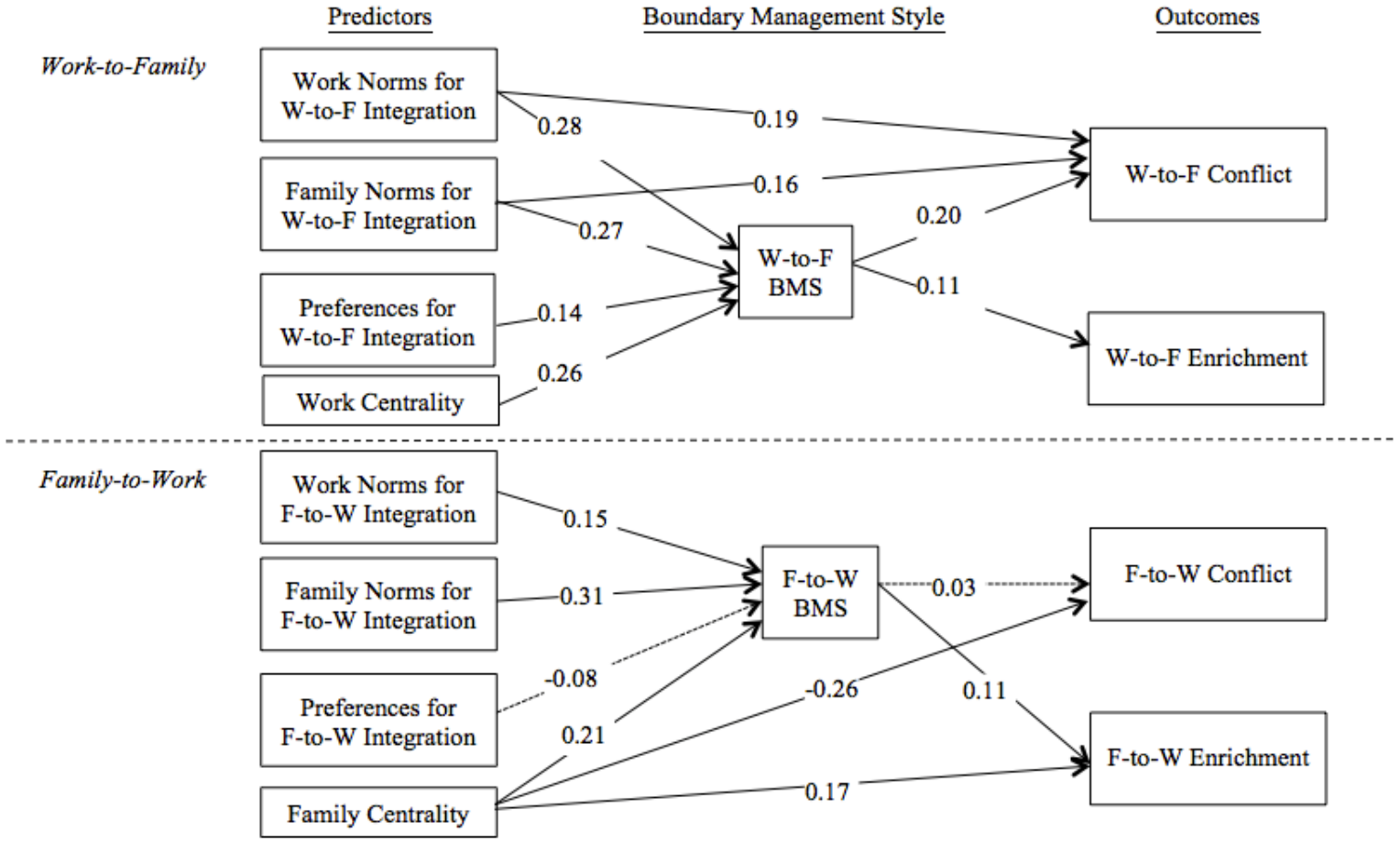


Figure 2. Structural Equation Model Results

The above figure presents the results from SEM analysis. Solid lines represent path coefficients significant at the .01 level. Dashed lines represent nonsignificant path coefficients. RMSEA = 0.084; CFI = 0.92; $X^2 = 194.90$, $p < .01$; df = 43

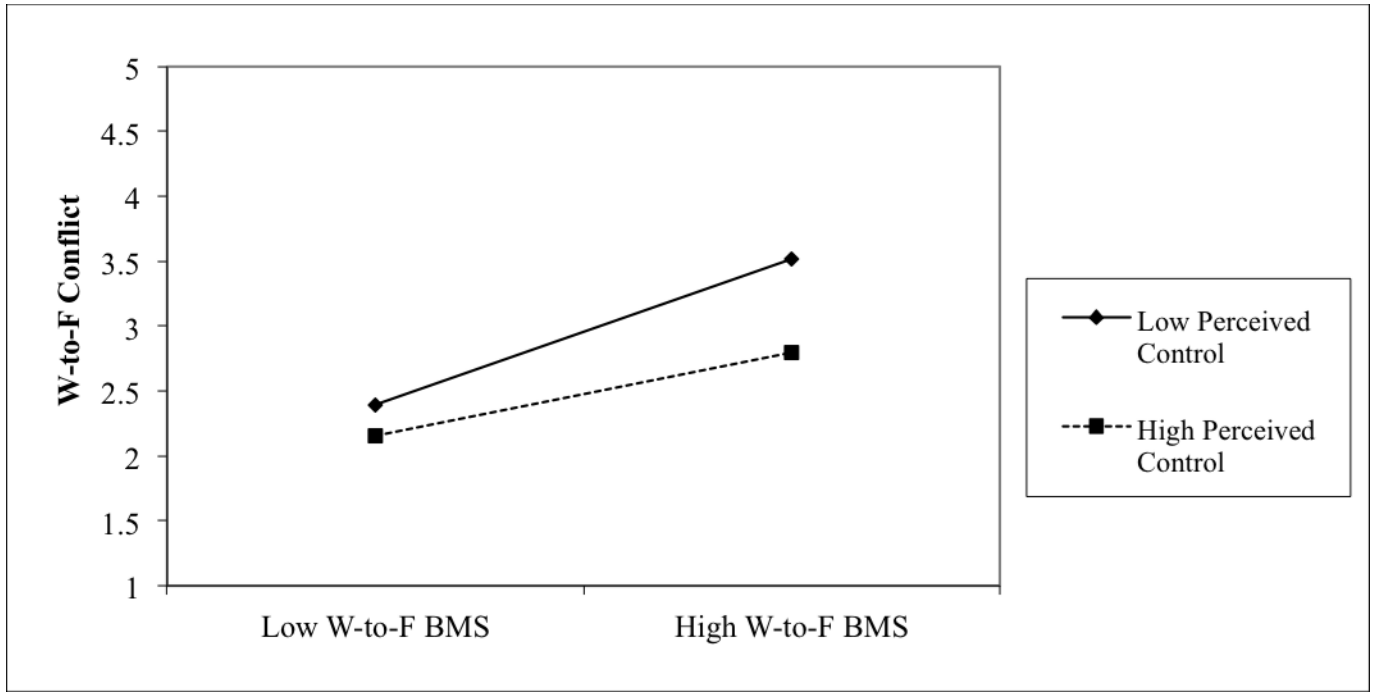


Figure 3. Moderation Predicting W-to-F Conflict

This figure displays the moderating influence of perceived control on BMS and conflict in the W-to-F direction. When compared to individuals who perceive low control over boundaries, individuals who perceive high control experience less W-to-F conflict as W-to-F integration increases.

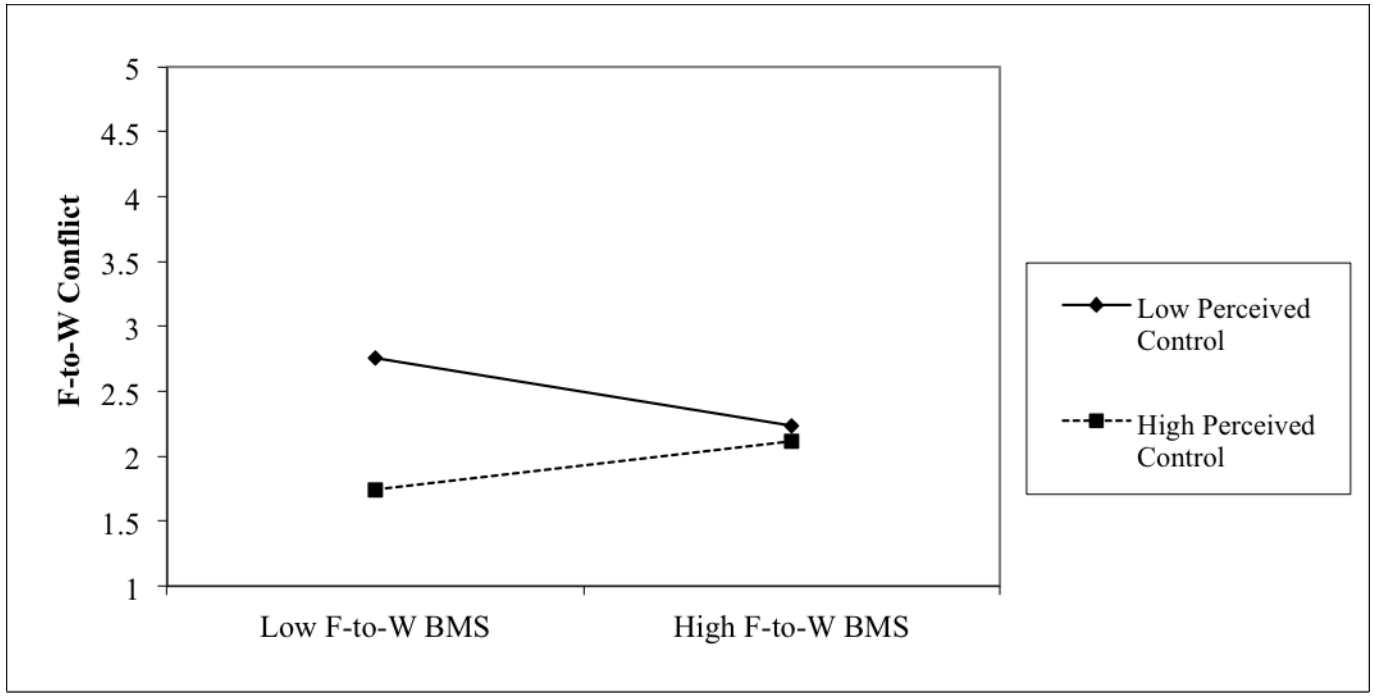


Figure 4. Moderation Predicting F-to-W Conflict

This figure displays the moderating influence of perceived control on BMS and conflict in the F-to-W direction. When compared to individuals who perceive low control over boundaries, individuals who perceive high control experience less F-to-W conflict as F-to-W integration decreases.

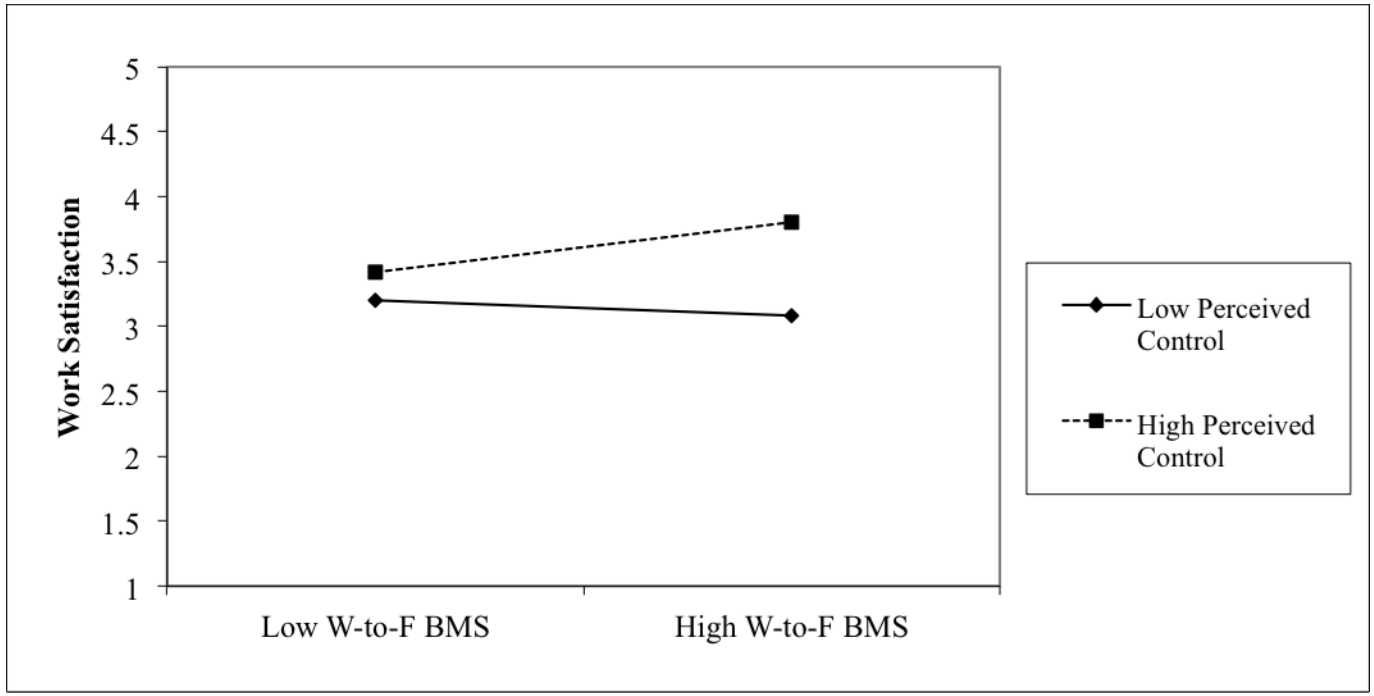


Figure 5. Moderation Predicting Work Satisfaction

This figure displays the moderating influence of perceived control on BMS and work satisfaction in the W-to-F direction. When compared to individuals who perceive low control over boundaries, individuals who perceive high control experience higher work satisfaction as W-to-F integration increases.

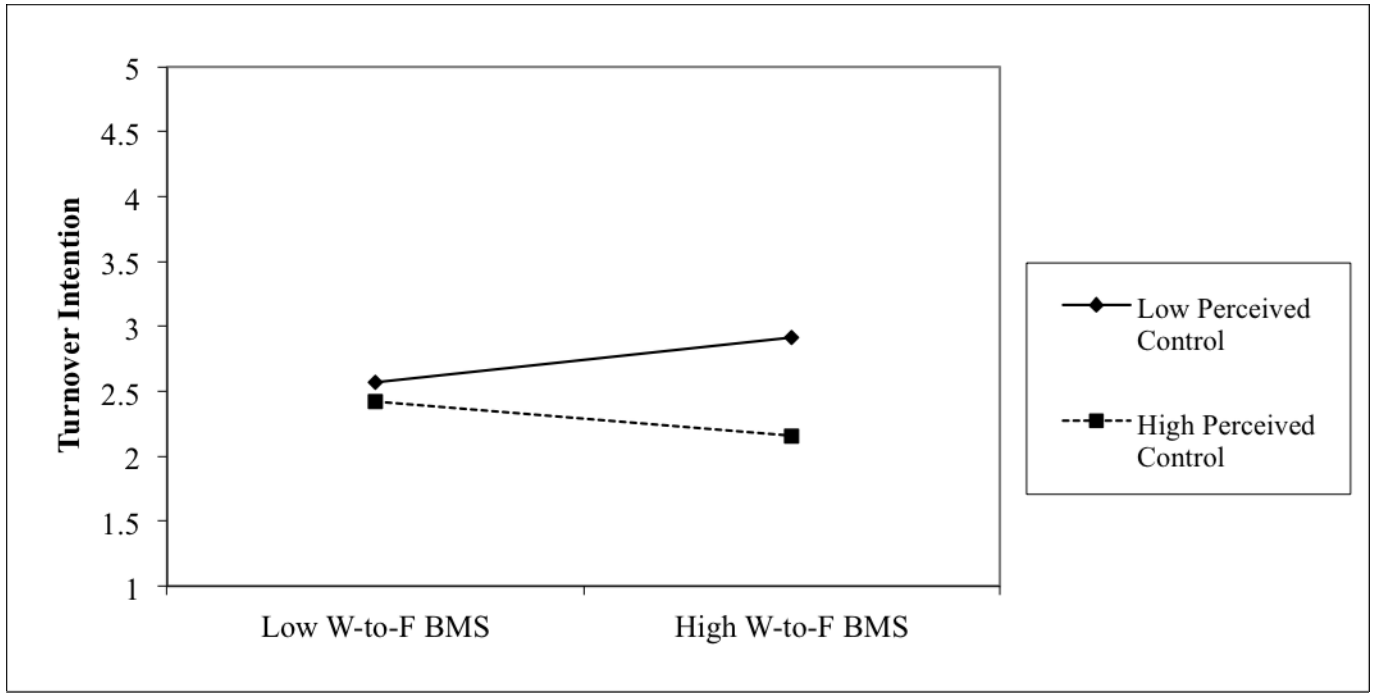


Figure 6. Moderation Predicting Turnover Intention

This figure displays the moderating influence of perceived control on BMS and turnover intentions in the W-to-F direction. When compared to individuals who perceive low control over boundaries, individuals who perceive high control report lower turnover intentions as W-to-F integration increases.

REFERENCES

REFERENCES

Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Sage.

Allen, T. D., Herst, D. E., Bruck, C. S., & Sutton, M. (2000). Consequences associated with work-to-family conflict: A review and agenda for future research. *Journal of Occupational Health Psychology, 5*, 278-308.

Anderson, S. E., Coffey, B. S., & Byerly, R. T. (2002). Family organizational initiatives and informal workplace practices: Links to work-family conflict and job-related outcomes. *Journal of Management, 28*, 787-810.

Ashforth, B. E., Kreiner, G. E., & Fugate, M. (2000). All in a day's work: Boundaries and micro role transitions. *Academy of Management Review, 25*, 472-491.

Baral, R., & Bhargava, S. (2010). Work-family enrichment as a mediator between organizational interventions for work-life balance and job outcomes. *Journal of Managerial Psychology*, *25*(3), 274-300.

Bedeian, A. G., Burke, B. G., & Moffett, R. G. (1988). Outcomes of work-family conflict among married male and female professionals. *Journal of Management, 13*(3), 475-491.

Boswell, W. R., & Olson-Buchanan, J. B. (2007). The use of communication technologies after hours: The role of work attitudes and work-life conflict. *Journal of Management, 33*, 592- 610.

Buhrmester, M. D., Kwang, T., & Gosling, S. D. (2011). Amazon's Mechanical Turk: A new source of inexpensive, yet high-quality data? *Perspectives on Psychological Science,* 6(1), 3-5.

Burke, R. J. (1988). Some antecedents and consequences of work-family conflict. *Journal of Social Behavior and Personality, 3*, 287-302.

Byron, K. (2005). A meta-analytic review of work-family conflict and its antecedents. *Journal of Vocational Behavior, 67*(2), 169-198.

Chen, D. J. Q., & Lim, V. K. G. (2009, April). Impact of cyber loafing on affect, work depletion, facilitation, and engagement. Paper presented at the 24th Annual Conference of the Society of Industrial and Organizational Psychology, New Orleans, LA.

Clark, S. C. (2000). Work/family border theory: A new theory of work/family balance. *Human Relations, 53*(6), 747-770.

Colarelli, S. M. (1984). Methods of communication and mediating processes in realistic job previews. *Journal of Applied Psychology*, *69*(4), 633.

D'Abate, C. P., & Eddy, E. R. (2007). Engaging in personal business on the job: Extending the presenteeism construct. *Human Resource Development Quarterly, 18*(3), 361-383.

Diaz, I., Chiaburu, D. S., Zimmerman, R. D., & Boswell, W. R. (2012). Communication technology: Pros and cons of constant connection to work. *Journal of Vocational Behavior, 80*, 500-508.

Diener, E. D., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment*, *49*(1), 71-75.

Dierdorff, E. C., & Ellington, J. K. (2008). It's the nature of the work: Examining behavior- based sources of work-family conflict across occupations. *Journal of Applied Psychology, 93*, 883-892.

Duxbury, L. (2004). Dealing with work-life issues in the workplace: Standing still is not an option. Presented at the Don Wood Lecture in Industrial Relations, Ontario, Canada.

Eby, L. T., Casper, W. J., Lockwood, A., Bordeaux, C., & Brinley, A. (2005). Work and family research in IO/OB: Content analysis and review of the literature (1980–2002). *Journal of Vocational Behavior*, *66*(1), 124-197.

Eisenberger, R., Armeli, S., Rexwinkel, B., Lynch, P. D., & Rhoades, L. (2001). Reciprocation of perceived organizational support. *Journal of Applied Psychology*, *86*(1), 42-51.

Frone, M. R., Russell, M., & Barnes, G. M. (1996). Work–family conflict, gender, and health-related outcomes: A study of employed parents in two community samples. *Journal of Occupational Health Psychology*, *1*(1), 57.

Frone, M. R., Russell, M., & Cooper, M. L. (1992). Prevalence of work–family conflict: Are work and family boundaries asymmetrically permeable? *Journal of Organizational Behavior*, 13, 723–729.

Frone, M. R., Russell, M., & Cooper, M. L. (1997). Relation of work-family conflict to health outcomes: A four-year longitudinal study of employed parents. *Journal of Occupational & Organizational Health Psychology, 1*, 57-69.

Google. (2012, May). *Our mobile planet: United States*. Accessed January 15, 2014. Retrieved from http://www.thinkwithgoogle.com/mobileplanet/en/

Greenhaus, J. H., & Powell, G. N. (2006). When work and family are allies: A theory of work-family enrichment. *Academy of Management Review*, *31*(1), 72-92.

Greenhaus, J., & Beutell, N. (1985). Sources of conflict between work and family roles. *Academy of Management Review, 10,* 76-88.

Grzywacz, J. G., & Butler, A. B. (2005). The impact of job characteristics on work-to-family facilitation: Testing a theory and distinguishing a construct. *Journal of Occupational Health Psychology*, *10*(2), 97-109.

Hall, D. T., & Richter, J. (1988). Balancing work life and home life: What can organizations do to help? *Academy of Management Executive*, 2: 213-223.

Hooper, D., Coughlan, J., & Mullen, M. R. (2008). Structural equation modeling: Guidelines for determining model fit. *Electronic Journal of Business Research Methods, 6*(1), 53-60.

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

Jones, A. P., & Butler, M. C. (1980). Influences of cognitive complexity on the dimensions underlying perceptions of the work environment. *Motivation and Emotion, 4*, 1-19.

Karasek Jr, R. A. (1979). Job demands, job decision latitude, and mental strain: Implications for job redesign. *Administrative Science Quarterly*, 285-308.

Karlson, A., Meyers, B., Jacobs, A., Johns, P., & Kane, S. (2009). Working overtime: Patterns of smartphone and PC usage in the day of an information worker. In H. Tokuda, M. Beigl, A. Friday, A. Brush, and Y. Tober (Eds.), Pervasive Computing (pp. 398-405). Heidelberg: Springer Berlin.

Keith, P. M., & Schafer, R. B. (1980). Role strain and depression in two-job families. *Family Relations, 29*, 483-488.

Kessler, R. C., Andrews, G., Colpe, L. J., Hiripi, E., Mroczek, D. K., Normand, S. L. T., … & Zaslavsky, A. M. (2002). Short screening scales to monitor population prevalences and trends in non-specific psychological distress. *Psychological Medicine*, *32*(6), 959-976.

Kossek, E. E., & Lautsch, B. A. (2012). Work–family boundary management styles in organizations: A cross-level model. *Organizational Psychology Review*, *2*(2), 152-171.

Kossek, E. E., & Ozeki. C. (1998). Work-family conflict, policies, and the job-life relationship: A review and directions for organizational behavior-human resources research. *Journal of Applied Psychology, 83*, 139-149.

Kossek, E. E., Colquitt, J. A., & Noe, R. A. (2001). Caregiving Decisions, Well-Being, and Performance: The Effects of Place and Provider as a Function of Dependent Type and Work-Family Climates. *Academy of Management Journal*, *44*(1), 29-44.

Kossek, E. E., Lautsch, B. A., & Eaton, S. C. (2006). Telecommuting, control, and boundary management: Correlates of policy use and practice, job control, and work family effectiveness. *Journal of Vocational Behavior*, *68*(2), 347-367.

Kossek, E. E., Pichler, S., Bodner, T., & Hammer, L. B. (2011). Workplace social support and work-family conflict: A meta-analysis clarifying the influence of general and work-family-specific supervisor and organizational support. *Personnel Psychology*, *64*(2), 289-313.

Kossek, E. E., Ruderman, M. N., Braddy, P. W., & Hannum, K. M. (2012). Work-nonwork boundary management profiles: A person-centered approach. *Journal of Vocational Behavior, 81*(1), 112-128.

Kreiner, G. E. (2006). Consequences of work-home segmentation or integration: a person-environment fit perspective. *Journal of Organizational Behavior*, *27*(4), 485-507.

Major, D. A., & Germano, L. M. (2006) The changing nature of work and its impact on the work-home interface. In F. Jones, R. Burke, & M. Westman (Eds.), Work-life balance: A psychological perspective (pp. 13-38). London: Psychology Press.

Makinson, P., Hundley, S., Feldhaus, C., & Fernandez, E. (2012). "Mobile communications anytime, anywhere: The impact on work-life balance and stress," FIE, pp.1-6, Frontiers in Education Conference Proceedings.

Mason, W., & Suri, S. (2012). Conducting behavioral research on Amazon's Mechanical Turk. *Behavior Research Methods, 44*(1), 1-23.

McNall, L. A., Masuda, A. D., & Nicklin, J. M. (2009). Flexible work arrangements, job satisfaction, and turnover intentions: The mediating role of work-to-family enrichment. *The Journal of Psychology*, *144*(1), 61-81.

Middleton, C. A., & Cukier, W. (2006). Is mobile email functional or dysfunctional? Two perspectives on mobile email usage. *European Journal of Information Systems, 15*, 252-260.

Muller, T., & Pope, S. (2011, 09 10). Apple launches iPad 2. *Apple Press Information*. Accessed October 12, 2013. Retrieved from http://www.apple.com/pr/library/2011/03/02Apple-Launches-iPad-2.html

Netemeyer, R. G., Boles, J. S., & McMurrian, R. (1996). Development and validation of work-family conflict and family-work conflict scales. *Journal of Applied Psychology, 81,* 400-409.

O'Driscoll, M. P., Ilgen, D. R., & Hildreth, K. (1992). Time devoted to job and job activities, interrole conflict and affective experiences. *Journal of Applied Psychology, 77*, 272-279.

Olson-Buchanan, J. B., & Boswell, W. R. (2006). Blurring boundaries: Correlates of integration and segmentation between work and nonwork. *Journal of Vocational Behavior, 68*, 432-445.

Paolacci, G., Chandler, J., & Ipeirotis, P. G. (2010). Running experiments on Amazon Mechanical Turk. *Judgment and Decision Making, 5,* 411-419.

Park, Y., & Jex, S. M. (2011). Work-home boundary management using communication and information technology. *International Journal of Stress Management, 18*(2), 133-152.

Park, Y., Fritz, C., & Jex, S. M. (2011). Relationships between work-home segmentation and psychological detachment from work: The role of communication technology use at home. *Journal of Occupational Health Psychology, 16*(4), 457-467.

Poposki, E. M. (2011). The blame game: Exploring the nature and correlates of attributions following work–family conflict. *Group & Organization Management*, *36*(4), 499-525.

Rainie, L. (2012). Tablet and e-book reader ownership nearly double over the holiday gift-giving period. *Pew Internet and American Life Project*. Accessed October 30, 2013. Retrieved from http://www.pewinternet.org/Reports/2012/E-readers-and-tablets.aspx

Seery, B. L., Corrigall, E. A., & Harpel, T. (2008). Job-related emotional labor and its relationship to work-family conflict and facilitation. *Journal of Family and Economic Issues*, *29*(3), 461-477.

Settles, I. H. (2004). When multiple identities interfere: The role of identity centrality. *Personality and Social Psychology Bulletin*, *30*(4), 487-500.

Smith, A. (2012). 46% of American adults are smartphone owners. *Pew Internet and American Life Project*. Accessed October 30, 2013. Retrieved from http://www.pewinternet.org/~/media//Files/Reports/2012/Smartphone ownership 2012.pdf

Spector, P. E. (2006). Method variance in organizational research: Truth or urban legend? *Organizational Research Methods, 9*(2), 221-232.

Stevens, D. P., Minnotte, K. L., Mannon, S. E., & Kiger, G. (2007). Examining the "neglected side of the work-family interface" Antecedents of positive and negative family-to-work spillover. *Journal of Family Issues*, *28*(2), 242-262.

Thoits, P. A. (1991). On merging identity theory and stress research. *Social Psychology Quarterly*, 101-112.

Towers, I., Duxbury, L., Higgins, C., & Thomas, J. (2006). Time thieves and space invaders: technology, work and the organization. *Journal of Organizational Change Management*, *19*(5), 593-618.

Valcour, M. (2007). Work-based resources as moderators of the relationship between work hours and satisfaction with work-family balance. *The Journal of applied psychology*, *92*(6), 1512.

Valcour, P. M., & Hunter, L. W. (2005). Technology, organizations, and work-life integration. In E. E. Kossek & S. J. Lambert's (Eds.), Work and life integration: Organizational, cultural, and individual perspectives: 61-84. Mahwah, NJ: Lawrence Erlbaum.

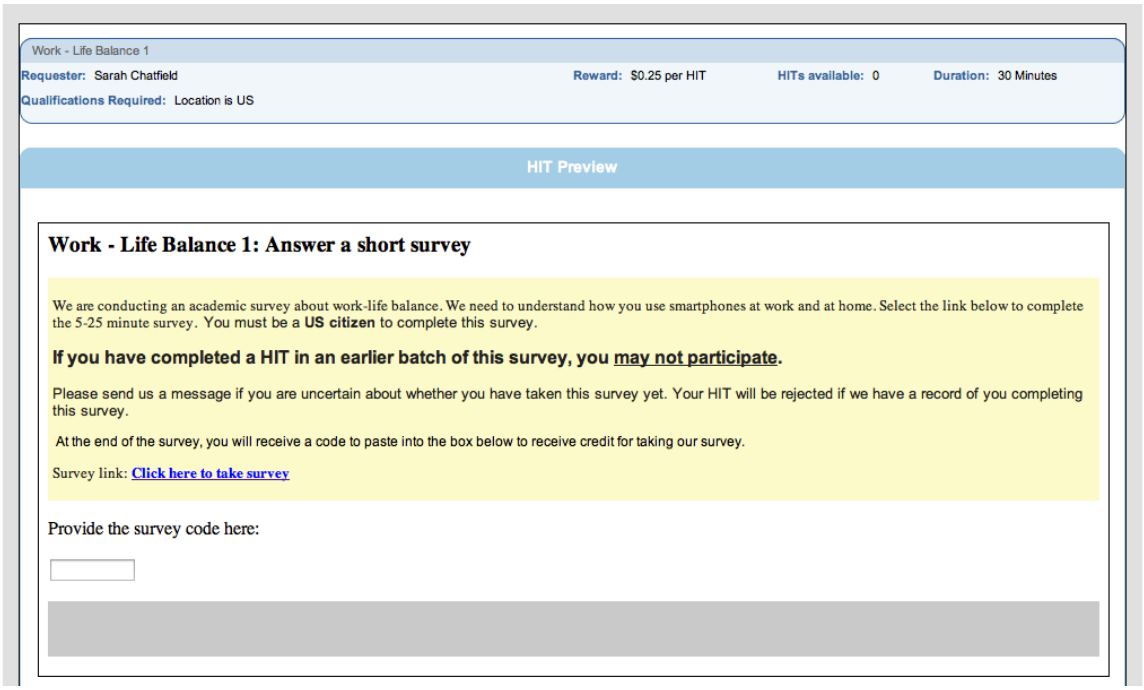
van Steenbergen, E. F., Ellemers, N., & Mooijaart, A. (2007). How work and family can facilitate each other: Distinct types of work-family facilitation and outcomes for women and men. *Journal of Occupational Health Psychology*, *12*(3), 279.

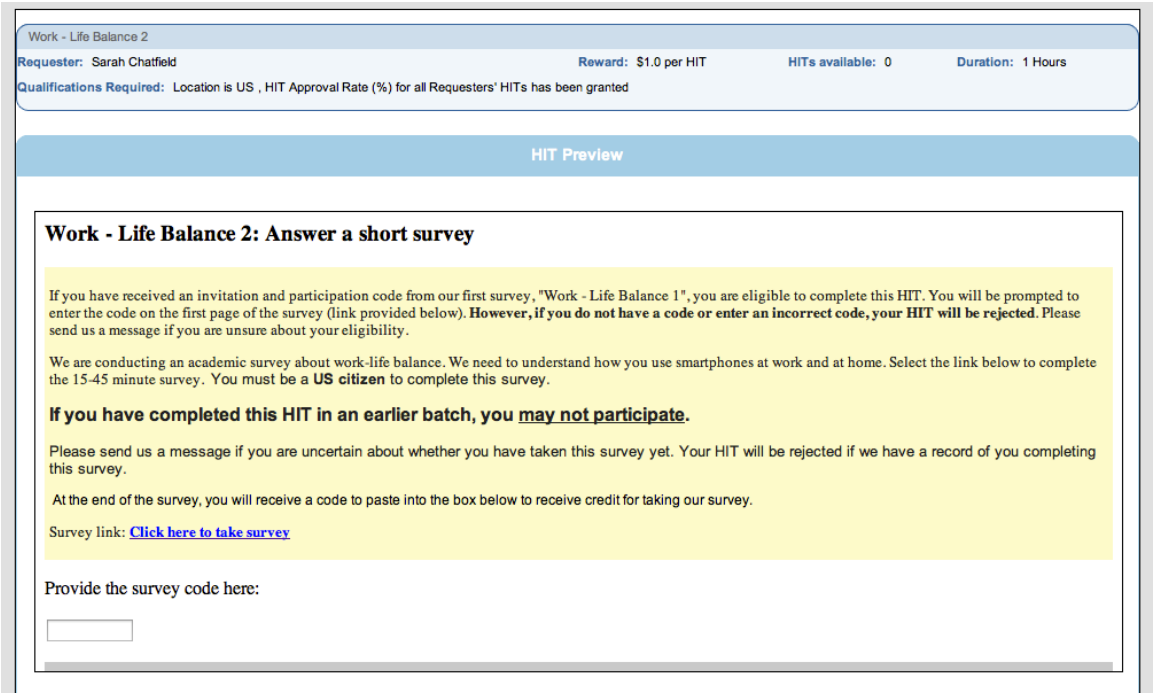
Wayne, J. H., Randel, A. E., & Stevens, J. (2006). The role of identity and work–family support in work–family enrichment and its work-related consequences. *Journal of Vocational Behavior*, *69*(3), 445-461.

Williams, L. J., & Anderson, S. E. (1991). Job satisfaction and organizational commitment as predictors of organizational citizenship and in-role behaviors. *Journal of Management*, *17*(3), 601-617.

APPENDICES

Appendix A MTurk Interface





Appendix B Survey Consent Form

Smartphone Survey Part 1

INDIANA UNIVERSITY STUDY INFORMATION SHEET

You are invited to participate in a research study of how individuals use technology to balance work and family roles. You were selected as a possible subject because you are an MTurk worker. We ask that you read this form and ask any questions you may have before agreeing to be in the study.

The study is being conducted by The Balance Lab, Department of Psychology, IUPUI.

STUDY PURPOSE

The purpose of this study is to understand the impact of using smartphones both at work and at home. Specifically, we are interested in how smartphones can be used as a tool to balance responsibilities for work and family life.

PROCEDURES FOR THE STUDY:

If you agree to be in the study, you will do the following things:

You will respond to a survey about your behaviors at home and at work. The survey should take you about 20 – 40 minutes to complete, and most of the items are questions that you might be asked in everyday conversation. When you are finished with the survey, you will be given a code that you can enter into MTurk to verify that you have participated.

CONFIDENTIALITY

Efforts will be made to keep your personal information confidential. We cannot guarantee absolute confidentiality. Your personal information may be disclosed if required by law. Your identity will be held in confidence in reports in which the study may be published

Organizations that may inspect and/or copy your research records for quality assurance and data analysis include groups such as the study investigator and his/her research associates, the Indiana University Institutional Review Board or its designees, the study sponsor, (IUPUI), and (as allowed by law) state or federal agencies.

PAYMENT

You will receive $1.00 for taking part in this study. Within 48 hours of entering your code into MTurk (to verify that you have participated), your responses will be reviewed. Once they are approved, you will receive your compensation from MTurk.

CONTACTS FOR QUESTIONS OR PROBLEMS

For questions about the study, contact The Balance Lab at 317-274-2961 or balancelabiupui@gmail.com.

For questions about your rights as a research participant or to discuss problems, complaints or concerns about a research study, or to obtain information, or offer input, contact the IU Human Subjects Office at (317) 278-3458 or (800) 696-2949.

VOLUNTARY NATURE OF STUDY

Taking part in this study is voluntary. You may choose not to take part or may leave the study at any time. Leaving the study will not result in any penalty or loss of benefits to which you are entitled. Your decision whether or not to participate in this study will not affect your current or future relations with IUPUI.

* Please select "Continue" to indicate that you agree to the terms of this study.

- ○ Continue
- ○ Exit

Page 1

Appendix C Survey

Smartphone Survey Part 1

The data from this survey will be used to help researchers understand how individuals manage the boundaries between work and family.

In order to ensure that all participants give accurate responses, reliability items will be included in the survey, which will ask you to select a specific response. In order to receive your reward for participating in the study, please respond accordingly.

If you are redirected to a disqualification page, please return the HIT. Otherwise, your HIT will not be accepted.

Thank you for your participation!

Smartphone Survey Part 1

***What is your gender?**

- Male
- Female
- Prefer not to say

***What is your age (in years)?**

***What is your race/ethnicity?**

- African American/Black
- Asian/Asian American
- Hispanic/Latino
- Pacific Islander
- Native American
- EuroAmerican/White
- Indian/South Asian
- Prefer not to say

Other (please specify)

***What is the highest level of education you have completed?**

- Completed some high school
- High school degree
- College degree
- Master's degree
- Doctorate (PhD, professional doctorate, such as MD or JD, or other doctorate degree)
- Prefer not to say

***What was your personal annual income before taxes in 2012?**

***Which of the following categories best describes your current occupation?**

Other (please specify)

Smartphone Survey Part 1

***About how many hours per week do you work?**

- Less than 10 hours
- 10 - 19 hours
- 20 - 29 hours
- 30 - 39 hours
- 40 - 49 hours
- 50 - 59 hours
- 60 or more hours

***In a typical workweek, where do you work?**

- I primarily work from an office
- I work equal amounts in both an office and another location (e.g., coffeeshop, home, etc.)
- I primarily work from another location (e.g., coffeeshop, home, etc.)

***Please indicate which of the following benefits are available to you in your job, and whether or not you currently use each benefit.**

	NOT available	Available, but I DON'T currently use this benefit	Available, and I DO currently use this benefit
Flexible scheduling			
Compressed work week (e.g., 4 x 10 hour shifts)			
Working from home			
Part time work			
On-site child care center			
Money for local child care			
Child care information/referral services			
Paid maternity leave			
Paid paternity leave			
Elder care benefits			

Comments

Smartphone Survey Part 1

***How often do you use a smartphone?**

- I do not own a smartphone
- Once a month
- Once a week
- Twice a week
- Once a day
- Multiple times a day
- Almost constantly

Smartphone Survey Part 1

*** Does your organization pay your smartphone bill (i.e., monthly fees)?**

- Yes
- No

Other (please specify)

*** Do you pay your smartphone bill (i.e., monthly fees) with your own money?**

- Yes
- No

Other (please specify)

*** Do you live with a spouse/partner?**

- Yes
- No

*** About how many hours per week does your spouse/partner work?**

- I do not have a spouse/partner
- My partner/spouse is not employed
- Less than 10 hours
- 10 - 19 hours
- 20 - 29 hours
- 30 - 39 hours
- 40 - 49 hours
- 50 - 59 hours
- More than 60 hours

Smartphone Survey Part 1

***How old are the children living in your home? (select all that apply)**

- ☐ Not Applicable
- ☐ Younger than 2 years
- ☐ 2-5 years old
- ☐ 6-12 years old
- ☐ 13-15 years old
- ☐ 16-18 years old

Smartphone Survey Part 1

***To what extent do you agree with the following statements?**

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
I don't like to have to think about work while I'm at home.	○	○	○	○	○
I prefer to keep work life at work.	○	○	○	○	○
I don't like work issues creeping into my home life.	○	○	○	○	○
I like to be able to leave work behind when I go home.	○	○	○	○	○

Smartphone Survey Part 1

***To what extent do you agree with the following statements?**

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
People see me as highly focused on my work.	○	○	○	○	○
I invest a large part of myself in my work.	○	○	○	○	○
The major satisfactions in my life come from my job.	○	○	○	○	○
The most important things that happen to me involve my job.	○	○	○	○	○

Smartphone Survey Part 1

***In my WORKPLACE, people...**

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
Forget about work when they're at home.	○	○	○	○	○
Keep work matters at work.	○	○	○	○	○
Prevent work issues from creeping into their home life.	○	○	○	○	○
Mentally leave work behind when they go home.	○	○	○	○	○
Respond to communications from work (e.g., email, texts, phone calls) while they are at home.	○	○	○	○	○
Take time away from their families to get their work done	○	○	○	○	○
Talk about work with their families	○	○	○	○	○
Get advice from family on work issues	○	○	○	○	○

***Select never for this item?**

○ Never ○ Occasionally ○ Sometimes ○ Often ○ Always

Smartphone Survey Part 1

***In my WORKPLACE, people...**

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
Forget about family while they're at work.	○	○	○	○	○
Keep family matters at home.	○	○	○	○	○
Prevent family issues from creeping into their work life.	○	○	○	○	○
Mentally leave family behind when they go to work.	○	○	○	○	○
Respond to communications from family (e.g., emails, texts, phone calls) while they are at work	○	○	○	○	○
Take time away from their work to deal with family matters.	○	○	○	○	○
Talk about family with their coworkers	○	○	○	○	○
Get advice from coworkers on family issues	○	○	○	○	○

Smartphone Survey Part 1

***To what extent do you agree with the following statements?**

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
I would suffer negative consequences at work if I used my smartphone to communicate (e.g., text, email, call) with family members while at work.	○	○	○	○	○
My organization has a policy prohibiting me from using my smartphone to communicate with family members while I am at work.	○	○	○	○	○
My organization does not pressure me to respond to email or other communications outside work hours.	○	○	○	○	○
My organization does not allow me to send work communications from my home computer or my smartphone while I am at home.	○	○	○	○	○

***To what extent do you agree with the following statements?**

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
I would suffer negative consequences at work if I ignored smartphone communication (e.g., text, email, call) from co-workers while at home.	○	○	○	○	○
My job requires me to be accessible by smartphone outside of my regular work hours.	○	○	○	○	○
Because of pressures from my organization, I feel like I have to involve my family in my work life.	○	○	○	○	○
My organization expects me to deal with family members as needed while I am at work.	○	○	○	○	○

Smartphone Survey Part 1

***To what extent do you agree with the following statements?**

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
I respond to work-related smartphone communications (e.g., emails, texts, phone calls) during my personal time away from work.	○	○	○	○	○
I use my smartphone to do work during my vacations.	○	○	○	○	○
I do not allow work to interrupt me on my smartphone when I spend time with my family or friends.	○	○	○	○	○
I usually bring work materials with me on my smartphone when I attend personal or family activities.	○	○	○	○	○

Smartphone Survey Part 1

***To what extent do you agree with the following statements?**

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
The demands of my work interfere with my home and family life.	○	○	○	○	○
The amount of time my job takes up makes it difficult to fulfill family responsibilities.	○	○	○	○	○
Things I want to do at home do not get done because of the demands my job puts on me.	○	○	○	○	○
My job produces strain that makes it difficult to fulfill family duties.	○	○	○	○	○
Due to work-related duties, I have to make changes to my plans for family activities.	○	○	○	○	○

Smartphone Survey Part 1

***To what extent do you agree with the following statements?**

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
Having a good day at work makes me a better family member when I get home.	○	○	○	○	○
Having a successful day at work puts me in a good mood to better handle my family responsibilities.	○	○	○	○	○
I feel more confident at home when I feel that I am being successful at work.	○	○	○	○	○

Smartphone Survey Part 1

*** My SUPERVISOR would state that...**

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
I adequately complete assigned duties.	○	○	○	○	○
I fulfill responsibilities specified in the job description.	○	○	○	○	○
I perform tasks that are expected of me.	○	○	○	○	○
I meet formal performance requirements of the job.	○	○	○	○	○
I engage in activities that will directly affect my performance evaluation.	○	○	○	○	○
I neglect aspects of the job I am obligated to perform.	○	○	○	○	○
I fail to perform essential duties.	○	○	○	○	○

Smartphone Survey Part 1

***To what extent do you agree with the following statements?**

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
I frequently think of quitting my job.	○	○	○	○	○
I am planning to search for a new job during the next 12 months.	○	○	○	○	○
If I get another job that pays as well, I will quit this job.	○	○	○	○	○

Smartphone Survey Part 1

***To what extent do you agree with the following statements about your job?**

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
In most ways my job is close to ideal.	○	○	○	○	○
The conditions of my job are excellent.	○	○	○	○	○
I am satisfied with my job.	○	○	○	○	○
So far I have gotten the important things I want in my career.	○	○	○	○	○
If I could change my job, I would not change much.	○	○	○	○	○

Smartphone Survey Part 1

***To what extent do you agree with the following statements?**

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
I don't like to have to think about my family while I'm at work.	○	○	○	○	○
I prefer to keep my family life at home.	○	○	○	○	○
I don't like family issues creeping into my work life.	○	○	○	○	○
I like to be able to leave home behind when I go to work.	○	○	○	○	○

Smartphone Survey Part 1

***To what extent do you agree with the following statements?**

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
People see me as highly focused on my family.	○	○	○	○	○
I invest a large part of myself in my family life.	○	○	○	○	○
The major satisfactions in my life come from my family.	○	○	○	○	○
The most important things that happen to me involve my family.	○	○	○	○	○

Smartphone Survey Part 1

***In my FAMILY, people...**

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
Forget about work when they're at home.	○	○	○	○	○
Keep work matters at work.	○	○	○	○	○
Prevent work issues from creeping into their home life.	○	○	○	○	○
Mentally leave work behind when they go home.	○	○	○	○	○
Respond to communications from work (e.g., email, texts, phone calls) while they are at home.	○	○	○	○	○
Take time away from their families to get their work done	○	○	○	○	○
Talk about work with their families	○	○	○	○	○
Get advice from family on work issues	○	○	○	○	○

***Will you choose only every once in awhile for this item?**

- ○ Never would I do this
- ○ It is highly unlikely that I would do this
- ○ Only every once in awhile would I do this
- ○ I might occasionally do this
- ○ I would do this very often

Smartphone Survey Part 1

***In my FAMILY, people...**

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
Forget about family while they're at work.	○	○	○	○	○
Keep family matters at home.	○	○	○	○	○
Prevent family issues from creeping into their work life.	○	○	○	○	○
Mentally leave family behind when they go to work.	○	○	○	○	○
Respond to communications from family (e.g., emails, texts, phone calls) while they are at work.	○	○	○	○	○
Take time away from their work to deal with family matters.	○	○	○	○	○
Talk about family with their coworkers	○	○	○	○	○
Get advice from coworkers on family issues.	○	○	○	○	○

Smartphone Survey Part 1

***To what extent do you agree with the following statements?**

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
I would suffer negative consequences from my family if I used my smartphone to communicate (e.g., text, email, call) with co-workers while at home.	○	○	○	○	○
My family has a policy prohibiting me from using my smartphone to do work while I am at home.	○	○	○	○	○
My family does not pressure me to respond to email or other communications when I am at work.	○	○	○	○	○
My family does not want me to send family communications from my work computer or my smartphone while I am at work.	○	○	○	○	○

***To what extent do you agree with the following statements?**

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
I would suffer negative consequences from my family if I ignored smartphone communication (e.g., text, email, call) from family members while at work.	○	○	○	○	○
My family requires me to be accessible by smartphone while I am at work.	○	○	○	○	○
Because of pressures from my family, I must involve my work in my home life.	○	○	○	○	○
My family expects me deal with work matters as needed while I am at home.	○	○	○	○	○

Smartphone Survey Part 1

***To what extent do you agree with the following statements?**

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
I take care of personal or family needs using my smartphone during work.	○	○	○	○	○
I respond to personal smartphone communications (e.g., emails, texts, phone calls) during work.	○	○	○	○	○
I do not use my smartphone for my family, friends, or personal interests while working so I can focus.	○	○	○	○	○
I monitor personal-related smartphone communications (e.g., emails, texts, phone calls) when I am working.	○	○	○	○	○

Smartphone Survey Part 1

***To what extent do you agree with the following statements?**

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
The demands of my family interfere with work-related activities.	○	○	○	○	○
I have to put off doing things at work because of demands on my time at home.	○	○	○	○	○
Things I want to do at work don't get done because of the demands of my family or spouse/partner.	○	○	○	○	○
My home life interferes with my responsibilities at work such as getting to work on time, accomplishing daily tasks, and working overtime.	○	○	○	○	○
Family-related strain interferes with my ability to perform job-related duties.	○	○	○	○	○

Smartphone Survey Part 1

***To what extent do you agree with the following statements?**

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
Having a good day at home makes me a better employee when I get to work.	○	○	○	○	○
Having a successful day at home puts me in a good mood to better handle my work responsibilities.	○	○	○	○	○
I feel more confident at work when I feel that I am being successful at home.	○	○	○	○	○

Smartphone Survey Part 1

*** My SPOUSE/ PARTNER would state that...**

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
I contribute enough to the care of my children.	○	○	○	○	○
I fulfill his/her expectations in our relationship.	○	○	○	○	○
I perform tasks that are expected of me at home.	○	○	○	○	○
I do my part to maintain a healthy relationship with him/her.	○	○	○	○	○
I provide emotional support for him/her.	○	○	○	○	○
I put my needs in front of my family's needs.	○	○	○	○	○
I neglect some of my family responsibilities.	○	○	○	○	○

Smartphone Survey Part 1

***To what extent do you agree with the following statements about your family?**

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
In most ways my family is close to ideal.	○	○	○	○	○
My family dynamics are excellent.	○	○	○	○	○
I am satisfied with my family.	○	○	○	○	○
When it comes to my family, I have gotten the important things I want.	○	○	○	○	○
If I could change my family, I would change almost nothing.	○	○	○	○	○

Smartphone Survey Part 1

***To what extent do you agree with the following statements?**

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
When I use my smartphone, I can control to what extent I keep my work and personal life separate.	○	○	○	○	○
When I use my smartphone, I control to what extent I have clear boundaries between my work and personal life.	○	○	○	○	○
When I use my smartphone, I control whether I combine my work and personal life activities throughout the day.	○	○	○	○	○

Smartphone Survey Part 1

*** During the last month (30 days), how often did you feel...**

	Never	Rarely	Sometimes	Often	Always
So depressed that nothing could cheer you up?	○	○	○	○	○
Hopeless?	○	○	○	○	○
Restless or fidgety?	○	○	○	○	○
That everything was an effort?	○	○	○	○	○
Worthless?	○	○	○	○	○
Nervous?	○	○	○	○	○

Smartphone Survey Part 1

***To what extent do you agree with the following statements about your life?**

	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
In most ways my life is close to ideal.	○	○	○	○	○
The conditions of my life are excellent.	○	○	○	○	○
I am satisfied with my life.	○	○	○	○	○
So far I have gotten the important things I want in life.	○	○	○	○	○
If I could live my life over, I would change almost nothing.	○	○	○	○	○

Appendix D Proposal

Managing invisible boundaries:

How “smart” is cell phone use in the work and home domains?

Sarah Chatfield

Thesis Proposal

Indiana University- Purdue University Indianapolis

CHAPTER 1. INTRODUCTION

Communication technologies (CT), such as smartphones and tablet personal computers, have become increasingly affordable and available in recent years, resulting in a steep increase in CT product ownership (Google, 2012; Smith, 2012; Muller & Pope, 2011). Moreover, the prevalence of CT ownership and use in society has been influential in altering the physical, temporal and psychological nature of work and home domains (Major & Germano, 2006; Valcour & Hunter, 2005). Specifically, the boundaries between work and home domains have increasingly blurred as a result of CT use and the ever-changing workplace environment. This blurring of boundaries potentially allows for more positive spillover between work and life domains. However, blurred boundaries can also threaten the delicate balance between roles, introducing more possibilities for interrole conflict. Because of the rapidly changing nature of CT, the degree and nature of CT's impact on the work-family interface has not yet been sufficiently explored. As a result, it is yet unknown under which circumstances CT use results in work-family conflict (WFC) or work-family enrichment (WFE).

However, individuals' experiences of interrole conflict and enrichment have been broadly explored in the boundary theory literature. Therefore, researchers have made some progress in explaining general trends and preferences that individuals report regarding their home and work behaviors. Despite these efforts, this area of research is

still in its infancy. As such, the overall framework of boundary theory offers insight into how individuals manage roles, but still lacks evidence of direct application to specific behaviors or communication media.

Therefore, the present study seeks to specifically examine the impact of technology in permeating the boundaries between individuals' work and family domains. The first goal will be to explore predictors of the boundary management styles people use with respect to CT (i.e., how individuals use CT products to manage the boundaries between work and home domains). The second goal will be to examine outcomes in the work and family domains that could result from these varying CT use boundary management styles. Toward this end, a broad review of the WFC and WFE literatures will first be provided. Then, boundary theory and boundary management styles will be described as they relate to WFC and WFE. Following this review, relevant CT trends will be explored and then related to previous research regarding the work family interface and boundaries. Finally, an integrative model for CT use and boundary management will be introduced, as well as a proposed study to test the model.

By exploring the role of technology in managing boundaries, the present study will test and extend the current theoretical model of boundary management styles. Whereas previous models have focused specifically on antecedents (e.g., segmentation/ integration preferences) or consequences (e.g., WFC, psychological distress, job performance) of permeation behaviors, the present study will incorporate both predictors and outcomes. In order to do so, the present study uses a model from Kossek and Lautsch's (2012) recent work on boundary management and flex-styles, which allows for more specificity in predicting behaviors than do previous models of boundary

management. Additionally, the present study will extend the current theoretical framework by including situational factors (e.g., family expectations) and by measuring the effects of boundary management on the outcomes of family members and/or work members. This understanding could ultimately assist organizations in developing policies regarding CT use both at home and at work (e.g., telecommuting, cyberloafing, and off-the-clock labor).

CHAPTER 2. WORK FAMILY INTERFACE

The interface between work and family domains can involve both negative and positive interactions. The negative interaction between work and family roles is described as work-family conflict (WFC), and has been thoroughly explored by researchers in the past 25 years (e.g., Greenhaus & Beutell, 1985). Although conflict has typically received more attention in the literature, interest in the positive side of the work-family interface has recently increased. Work-family enrichment (WFE) describes the positive effects of spillover between domains. Both WFC and WFE will be reviewed in this section, as they have implications both for individuals' well-being and for work and family performance outcomes.

2.1 Work-Family Conflict

WFC describes the interference of one domain (e.g., work) into the other domain (e.g., family). Specifically, WFC is experienced when an individual is unable to fully participate in one domain as a result of participating in another domain (Greenhaus & Beutell, 1985). Interrole conflict can be categorized as time-based, strain-based, or behavior-based (Greenhaus & Beutell, 1985). Time-based conflict occurs when the time commitment of one domain interferes with events in the other domain (e.g., being late to work because a child is sick, missing a child's piano recital because of a business trip). Strain-based conflict results from the strain in one domain imposing on another domain

(e.g., being argumentative with a spouse because of a stressful situation at work, disrespecting a subordinate because of a conflict at home). Behavior-based conflict, which has not been as prominent in recent literature (Dierdorff & Ellington, 2008), occurs when one is expected to behave differently in the work and home domains (e.g., being loving and patient with a child at home, yet assertive and headstrong with a partner at work).

Although WFC was previously conceptualized as bi-directional, now it is understood that work-to-family conflict and family-to-work conflict are distinct, yet related, forms of interrole conflict (O'Driscoll, Ilgen, & Hidreth, 1992). Work-to-family conflict occurs when the work domain interferes with the family domain. For instance, conflict in this direction is experienced when a parent is unable to practice baseball with their child because they have to work on a project over the weekend. Family-to-work conflict occurs when the family domain interferes with the work domain. An example of this is when a parent cannot come to work because their child is sick. Work-to-family conflict has been more popular in the literature (Netemeyer, Boles & McMurrian, 1996), possibly because of the more visible effects of such conflict. That is, individuals are more likely to blame the work domain for invading the family domain when making attributions for WFC (Poposki, 2011) and work-to-family conflict is more strongly associated with negative consequences (Eby, Casper, Lockwood, Bordeaux, & Brinley, 2005). However, it is important to include both family-to-work conflict and work-to-family conflict in research, as interference between domains can undoubtedly occur in both directions (O'Driscoll et al., 1992).

2.1.1 Antecedents and Outcomes of WFC

Regardless of the nature of individual conflicts, WFC has far-reaching effects for individuals both in the work and home domains, necessitating a more thorough understanding of its antecedents and outcomes.

Antecedents to WFC in the work domain include variables such as the number of hours worked (Keith & Shafer, 1980), work load (Burke, 1988), autonomy in work, and task challenge (Jones & Butler, 1980). In the home domain, family involvement (Frone, Russell, & Cooper, 1992) and development stage of family (Keith & Shafer, 1980) are also antecedents to the experience of WFC. Additionally, individual differences such as positive coping skills and self-esteem can buffer against the negative effects of WFC (Allen, Herst, Bruck, & Sutton, 2000; Byron, 2005).

Just as many factors contribute to WFC, the outcomes of WFC are also multi-dimensional. Particularly of interest to employers, the outcomes of WFC in the work domain include higher turnover intentions, job stress and absenteeism (Anderson, Coffey, & Byerly, 2002). Additionally, WFC is related to lower overall job satisfaction (Bedeian, Burke & Moffett, 1988; Kossek & Ozeki, 1998). In the family domain, WFC has been associated with lower marital satisfaction (Bedeian et al., 1998) and family performance (Frone, Russell, & Cooper, 1992). Individually, WFC has been linked to depression and poor physical health (Frone et al., 1992; Frone, Russell & Barnes, 1996; Frone et al., 1997). Furthermore, overall life satisfaction is negatively related with WFC (Bedeian et al., 1988; Kossek & Ozeki, 1998), highlighting the importance of understanding how to prevent or ameliorate the effects of WFC.

2.2 Work Family Enrichment

The work and family domains can also interact in a positive way. Work-family enrichment occurs when participation in one domain enhances one's ability to perform in the other domain (Greenhaus & Powell, 2006). Unlike conflict, where resources are drained, enhancement involves an increase in resources that help an individual to perform. As a psychological construct, WFE is focused on the individual level. That is, WFE reflects an individual's personal experience and quality of life rather than organizational outcomes.

Greenhaus and Powell's (2006) model of WFE lists five types of resources that can be produced in one role and subsequently influence one's experience in another role. These resources include: 1) skills and perspectives, 2) psychological and physical resources, 3) social-capital resources, 4) flexibility, and 5) material resources. The presence of these resources in one domain (e.g., work) can promote positive affect and performance in another domain (e.g., home) via instrumental and affective paths. The instrumental path describes the direct transfer of a resource from one domain into another domain. The affective path is utilized when a resource generated in one domain promotes positive affect within that domain, which also promotes positive affect and high performance in the other domain (Greenhaus & Powell, 2006).

2.2.1 Antecedents and Outcomes of WFE

Compared to WFC, the positive aspects of interrole interactions in general have not been well explored. However, some antecedents and outcomes of WFE have been found.

In the home domain, family cohesion and relationship satisfaction in men (Stevens, Minotte, Mannon, & Kiger, 2007) have been found to predict WFE. Additionally, relationship management (Seery, Corrigall, & Harpel, 2008) and emotion-work satisfaction (Stevens et al., 2007) are both associated with increased WFE. Resource-rich jobs, autonomy in job, and variety in a job (Grzywacz & Butler, 2005) have also been found to predict WFE. Also in the work domain, supervisor support is positively related to WFE (Baral & Bhargava, 2010). Antecedents of WFE in the home domain include informal or emotional support (Wayne, Randel, & Stevens, 2006). Finally, at the individual level, the strength of an individual's identity (Wayne et al., 2006) is predictive of WFE.

WFE has been linked to outcomes in the work, family, and personal domains. In the work domain, WFE has a negative relationship with job search behaviors (van Steenbergen, Ellemers & Mooijaart, 2007), and a positive relationship with job satisfaction and affective commitment (McNall, Masuda, & Nicklin, 2009; Wayne et al., 2006). In the family domain, WFE is associated with family satisfaction (McNall et al., 2009). Individually, WFE is linked to physical and mental health outcomes (McNall et al., 2009).

Despite the limited amount of research on WFE, it is clear that WFC and WFE both have strong implications for behavioral outcomes in multiple domains. In order to more fully understand the interaction of life roles (i.e., WFC, WFE), researchers have begun examining how individuals distinguish between the work and family domains as well as how each domain is brought into conflict with the other domain. Boundary theory

explains this dynamic process in more depth (Ashforth, Kreiner & Fugate, 2000; Clark, 2000).

CHAPTER 3. BOUNDARY THEORY

Boundary theory (also referred to as "border theory"; Clark, 2000) is a relatively recent model for understanding the intangible lines that mark the scope of responsibilities and behaviors for family and work domains (Ashforth et al., 2000; Clark, 2000). Boundaries between domains can be conceptualized much like borders between countries on a globe. As such, they demarcate the territories of separate domains, creating limits to the size of each domain in the overall life-space.

Work-family boundaries may be physical, temporal, or psychological in nature (Clark, 2000). Physical boundaries refer to physical separations between domains, providing a special separation of domain-relevant behavior. For example, work may be performed within the walls of an office whereas family activities may take place within the home. Temporal boundaries divide one's time between domains, dictating when (in terms of clock-time) the individual takes on each role. For example, a telecommuter might make a strict schedule for work so that the end of a shift allows for a firm transition into making dinner for his or her family. Lastly, psychological boundaries are rules that individuals create for themselves to dictate which thought processes and behaviors belong within each domain. For instance, a correctional officer may display aggressive conflict management behaviors at work, yet display calm problem solving strategies when interacting with a significant other.

Boundaries can also be described by their degree of flexibility and permeability. Boundary flexibility refers to the degree to which a boundary can contract or expand, depending on the demands of each domain (Clark, 2000). For instance, a telecommuter who can work in any location has a flexible physical boundary around the work domain. Boundary permeability refers to the extent to which elements from other domains can enter (Clark, 2000). For example, an individual who works with his or her spouse might experience frequent permeations of family issues into the work domain.

Importantly, boundary theory acknowledges that individuals are proactive in establishing and maintaining the borders between the two domains, rather than simply reacting to their context (Clark, 2000). That is, although contextual factors (e.g., organizational norms, family expectations) do have some influence in how individuals create and maintain boundaries, boundary management is also an active process in which individuals make decisions about the flexibility and permeability of boundaries according to their own preferences and situations. This autonomy is important to recognize, given the influence of boundary management on individuals' experience of WFC (Ashforth et al., 2000).

3.1 Boundary Management

Because boundaries do not exist as static structures, boundary management must occur as an ongoing process of intentional and circumstantial adjustment to boundary flexibility and permeability (Clark, 2000). Kossek & Lautsch's (2012) work on boundary management styles offers a nuanced and multi-dimensional perspective on how people manage boundaries. Drawing from lines of research regarding role identity salience (Settles, 2004), job control (Karasek, 1979), and boundary management (Kossek Lautsch,

& Eaton, 2006), Kossek and Lautsch (2012) identify two major elements that influence outcomes of boundary permeations: boundary management style (BMS) and perceived boundary control. The present section will first review the antecedents of BMS (i.e., boundary crossing preferences, identity centrality, outside pressures), then describe the important role of perceived boundary control in moderating the relationship between BMS and outcomes.

3.1.1 Boundary Management Style

The approach an individual adopts to maintain and negotiate boundaries between two domains is referred to as his or her boundary management style (BMS). The various styles are most often described as segmentation or integration. The BMS used influences the nature and frequency of *cross-role permeation behaviors*, which describe how individuals allow the responsibilities of one role (e.g., employee) to permeate the boundary of another role (e.g., parent). For example, a permeation behavior could include a phone call from a sick child while the parent is at work. The nature of these behaviors can be described by the directionality (e.g., family to work) and type of permeation (e.g., phone call). Additionally, these behaviors can be described by their frequency (e.g., once or twice a year) and duration (e.g., 30 min).

Individuals who adopt a segmenting BMS typically maintain highly differentiated roles with inflexible boundaries, resulting in very few boundary permeations (Ashforth et al., 2000). An example of an individual who strongly segments roles would be an exotic dancer who chooses not to discuss her profession with her family, or vice versa (Ashforth et al., 2000). In contrast, domains are highly integrated when the two roles are weakly differentiated and boundaries are very flexible, resulting in frequent boundary

permeations (Ashforth et al., 2000). For example, a mother who writes a blog about motherhood would frequently draw upon her family experience to help in the work context. Work and family domains are rarely as highly segregated or integrated as the above examples, but rather they vary in their degree of segmentation and integration. Kossek and Lautsch (2012) identify three key antecedents that contribute to an individual's BMS: boundary crossing preferences, identity centrality, and outside pressures.

3.1.1.1 Boundary Crossing Preferences

Individuals' boundary crossing preferences refer to individual differences reflecting one's inclination for the degree of flexibility and permeability of boundaries, as well as the preferred directionality of permeations. Individuals with high segmentation preferences typically engage in boundary management practices that allow them to psychologically detach from work when they are at home (Park, Fritz, & Jex, 2011). Typically, the preference for a certain BMS is considered an individual characteristic, which is usually determined by the degrees of flexibility and permeability that an individual desires between domains. Additionally, some individuals may prefer for family-to-work permeations to occur more often than work-to-family permeations, or vice versa. This is referred to asymmetrical boundary-crossing preferences. Others may prefer symmetrical boundary crossings, such that they experience roughly equal permeations from family-to-work and from work-to-family.

3.1.1.2 Identity Centrality

Secondly, an individual's identity centrality of work and family roles is also an important antecedent to boundary management styles. Identity centrality refers to how central a role is to one's self-concept relative to other roles. The degree to which people place importance on their respective roles varies among individuals. For instance, a family-centric individual strongly identifies with a family role (e.g., parent, sibling, spouse), reflecting the salience of the family domain within his or her life space. Conversely, a work-centric individual has a highly salient career, thus identifying with his or her professional position more strongly than with other roles. Identity centrality is determined by where an individual falls along two separate continua (i.e., work-centrality continuum, family-central continuum). That is, an individual's family centrality is independent from his or her work centrality. Thus, some individuals experience equal centrality in both the work and home domains (i.e., dual-centrality).

Ashforth et al. (2000) posit that the role with which one highly identifies will likely have a less flexible and permeable boundary than roles with less centrality. Additionally, these central roles will take precedence in a situation of conflict or stress, such that individuals tend to focus available resources on the role with which they most strongly identify (Thoits, 1991). This evidence supports the idea that identity centrality plays a role in determining which BMS is adopted by an individual.

3.1.1.3 Work and Family Norms

In addition to boundary crossing preferences and identity centrality, norms for integration or segmentation within the work and family roles also influence how

individuals choose to segment or integrate domains. For instance, if an individual perceives a high segmentation norm in the organization, he or she is more likely to maintain stronger home boundaries (e.g., not answering work emails while at home; Park et al., 2011). Besides the implicit pressures of organizational norms, oftentimes employers invoke organizational policies regarding the degree to which employees are expected to segment or integrate their work and home domains. For instance, managers could expect employees to answer emails during their "off" hours (i.e., integration). Alternatively, managers could have strict rules prohibiting personal phone calls in the workplace (i.e., segmentation).

Although work norms have been explored to some extent in boundary management, family norms have only been briefly mentioned in the literature. However, it is plausible that family norms would function similarly to work norms in their relationship to boundary management. That is, family members could have preferences for one's degree of domain segmentation. For instance, a lawyer's husband could prefer that she does not discuss casework in the home domain (i.e., work-to-family segmentation) or discuss family matters in the work domain (i.e., family-to-work segmentation). Conversely, family members preferring integration could differ in their preferences for directionality of permeations. For example, a librarian's son could call his parent often while they are at the library, but prefer to not hear stories about the librarian's experiences in the workplace (i.e., family-to-work integration). In the same vein, a doctor's daughter could enjoy listening to her father's stories about his experiences in the hospital, but not prefer to contact him while he is at work (i.e., work-to-family integration).

In sum, an individual's BMS reflects his or her level of integration or segmentation between domains, and is affected by boundary crossing preferences, identity centrality, and work and family norms.

3.1.2 Outcomes of BMS

Segmenting or integrating roles is not inherently good or bad, but rather the degree of segmentation between domains is only one factor among many in determining WFC and WFE. For instance, the benefit of segmentation is that roles are clearly demarcated, thus decreasing confusion or ambiguity and clarifying the nature of the transition. Kossek et al. (2006) found that BMS predicts family-to-work conflict and that a segmentation BMS is a strong predictor of well-being. Furthermore, creating a sense of segmentation can help people mentally detach from work and recover from work stress (Park et al., 2011). However, the cost of segmentation is that transitioning between roles is more psychologically demanding than it would be with more integrated roles (Ashforth et al., 2000). On the other hand, the benefit of integration is that it affords simple transitions with minimal effort when navigating between domains. However, highly integrated domains can often be confusing and interruptions are common (Ashforth et al., 2000). Individuals must balance these costs and benefits when segmenting and integrating work and family domains.

Although BMS influences key outcomes in the work and home domains (Park et al., 2011; Ashforth et al., 2000), a more complex relationship has recently been detected (Kossek & Lautsch, 2012). That is, the BMS an individual uses (i.e., segmenting, integrating) may be less influential than whether he or she feels *control* over the BMS

s/he is using (Kossek & Lautsch, 2012). The relationship between perceived control and work/ family outcomes will be explored next.

3.1.3 Perceived Boundary Control

Individuals who believe that they can control the timing, frequency, and direction of boundary crossings have higher perceived control. In contrast, individuals with lower perceived control believe that they are not able to control boundary crossings. Unlike the individual differences described above (i.e., cross-role permeation behaviors, identity centrality), perceived control of boundaries describes one's psychological interpretation of situational and environmental factors. The concept of an individual's perceived control of boundaries is a recent addition to the boundary theory literature that offers new insight into the relationship between BMS and outcomes.

The degree of control one perceives is often a result of the strength of outside pressures. Organizations with strong policies regarding integration are referred to as *standardized* work environments. In comparison, *customized* work environments allow employees more autonomy in determining the degree of segmentation or integration between domains. Typically, customized work environments result in employee perceptions of organizational and supervisor support (Eisenberger, Armeli, Rexwinkel, Lynch, & Rhoades, 2001).

It is important to note that an individual's perceived control is independent of his or her BMS. That is, four possible combinations of BMS (i.e., segmentation, integration) and perceived control (i.e., high, low) exist. For example, consider a school teacher who is also a father. If he separates his school responsibilities from his paternal responsibilities (i.e., high segmentation BMS), but only does so because of the strong

influence of the school principal (i.e., standardized work environment), he could feel powerless to choose his own BMS (i.e., low perceived boundary control). Similarly, relationships between BMS, perceived boundary control, and outcomes could be observed with other combinations (See Table 1 for more examples).

3.1.3.1 Outcomes of perceived boundary control

Aside from the consequences of one's actual BMS, Kossek et al. (2006) found that individuals' perceived control over boundaries predicted decreased negative outcomes such as work-to-family conflict, turnover intentions, and depression. In fact, further research revealed that low control in boundary management is related to lower individual effectiveness outcomes, including: job satisfaction, work engagement, work schedule fit, time adequacy, psychological distress, WFC, and turnover intentions (Kossek, Pichler, Bodner, & Hammer, 2011). Furthermore, higher perceived control has been linked with positive work-family outcomes and lower job stress (Karasek, 1979). Therefore, although BMS allows us to better understand and predict an individual's WFC and WFE (Kossek et al., 2006), whether a person has control over the BMS they enact is a crucial moderator of such relationships. For instance, consider the example of the schoolteacher mentioned above. The lack of control he perceives may exacerbate negative outcomes (e.g., high WFC; for predicted outcomes of other examples, see Table 2). Although Kossek et al.'s (2006; 2011) findings regarding boundary control are theoretically consistent with previous WFC research (Karasek, 1979), these findings have not yet been replicated.

In conclusion, previous research regarding boundary management focused primarily upon segmentation and integration choices as a central predictor for work and family outcomes. Kossek and Lautsch's (2012) model offers a richer explanation for outcomes in work and family domains, including antecedents of BMS (i.e., preferences, identity centrality, outside pressures) and the important influence of perceived control. Although Kossek and Lautsch's (2012) model provides a more sophisticated and thorough understanding of BMS, boundary management research up to this point has been primarily abstract and theoretical, rather than behaviorally focused. Therefore, the use of communication technology products can be explored as one tangible venue through which boundaries are managed.

CHAPTER 4. COMMUNICATION TECHNOLOGIES

Although there are many ways in which roles might permeate each other, the influence of technology in this process is particularly important because it makes the physical, temporal, and psychological boundaries between domains less rigid and clear (Valcour & Hunter, 2005; Major & Germano, 2006). Due to the importance of understanding technology's role in this process, this section will more thoroughly define communication technology, examine its prevalence, and specify which forms of technology are most relevant to WFC.

Communication technologies (CTs; also referred to in the literature as ICTs, MCTs, and CITs) include any technological device or application used for communication. Examples of such CT products include smartphones (e.g., iPhone, Android) and tablet personal computers (e.g., iPad).

As CT becomes more affordable, and thus available, more consumers have reported owning CT products. Specifically, there was a 13% increase in American smartphone owners between 2011 and 2012, with almost half of Americans (44%-46%) reporting smartphone ownership in 2012 (Google, 2012; Smith, 2012). Tablet personal computers have also become popular in recent years; since 2010, 15 million iPads have been sold (Muller & Pope, 2011). It is important to note that the growing prevalence of

these CT products is not a linear trend. For instance, tablet ownership nearly doubled between December 2011 and January 2012 (Rainie, 2012).

Not only are more consumers choosing to buy CT products, but also the frequency of CT use is increasing. For instance, many individuals report checking their email immediately upon waking up in the morning, as well as frequently throughout the day (e.g., while driving, during meetings; Karlson, Meyers, Jacobs, Johns, & Kane, 2009; Middleton & Cukier, 2006). Additionally, 66% of smartphone owners report accessing the internet daily, with 73% of them doing so to check email and 60% of them doing so to use a social networking site (Google, 2012).

4.1 Smartphones

Smartphones are mobile phones that include software functions (e.g., email, internet browser). This type of CT is important to consider because of its prevalence; the use of smartphone technology is rapidly increasing and projected to increase even more in the near future (Google, 2012). Besides this evidence for its prevalence, the size of the product and its ease of use make it convenient to use both at home and at work. In fact, according to Google (2012), 62% of smartphone users have used the product every day in the past week, and 80% of users will not leave their home without their smartphone. Particularly of interest, 97% of users reported using their smartphone at home, and 71% reported using it at work (Google, 2012). Other popular locations for smartphone use included on the go (83%), in a store (78%), in a restaurant (71%), at a social gathering (60%), at the doctor's office (56%), and at a café or coffee shop (50%; Google, 2012).

CHAPTER 5. MANAGING BOUNDARIES WITH COMMUNICATION TECHNOLOGIES

Understanding CT use is not only important because of its prevalence, but also because there is evidence that it is continually changing the nature of work and home domains (Valcour & Hunter, 2005; Boswell & Olson-Buchanan, 2007). For instance, individuals often report using CTs at home for work purposes, allowing the home boundary to be permeated by work responsibilities. Examples of such work-to-family permeations include checking email and answering phone calls from co-workers or clients while at home (Diaz, Chiaburu, Zimmerman, & Boswell, 2012; Boswell & Olson-Buchanan, 2007). Similarly, family-to-work permeations are very common, with reports of emailing and calling family members being the most frequent home-related activities done on the job (D'Abate & Eddy, 2007).

These CT boundary permeations have strong implications for the work-family interface. First, CT use has increasingly blurred the physical, temporal and psychological boundaries between domains, creating more flexible and permeable boundaries. This blurring of boundaries can give individuals more autonomy in creating WFE, but can also create more experiences of WFC. It seems that individuals are aware of this paradox. A Canadian survey of WFE found that although 25% of respondents believe that technology

has *increased* their ability to balance the work and life domains, roughly the same amount of respondents reported that CT use *decreased* their experience of work-family balance (Duxbury, 2004). Recent work by Makinson, Hundley, Feldhaus, and Fernandez (2012) suggests that employees' part-time or full-time status might moderate the influence of CT use on experienced stress. Specifically, when CT usage surpassed one hour a day, significantly more part-time employees reported increased stress (from 5% to 28%). However, fewer full-time employees reported increased stress when CT usage surpassed one hour (from 37% to 30%). This could indicate that CT use is more helpful in balancing work and family roles for full-time employees than it is for part-time employees. However, it is still difficult to determine in which cases CT use promotes WFC and WFB. Assuming that individuals would prefer to experience high levels of WFE and low levels of WFC, it would be helpful to know what role CT boundary permeations will play in predicting these two important constructs.

Very little CT research has been done involving other factors associated with boundary management. Therefore, Kossek and Lautsch's (2012) model provides an excellent theoretical framework for viewing CT use in the context of boundary theory.

5.1 Boundary Management Style

An individual's BMS, or degree of segmentation between work and family domains, is likely to be exhibited through his or her CT use. Thus, Kossek and Lautsch's (2012) model is applicable in explaining the antecedents and outcomes of using CT to segment and integrate domains. Not only is this model helpful for interpreting CT use, but also CT use is an ideal set of behaviors for testing this model. That is, the prevalence and nature of CT use makes it a key indicator of BMS. As such, boundary crossing

preferences, identity centrality, and outside pressures regarding CT use will take part in determining an individual's BMS.

5.1.1 Boundary Crossing Preferences

The literature suggests that individuals' segmentation preferences could influence an individual's amount of CT use and how that CT use affects their work and family domains (Diaz et al., 2012). That is, individuals who are more flexible using CT report engaging in more CT use at home for work (i.e., work-to-family permeation; Olson-Buchanan & Boswell, 2006; Diaz et al., 2012). Although such permeations overall are associated with higher WFC (Boswell & Olson-Buchanan, 2007), individuals who are more flexible (i.e., preference for integration) reported less WFC than those who are not flexible (i.e., preference for segmentation; Diaz et al., 2012). In the same vein, an individual with a stronger segmentation preference is likely to create more boundaries around CT use, which in turn is associated with less frequent experiences of psychological work-family interference (Park & Jex, 2011). This is consistent with the idea that boundary crossing preferences could influence BMS and subsequent outcomes (Kossek, 2012).

5.1.2 Identity Centrality

An individual's identity centrality, or role salience, is likely to impact their CT use. Ashforth et al. (2000) argue that the role with which one highly identifies will likely have a less flexible and permeable boundary than roles with less salience. Thus, a family-centric person may be more likely to allow CT communications from home to interrupt work. Conversely, a work-centric person may be more likely to allow CT communications from work to interrupt home.

5.1.3 Outside Pressures

Outside pressures also undoubtedly influence CT use. For instance, some jobs require that employees own smartphones, which will at times be partially or completely paid for by the organization. Additionally, organizations differ in the policies they have regarding CT use in the workplace. For instance, some organizations may prohibit smartphones in the workplace (e.g., service industry), whereas other may even encourage it (e.g., consulting firm). As was discussed earlier in the boundary theory section, *standardized* organizations have strict policies, whereas *customized* organizations allow employees autonomy in determining how they use CT to permeate boundaries.

5.2 Perceived Boundary Control

As was previously discussed, an individual's perceived control over boundary management plays a critical role in determining how BMS influences key outcomes. One manner in which organizations can influence employees' perception of boundary control could be through CT product ownership. For instance, if an organization pays for the employee's smartphone, implicit or explicit expectations could exist regarding who (i.e., employer) controls the boundaries between domains. The employee might feel indebted to the organization, thus engaging in more off-the-clock labor. Also, the employee could feel as if he or she lacks control, resulting in more negative outcomes (e.g., high WFC, low WFE). However, if the employee owns the smartphone, he or she might feel more control over how the device is used to manage boundaries.

5.3 Outcomes

On a general level, CT use has strong implications for WFC and WFE. Simply put, the ease of CT use and the prevalence of CT products undoubtedly allows for more

frequent permeations than would be possible without such technology (Towers, Duxbury, Higgins, & Thomas, 2006; Park & Jex, 2011). Furthermore, there is evidence that WFC is more prevalent when the boundaries between domains are permeated more frequently, as "boundary permeability epitomizes role conflict" (Hall & Richter, 1988: 217). However, WFE is also a feasible outcome of smartphone use. For instance, brief CT connections could provide positive spillover between domains, potentially resulting in the enhancement of performance in one domain due to a positive interaction with the other domain (Chen & Lim, 2009).

It is clear that boundary theory is directly applicable to CT use in the work and home domains. However, due to the ever-changing nature of technology, many of the above questions have gone unanswered in the literature. Therefore, the present study seeks to apply a model of boundary management specifically to CT use in order to more thoroughly understand the influence of smartphones on the way individuals navigate between roles in the work and home domains.

CHAPTER 6. BOUNDARY MANAGEMENT MODEL AND PREDICTIONS

The present study seeks to further examine how individuals use CT in managing family and work boundaries, as well as how individuals' boundary management styles with respect to CT influence key outcomes in the work and family domains (e.g., work family conflict, work family balance). In doing so, the present study will expand the current WFC literature by developing a more thorough understanding of boundary management practices regarding CT use in the home and workplace.

The present study will test a model of boundary management styles using CT use behaviors. The model follows Kossek and Lautsch (2012) and draws from the literature on WFC and WFE to propose that BMS for CT use will predict key outcomes (e.g., WFE, WFC) and that this relationship is moderated by perceived boundary control.

In order to apply this model (Kossek & Lautsch, 2012) specifically to CT use, the proposed model will use a narrow focus on CT use for BMS and perceived control. However, a broad scope will be used for antecedents and outcomes of BMS (e.g., *general* integration preferences, *overall* WFC). By using this combined approach, the present study will be able to establish that CT use is consistent with general BMS tendencies and that CT use can be associated with the same outcomes as general BMS.

6.1 Antecedents

As was previously discussed, BMS refers to the degree of integration between an individual's work and family domains. This concept can be understood as a continuum ranging from segmentation (i.e., no integration) to integration. Following past literature, it is proposed that three key factors will predict an individual's BMS with respect to CT: boundary crossing preferences, identity centrality, and outside pressures.

6.1.1 Boundary Crossing Preferences

As described above, individual preferences for boundary crossing can be described by the preferred flexibility and permeability of the boundaries (i.e., degree of integration), as well as the directional symmetry of the permeations (i.e., work-to-family, family-to-work). The literature has shown that individuals' general preferences for segmentation or integration influence the degree of segmentation between work and family domains (Diaz et al., 2012; Olson-Buchanan & Boswell, 2006; Park & Jex, 2011). For instance, individuals who are more flexible (i.e., integration preference) using CT report engaging in more CT use at home for work (i.e., work-to-family integration; Olson-Buchanan & Boswell, 2006; Diaz et al., 2012).

Hypothesis 1: General boundary crossing preferences will be positively related to BMS for CT use such that:

a. Higher work-to family integration preferences will be associated with higher work-to-family CT integration.

b. Higher family-to-work integration preferences will be associated with higher family-to-work CT integration.

6.1.2 Identity Centrality

The role with which one most strongly identifies also contributes to an individual's BMS. Individuals can be work-centric, family-centric, or dual-centric. Ashforth et al. (2000) argue that a role with which one highly identifies will have more rigid and impermeable boundaries compared to those of other roles. Additionally, these salient roles will take precedence in a situation of conflict or stress, such that individuals tend to focus available resources on the role with which they most strongly identify (Thoits, 1991).

Hypothesis 2: Identity will be related to BMS for CT use such that:

a. Dual-centric individuals will have similar work-to-family and family-to-work CT integration.

b. Work centric individuals will have greater work-to-family than family-to-work CT integration.

c. Family-centric individuals will have greater family-to-work than work-to-family CT integration.

6.1.3 Type of Outside Pressure

The final antecedent of BMS is the type of outside pressure (i.e., work and family pressures for integration). It has been found that if an individual perceives a high segmentation norm in the organization, he or she is more likely to maintain stronger home boundaries (e.g., not answering work emails while at home; Park et al., 2011). Similar to work pressure, family pressure is an additional outside force that may influence BMS. Although not included in Kossek and Lautsch's (2012) model, the

present study has added this variable to the model with the expectation that family pressure functions similarly to work pressure.

Hypothesis 3: Work and family norms for integration will be related to BMS for CT use such that:

a. Higher work and family norms for work-to-family integration will be associated with higher work-to-family CT integration.

b. Higher work and family norms for family-to-work integration will be associated with higher family-to-work CT integration.

6.2 Outcomes

The present study seeks to examine positive and negative outcomes in the work, home, and personal domains. WFC will be measured in the home domain (i.e., work-to-family conflict) and the work domain (i.e., family-to-work conflict). WFE will be measured in the home domain (i.e., work-to-family enrichment) and the work domain (i.e., family-to-work enrichment). Performance will be measured in both the home domain (i.e., family performance) and the work domain (i.e., work performance). Satisfaction will be measured in multiple domains (i.e., job satisfaction, family satisfaction, life satisfaction). Additional outcomes include turnover intentions, time adequacy, and psychological distress.

6.3 Boundary Management Style

Individuals' boundary management styles have been found to relate to key outcomes in the work and family domains. For instance, segmentation has been found to help people mentally detach from work and recover from work stress (Park et al., 2011). Furthermore, integration is associated with confusion and common interruptions, and has

been associated with higher family-to-work conflict (Ashforth et al., 2000; Kossek et al., 2006). However, WFE is also a feasible outcome of integration via smartphone use. For instance, brief CT connections could provide positive spillover between domains, potentially resulting in the enhancement of performance in one domain do to a positive interaction with the other domain (Chen & Lim, 2009).

Hypothesis 4: BMS for CT use will be positively related to key outcomes in work and home such that higher CT integration will be associated with higher levels of WFC (i.e., work-to-family conflict, family-to-work conflict) and WFE (i.e., work-to-family enrichment, and family-to-work enrichment).

6.4 Perceived Boundary Control

As was discussed more thoroughly in above sections, the degree to which an individual feels control over his or her BMS is a critical factor in determining outcomes in the work, home, and personal domains. The amount of control one feels over his or her BMS is largely determined by the strength of outside pressures.

6.4.1 Strength of Outside Pressures

The strength of work pressures for integration can be described using a continuum from *customization* (i.e., employees determine their own CT use) to *standardization* (i.e., rigid organizational policy dictating employees' CT use). The standardization of policies has been found to relate with perceived control over boundary crossing (Park et al., 2011; Valcour, 2007; Kossek et al., 2006). The present study will examine the strength of work pressure to assess whether integration policies influence perceived control over CT use. Similar to work pressure, family pressure is an additional outside force that could influence perceived control over CT use. Although not included in Kossek and Lautsch's

(2012) model, the present study has added this variable to the model with the expectation that the strength of family pressure for CT use (i.e., degree of standardization) will function similarly to the strength of work pressure for CT use.

Hypothesis 5: Outside pressures and perceived control over CT use will be negatively related such that:

a. The stronger the work pressures for integration, the lower perceived level of control over CT use across boundaries.

b. The stronger the family pressures for integration, the lower perceived level of control over CT use across boundaries.

6.4.2 Perceived Boundary Control and Outcomes

Individuals' perceived control over boundaries has been found to be a strong predictor of WFC and individual effectiveness (Kossek et al., 2006; Kossek et al., 2011). Kossek et al. (2006) found that individuals' perceived control over boundaries predicted decreased negative outcomes such as work-to-family conflict, turnover intentions, and depression. In fact, further research revealed that low control in boundary management is related to lower individual effectiveness outcomes, including: job satisfaction, work engagement, work schedule fit, time adequacy, psychological distress, WFC, and turnover intentions (Kossek et al., 2011).

Hypothesis 6: Perceived control over CT use across boundaries will be related to key outcomes such that:

a. High perceived control will be associated with lower levels of work-to-family conflict, family-to-work conflict, turnover intentions, and psychological distress.

b. High perceived control will be associated with higher levels of work-to-family enrichment, family-to-work enrichment, family performance, work performance, family satisfaction, job satisfaction, life satisfaction, and time adequacy.

Hypothesis 7: Perceived control over CT use will moderate the relationship between BMS over CT use and key outcomes such that:

a. The lower the control, the stronger the relationship between BMS over CT use and WFC (i.e., work-to-family conflict, family-to-work conflict)

b. The higher the control, the stronger the relationship between BMS over CT use and WFE (i.e., work-to-family enrichment, family-to-work enrichment).

CHAPTER 7. PROPOSED METHODS

7.1 Participants

The sample for the present study will include approximately 300 individuals of varying ages and occupations. Efforts will be made to ensure that a relatively equal amount of men and women are included in the study. In order to be included in the present study, respondents must be adults (i.e., over the age of 18) who use a smartphone on a daily basis, are full-time employees (i.e., work 30 or more hours per week), and live with a spouse/partner and at least one child. Additionally, in order to control for confounding influences on communication technology use, telecommuters will be excluded from the present study.

The participants will be recruited using StudyResponse, which is an online project that facilitates research for the behavioral sciences by sending email requests to adult research participants (StudyResponse, 2011). Respondents will receive an incentive of $5.00 for participating in the present study.

7.2 Design

The present study will use a cross-sectional survey research design to investigate how individuals use communication technologies in balancing their work and family roles. Participants will be asked to complete an anonymous online survey about their own experiences and preferences regarding CT use in the work and home domains.

7.3 Measures

The questionnaire used in the current study will include instructions explaining that the survey will assess experiences and preferences related to communication technologies, and all questions should be answered as honestly as possible. Following a brief demographic section, the survey will include several items assessing different variables within a broad model of boundary management styles as they relate to communication technology use.

7.3.1 Demographics

In order to be able to control for demographic variables, the survey will include questions concerning the participants' (1) age, (2) gender, (3) income, (4) race/ ethnicity, (5) education, (6) spouse/partner, (7) children, and (8) occupation. Additional control variables will include (9) the availability of organizational policies for work-life balance, and (10) a question assessing the "ownership" of the participant's smartphone (i.e., owned by organization or self).

7.3.2 General Boundary Crossing Preferences

The survey will assess preferences for boundary crossing with an eight-item scale with two subscales (i.e., work-to-family integration preferences, family-to-work integration preferences; Adapted from Kreiner, 2006; $\alpha = 0.91$). Each item will be answered with a Likert-type scale ranging from 1 *(Strongly disagree)* to 5 *(Strongly agree)*. The two subscales feature identical items, and only differ in the directionality of integration. For instance, "*I don't like to have to think about [work, family] while I'm at [home, work]",* will be reverse scored so that higher scores on the scale will indicate higher integration preferences.

7.3.3 General Identity Centrality

The survey will assess identity centrality with an eight-item scale with two subscales (i.e., work centrality, family centrality). The scale was developed by adapting items from previous identity centrality scales (Kossek, Ruderman, Braddy, & Hannum, 2012; Wayne et al., 2006; $\alpha = 0.75 - 0.85$). Each item will be answered with a Likert-type scale ranging from 1 *(Strongly disagree)* to 5 *(Strongly agree)*, with higher scores indicating higher centrality in the domain. The two subscales feature identical items, and only differ in the domain of centrality. For instance, "*People see me as highly focused on my [work, family]"*. Roughly equal scores on work centrality and family centrality scales will indicate dual centricity. Specifically, if an individual's scores on work centrality and family centrality are within 2 points, he or she will be considered to be "dual-centric".

7.3.4 Norms

The survey will assess work and family norms with a 32-item scale with two subscales reflecting work norms (i.e., work-to-family integration, family-to-work integration) and two subscales reflecting family norms (work-to-family integration, family-to-work integration). The scale was adapted from two existent scales (Kossek, Colquitt & Noe, 2001; Kreiner, 2006; ; $\alpha = 0.70 - 0.90$) in order to reflect behavioral norms. One item was added to specifically reflect CT norms at work and home. Each item will be answered with a Likert-type scale ranging from 1 *(Strongly disagree)* to 5 *(Strongly agree),* with higher scores indicating higher integration norms. The four subscales feature identical items, and only differ in the domain and direction of integration. For instance, the two subscales for work norms included the reverse coded item: "*In my workplace, people forget about [work, family] while they're at [home,*

work]". Similarly, the two subscales for family norms include the reverse coded item: "*In my family, people forget about [work, family] while they're at [home, work]"*.

7.3.5 Outside Pressures

The survey will assess outside pressures with a 16-item scale with two subscales reflecting work pressure (i.e., standardized segmentation, standardized integration) and two subscales reflecting family pressure (i.e., standardized segmentation, standardized integration). Each item will be answered with a Likert-type scale ranging from 1 *(Strongly disagree)* to 5 *(Strongly agree)*, with higher scores indicating higher standardization. The four subscales feature similar items, and differed in the domain and direction of integration. For instance, the subscale for work pressure for standardized segmentation included: *"I would suffer negative consequences at work if I used my smartphone to communicate (e.g., text, email, call) with family members while at work"*. The subscale for family pressure for standardized integration included: *"I would suffer negative consequences from my family if I ignored smartphone communication (e.g., text, email, call) from family members while at work."*

7.3.6 Boundary Management Style for CT Use

The survey will assess BMS for CT use with an eight-item scale with two subscales (i.e., work-to-family integration, family-to-work integration). The scale was developed by adapting items from a previous BMS scale (Kossek et al., 2012; $\alpha = 0.66 – 0.72$). Each item will be answered with a Likert-type scale ranging from 1 *(Strongly disagree)* to 5 *(Strongly agree),* with higher scores indicating higher integration. The two subscales feature similar items, and differ in the direction of integration. For instance, "*I respond to [work-related, personal] smartphone communications (e.g., emails, texts,*

phone calls) during [my personal time away from work, work]". Overall integration will be computed by averaging the items from both subscales.

7.3.7 Perceived Control over CT Use Across Boundaries

Three items will be used to assess perceived control (Adapted from Kossek et al., 2012; $\alpha = 0.84$). Each item will be answered with a Likert-type scale ranging from 1 *(Strongly disagree)* to 5 *(Strongly agree)*, with higher scores indicating higher perceived control. For instance, "*When I use my smartphone, I can control to what extent I keep my work and personal life separate"*.

7.3.8 Conflict

The survey will assess WFC with a ten-item scale with two subscales (i.e., work-to-family, family-to-work; Netemeyer et al., 1996; $\alpha = 0.85 – 0.92$). Each item will be answered with a Likert-type scale ranging from 1 *(Strongly disagree)* to 5 *(Strongly agree)*, with higher scores indicating higher conflict. The two subscales feature similar items, and differ in the direction of conflict. For instance, "*The demands of my [work, family] interfere with [my home and family life, work-related activities]"*.

7.3.9 Enrichment

The survey will assess WFE with a six-item scale with two subscales (i.e., work-to-family, family-to-work; Wayne et al., 2006; $\alpha = 0.71$ - 0.82). Each item will be answered with a Likert-type scale ranging from 1 *(Strongly disagree)* to 5 *(Strongly agree)*, with higher scores indicating higher enrichment. The two subscales feature similar items, and differ in the direction of enrichment. For instance, "*Having a good day at [work, home] makes me a better [family member, employee] when I get [home, to work]"*.

7.3.10 Performance

The survey will assess performance with a 14-item scale with two subscales (i.e., work, family; Adapted from Williams & Anderson, 1991; $\alpha = 0.85$). Each item will be answered with a Likert-type scale ranging from 1 *(Strongly disagree)* to 5 *(Strongly agree)*, with higher scores indicating higher performance. The two subscales feature similar items, and differ in the domain of performance. For instance the subscale for work performance includes: "*My supervisor would state that I perform tasks that are expected of me".* Similarly, the subscale for family performance includes: *"My spouse/partner would state that I fulfill his/her expectations in our relationship"*.

7.3.11 Turnover Intentions

Three items will be used to assess turnover intentions (Colarelli, 1984; $\alpha = 0.75$). Each item will be answered with a Likert-type scale ranging from 1 *(Strongly disagree)* to 5 *(Strongly agree)*, with higher scores indicating higher turnover intentions. For instance, "*I am planning to search for a new job during the next 12 months"*.

7.3.12 Time Adequacy

The survey will assess time adequacy with a nine-item scale with three subscales (i.e., time for work, time for family, time for self; Adapted from Van Horn, Bellis, & Snyder, 2001; $\alpha = 0.72 – 0.84$). Each item will be answered with a Likert-type scale ranging from 1 *(Strongly disagree)* to 5 *(Strongly agree), with higher scores indicating more adequate time*. The three subscales feature similar items, and differ in the domain of interest. For instance the subscale for time for work includes: "*I feel that there is enough time for me to perform my job".* Similarly, the subscale for time for family includes: *"My*

family is able to spend enough time together". Lastly, the subscale for time for self includes: *"I have enough time to be by myself"*.

7.3.13 Psychological Distress

The K6 scale for psychological distress (Kessler, Andrews, Colpe, Hiripi, Mroczek, Normand, Walters, & Zaslavsky, 2002; $\alpha = 0.89$) will be used in the present survey. This scale includes six items, each of which will be answered with a Likert-type scale ranging from 1 *(Never)* to 5 *(Always)*, with higher scores indicating higher psychological distress. Participants will be asked to rate the frequency of negative feelings they have experienced in the past month. For instance, *"During the last month (30 days), how often did you feel so depressed that nothing could cheer you up?"*.

7.3.14 Satisfaction

Three subscales, totaling 15 items, will be used to assess satisfaction (i.e., work, family, life; adapted from Diener, Emmons, Larsen, & Griffin, 1985; $\alpha = 0.87$). Each item will be answered with a Likert-type scale ranging from 1 *(Strongly disagree)* to 5 *(Strongly agree)*, with higher scores indicating higher satisfaction. For instance, "*In most ways my [job, family, life] is close to ideal"*.

7.4 Proposed Analyses

Structural Equation Modeling (SEM) will first be used to evaluate the independence and internal consistency of the measures used. Then it will be used to test the overall fit of the proposed model for the present study. Support for each hypothesis will be determined according to the following criteria. (Unless indicated otherwise, scores for each construct are determined by averaging the items for each subscale. Thus, scores will range from 1 (Weak) to 5 (Strong).)

	Hypothesis	Support
1	General boundary crossing preferences will be positively related to BMS for CT use such that:	
a	Higher work-to family integration preferences will be associated with higher work-to-family CT integration.	A significant positive path coefficient between work-to-family integration preferences and work-to-family integration BMS for CT use.
b	Higher family-to-work integration preferences will be associated with higher family-to-work CT integration.	A significant positive path coefficient between family-to-work integration preferences and family-to-work integration BMS for CT use.
2	Identity will be related to BMS for CT use such that:	
a	Dual-centric individuals will have similar work-to-family and family-to-work CT integration.	A non-significant t-test indicating that there is no difference between group 1 (work-to-family integration) and group 2 (family-to-work integration) for individuals with dual centricity.
b	Work centric individuals will have greater work-to-family than family-to-work CT integration.	A significant t-test indicating that group 1 (work-to-family integration) is higher than group 2 (family-to-work integration) in the mean value of work centricity.
c	Family-centric individuals will have greater family-to-work than work-to-family CT integration.	A significant t-test indicating that group 2 (family-to-work integration) is higher than group 1 (work-to-family integration) in the mean value of family centricity.
3	Work and family norms for integration will be related to BMS for CT use such that:	
a	Higher work and family norms for work-to-family integration will be associated with higher work-to-family CT integration.	A significant positive correlation between work pressure for work-to-family integration and work-to-family integration BMS for CT use; A significant positive correlation between family pressure for work-to-family integration and work-to-family integration BMS for CT use.

b	Higher work and family norms for family-to-work integration will be associated with higher family-to-work CT integration.	A significant positive correlation between work pressure for family-to-work integration and family-to-work integration BMS for CT use; A significant positive correlation between family pressure for family-to-work integration and family-to-work integration BMS for CT use.
4	BMS for CT use will be positively related to key outcomes in work and home such that higher CT integration will be associated with higher levels of WFC (i.e., work-to-family conflict, family-to-work conflict) and WFE (i.e., work-to-family enrichment, and family-to-work enrichment).	A significant positive correlation between overall integration BMS for CT use and: (1) work-to-family conflict, (2) family-to-work conflict, (3) work-to-family enrichment, and (4) family-to-work enrichment.
5	Outside pressures and perceived control over CT use will be negatively related such that:	
	The stronger the work pressures for integration, the lower perceived level of control over CT use across boundaries.	A significant negative correlation between standardized segmentation at work and perceived control over CT use across boundaries; a significant negative correlation between standardized integration at work and perceived control over CT use across boundaries.
	The stronger the family pressures for integration, the lower perceived level of control over CT use across boundaries.	A significant negative correlation between standardized segmentation at home and perceived control over CT use across boundaries; a significant negative correlation between standardized integration at home and perceived control over CT use across boundaries.
6	Perceived control over CT use across boundaries will be related to key outcomes such that:	

	High perceived control will be associated with lower levels of work-to-family conflict, family-to-work conflict, turnover intentions, and psychological distress.	A significant negative correlation between perceived control over CT use across boundaries and: (1) work-to-family conflict, (2) family-to-work conflict, (3) turnover intentions, and (4) psychological distress.
	High perceived control will be associated with higher levels of work-to-family enrichment, family-to-work enrichment, family performance, work performance, family satisfaction, job satisfaction, life satisfaction, and time adequacy.	A significant positive correlation between perceived control over CT use across boundaries and: (1) work-to-family enrichment, (2) family-to-work enrichment, (3) family performance, (4) work performance, (5) family satisfaction, (6) job satisfaction, (7) life satisfactionm and (8) time adequacy.
7	Perceived control over CT use will moderate the relationship between BMS over CT use and key outcomes such that:	Two separate versions of the present model will be run with SEM to establish support for this hypothesis. First, the model will be run with *high* perceived control over CT use, and then the model will be run with *low* perceived control over CT use. Support for this hypothesis will be provided if the two versions of the model show significantly different path coefficients between BMS and outcomes.
a	The lower the control, the stronger the relationship between BMS over CT use and WFC (i.e., work-to-family conflict, family-to-work conflict)	
b	The higher the control, the stronger the relationship between BMS over CT use and WFE (i.e., work-to-family enrichment, family-to-work enrichment).	

CHAPTER 8. CONCLUSION

In summary, the present literature review focused on the role of technology in managing boundaries between work and family domains. In so doing, work-family interface theory was briefly explained, as well as the antecedents and outcomes of WFC and WFE. Because it has been suggested that WFC and WFE are influenced by individuals' boundary management (Ashforth et al., 2000), boundary theory was enlisted to explain how boundaries between work and family are created, managed and permeated. By exploring the role of technology in managing boundaries, the present study will test and extend the current theoretical model of boundary management styles. This understanding could ultimately assist organizations in developing policies regarding CT use both at home and at work (e.g., telecommuting, cyberloafing, and off-the-clock labor).