# WORK AND NONWORK DOMAINS OF SHIFT WORK EMPLOYEES: A BOUNDARY THEORY PERSPECTIVE

by

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# ABSTRACT

SABRINA LENEÉ SPEIGHTS. Work and Nonwork Domains of Shift Work Employees: A Boundary Theory Perspective.
(Under the direction of DR. JAIME E. BOCHANTIN)

The concept of "flexibility" in the workplace has gained growing interest of scholars and organizational leaders as a solution for conflict between work and nonwork domains. The examination and implications of flexibility, however, have tended to focus on the experiences of professional samples. This focus has left certain aspects of workplace flexibility unchallenged. In this dissertation, I distinguish between employee-driven and organizationally-driven workplace flexibility and use boundary theory to test a hypothesized multilevel model of how these dual perspectives combine to predict outcomes in perceptions of work-nonwork conflict for non-professional employees. The findings indicate that organizationally-driven flexibility is a meaningful driver of conflict between work and nonwork domains in ways that were not anticipated. Moreover, employee-driven flexibility does little to mitigate the negative effects organizationally-driven flexibility.

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# DEDICATION

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# TABLE OF CONTENTS

# LIST OF TABLES

# LIST OF FIGURES

# INTRODUCTION

Scholars and practitioners alike are concerned with the issue of workplace flexibility and flexible scheduling options as a remedy for conflicts between work and personal life (Golden, 2009; Leslie, Park, & Mehng, 2012). However, distinct conceptualizations of flexibility exist. Some scholars take an employee perspective in which flexibility is measured by the degree to which policies and practices enhance employee control and discretion in navigating work and personal demands (Hill et al., 2008). Other scholars take an organizational perspective in which flexible practices are seen to benefit the organization by providing a means of agility in a competitive environment (Wood, 2016).

The perspective taken, however, tends to fall along disciplinary lines with most of the management literature taking the employee perspective with a focus on professional samples (Kossek & Lautsch, 2018). By focusing on professionals and taking an employee perspective, the management literature on workplace flexibility suffers several limitations. First, it is assumed that flexibility is always a good thing for employees leading to the assumption of the "panacea of flexibility" (Kossek, Lautsch, & Eaton, 2005). Second, the issue of work-life inequality is silent in the current management literature. Knowledge workers and those who are highly educated have options, resources, trust, and power (Bulger, Matthews, & Hoffman, 2007; Chen, Powell, & Greenhaus, 2009; Kossek, Lautsch, & Eaton, 2006; Winkel & Clayton, 2010) that may

not be afforded to non-professional employees (Ammons & Kelly, 2008; Bass & Grzywacz, 2011; Lambert, 1999).

Work-life inequality is the degree to which individuals in different occupational groups have unequal access and ability to use flexibility and different outcomes from different forms of flexibility (Kossek & Lautsch, 2018, p.9). Indeed, a "good job" is one in which there is control and predictability regarding one's work schedule (Kalleberg, 2011). When schedules are perceived to be manger-controlled, perceptions of job quality and work-life balance suffer (Wood, 2016). Thus, differences in flexibility are not simply a value-neutral consequence of different types of jobs (Lambert & Haley-Lock, 2004; Swanberg, Pitt-Catsouphes, & Drescher-Burke, 2005). Instead, the forms and consequences of flexibility shape "how organizational structures and processes serve as gatekeepers to work-life supports and, more broadly, to opportunities for balancing work and personal life" (Lambert & Waxman, 2005, p.104).

Third, examining the employee perspective among professionals limits the ability to combine employee and organizational perspectives. The role of the employee is fundamentally different in each approach, yet flexibility for both the employee and the organization likely occur simultaneously and influence each other. Scholars of flexibility note, however, that the very confounding of the employee and organizational perspectives is what makes understanding the influence of both challenging because the same practice may serve both the organization and the employee (Kossek & Lautsch, 2018; Wood, 2016). Combining these approaches, however, offers insights into how organizationally-driven flexibility influences individual experiences at the work-life interface.

To address these gaps in knowledge, I identify an organizationally-driven form of flexibility (i.e., schedule instability) and use boundary theory to examine the role of schedule instability, boundary blurring, and work-nonwork conflict among a non-professional sample. In so doing, I identify a potentially negative form of organizational flexibility, highlight the inequality that exists in work-life experiences, and combine perspectives of flexibility to examine their mutual influence on employees. The results of this dissertation highlight the consistency and differences of expanding boundary theory to a non-professional sample and the implications for combining employee and organizational perspectives of flexibility. Implications from this dissertation contribute to a growing awareness of work-life inequality. Further, these findings serve to begin a conversation on providing more employee-driven flexible options to employees in occupations where the flexibility conversation is not yet occurring. These conversations are critical if organizations, across occupations, seek to reduce turnover and remain competitive in a changing, dynamic environment (Matos & Tahmincioglu, 2015).

# LITERATURE REVIEW

## Temporal Flexibility: Professional Bias and Different Perspectives

Organizational scholars use conflicting conceptualizations of temporal flexibility: employee-driven and organizationally-driven (Hill et al., 2008; Kossek & Lautsch, 2018; Wood, 2016). Employee-driven flexibility is defined as the "ability of workers to make choices influencing when, where, and for how long they engage in work-related tasks (Hill et al., 2008); or, "employment scheduling practices that are designed to give employees greater work-life control over when, where, how much, and how continuously work is done" (Kossek & Lautsch, 2018, p.6). As a result, temporal flexibility is often measured as practices such as discretion over start and end times (Bond & Galinsky, 2011), telecommuting, part-time work, and compressed work weeks (Allen, Johnson, Kiburz, & Shockley, 2013). These options are intended to reduce employees' perceptions of work-life conflict (Allen 2001, Frye & Breaugh 2004, Thomas & Ganster 1995) – the extent to which domain roles are in some way incompatible (Fisher, Bulger, & Smith, 2009; Greenhaus & Beutell, 1985).

Conversely, other organizational scholars argue that temporal flexibility does not always benefit employees. Instead, flexibility is focused on the interests of the employer and are driven by the organization in response to consumer demands and external competition (Hill et al., 2008). While organizationally-driven flexibility can result in flexibility in the employment relationship such as contract work or co-employment via agencies (Spreitzer, Cameron, & Garrett, 2017), my focus here is on temporal flexibility experienced at the micro-level via work hours and scheduling by individuals over time.

Under these conditions, employers may alter schedules and work hours to meet organizational needs. Last minute changes to schedules and work hours from organizationally-driven flexibility undermine coordination between work and personal life (Henly & Lambert, 2010; Lambert, 2008) and reduce perceptions of overall job quality. (Wood, 2016).

The organizationally-driven flexibility practices, however, are often not officially codified. Instead, official practices appear to maintain stability and predictability; yet, the lived employee experience is quite different (Lambert & Waxman, 2005). For example, during interviews with retail employees in the UK, Wood (2016) found that even full-time employees who participated in the trade union had no guarantee of set work hours. Employees could be scheduled for any hours they listed they were available to work (and employees had to provide a minimum of 50 available work hours per week). Further, employees were supposed to know their schedules at least four weeks in advance but these schedules could be altered as organizational needs arose and schedules could change with only one week's notice. Advanced notice could be even shorter for those who worked flexible part-time, and they could have schedule changes with as little as 24 hours' notice (Wood, 2016).

The management literature's focus on the employee-driven view has led to a wealth of knowledge regarding personal preferences (Derks, Bakker, Peters, & van Wingerden, 2016; Kossek, Ruderman, Braddy, & Hannum, 2012) and how these preferences translate to the use of and satisfaction with flexible work arrangements (Butts, Casper, & Yang, 2013; Kelly & Moen, 2007; Kossek et al., 2006). This focus, however, is also directly linked to the bias in examining professionals in the management

literature on work-life (Casper, Eby, Bordeaux, Lockwood, & Lambert, 2007; Kossek & Lautsch, 2018) because these forms of flexibility are more often available to professional employees. Professionals are more likely to have access to paid time off, sick days, alternative work arrangements that benefit their personal needs, and work-life supportive organizational cultures than are non-professionals (Matos & Galinsky, 2011).

A primary focus on professional employees introduces an occupational and educational bias as most samples are comprised of knowledge workers (Bulger et al., 2007; Kossek et al 2006; Kossek et al., 2012), who are highly educated with most having bachelors and advanced graduate degrees (Kreiner 2006; Winkel & Clayton 2010; Chen et al 2009), and high household incomes (Hecht et al, 2009). All of which influence and shape work-life experiences (Ammons & Kelly, 2008; Grzywacz, Arcury, Marín, & Carrillo, 2007; Lambert, 1990; Lautsch & Scully, 2007; Moen, Lam, Ammons, & Kelly, 2013; Schieman, Milkie, & Glavin, 2009).

In contrast, non-professional employees have experienced stunted income growth in recent decades, and are more likely to not have a college education and to hold lower status positions (Williams & Boushey, 2010). For these individuals home life is characterized by tag-team child and elder care because outsourcing this care is too expensive. Both men and women often work full-time hours but one illness or job loss could quickly drop them into poverty. With few options for employee-driven flexibility, coupled with strict absentee discipline systems (Williams & Boushey, 2010), non-professional employees are likely to fall victim to organizationally-driven flexibility practices and must constantly work, negotiate, and compromise in order to address their

personal and family needs. This is often a delicate balance that can be immediately disrupted at any time if one piece (e.g., mandatory overtime, sickness) does not align.

As a result, current "flexible" solutions may be irrelevant for non-professional employees. For example, Lambert and her colleagues (2012) articulate that typical solutions for work-life conflict are targeted towards professional jobs. These solutions which, include reducing work hours and varying work time are irrelevant and counterproductive to the challenges faced by non-professional workers. For workers who fight to have enough hours to pay their bills, work hour reductions are not a useful solution. Further, these workers often want more predictability in what is often an erratic and frequently changing schedule so varied work times are also not a viable solution to work-life issues.

Moreover, non-professional employees are often constantly watched and monitored (either physically or through production monitoring systems) and do not have personal spaces (that can be used for personal calls, for example). This results in fewer opportunities to use employee-driven flexibility to navigate work and personal life demands because the trust and privacy that underlies the ability to integrate is typically afforded to those of higher status (Nippert-Eng, 1996).

Taken together, shifting focus to the nature and status of work highlights the misalignment of traditional solutions for challenges at the work-life interface and the issues for the individuals in non-professional jobs. Given these differences in the perceptions of work and nonwork domains, more research is needed to understand how these domains are managed and the implications of flexibility for employees outside of professional occupations. This is particularly important because evidence suggests that

employees in non-professional occupations still benefit from supportive work-life environments (Grandey, Cordeiro, & Michael, 2007) and actively work to acquire work-life accommodations, when needed (Bochantin & Cowan, 2014; Root & Young, 2011).

Further, the focus on the work and experiences of professionals prevents combining the employee and organizational perspectives of flexibility, but ignoring one perspective in favor of the other presents significant limitations and gaps in knowledge of the role and consequences of workplace temporal flexibility. First, a singular focus on employee-driven temporal flexibility contributes to the glorified image of the "panacea" of flexibility (Kossek et al., 2005). As Kossek and her colleagues argue, flexibility is frequently viewed as wholly positive leaving the negative consequences of flexibility unchallenged. Instead, the authors advocate that both "good" and "bad" forms of flexibility (p.244) may exist and it is important to understand how flexibility is enacted to identify the panacea and challenge assumptions regarding the wholly positive experience of flexibility. Building on this argument, I contend that integrating employee and organizational driven temporal flexibility can aid in dissolving the illusive panacea of flexibility because flexibility for the organization often undermines employee perceptions of control and job quality (Wood, 2016).

Second, a sole focus on employee-driven flexibility overlooks the powerful influence of workplace environments on how employees manage the boundaries between work and personal life. No matter the extent of control to enact flexibility as they wish, employees likely put work first and manage work and personal life domains for the purpose of perpetuating an image of the "ideal worker" (Dumas & Sanchez-Burks, 2015). This is demonstrated by evidence that even with the additional benefits and discretion,

professional employees do not report perceiving higher levels of control than do non-professionals (Matos & Galinsky, 2011). The lack of perceptions of control is likely because whether employees seek to enhance flexibility and have more overlap between work and personal life domains, or if they decide to limit flexibility and separate their work from their personal life, there is "one fundamental purpose from the perspective of the organization – enhancing individual contributions to the workplace" (Dumas & Sanchez-Burks, 2015, p.820). In other words, even the practices that are designed to give employees control are ultimately intended to serve the organization over the values and desires of the individual employee. Therefore, an understanding that flexibility is also driven by the organization can reveal limitations of the assumptions of the employee-driven perspectives. As we move away from these assumptions, we are better suited to create viable solutions that are applicable to a wider group of employees.

While the employee-driven perspectives ignore the influence of the organization in creating and enacting flexibility, the organizationally-driven perspective ignores employee control and agency. Although the organization certainly influences the enactment of flexibility, employees do have discretion and act when needed. Even among non-professional samples, employees use various tactics to create opportunities for work-life accommodations such as trying to appeal to supervisors or attempting to work around hierarchical structures to make informal deals (Bochantin & Cowan, 2014; Root & Young, 2011), even if just in the short term.

In sum, accounting for both organizational- and employee driven flexibility, within a non-professional occupation, provides a more robust test of the notions of flexibility because the process of navigating boundaries is defined by the combination of

boundary characteristics *and* the preferences, capabilities, and actions of individuals (Clark, 2000; Kreiner, Hollensbe, & Sheep, 2009; Nippert-Eng, 1996). As such, only including one perspective would be limited. Further, it's important to understand how employee and organizationally-driven flexibility influence each other. Scholars have suggested that these terms be separate and researchers specify which they intend to examine (Hill et al., 2008). However, this results in scholars choosing one over the other (Hill et al., 2008; Wood, 2016). Combining these perspectives allows one to examine how the dynamics of each contribute to the experience of work-life conflict.

**Combining Employee and Organizational Perspectives**

As stated, the employee and organizational perspectives on flexibility are not unrelated; instead, the form and consequences of flexibility are mutually influenced by both. Integrating these perspectives is a useful step in a more complete understanding of workplace temporal flexibility. Combining these views, however, is challenging because although the literature makes a clear distinction between the source of flexibility (i.e., to benefit the employee versus to benefit the organization), "there are considerable difficulties in identifying organizational initiatives that can be clearly categorized as organization- or worker-focused" (Kossek & Lautsch, 2018, p.9).

Several initiatives, such as telecommuting or alternative work arrangements can allow for organizations to remain flexible in the face of consumer demands and external competition and at the same time provide opportunities for employees to have control and discretion over their work. Given this potential entanglement, combining these perspectives requires two components: a form of workplace flexibility that is clearly

organizationally driven and a theoretical framework that allows for an integrated conceptualization of flexibility.

First, a form of workplace temporal flexibility that is clearly organizationally driven is needed. Schedule instability is one example. Schedule instability is defined as work hours that frequently change or fluctuate (Lambert, 1990; Lambert & Haley-Lock, 2004) and is driven by last minute changes to one's work schedule and these changes are made to benefit the organization and allow employers to increase or decrease labor when needed (Lambert, 2008; Lambert, Haley-Lock, & Henly, 2012). Some of these tactics include: changing schedules after they are posted, sending people home early (or calling to tell them not to come in), telling employees to stay late (Alexander & Haley-Lock, 2015), and hiring based on the ability to "be flexible" (Henly et al 2006).

Schedule instability is changing work hours that are outside of the control of the employee. It is useful to identify clear forms of organizational flexibility outside of professional occupations because, as discussed, the work arrangements of professionals are often structured in ways that both the employee and organization benefit from flexibility. To isolate organizationally-driven flexibility tactics, alterations in work hours must be under the discretion of the employer, which is more likely to occur outside of the professional occupation (Bass & Grzywacz, 2011; Kossek & Lautsch, 2018; Matos & Galinsky, 2011).

Second, a theoretical framework that allows for the integration of employee and organizationally driven flexibility is needed. According to their review, Kossek and Lautsch (2018) find that the literature on workplace flexibility lacks theoretical consensus with over 50 theories used across studies and many studies not identifying a theoretical

framework. Further, most studies do not provide a clear definition of flexibility. The authors suggest that theories focused on control, resources, and roles are the best for moving the flexibility literature forward. This suggestion aligns with employee-driven views. I argue that an integrated approach requires a theory that defines workplace flexibility as a characteristic of the work domain, not by the discretion available to the employee (as would be the case in theories based in control, resources, and roles).

Following this distinction, boundary theory provides a useful theoretical framework for integrating the employee and organizationally driven perspectives. According to boundary theory, flexibility is defined as the extent to which temporal and spatial boundaries are pliable or can expand and contract based on demands (Hall & Richter, 1988). This theory begins with a definition of flexibility that is grounded in the nature of work (not employee choice or organizational practice). Meaning, flexibility is an attribute or a characteristic of completing work tasks. Defining flexibility in a way that is devoid of employee choice or organizational practice is appropriate for integrating both the employee and organizational perspectives because it privileges neither perspective. Taken together, reconciling the employee and organizational perspectives of temporal workplace flexibility requires 1) identifying a workplace flexibility practice that is clearly organizationally driven and 2) a theoretical framework that begins with a definition of flexibility that is conceptualized as a characteristic of the workplace. I combine these perspectives by using a boundary theory framework to examine the effects of schedule instability and work-nonwork conflict for shift work employees.

**Schedule instability: Overview**

Schedule instability is the extent to which work hours change or fluctuate (Lambert, 1990; Lambert & Haley-Lock, 2004). Given the specific focus on the pattern of work hours, schedule instability makes time a focal construct (Shipp & Cole, 2015; Sonnentag, 2012b) and can be experienced subjectively (psychological perspective) and objectively (clock-based perspective). Subjective schedule instability refers to psychological interpretations of work hour fluctuations and that may be perceived differently from moment to moment or within different social settings. Objective schedule instability refers to objective, clock-based work hour fluctuations in which minutes and hours are equal across individuals and situations (Shipp & Cole, 2015).

Most of what is known about perceptions of varying schedules is derived from national surveys in which respondents are asked to report if their schedule varies (e.g., is irregular or rotating). For example, using the Current Population Survey, Presser (2003) found that roughly 15% of the workforce works rotating or varied schedules. Further, using the General Social Survey, Golden found that approximately 17% of the workforce experiences unstable schedules (Golden, 2015). In a study conducted by Public Policy Polling, the estimate was 24% (Public Policy Polling, 2015). Varying schedules are mostly experienced among those with the lowest earnings, lower levels of education, and outside of professional, managerial, and administrative occupations (Golden, 2015) and those who are Black and Hispanic are more likely to work these schedules than White employees (Presser, 2003a).

Repeated measures studies that examine objective work hour fluctuations are severely lacking. One such study, however, was conducted in Canada using the 1996-

2001 longitudinal panel of the Survey of Labor and Income Dynamics (SLID). The findings showed that analysis over five years indicated more variability than cross-sectional data with an average annual variation of 200 working hours, or roughly 5-weeks of full-time work (Heisz & Larochelle-Côté, 2006).

These national surveys do provide some indication of the prevalence of both objective and subjective instability; but, these findings do have limitations. First, these trends of instability are likely underestimated because the structure and wording of national surveys encourages respondents to "smooth out hour variations to capture the 'average'" as employees are asked to report typical work hours and the response option that "hours vary" only applies to those who say they cannot report typical hours (Lambert, Haley-Lock, & Henly, 2012, p.302). Second, although most respondents report having little to no control over the structure of their work hours (Golden, 2015; Heisz & Larochelle-Côté, 2006), it is unclear to what extent employees are choosing to vary their work hours. Even studies that ask directly about the extent to which supervisors change work schedules are limited by cross-sectional designs (Henly & Lambert, 2014; Swanberg, Nichols, & Perry-Jenkins, 2016) because asking respondents to think about their work schedule fluctuations holistically are also likely to suffer from similar "smoothing" effects as national surveys. Taken together, schedule instability can be experienced subjectively or objectively, is commonly experienced in the workforce, and is likely underestimated.

**Boundary Theory: Overview, Conceptualizations, and Defining Key Terms**

As discussed, boundary theory provides a theoretical framing to integrate organizational and employee perspectives of flexibility. The notion of boundaries has

been used widely across disciplines to explain self and collective identity to categories such as race, gender, nation states and class (Lamont & Molnar, 2002). Boundary theory focuses on the ways individuals create, maintain, or change boundaries to simplify or classify the world around them (Kreiner et al., 2009). As such, boundaries demarcate work and nonwork domains temporally, spatially, cognitively, and behaviorally (Allen, Cho, & Meier, 2014). These boundaries are socially constructed and actively enacted, not passively experienced (Clark, 2000; Kreiner et al., 2009; Nippert-Eng, 1996). Individuals enter and exit domain roles by placing or transcending boundaries (Ashforth, Kreiner, & Fugate, 2000; Clark, 2000).

Boundaries are characterized by the extent they are permeable and flexible. Permeability is the extent one can be physically located in one domain but psychologically and/or behaviorally involved in a different domain. Flexibility is the extent to which temporal and spatial boundaries are pliable or can expand and contract based on demands (Hall & Richter, 1988) and refers to when and where a role can be enacted. For example, someone working in a family business can be expected to play the role of boss, sibling, spouse, or child at any point or time (Allen et al., 2014; Kreiner et al., 2009). Conversely, an inflexible role would be constrained in when and where it could be enacted (e.g., bus driver). Low levels of permeability and flexibility strengthen boundaries and segment domains, whereas high levels of permeability and flexibility weaken boundaries and integrate domains (Ashforth et al., 2000; Clark, 2000).

Permeations can refer to several activities such as being in one domain and communicating about the other, having pictures of family members at work, or thinking about work while at home (Carlson & Frone, 2003; Kossek et al., 2012). Given the

difficulties of conceptual clarity surrounding the permeability construct, Allen and her colleagues (2014) suggest that permeability represents a global, latent construct that captures the totality of psychological and behavioral transitions between work and nonwork domains. As such, scholars have focused on further developing understandings of the implications of domain boundary flexibility (Matthews & Barnes-Farrell, 2010).

Following Matthews and Barnes-Farrell (2010), employee-driven flexibility is comprised of two dimensions: willingness and ability. Scholars have argued for this distinction because boundary management is a combination of both individual differences and job structure (Kossek et al. 2005). For example, Kossek and her colleagues (2006) argue that researchers should unpack arguments of flexibility and distinguish between the use of flexible policies and the experiences of flexibility because solely distinguishing users from non-users frames flexibility access as "a dichotomous, non-socially constructed variable" (p.349). The distinction between willingness and ability for flexibility explains why preferences influence how employees respond to using communication technologies outside of work (Olson-Buchanan & Boswell, 2006) and even the emotional responses to work-related communication during nonwork times (Butts et al 2015).

Flexibility-willingness is an individual's motivation to allow flexibility in either the work or nonwork boundary. Willingness captures the types of "mental fences" individuals construct around domains (Kreiner et al., 2009, p.710). For example, a person who refuses to answer calls from home while at work would be unwilling to flex the work boundary. In contrast, a person who is comfortable taking calls while at work is more willing. Flexibility-ability refers to cognitive appraisals that flexing boundaries is

permissible by others (e.g., supervisor or spouse) and the degree to which individuals are penalized for flexing boundaries (Matthews & Barnes-Farrell, 2010). Flexibility-ability is determined within the context of environmental constraints including others who hold their own views of domain boundaries (Clark, 2000; Kreiner et al., 2009; Nippert-Eng, 1996).

Distinct from the flexibility that characterizes work and nonwork domain boundaries, are the behaviors individuals engage in to move across domains – or boundary transitions. These transitions are the "frequency with which individuals cognitively or behaviorally shift their resources to another domain through specific actions" (Matthews, Winkel, & Wayne, 2014, p.74). It is important to note the distinction between flexibility (a characteristic of a domain) and transitions (the behaviors enacted in response to boundary flexibility). Examples of boundary transition behaviors are changing plans in one domain to accommodate the other or stopping activities in one domain to engage in other domain activities such as receiving a phone call from a family member while at work.

One of the key insights and strengths of boundary theory is the notion that boundaries are actively constructed and co-constructed because individuals are "not mere automatons reacting helplessly to pressures around them" (Kreiner et al., 2009, p.705). As such, individual actions are key to the process of boundary management (Clark, 2000; Kreiner et al., 2009). Seminal studies however, articulate discrete behaviors, events, or episodes and suggest that the collection of these discrete occasions culminates in a general level of work-nonwork conflict (Kreiner et al., 2009).

This focus on general levels of work-nonwork conflict has led to many useful insights regarding general preferences around work and nonwork boundaries (Methot & LePine, 2016; Rothbard, Phillips, & Dumas, 2005) predicting levels of work-nonwork conflict between individuals. However, only examining the differences in the individual-level work-nonwork conflict "conceals the effects of attempts to cope" over time (Maertz & Boyar, 2011, p.70). While general boundary management preferences are assumed to be stable, the specific boundary management tactics and behaviors may change week to week, day to day, or moment to moment. These discrete moments represent specific episodes in which choices are made and behaviors enacted to manage work and nonwork boundaries, which are best examined within-person over time (Maertz & Boyar, 2011). Previous studies have demonstrated the importance of examining work and nonwork domains using a within-person approach because dynamism of making decisions (Shockley & Allen, 2015), reactive emotions (Butts, Becker, & Boswell, 2015), and cognitive distractions (Smit, Maloney, Maertz, & Montag-Smit, 2016).

While some research exists using within-person approaches on managing work and nonwork boundaries via communication technologies (Derks, Bakker, Peters, & van Wingerden, 2016), this perspective is not typically applied to boundary theory and (to my knowledge) no study has used a within-person approach to examine the effects of organizationally-driven flexibility. The potential changes in strategies and behaviors of managing boundaries may be particularly acute when individuals attempt to navigate schedule instability because navigating irregular schedules may disrupt established childcare arrangements (Henly & Lambert, 2005; Scott, London, & Hurst, 2005) and coordinating care for sick loved ones (Williams & Boushey, 2010).

The daily experience for many non-professional employees is one of pieced together schedules to ensure that everyone's needs are met both at work and home. When changing work hours disrupts this delicate balance, employees are left to make hard decisions and must weave together solutions using the available support while always keeping in mind the potential negative backlash from sanctions in the workplace.

Taken together, boundary theory provides an appropriate lens to combine employee and organizationally driven workplace temporal flexibility. I extend this perspective and suggest that schedule instability represents organizationally-driven flexibility that results in behavior episodes in which employees must decide what behaviors to enact in response to fluctuating work hours. In the next section, I will use boundary theory to develop hypotheses of how these perspectives combine to influence the relationship with work-nonwork conflict.

**Schedule instability and boundary transitions**

According to boundary theory, domain flexibility increases "flow" between domains (Matthews, Barnes-Farrell, & Bulger, 2010, p.449), which encourages boundary transitions (Matthews & Barnes-Farrell, 2010; Matthews et al., 2010; Methot & LePine, 2016). In other words, transitions represent the specific behaviors that are enacted in response to boundary flexibility. Extending this logic, I argue that schedule instability represents a form of organizationally-driven flexibility and as such, instability will increase boundary transitions because flexible boundaries may increase unwanted interruptions and blurring between domains (Ashforth et al., 2000).

When individuals experience unwanted interruptions, they respond with temporal and behavioral strategies to cope. For example, Kreiner et al. (2009) found tactics such as

adjusting work time and leveraging technology were useful strategies for managing work-life boundaries. Similarly, Clark and colleagues found that individuals use a variety of coping strategies to manage work and family stressors, the most salient of which were rearranging schedules and working to manage the degree of boundary blurring between domains (Clark, Michel, Early, & Baltes, 2014). As shown, many of these coping strategies involve behaviors that shift resources from one domain to the other, which are boundary transitions.

Using a longitudinal design, Matthews and his colleagues found support that boundary transitions are a form of temporary coping in response to increased domain demands as individuals shifted resources to the overloaded domain (Matthews et al., 2014). Last minute notice of schedule changes and unpredictable schedules are work demands that can lead to conflict between work and personal life (Henly & Lambert, 2010, 2014) and individuals likely cope with these changes with similar temporal and behavioral strategies. For example, low-wage mothers would make arrangements with formal and informal (i.e., relatives) child-care providers and adjust working hours, resulting in an often constant act of coordination to find child care in light of erratic work hours (Henly & Lambert, 2005; Scott, London, & Hurst, 2005).

In this way, perceiving an erratic schedule can be stressful and individuals may invoke triage as a coping strategy (Kreiner et al., 2009). Invoking triage means prioritizing what is seemingly most important in that moment (Kreiner et al., 2009, p.716). When schedules change, employees likely take stock of the current situation and prioritize what needs to be done and adjust accordingly. At a moment's notice, employees may call home, adjust events, alter work hours, etc. to accommodate

unforeseen changes. These behaviors are the shifts in resources across domains to accommodate changes in domain demands (i.e., boundary transitions). For non-professional employees making these adjustments often puts employees in an impossible position because taking extended lunch breaks, arriving late, or not coming into work because of an emergency puts employees at risk of being fired (Williams & Boushey, 2010).

In sum, individuals respond to work hour fluctuations through making boundary transitions. Although boundary transitions are conceptualized as bi-directional and employees can transition from work-to-nonwork or from nonwork-to-work (Matthews & Barnes-Farrell, 2010; Matthews et al., 2010), given the nature of the shift work sample in this study, I only analyze work to nonwork transitions because these employees cannot take their work home and engage in work during off hours (which is how nonwork-to-work transitions are operationalized). Thus, I hypothesize:

*H1a: Within person, subjective schedule instability is positively related to work-to-nonwork transitions.*

Aligned with the argument that schedule instability is a temporal construct, in addition to subjective perceptions, I argue individuals also experience schedule instability objectively. Whereas subjective views of time are interpretive, objective views of time are based on the progression of the clock; meaning time is unidirectional (progress to the future), homogenous,  and absolute across individuals and situations (Shipp & Cole, 2015). As such, objective schedule instability is assumed to be a relatively stable experience that differs between people. For example, over a four-week period Employee A may work 38, 45, 52, and 35 hours. The overall fluctuation of these hours across the

four weeks would represent the schedule instability for that employee. Alternatively, Employee B may experience work hours of 38, 40, 42, and 41 hours. Employee B would have less instability than Employee A.

Work hour allocations are determined by organizational processes (particularly in non-professional settings where schedules are more rigid than in professional settings; Golden, 2015; Matos & Galinsky, 2011; Swanberg, McKechnie, Ojha, & James, 2011). Similarly, additional work hours are also determined by established compensation practices. Given that the organization determines work hours (and the changes in those work hours) the experience of objective work hour fluctuations is likely stable over time for each individual and thus, I hypothesize a cross-level direct effect that:

*H1b: Between-person, objective schedule instability is positively related to work-to-nonwork transitions (within-person).*

**Boundary transitions and work-nonwork conflict**

Consistent with boundary theory (Kreiner et al., 2009; Matthews et al., 2010), I predict that although boundary transitions can be used to cope with fluctuating work schedules, increased frequency of boundary transitions is related to increases in both directions of work-nonwork conflict (Matthews et al., 2014). These transitions come with the cost of interruption and confusion (Ashforth et al., 2000) and can lead to perceptions that one domain intrudes on the other (Kossek et al., 2005, 2006; Kreiner et al., 2009). Previous research finds that making transitions from work to nonwork increases perceptions that nonwork interferes with work (Matthews et al., 2010). For example, behaviors such as leaving during a lunch break to take a child to a doctor's appointment may lead to perceptions that nonwork interferes with work.

In this case, however, employees are using boundary transitions to respond to organizationally-driven flexibility (i.e., schedule instability), meaning that the impetus of the transition is from the work domain. Without the schedule change, the transition would not occur; yet, the same resource depletion and boundary blurring is expected to occur (Ashforth et al., 2000; Olson-Buchanan & Boswell, 2006). Unstable work schedules may disrupt employees' ability to plan and can bring an already devised plan crashing down, leading to conflict (Williams & Boushey, 2010).

According to boundary theory, transitions between domains are facilitated by "rites of transition" or the rituals and ceremonies associated with moving between domains such as cleaning up one's work station, changing clothes, saying goodbye to co-workers, etc. (Ashforth et al., 2000, p.478). Smooth transitions are facilitated through routinizing these rites of transition because routinization makes passage across boundaries near automatic, requiring fewer resources (e.g., cognitive, energy, time) to transition (Ashforth & Fried, 1988). We can imagine similar rites of transition when employees attempt to adjust to accommodate work and nonwork demands. For example, if an employee leaves work during lunch to take a parent to the doctor there may be a process for notifying the supervisor, leaving the work station, transitioning out of the building, etc. An unstable schedule, however, disrupts this routinization process because there is uncertainty in when transitions will occur and individuals scramble to cope with changing work demands (i.e., through invoking triage). When rites of transition are not routinized, the resource saving automation process cannot be established (Ashforth et al., 2000).

Moreover, schedule instability may limit employees' ability to plan and instead they have to use more reactive and "off the cuff" strategies for accommodating their needs (Bochantin & Cowan, 2014, p.11). These reactive strategies are far less effective than planning ahead and employees' requests are often denied. These denials may increase anger and frustration and lead employees to walk out and deal with the consequences later (Root & Wooten, 2008). In sum, the disruptions from unstable schedules leads employees to continuously expend resources to meet both work and nonwork demands. Without the benefit of routinization, the process of transitioning across domains never becomes easier (and perhaps triggers negative strategies) that increase the perception of conflict in both directions.

*H2: Within-person, work-to-nonwork transitions are positively related to (a) nonwork-to-work conflict and (b) work-to-nonwork conflict.*

**Combining perspectives: Moderating role of employee-driven flexibility**

So far, I have applied organizationally-driven flexibility (i.e., schedule instability) to boundary theory. Individual differences in preferences and boundary perceptions, however, are important factors to how individuals enact work and nonwork boundaries (Ashforth et al., 2000; Derks et al., 2016; Kreiner et al., 2009; Nippert-Eng, 1996). Employee-driven flexibility is defined as an individuals' willingness and ability to alter boundaries (Matthews & Barnes-Farrell, 2010; Matthews et al., 2010). Those who have high employee-driven workplace flexibility perceive they are willing and able to adjust work boundaries to meet nonwork demands. Those who are low in employee-driven workplace flexibility are less willing and able to adjust the work domain to meet nonwork demands.

Aligned with theories of person-environment fit, when preferences for boundaries align with the environment, stress and conflict decrease (Ammons, 2013; Kreiner, 2006). For example, employees who allow more blurring of boundaries have less negative reactions when they experience an intrusion from one domain to the next (Olson-Buchanan & Boswell, 2006). Those who are willing and able to adjust work boundaries should view transitions as less taxing because making transitions from work to nonwork are consistent with what they are willing and able to do.

In terms of schedule instability, those individuals who are more willing and able to make work adjustments for nonwork needs can more easily mobilize resources needed for rites of transition (Ashforth et al., 2000). This may be particularly critical in a non-professional occupation in which making adjustments are less likely (Ashforth et al., 2000) and perhaps even sanctioned (Nippert-Eng, 1996). Those who perceive they are willing and able to make adjustments are likely better able to mobilize the resources needed to proactively make those adjustments such as knowing which supervisor to ask for permission and other formal and informal processes needed to acquire work-life accommodations (Bochantin & Cowan, 2014; Root & Young, 2011).

Whenever transitions are needed, even when they are unexpected, these individuals do not experience resource mobilization as costly. Conversely, those low in willingness and ability to adjust their work boundary will view the variation in transitions as a taxing expenditure or resource because it is inconsistent with what they are willing and able to do. Moreover, they cannot foresee and plan to make the transition. Taken together, I hypothesize the following cross-level interactions:

*H3: Employee-driven flexibility ((a) willingness and (b) ability) moderates the relationships between work-to-nonwork transitions (within-person) and nonwork-to-work conflict (within-person) such that, for employees with higher levels of employee-driven flexibility, the relationship with will be weaker (rather than stronger).*

*H4: Employee-driven flexibility ((a) willingness and (b) ability) moderates the relationships between work-to-nonwork transitions (within-person) and work-to-nonwork conflict (within-person) such that, for employees with higher levels of employee-driven flexibility, the relationship with will be weaker (rather than stronger).*

# METHOD

## Study Context

To ensure that organizational practices were indeed driven by the organization, I used a sample of shift work employees. Shifts are characterized as regular day shifts (more than half of working hours occur between 8am-4pm), regular evening shifts (more than half of working hours occur between 4pm-12am) and regular night shifts (more than half of working hours occur between 12am-8am; Presser, 2003b). Given the fixed work hours, shift work employees experience high levels of schedule rigidity and have fewer opportunities for employee-driven flexibility (Swanberg et al., 2005).

These rigid work hours make the shift work context ideal to examine organizationally- and employee-driven flexibility because the experience of organizationally-driven flexibility (i.e., schedule instability) is driven by production volume and thus, this form of organizationally-driven flexibility cannot be confounded with employee-driven flexibility as it would be within a professional work setting (Kossek & Lautsch, 2018). The participants for this research study work for a grocery distribution center located in the Southeast United States. In addition to working shifts, the employees at this grocery distribution center experience near daily work hour changes, making this sample appropriate for examining the effects of schedule instability, boundary transitions, and work-life conflict.

The distribution center employs approximately 450 employees across two main operating areas: perishable and grocery. The jobs of the employees within these areas are shipping and receiving. Specifically, employees are responsible for unloading and loading grocery items from delivery trucks to storage units. The work is done using

forklifts and can require lifting heavy cases. Employee productivity is electronically monitored.

Employees work either the day or night shift. Day shift begins at 6AM and the night shift begins at 8PM. The end times for each shift vary. High product volumes can extend shift times. For this reason, no organizational leader nor employee has provided a clear end time to the work shifts. Lack of staff (i.e., call outs, sick days) can also increase workloads for others and extend the shift. The job tasks and shift times across perishable and grocery are identical; but, the work conditions are different. Perishable operations consist of food items that need to be refrigerated or frozen. Grocery consists of primarily shelf items. For this reason, employees in the perishable operation work in environments that vary from roughly 55 degrees to sub-zero temperatures. Grocery operates at approximately room temperature.

**Data Collection Procedure**

To test the hypotheses of this study, I collected repeated measures once per week, over four weeks (except employee-driven flexibility and demographic controls which were only collected at Time 1). A one-week time lag was chosen for theoretical and practical reasons. Henly and Lambert (2014) found that advance notice of schedules one week or less consistently increased work-life conflict. Thus, one week appears to be a critical tipping point for the implications of schedules on conflict. Repeated measures also helps to reduce the extent respondents "smoothing" their experience of varied hours that occurs when asked to assess the global experience of how hours vary (Lambert et al., 2012).

Practically, one week was feasible for organizational leaders. To encourage participation, employees were surveyed during work hours and paid an hourly rate for their time. Further, given the nature of the shipping and receiving job and the difficult work hour structure, having employees participate in the study more than once per week was challenging to manage to ensure participants were paid appropriately and that the study did not disrupt work productivity. To mitigate these concerns, while still maintaining conceptual alignment, repeating measures once per week was decided.

To obtain these data, I went to the production facility two days per week (Wednesday and Friday) and collected data from both day and night shift employees each week of the month in May 2017. Specifically, I visited the production facility May 3rd and 5th, 10th and 12th, 17th and 19th, and 24th and 26th. I collected data on both Wednesday and Friday evenings from the night shift employees before their shift started. Thus, employees were asked to come to work within an hour of beginning their shift if they chose to participate in the survey. Those who came to work early to participate were compensated at the hourly rate. I collected data on Friday mornings from the day shift employees. These surveys were taken while employees were still on shift. Thus, those who chose to participate left their stations within one hour of their lunch break and they were compensated at the hourly rate.

I collected the data for this project using pen and paper surveys. I was always present in the breakroom during data collection. All supervisors were asked to leave before any participants were called to begin the surveys. Surveys from each data collection wave were linked using employee badge identification numbers.

**Sample**

A total of 317 employees participated in the survey across the four time points. Sixty participants were removed because they did not participate in Time 1, thus did not provide any demographic information, resulting in a sample of 257 participants. An additional seven participants were removed because of duplicate identification numbers (n=250). Finally, I removed an additional 5 participants who indicated working fewer than 20 hours per week. All employees were hired as full-time employees, thus reported work hours below 20 hours per week were likely the result of taking vacation time or participants not following the directions (i.e., they only reported the work hours up until that specific day of the week, not for the complete, past week). The final sample included 245 participants with 616 weekly data observations.

I conducted mean comparison tests to assess the missing data (see Appendix A). The results of the analysis show no significant differences based on the number of times each respondent participated. The analyses did show mean differences in age and tenure based on the number of times employees participated. Specifically, the sample of participants who participated in week 1 only was slightly older than the samples that participated two times [$F(3,225)=4.37$, $p=.025$] and four times [$F(3,225)=5.24$, $p=.008$]. Similarly, the sample of participants who participated in week 1 only had more tenure than the sample that participated two times [$F(3,235)=0.89$, $p=.017$]. To demonstrate the size of these mean differences, I calculated Cohen's d (Appendix A). The results show scores ranging from 0.54-0.62 indicating the observed mean differences in age and tenure differ by roughly half a standard deviation score, a medium difference (Cohen, 1992).

Most participants were male (96%) with an average age of 29 years old (*SD* = 8.15). Roughly half the sample was married or living with someone as a couple (55%),

had at least one child under the age of 18 living at home (50%), and several also had elder care responsibilities (36%). The respondents were racially diverse with 44% Caucasian, 34% African-American, 10% Hispanic, and 2% Asian. Sixteen employees chose not to disclose their race. For most (74%), high school was the highest education achieved and they earned between $20,000-$50,000 (63%). Respondents worked, on average, 37.57 (*SD* = 4.87) hours per week, 63% worked the night shift and 55% of the sample had less than 1.5 years organizational tenure.

**Measures**

Given the interest in the broader domain of work-nonwork conflict (not just family) the wording of several measures was altered to reflect this broader domain. (see Appendix B for full description of items and alterations). For all repeated measures, participants were asked to answer each item "Thinking about the last week…"

*Work-Nonwork Conflict*. I measured work-nonwork conflict using the using the 11-item, bidirectional, work-nonwork interference scale from Fisher et al. (2009) with the response scale was 1 (not at all) to 5 (almost all the time). Each week, participants were asked the extent to which work interfered with nonwork and vice versa. Work-to-nonwork conflict was measured with 5-items. A sample item for is "My job makes it difficult to maintain the kind of personal life I would like." The coefficient α for this scale, averaged across the weeks of data collection, was 0.92. Nonwork-to-work conflict was measured using 6-items and a sample item is "My work suffers because of everything going on in my personal life." The coefficient α for this scale, averaged across the weeks of data collection, was 0.86.

*Subjective Schedule Instability*. Consistent with theorizing, I captured schedule instability using subjective (perception) and objective (clock-time) measures. To capture subjective schedule instability, each week, participants were asked three items from Swanberg et al. (2016) with a response scale ranging from 1 (never) to 5 (always) which assessed overall work hour fluctuations, supervisor schedule adjustments without employee consent, and last minute schedule changes. Work hour fluctuations was measured by asking "How frequently did the number of hours you are scheduled to work vary from day to day?" Supervisor adjustments were measured by asking "How frequently did your supervisor change your work hours without your consent?" Finally, last minute changes were measured by asking "How frequently were last minute changes made to your work schedule?" The coefficient α for this scale, averaged across the weeks of data collection, was 0.62.

I further examined the interitem correlations considering the low α alpha score (Appendix C). The results indicate that the item "How frequently did the number of hours you are scheduled to work vary from day to day?" does not correlate well with the other two items (r=0.18 and 0.20). Additionally, I examined the α scores for each week (Appendix C) and they are 0.65, 0.44, 0.66, and 0.64 for each week respectively. As seen, week 2 perceptions of subjective schedule instability appear to be particularly problematic. Week 2 data collection occurred the day after a particularly long shift and participants were much more tired than I observed on any other week of data collection. For this reason, I believe this inconsistent α alpha score reflects increased measurement error due to participant exhaustion. Finally, I examined the item descriptive statistics (Appendix C). These results indicate that the item "How frequently did the number of

hours you are scheduled to work vary from day to day?" has a higher mean (M=3.63) and lower standard deviation (SD=1.04) than the remaining two items.

Considering the inconsistent α alpha scores and item mean distributions, I used the omega (ω) coefficient as an additional test of internal consistency. Omega has shown to be a more accurate indicator of reliability because this coefficient relaxes assumptions of traditional α alpha (Trizano-Hermosilla & Alvarado, 2016) and "has less risk of overestimation or underestimation of reliability" (Dunn, Baguley, & Brunsden, 2014, p.405). To calculate ω, I used the MBESS package in R (Dunn et al., 2014). The analysis resulted in an ω score of 0.70, 95% CI [0.64,0.74]. The bootstrapped confidence interval was estimated using 10,000 simulations.

Taken together, given that exhaustion in week 2 is a likely contributor to measurement error and that the ω coefficient (and bootstrapped confidence interval) are within in an acceptable range, I retained all three items as an indicator of subjective schedule instability.

*Objective schedule instability.* To capture objective schedule instability, I asked respondents to report their weekly work hours at each time point. Consistent with measurement of variability (Matta et al., 2017; Scott et al., 2012), I computed the standard deviation of these weekly work hours to form an overall objective instability score. By calculating the standard deviation, I measured the "spread" of weekly working hours across the time points. Standard deviations are useful measures of dispersion that have been shown to perform consistently with other dispersion indicators and have the added benefit of being easy to interpret as the spread around a mean (Roberson, Sturman, & Simons, 2007).

As discussed, objective schedule instability represents a between-person difference that is distinct from the within-person perceptions of subjective schedule instability. Interestingly, the overall correlation between subjective and objective schedule instability is quite low ($r$=.02; Table 1), demonstrating that perceptions of work hour changes are distinct from the objective dispersion of weekly work hours.

*Work-to-Nonwork Transitions*. I measured work-to-nonwork transitions using Matthews et al. (2010) 6-item work-to-family transitions measure at each time point. The response scale ranged from 1 (never) to 6 (very often). Given my interest in the broader nonwork domain (not solely family), I reworded the items to reflect the broader nonwork domain (see Appendix B). An example is, "How often have you arrived to work late so you could deal with demands in your personal life?" (α=.85). Using a between-person design, Matthews and colleagues report a Cronbach alpha as 0.75 with factor loadings ranging from 0.47-0.76. I found a similar pattern of factor loadings ranging from 0.54-0.82 for the between-person model and ranging from 0.43-0.64, within-person suggesting similar fit for the altered items (see Appendix D).

*Employee Driven Boundary Flexibility*. Given that employee-driven boundary flexibility (work flexibility willingness and ability) is conceptualized as a between-person construct, I captured this using Matthews et al. (2010) work boundary flexibility willingness and ability scales (4-items for each scale) at time 1 only. The response scale ranged from 1 (strongly disagree) to 7 (strongly agree). An example item for work boundary flexibility-willingness is "I am willing to take an extended lunch break so that I can deal with responsibilities relating to my family and personal life" (α=.80). An

example item for work boundary flexibility ability is “If something came up in my personal life, it would be all right if I arrived to work late” (α=.77).

*Control Variables*. Careful attention was given in determining the use of control variables (Becker, 2005; Spector & Brannick, 2011). Given that boundary transitions are defined as individuals moving from one domain role to another, being married and having caregiving roles is likely to relate to work-to-nonwork transitions (Matthews et al., 2014). For this reason, I include a measure for those respondents who have children or elder caregiving responsibilities (i.e., dependents (67%)) and partner status. Dependent is coded 0 = those with no dependents and 1 = those with children or who are responsible for an elderly relative. Partner status is 1 = those who are married or living with someone as a couple and 0 = if not.

Additionally, work hours are related to boundary transitions (Winkel & Clayton, 2010) and was also included as a control variable (measured weekly) in the statistical models for work-to-nonwork transitions. Working a nonstandard shift can disrupt the interactions with friends and family outside of work (Cornwell & Warburton, 2014; Wight, Raley, & Bianchi, 2008). It is possible that the timing of one’s shift influences the need to make transitions. Specifically, working at night may decrease the occurrence of transitions because employees are working when their friends, family, and others are sleeping and most organizations (e.g., doctor’s offices) are closed. Shift time is measured 0 = day shift, 1 = night shift.

Like transitions, time demands and role responsibilities are related to increased conflict (Michel, Kotrba, Mitchelson, Clark, & Baltes, 2011), and I include work hours (measured at level 1), partner, and dependent status as controls in the statistics models

examining work-nonwork conflict. Further, I include shift time given previous evidence that working nonstandard shifts disrupts interactions with friends, family, and community members (Cornwell & Warburton, 2014; Wight et al., 2008) and also increases the physical stress from disrupting circadian rhythms and sleep patterns (Kalil, Dunifon, Crosby, & Houston Su, 2014; Wight et al., 2008) can lead to short tempers and lack of energy when interacting with family and friends (Handy, 2010; Maume & Sebastian, 2012; Maume, Sebastian, & Bardo, 2009).

I add two additional demographic control variables to the work-nonwork conflict models. First, I include race given evidence that Whites perceive higher levels of conflict than do non-Whites (Schieman et al., 2009). Race is coded 1 = White, 0 = non-White. Second, I include age because older individuals have been shown to experience less conflict than do younger individuals (Schieman et al., 2009). Given the production worksite context, males dominate the sample (96%) making any gender comparisons tenuous. While the complete data were used in the analyses, I removed the gender variable from the statistical models (results remained unchanged; see Appendix E).

**Analytic Strategy**

To account for the multilevel nature of the data, I used multilevel analysis using the multilevel and nlme packages in R (Bliese, 2013) to test my hypotheses. At level 1 were the repeated, weekly observations of weekly work hours, subjective schedule instability, work-to-nonwork transitions, and both directions of work-nonwork conflict. At level 2 were the single assessments of employee-driven flexibility (i.e., work flexibility willingness and ability), objective schedule instability (represented by the standard deviation of work hours across the weeks of data collection) and the control

variables (i.e., partner status, dependent status, race, shift, and age). Thus, the level 1 variables may vary within individuals (for example, employees experience more subjective schedule instability in some weeks than in others), and the level 2 variables may vary between person (for example, some employees may drive the flexibility – i.e., be more willing or able to flex boundaries – between domains more than another employee).

To reduce covariance between intercepts and slopes and potential multicollinearity (Hofmann & Gavin, 1998), I centered the level 1 variables at the weekly level around the individual's mean (person-mean centering) and grand-mean centered level 2, between-person variables (Ohly, Sonnentag, Niessen, & Zapf, 2010), with the exception of dichotomized demographic variables.

# RESULTS

## Descriptive Statistics

Table 1 provides the descriptive statistics and correlations among the study variables. Correlations below the diagonal capture between person relationships. The within-person correlations are listed above the diagonal. I calculated with within-person correlations using the repeated measures correlation (rmcorr) package in R (Bakdash & Marusich, 2017). Repeated measures correlations are more appropriate for repeated measures data because this analysis does not assume independence as does traditional Pearson correlation coefficients. Repeated measures correlations are also superior to the common practice of aggregating the data for each participant because such aggregation eliminates potentially meaningful within-person variation (Bakdash & Marusich, 2017).

Consistent with previous research (Fleeson, 2001; Matta, Scott, Colquitt, Koopman, & Passantino, 2017; Scott, Tech, Wagner, & Barnes, 2012), I compared the average of each person's objective schedules instability (i.e., mean objective schedule instability) to the standard deviation in work hours between person (i.e., standard deviation of mean work hours). As shown in Table 1, the average for each person's objective schedule instability is 3.48 hours and the standard deviation of average work hours is 4.87 hours. Although these results indicate that respondents differed more from one another in work hours than from themselves over time, these variability scores are similar and this trend is consistent with previous studies that have examined variability (Matta et al., 2017; Scott et al., 2012).

Examining the correlations reveals the complexities of work hours and both subjective and objective schedule instability (Table 1). First, work hours are negatively related to objective schedule instability ($r$ = -.21), subjective schedule instability ($r$ = -.01) and both nonwork-to-work conflict ($r$ = -.04) and work-to-nonwork conflict ($r$ = -.12). Subjective schedule instability, however, is positively correlated to each direction of conflict. Objective schedule instability is negatively related with work-to-nonwork transitions ($r$ = -.10) and positively related to each direction of conflict.

**Test of measurement model**

To ensure the focal variables are indeed distinguishable from one another, I conducted multilevel confirmatory factor analysis (MCFA; Appendix D) using the lavaan package in R following the procedure by Huang (2017). In the first step, the level 1 model is tested. As demonstrated in Appendix D, the four-factor within person model (i.e., subjective schedule instability, work-to-nonwork transitions, work-to-nonwork conflict, and nonwork-to-work conflict) was the best fitting model for these data (compared to a one-factor or three-factor model).

The second MCFA step is to test a null model (using the same four-factor model) in which the within and between group covariance matrices are constrained to be equal. The results of this test indicate poor fit of this model (Appendix D). Poor fit for this model suggests that there is in fact between-group variance to explain. Thus, (also using the lavaan package), I estimated the level 2, between-person model (building on the original four-factor structure). The results demonstrated that the hypothesized six-factor structure was a better fit for the data than the alternative five-factor model. An

examination of the factor loadings across the within and between-person models, indicates an overall, consistent pattern of loadings across items (Appendix D).

Before testing the multilevel model, I tested a series of null models to calculate the intraclass correlation (ICC(1)) to determine the amount of variance accounted for both within and between individuals. The results indicate that within-person (between-person) accounted for 30% (70%) and 51% (49%) of the variance in work-to-nonwork conflict and nonwork-to-work conflict, respectively. Also, within-person (between-person) accounted for 34% (66%) of the variance in work-to-nonwork transitions. Finally, within-person (between-person) accounted for 52% (48%) of the variance in subjective schedule instability. In all cases, the variance is above the suggested .10 cutoff (Bliese & Ployhart, 2002) indicating that it is appropriate to proceed with multilevel analysis.

The level 1 equation between work-to-nonwork transitions and subjective schedule instability is:

$$(\text{Transitions})ij = \beta_0 j + \beta_1 j(\text{subjective schedule instability})ij + \beta_2 j(\text{work hours})ij + rij$$

In this equation, i denotes time (i.e., weeks 1-4), j denotes the participant, $\beta_0 j$ represents the intercept, $\beta_1 j$ and $\beta_2 j$ are the slopes relating the indicator variables to work-to-nonwork transitions (coefficient $\beta_1 j$ captures the main effect for H1a) , and rij is within-person error variance. The level 2 equation – which represents the analysis of objective schedule instability which is defined as a between-person difference that potentially influences work-to-nonwork transitions – is:

$$\beta_{0j} = \gamma_{00} + \gamma_{01}(\text{objective schedule instability})_j + \gamma_{02}(\text{demographic controls})_j + U_{0j}$$

The $\gamma_{01}$ coefficient in this equation represents the slope relating objective schedule instability (captures the effect for H1b) to work-to-nonwork transitions pooled across all time points.

The level 1 equation for the relationships to test the hypotheses for each direction of work-nonwork conflict are ($\beta_2$j captures the tests of H2a and H2b):

$$(\text{WNC/NWC})ij = \beta_0 j + \beta_1 j(\text{subjective schedule instability})ij + \beta_2 j(\text{work-to-nonwork transitions})ij + \beta_3 j(\text{work hours})ij + rij$$

The level 2 equation is:

$$\beta_{0j} = \gamma_{00} + \gamma_{01}(\text{objective schedule instability})_j + \gamma_{02}(\text{demographic controls})_j + U_{0j}$$

Finally, the equations including employee-driven flexibility (wiliness and ability) as a moderator that predicts slope variability are:

$$\beta_{1j} = \gamma_{10} + \gamma_{11}(\text{work flexibility willingness})_j + U_{1j}$$

$$\beta_{1j} = \gamma_{10} + \gamma_{21}(\text{work flexibility ability})_j + U_{1j}$$

In these equations, the $\gamma_{11}$ and $\gamma_{21}$ coefficients capture the moderating effects of work flexibility willingness ($\gamma_{11}$ captures the test of H3a and H3b) and ability ($\gamma_{21}$ captures the test of H4a and H4b) on the relationships between work-to-nonwork transitions and each direction of work-nonwork conflict.

**Test of Hypotheses**

The full conceptual model is shown in Figure 1. Table 2 provides the findings for Hypothesis 1a and 1b, which predicted that both subjective and objective schedule instability would be positively related to work-to-nonwork transitions. As shown, when entered into the model, neither subjective nor objective schedule instability is significant, providing no support for H1a nor H1b.

Hypothesis 2a suggested that work-to-nonwork transitions are related to nonwork-to-work conflict and hypothesis 2b suggested that work-to-nonwork transitions are related to work-to-nonwork conflict. Results from Table 3 and Table 4, respectively show that work-to-nonwork transitions are not significantly related to either direction of conflict. Hypotheses 2a and 2b are not supported.

Finally, I hypothesized that employee-driven flexibility (work flexibility willingness and ability) would moderate the relationships between work-to-nonwork transitions, and both directions of conflict (H3a,b; H4a,b; Table 5). I grand mean-centered the willingness and ability variables to reduce collinearity caused when creating the interaction terms (Dawson, 2014). After entering these terms into the model, however, these relationships were not significant and these hypotheses were also not supported.

Looking at the control variables, surprisingly, having multiple roles (i.e., having a partner or dependent) did not significantly relate to work-to-nonwork transitions nor either direction of conflict. Interestingly, White respondents ($B$ = .52, p<.001) and those who worked the night shift ($B$ = .68, p<.001) experienced higher nonwork-to-work conflict than did non-Whites and day shift employees (Table 3). Race and shift did not however, relate to work-to-nonwork conflict (Table 4).

**Post-hoc Analyses**

In this section, I examine two additional potential perspectives that may influence the experience of navigating work and nonwork boundaries. First, while I sought to focus on *workplace flexibility* (and as a result analyzed behaviors of creating flexibility in the work domain – i.e., work-to-nonwork transitions), it is possible that in response to

schedule instability (both subjective and objective) individuals may also shift resources from the nonwork domain to the work domain (i.e., nonwork-to-work transitions). For example, when navigating unstable schedules, individuals may cope by altering plans in the nonwork domain. Indeed, given that I conceptualize boundary transitions as reactions to schedule instability it is possible that at different times, individuals may choose different strategies. In some cases, altering the work domain and at other time altering the nonwork domain.

To investigate this possibility, I captured nonwork-to-work transitions using the interdomain transitions measure from Matthews et al. (2010), at each time point. The original scale has 5 items, however, I removed one item ("How often have you gone into work on the weekend to meet work responsibilities?) because employees typically work weekends, thus weekend work is not "additional" to their typical work schedule. The response scale ranged from 1 (never) to 6 (very often). The remaining 4 items are: "How often have you received calls from co-workers or your supervisor while at home, stopped what you were working on at home to call work, changed plans with your family to meet work related responsibilities, answered work related e-mails while at home? ($\alpha = 0.68$). Appendix F provides the results using nonwork-to-work transitions; as shown, none of these relationships were statistically significant.

My second analysis examines subjective schedule instability at the between-person level. I originally hypothesized that subjective schedule instability could fluctuate over time as individuals navigate specific episodes of conflict between work and nonwork domains. It may be the case, like objective schedule instability, that individuals tend to differ in the extent they perceive their schedules to be unstable. To examine this

possibility, I examined subjective schedule instability as a between-person difference at level 2 (Appendix G) by aggregating across all time points (ICC1=0.48). Overall, the results are not statistically significant, consistent with the main findings. One notable difference is subjective schedule instability at the between-person level is significantly positively related to nonwork-to-work conflict (the within-person relationship was not significant; Table 3).

# DISCUSSION

The purpose of this dissertation was to combine perspectives on organizational and employee-driven flexibility. To accomplish this goal, I extended boundary theory to examine relationships between schedule instability, boundary transitions, and work-nonwork conflict. Overall, I hypothesized that schedule instability (subjectively, within person and objectively, between person) disrupts work and personal life and employees use boundary transitions as a form of temporary coping with these disruptions. I predicted that these transitions, however, increase the perceptions of conflict between work and nonwork domains and that employee-driven flexibility (i.e., willingness and ability to adjust work for nonwork) moderated the relationships between transitions and conflict (see Figure 1).

The findings, however, did not support these hypothesized relationships. There are several potential explanations for these null findings. First, my primary assumption in this investigation was that employees are juggling work and nonwork demands in response to fluctuating work hours. Meaning, they are actively altering boundaries to accommodate their needs and these behaviors represent specific episodes or events during which boundaries are managed. This assumption does not appear to hold true in this sample. I did not find evidence that schedule instability (subjective or objective) is related to work-to-nonwork transitions nor did I find that these transitions increase conflict (Tables 3 & 4). Similarly, post-hoc tests also do not find support that schedule instability (subjective or objective) is related to nonwork-to-work transitions, nor that these transitions influence either direction of work-nonwork conflict (Appendix F).

Given the low occurrence of boundary transitions in this sample, perhaps it would have been better to capture reactions to fluctuating work boundaries. Olson-Buchanan and Boswell (2006) define reactions to boundary interruptions as perceptions of being annoyed or upset by interruptions in either the work or nonwork domains. They found that those who choose to reference work (nonwork) domains while in their nonwork (work) domain have less negative reactions to boundary interruptions.

Extending this thinking to schedule instability, it may be the case that when faced with organizationally-driven flexibility, employees feel annoyed or upset that their work hours are changing outside of their control. Reactions may be particularly relevant to the current sample because the participants are not using boundary transitions to cope with changes. It seems that these employees must simply endure these schedule changes and do not act to maneuver around these changes. In this case, capturing the affective reaction to these changes may have been a better way to capture the response to organizationally-driven flexibility for these employees.

Additionally, a different form of schedule instability may be related to boundary transitions (i.e., the behaviors of shifting resources from one domain to the other). Schedule instability can have distinct causes and instability from adding hours onto a long shift is different from instability in the days worked (e.g., not knowing which days one will work in a particular week). From these results, it does not appear that instability caused by extending work shifts relates to boundary transitions. However, for individuals who experience schedule instability because they do not know what days they will work, it is possible this form of schedule instability will lead to boundary transitions as

individuals attempt to adjust plans, child care, etc. to be present for work while taking care of their personal needs.

Finally, Matthews et al. (2009) measure of boundary transitions (both work-to-nonwork and nonwork-to-work) may not be appropriate for a non-professional sample. This measure was created for professionals and those in administrative occupations. Indeed, only 7.3% of the sample used to validate these items where employees in manual and production occupations (Matthews et al., 2010, p.451). Behaviors such as leaving work early, changing work hours, stopping work tasks (used to meet family and personal life demands) and behaviors such as receiving calls from co-workers and work-related emails at home are common activities for professionals and administrative occupations (Matthews et al., 2010, p.453).

For non-professional employees, calling out of work, using sick days, making work-life accommodation requests to supervisors, calling or texting family members, etc. to navigate demands in work and nonwork domains may be better indicators of behaviors that indicate shifting resources from one domain to the other. Qualitative narratives suggest these may be better indicators. For example, Henly and Lambert (2005) found that mothers in low-wage jobs would string together multiple forms of informal child care in response to fluctuating work schedules, often calling on these informal arrangements at the last minute. These mothers often have childcare arrangements that are as unstable as their work schedules (Scott et al., 2005) When these arrangements were unsuccessful, the respondent had to choose not to work.

Similarly, for middle-income Americans, when children or babysitters become sick unexpectedly, employed parents have to miss work, and may be fired for their absence

(Williams & Boushey, 2010). These examples demonstrate that for these employees, decisions between work and nonwork are not a matter of adjustments per se but the choice of going to work for the full shift or not going to work at all.

In addition to boundary transitions, I hypothesized that employee-driven flexibility (willingness and ability to adjust work for nonwork demands) would buffer against the relationship between transitions and conflict. None of the interaction hypotheses were significant. The main effects of workplace flexibility willingness and ability also have little effect on each direction of conflict, although ability does have a significant, negative relationship with nonwork-to-work conflict (Table 5). This pattern of nonsignificant findings is likely because the willingness and ability indicators reference those specific transition behaviors. Thus, to the extent those behaviors to not align with this work context, employees' perceptions that they are willing or able to enact those behaviors perhaps is also likely not meaningful.

It is worth noting, however, that willingness and ability had means roughly at the mid-point of the 1 (strongly disagree) – 7 (strongly agree) response scales (M=4.59, SD=1.36 and M=3.60, SD=1.37, respectively) indicating moderate levels and variation across employees. These descriptive statistics are in sharp contrast to the 1.87 average for work-to-nonwork transitions on the 1 (never) – 6 (very often) scale. What may be occurring, then, is a disconnect between perceptions and behaviors.

Flexibility willingness is driven by preferences to blur domain boundaries. For those in a shift work, labor intensive setting, those domain blurring preferences may go against the expectation of keeping domains separate (Ashforth et al., 2000; Nippert-Eng, 1996). Willingness to adjust work boundaries may increase the experience of conflict

because employees have limited options for making adjustments (Kreiner et al., 2009) despite the willingness to do so. Previous research, using similar settings (Grandey et al., 2007), has not accounted for employee preferences perhaps because of assumptions that men in labor-intensive jobs are unwilling to integrate work and nonwork domains. Non-professional men who have shift work jobs, however, have historically shared caretaking responsibilities with women to reduce child care costs (Presser, 2003b; Strazdins, Clements, Korda, Broom, & D'Souza, 2006; Wight et al., 2008) and show enjoyment in their caretaking responsibilities (Clawson & Gerstel, 2014). Future research, particularly in non-professional jobs, should include willingness to adjust boundaries. These findings do provide suggestive evidence that ability to adjust the work domain for nonwork needs does relate to nonwork-to-work conflict indicating that, consistent with previous research, control over boundaries is viewed as the strongest contributor to reduced conflict and stress (Hecht & Allen, 2009; Kossek et al., 2012).

Despite the lack of support for my hypotheses, perhaps the most interesting (and unexpected) findings from this study are the relationships between schedule instability and both directions of work-nonwork conflict. First, in the full tested models, neither subjective nor objective schedule instability is related to work-to-nonwork conflict. This is surprising because previous research has exclusively argued that schedule instability results in perceptions that work interferes with the nonwork domain (Golden, 2015; Henly & Lambert, 2014). The results of this analysis, however, indicate that objective schedule instability has a positive, significant relationship with nonwork-to-work conflict. Meaning, accounting for within-person work hours, the dispersion of work hours from week to week is related to increased perceptions that nonwork interferes with work.

What may be occurring is that employees are aware of (and succumb to) the reality of work hour fluctuation; in this case, the addition of hours to the work shift. Given that accepted reality, any resistance or challenges in the nonwork domain may be viewed as interfering. Previous research suggests that the direction of conflict is only determined after the decision regarding the conflict is made (Greenhaus & Beutell, 1985). Decisions regarding work and nonwork domains, however, are heavily influenced by role pressures and sanctions and gender may influence the perception of role pressure (Shockley & Allen, 2014). Taken together, these findings should be understood in the context of a predominately male sample because a breadwinner mentality and spending more time at work remains a standard for men (Mattingly & Sayer, 2006; Sayer, 2005).

The lack of support that schedule instability relates to work-to-nonwork conflict remains surprising and may be due to there being less within-person variation to explain. The ICC (1) for work-to-nonwork conflict is 70% (49% for nonwork-to-work conflict), indicating that perhaps there is less within-person variation to explain than compared to nonwork-to-work conflict. This seems to broach the question of whether work-to-nonwork conflict is best assessed at the person-level. Maetz and Boyar "tentatively conclude that there are few value-added contributions left to be made using the current levels approaches to WF conflict" (Maertz & Boyar, 2011, p.73). When there is ambiguity (or at least space for multiple interpretations) in theory regarding the appropriate level of analysis, however, the potential contribution of levels seems to be an empirical question that should be assessed by tests of data conformity with theory (Klein, Dansereau, & Hall, 1994).

In the case of this sample, it appears that the nonwork-to-work conflict varies more within-person. Perhaps this is an indication of the frequent fluctuations/changes in the nonwork domain. Work-to-nonwork conflict, however, has far less within-person variation, perhaps indicating that the extent to which work interferes with nonwork is stable and the levels of these perceptions change infrequently. Overall, I cautiously suggest that the direction of conflict may be assessed at the within or between person levels and the appropriate analysis for each direction may, in fact, be different. As such, perhaps the best approach for future research is continue to pursue the episodes approach, as authors have suggested (Allen et al., 2014; Maertz & Boyar, 2011), but not assume that a within-person analysis is reflective of all sub-dimensions work-nonwork conflict.

**Theoretical Implications**

While none of the hypotheses were supported, combining organizational and employee perspectives of workplace flexibility did illuminate implications for boundary theory. First, I argued that tests of boundary theory can be conceptualized as discrete episodes or events because boundary transitions are reactions to flexible domain boundaries and as such can change frequently. I did not find support for my proposed hypotheses regarding boundary transitions  but, I believe this conceptualization of boundaries is a useful in the future conceptual development of boundary theory to "better capture the dynamic nature of boundary management" (Allen et al., 2014, p.116).

In this analysis, I argue that one reason that boundary management is dynamic is because individuals decide to shift their resources across from one domain to the next. This perspective extends previous theorizing that has focused on the cumulative effects of these transition behaviors (Kreiner et al., 2009; Matthews et al., 2010) and also suggests

that the dynamism in boundary management is potentially related to specific behaviors to accommodate needs in each domain not only cross-domain referencing (Olson-Buchanan & Boswell, 2006), cognitive transitions (Smit, Maloney, Maertz, & Montag-Smit, 2016), or affective responses (Butts, Becker, & Boswell, 2015). Future research should continue to test the effects of boundary transition behaviors as work-nonwork conflict episodes.

Second, I integrated organizationally-driven flexibility into the boundary theory framework. Previous research in management has focused, nearly exclusively, on employee-driven flexibility and examine the boundary preferences of employees and how organizations provide support to reduce work-nonwork conflict for employees (Allen et al., 2013; Bulger et al., 2007; Derks et al., 2016; Kossek & Lautsch, 2018; Rothbard, Phillips, & Dumas, 2005).

Organizationally-driven flexibility, in contrast, is defined by tactics of firms to remain agile in the face of changing competitive environment (Hill et al., 2008). Following this logic, I argued that schedule instability – work hour fluctuations outside of employee control – represents a form of organizationally-driven flexibility experienced by employees. I aligned the concept of schedule instability with the definition of boundary flexibility from boundary theory – the extent to which domains expand or contract (Hall & Richter, 1988). Additionally, I conceptualized and measured schedule instability as both subjective (perception) and objective (clock time). While I originally conceptualized subjective schedule instability as a construct that varies within-person, after conducting post hoc analyses, it appears that schedule instability is best conceptualized as a between person difference (Appendix G). This logic is aligned with notions of boundary flexibility, in that characteristics of boundaries are assumed to be

stable. In other words, organizationally-driven flexibility is a fixed characteristic of the work domain.

From this study, I have opened an avenue for future research to examine the effects of both organizationally and employee-driven flexibility as it relates to employee boundary management. Scholars have theorized the importance of accounting for the broader environmental level in assessing what shapes practices that facilitate opportunities for employee-driven flexibility (Piszczek & Berg, 2014). This study builds on that work to suggest the implications of organizationally-driven flexibility in which the employee values and desires are secondary. I find tentative support that organizationally-driven flexibility outweighs employee-driven flexibility because inclusion of employee-driven flexibility (willingness and ability) into the models, has no influence on the effects of schedule instability.

Finally, this investigation extends theory because understanding both organizationally and employee driven flexibility has important implications for work-life inequality (Kossek & Lautsch, 2018; Lambert & Haley-Lock, 2004; Lambert & Waxman, 2005). Kossek and Lautch defined work-life inequality as "the degree to which individuals in different occupations have unequal access and ability to use flexibility and different outcomes from different forms of flexibility" (Kossek & Lautsch, 2018, p.7). This definition focuses on enhancing employee-driven forms of flexibility that give employees more options for control making them better able to manage work and nonwork demands.

The findings of this investigation suggest the need for a revised definition of work-life inequality that reflects both organizational and employee driven flexibility. I

suggest that work-life inequality is *the degree to which individuals in different occupations have unequal access and ability to use employee-driven flexibility, unequal exposure to organizationally-driven flexibility, and experience different outcomes from these different forms of flexibility.* It is critical to account for both perspectives of flexibly when attempting to mitigate inequality because, as seen here, the effects of both have distinct influences on employee outcomes.

## Future Research

Based on the implications identified, this study provides insights for future research and contributions to the work-life literature.

### *Extending conversations about work hours in the work-life literature*

Scholars have suggested that long work hours is a work demand that increases conflict between work and personal life (Amstad, Meier, Fasel, Elfering, & Semmer, 2011; Greenhaus & Beutell, 1985; Michel et al., 2011; Voydanoff, 2005). This relationship, however, is particularly relevant for professional employees (Schieman et al., 2009; Williams & Boushey, 2010) and the findings from the current analysis show that, within-person, work hours have a negative, near zero relationship with both directions of conflict (Tables 3 and 4). This is likely because these employees want to work full-time hours (or more) to support themselves and their families. After accounting for work hours, however, objective schedule instability has a significant, positive relationship with nonwork-to-work conflict (Table 3). When assessing subjective schedule instability at the between-person level, it too has a significant, positive relationship with nonwork-to-work conflict (Appendix G). These results indicate that for these employees, schedule instability is caused by unexpected increases in work hours

and although more working hours is directly related to higher income, the fluctuations of those hours increase perceptions of conflict. In other words, the cumulative effect of the number of working hours changing day to day increases perceptions of conflict in a way that is distinct from average weekly work hours. There are several potential explanations for this relationship.

First, schedule instability may undermine employees' ability to psychologically detach from work (Sonnentag, Binnewies, & Mojza, 2010). Psychological detachment is built on the notion that individuals need time to detach or separate from stressors to recover and restore resources needed to complete tasks and accomplish goals. Theorizing about psychological detachment emphasizes how high work demands deplete resources leading to exhaustion and disengagement and how detachment can mitigate these negative effects (Sonnentag & Binnewies, 2013; Sonnentag et al., 2010). However, it remains unexamined how work demands may undermine the experience of psychological detachment.

Work hour fluctuation, particularly due to working long hours, may interrupt the time and activities that employees use to recover. For example, work hour fluctuations may inhibit the ability to plan meaningful leisure activities because employees are never sure how long they will be at work and leisure time is shown to increase psychological detachment from work (Sonnentag, 2012a). The same mechanism of detachment is expected to operate for both subjective and objective schedule instability. As perceptions increase that hours change last minute and without the consent of employees, they are unable to mentally detach (perhaps even if they are engaged in leisure activity). As objective work hours fluctuate, employees cannot schedule the needed leisurely activities.

From this view, schedule instability represents a work demand that may directly interfere with the psychological detachment process.

A second potential explanation for the relationship between schedule instability and work-life conflict is inadequate sleep. If employees' works hour fluctuate because of the unforeseen addition of hours, it may be difficult to establish consistent sleep routines. Research of nonstandard schedules supports that shifts, particularly nonstandard shifts, have negative implications for sleep and health because work is not aligned with biological circadian rhythms, with potential greater negative effects in longer working shifts (Presser, 2003b). The experience of work hour fluctuations too may disrupt circadian rhythms and make it more difficult for employees to establish consistent sleep routines. The resulting reduction in sleep quality may increase work-life conflict through depleted cognitive and affective resources (Kalil et al., 2014; Wight et al., 2008). For example, individuals who have not gotten enough sleep perhaps are less able to regulate their emotions, making them more susceptible to feeling overwhelmed when they need to navigate work and nonwork demands (Handy, 2010; Maume & Sebastian, 2012).

A third potential explanation is that schedule instability is related to uncertainty and this uncertainty undermines perceptions of supervisor support and fairness. According to their review, Lind and van den Bos (2002) argue that fairness is critical for helping individuals navigate uncertainty. Perceiving that organizational processes, procedures, and interactions helps mitigate the negative outcomes of uncertain experiences. It could even be that fairness at work can mitigate the negative effects of uncertainty outside of work as individuals navigate life changes and tragic events (Lind & van den Bos, 2002). Support from supervisors is shown to mitigate the negative effects

of work-life conflict because support provides additional resources that are depleted with navigating work and nonwork demands (Greenhaus, Ziegert, & Allen, 2012; Kossek, Pichler, Bodner, & Hammer, 2011). Evidence suggests, however, that those who work nonstandard shifts perceive less supervisor support than do employees who work standard shifts (Su & Dunifon, 2016).

Within the context of a work environment characterized by changing work hours, perceptions of supervisor fairness may mitigate the negative effects unstable schedules. It would be interesting to examine the effects of fairness perceptions on both subjective and objective schedule instability as the perceptions of instability may have a stronger relationship with fairness perceptions. Further, outcomes such as turnover intentions and productivity, in additional to work-life outcomes would be interesting to examine from the perceptive of fairness given that fairness is associated with a broad array of outcomes of interest organizational behavior scholars (Cohen-Charash & Spector, 2001; Grandey, 2001; Loi, Hang-yue, & Foley, 2006). The implications of a fairness perspective suggest that within an environment characterized by frequent schedule changes, procedures should be in place to specifically address the uncertainty surrounding work hour fluctuations and resources spent on ensuring that supervisor interactions with employees are fair, particularly regarding work hour changes.

***Measuring schedule instability***

The experience of schedule instability is complex and can come from different sources. This study used items that captured general perceptions of work hour fluctuations, supervisor changes to schedules, and last-minute schedule changes. Other causes of instability exist such as seasonal fluctuations (lots of working hours only at

certain parts of the year), work day instability (working one set of days one week and different set of days the next), or being called in to work with little notice or told to leave from work after arriving. All these experiences contribute to perceptions that work hours fluctuate and future research should develop measures of these causes of instability (both objectively and subjectively) to examine how they relate to one another and which forms of instability may be more suited for particular occupations and work settings. It may also be fruitful to examine the cumulative effects of instability because experiencing multiple forms may be particularly detrimental to managing work and personal life (Henly & Lambert, 2014).

Expanding understandings and implications of both subjective and objective schedule instability is useful particularly in light of the equivocal findings regarding the relationship between long work hours and well-being in general (Ganster, Rosen, & Fisher, 2016) and the potential nuances in the effects of working among non-professionals, specifically. For example, working overtime may result in incredibly high weekly work hours that can create challenges and increase work-nonwork conflict (Golden, 2015). The additional income however, may be viewed as necessary for employees to take care of themselves and their families, not as "additional money" for solely discretionary or infrequent purchases (e.g., holiday gifts; Bass & Grzywacz, 2011; Lautsch & Scully, 2007). Income is certainly an important driver of behavior and attitudes (Leana & Meuris, 2015) particularly in situations in which the connection between time and money is salient as is the case for those who are not paid using a salary structure (DeVoe & Pfeffer, 2007). Development of a validated measure of schedule instability perceptions will help to further disentangle and clarify the relationships

between work hours, work hour fluctuations, work-life conflict, and other workplace outcomes.

***Relationship between schedule instability and predictability***

Subjective schedule instability and perceptions of schedule predictability are related, yet distinct concepts. Instability refers to work hour fluctuations (Lambert, 2008) whereas predictability refers to the extent to which individuals can anticipate working hours (Swanberg, Watson, & Eastman, 2014). It may be the case that individuals experience fluctuations in work hours that does not translate to perceptions that the schedule is unpredictable. In this way, work hour fluctuations are expected and not equivalent to unpredictability.

The negative consequences of instability, however, are based on the assumed unpredictability that stems from changing work hours (Golden, 2015; Henly & Lambert, 2014; Lambert & Haley-Lock, 2004). It is important to examine the potential mediating effect of predictability and the relationship between unpredictable schedules and perceptions of control. Individuals want to feel that they are in control of what happens in their lives (Ross & Mirowsky, 2013). This line of research may indicate that in work contexts in which work hour fluctuations are unavoidable, energy and resources should be spent providing employees with tools and support to improve the predictability of work hours.

***Variability in work-life literature***

I focus on the experience of variability and believe a variability approach will be quite fruitful for future work-life research particularly as workplaces are characterized by greater risk and uncertainly, employment relations change, and the assumption that

employees experience more precarious, insecure, and unstable work environments (Kalleberg, 2001, 2011). Variability – understood as a concept that varies between people – has gained interest in other research areas. For instance, Matta and colleagues (2017) introduced the concept of justice variability and found that variability in fairness perceptions was worse than consistently high or *low* justice perceptions. Further, Xu et al. (2016) found that emotional variability, or fluctuating emotional states, decreased job satisfaction via emotional exhaustion.

Similarly, emotional labor variability, momentary fluctuations in deep and surface acting, was found to decrease job satisfaction and increase work withdrawal (Scott et al., 2012). All these studies highlight the importance of examining not only the mean level on constructs of interest, but also their variability. The common theme within the variability literature is that variability is a type of stress. Variable perceptions of supervisor fairness lead to stressful interactions because employees do not know what to expect, varied emotions are the result of cycling between high and low emotions, which is damaging to psychological health, and variation in the amount of emotion management at work depletes resources and increases stress.

The work-life literature would benefit from taking seriously the "variability perspective" as a between-person, individual difference because. As I discussed, variation in work hours (both objective and perceived fluctuations) is an especially important avenue. In addition, future research should examine other variability constructs. Perhaps in jobs with varying client needs and certain times they may be working locally while other times they are away, there is variation in their ability to transition. Client and travel schedules may provide ease in making adjustments to accommodate work and personal

life one week and produce great challenges in the next week. These concepts of irregularity and mobility represent "bad types of flexibility" (Kossek et al., 2005, p.253) and may lead to fluctuations in the frequency these employees can make boundary transitions and this fluctuation may deplete resources and may undermine perceptions of control and increase perceptions of conflict.

Additionally, fluctuations in nonwork demands would also be a fruitful avenue for future research. Work-life scholars, more specifically work-family scholars, account for spouse status, parent status, and to a lesser degree, elder care responsibilities as indicators of nonwork/family demands. Generally speaking, these demands are viewed as constant (although it is recognized that younger children are more of demand than are older children). Individuals' personal lives, however, can be incredibly unpredictable and demanding. Fluctuations in the nonwork domain demands may be a critical oversight in current work-family literature and in providing training and best practices for managers and organizational leaders.

Caring for a child with disabilities (Green, 2007; Gupta & Singhal, 2004) or having a tumultuous family situation (Holden & Ritchie, 2016) can increase fluctuations in nonwork demands that deplete resources and make it challenging to function successfully. Finally, personal health issues may cause fluctuations in nonwork demands. Employees who are dealing with chronic issues may have flare ups (McGonagle, Beatty, & Joffe, 2014) and may struggle to even perceive they are able to work (McGonagle, Fisher, Barnes-Farrell, & Grosch, 2015). Moreover, when dealing with chronic illness or pain, individuals may feel discriminated against leading to stress or nondisclosure (McGonagle et al., 2016). All of these factors can increase the variability in the nonwork

domain and these experiences with children, family, and personal health may be unpredictable, yet persistent and a better understanding of the fluctuation in nonwork demands will move the literature and practice forward in better supporting employees.

**Practical Implications**

In addition to the theoretical implications, this study also offers several practical implications. First, organizations (across occupations) should better support employee-driven flexibility. My findings provide suggestive evidence that willingness and ability to adjust work boundaries did nothing to influence the effect of neither subjective nor objective schedule instability and ability to adjust boundaries was negatively related to nonwork-to-work conflict (Table 3). These findings further support previous research of non-professional, male employees that having support for work and personal life results in positive outcomes (Grandey et al., 2007). As such, employers stand to lose talent as employees leave jobs in search for organizations with flexible employee options.

For jobs characterized by shift work, manual labor, and work hour fluctuations due to production volumes, new ideas for flexibility are needed if organizations hope to remain competitive. According to the *Workflex and Manufacturing Guide*, creating flexibility for employees in manufacturing means acknowledging the shift work, fluctuations in work volume, and the need to be physically working equipment and to understand flexibility in terms of organizing work flow and finding opportunities to allow employees to have more control in their work hours (Matos & Tahmincioglu, 2015). The authors suggest cross-training employees, distributing hour changes across employees instead of drastically changing the hours of a few, and asking for employee input on their current work-life challenges so that solutions can be created around those issues.

Based on these recommendations, the key to providing employee-driven flexibility in these contexts is not attempting to adapt models common to professionals in terms of taking work home or giving employees complete control over their schedules. Instead, the key to establishing employee-driven flexibility is rethinking workflow in ways that enhance the predictability of work and provide more opportunities for employees to have control and discretion over work hours. In this way, employee-driven flexibility – or the ability to make choices about work and practices that support greater control over work and personal life (Hill et al., 2008; Kossek & Lautsch, 2018) – for non-professional employees, manifests through the ability to arrive at work a bit late or to leave a few minutes early without penalty. This type of flexibility requires distinguishing between core work hours and job tasks and those on the periphery (Matos & Tahmincioglu, 2015).

Through focusing on ensuring employees are present at critical times allows flexibility perhaps at the very beginning or very end of a work shift. It also manifests as the ability to ask coworkers to cover work hours if they are cross-trained. It would also be beneficial to see if initiatives to provide opportunities for employee-driven flexibility reduce the negative effects of organizationally-driven flexibility. It may be the case that when employees experience more control and discretion, the negative effects of organizationally-driven flexibility are mitigated through mechanisms of employee input (Henly & Lambert, 2014), increased sleep (Maume et al., 2009) or increased perceptions of supervisor support (Greenhaus et al., 2012; Kossek et al., 2011).

In addition to changing workplaces to increase employee-driven flexibility, organizational leaders should also adopt strategies to better prepare employees for

schedule instability. Indeed, current research suggests that subjective schedule instability increases turnover intentions (Swanberg et al., 2016). Leaders and managers should devote time during training and onboarding to teach new employees how to better predict their work hours. In the context of grocery distribution, there are certain peak seasons (e.g., around holidays) and times of the week (e.g., common days many stores restock shelves). Elaborate computerized tracking technology provides the means to forecast more demanding workloads and employees should be given this information and informed on how to use that information to better manage their work-life needs. Lambert suggests at least one week notice for work schedules (Lambert, 2008). Extending this idea to a context with mostly full-time employees suggests the employees should be provided workload forecasting information at least one week in advance. Time can be used during pre-shift meetings to discuss the anticipated workloads for the following week. Employees will be able to anticipate normal versus very long work shifts and can adjust family plans, appointments, and better arrange and prioritize sleep, which should minimize the negative effects of the work hour fluctuation.

**Limitations**

While the implications of this study are evident, there are notable limitations to discuss. I collected data once per week to limit the smoothing effect in reporting schedule instability. Although this method is an improvement over cross-sectional designs (Swanberg et al., 2016), it does not provide as fine-grained of an analysis of work-nonwork conflict episodes as suggested daily diary or experiential sampling designs would offer (Maertz & Boyar, 2011). It is possible that the one-week still reflects smoothing effects as employees thought back over the week because they were

"averaging" their experience of instability. Further, the same is true of the reporting of work hours. If their hours fluctuated during the week remembering the collective total hours was likely a heavy cognitive task, and perhaps work hours reported are the result of a typical work week as opposed to reflecting the exact hours they worked the week of data collection. Daily diary surveys would ameliorate these smoothing effects because respondents would report their work hours each day. Further, using payroll documents to account for the exact work hours each day would also improve the measurement of objective schedule instability.

Second, data collection was completed at the worksite. I came to this arrangement with organizational leaders to both increase the sample size while also compensating employees for their time. For those who worked the night shift, they came in before the start of the shift and those on the day shift were asked to pause their work to participate in the study. Employees were paid for their time but the very nature of the survey data collection may have created work-life challenges as employees had to adjust arrive early or taking time during the day extended the end of the work shift. Perhaps the nature of the data collection made work-life conflicts more salient for employees and artificially inflated their responses. A counter implication is that employees suppressed the true nature of their workplace perceptions for fear of backlash. Although participation was voluntary and confidential, no supervisors were present during data collection and supervisors were never allowed to see the raw data; these employees were unfamiliar with the process of organizations partnering to conduct research and may have been skeptical about my ability to keep supervisors from knowing the nature of their specific responses. These concerns are mitigated by the fact that data was collected over multiple

time points and work-nonwork conflict did not differ across time points (Appendix A). Nevertheless, future research may benefit from data collection efforts that do not occur in the workplace.

# CONCLUSION

In this study, I conceptualized schedule instability as a form of organizationally-driven flexibility within a non-professional sample to address critiques and assumptions about the role of workplace temporal "flexibility." The findings did not support the hypotheses that boundary transitions are used to cope with schedule instability. The implications from this dissertation, however, lay a foundation for future work-life research to pay particular attention to the variability of experiences both at work and in employee's personal life, which I anticipate will be a fruitful avenue for future research.

Moreover, I hope this dissertation sparks discussions about how to offer employee-driven flexibility within occupations where it is assumed flexible options are not possible. A focus on restructuring work flow and examining how organizations can better prepare employees for the constraints inherent to certain types of work – through open communication and training employees on how to optimize that information – will go a long way in aiding employees to be effective both at work and in their personal lives.

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# TABLES

Table 1: Descriptive Statistics and Correlations

| | Mean | SD | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 Nonwork-to-work conflict | 2.03 | 0.69 | (0.86) | 0.28** | -0.04 | 0.04 | 0.11* | | | | | | | | |
| 2 Work-to-nonwork conflict | 3.38 | 1.00 | 0.30** | (0.92) | -0.12* | 0.01 | 0.19** | | | | | | | | |
| 3 Work hours | 37.57 | 4.87 | -0.18** | -0.23** | - | 0.02 | -0.01 | | | | | | | | |
| 4 Work-to-nonwork transitions | 1.87 | 0.73 | 0.50** | 0.08 | -0.22** | (0.85) | 0.00 | | | | | | | | |
| 5 Subjective schedule instability | 2.67 | 0.79 | 0.16* | 0.25** | 0.06 | 0.05 | (0.62) | | | | | | | | |
| 6 Objective schedule instability (work hour variability) | 3.48 | 2.95 | 0.00 | 0.23** | -0.21** | -0.10 | 0.02 | - | | | | | | | |
| 7 Work flexibility willingness | 4.59 | 1.36 | 0.07 | 0.10 | -0.05 | 0.08 | 0.09 | 0.03 | (0.80) | | | | | | |
| 8 Work flexibility ability | 3.60 | 1.37 | 0.02 | -0.14* | -0.06 | 0.11 | -0.06 | 0.03 | 0.13 | (0.77) | | | | | |
| 9 Age | 29.31 | 8.15 | -0.24** | -0.18** | 0.14* | -0.20** | -0.07 | 0.04 | -0.03 | 0.01 | - | | | | |
| 10 White | 0.44 | 0.50 | -0.06 | 0.23** | 0.17* | -0.18** | 0.05 | -0.08 | -0.06 | -0.25** | -0.01 | - | | | |
| 11 Dependent | 0.67 | 0.47 | -0.02 | -0.02 | -0.05 | 0.04 | -0.13 | -0.03 | -0.01 | -0.10 | 0.16* | -0.02 | - | | |
| 12 Partner | 0.55 | 0.50 | -0.07 | 0.05 | 0.01 | -0.02 | -0.13* | -0.05 | 0.05 | -0.02 | 0.22** | 0.05 | 0.25** | - | |
| 13 Night Shift | 0.63 | 0.48 | -0.14* | 0.18** | 0.04 | -0.33** | 0.05 | 0.13 | -0.02 | -0.07 | -0.06 | -0.04 | 0.18** | 0.08 | - |

Note: N = 235-245 (variability N = 160); Variables 1-5 are aggregated to the between-person level below diagonal
Weekly (within-person) observations N=603-607; within-person correlations above the diagonal
Cronbach alpha on diagonal (when applicable)
* p< 0.05; ** p< 0.01

Table 2: Multilevel analysis for schedule instability predicting work-to-nonwork transitions

| | B | SE |
|---|---|---|
| Intercept | -0.01 | 0.05 |
| *Level 1 predictors* | | |
| Work hours | 0.00 | 0.01 |
| Subjective schedule instability | 0.00 | 0.03 |
| *Level 2 predictors* | | |
| Objective schedule instability | 0.00 | 0.01 |
| Dependent | 0.03 | 0.04 |
| Partner | -0.01 | 0.04 |
| Night Shift | 0.01 | 0.04 |

Note: N=245. * p<.05, **p<.01, ***p<.001

Table 3: Multilevel analysis for schedule instability and work-to-nonwork transitions predicting nonwork-to-work conflict

| | B | SE | |
|---|---|---|---|
| Intercept | 0.57 | 0.19 | ** |
| *Level 1 predictors* | | | |
| Work hours | -0.01 | 0.01 | |
| Subjective schedule instability | 0.06 | 0.05 | |
| Work-to-nonwork transitions | -0.03 | 0.07 | |
| *Level 2 predictors* | | | |
| Objective schedule instability | 0.07 | 0.03 | ** |
| Age | 0.00 | 0.01 | |
| White | 0.52 | 0.15 | *** |
| Dependent | -0.19 | 0.17 | |
| Partner | 0.14 | 0.15 | |
| Night Shift | 0.68 | 0.15 | *** |

Note: N=245. * p<.05, **p<.01, ***p<.001

Table 4: Multilevel analysis for schedule instability and work-to-nonwork transitions predicting work-to-nonwork conflict

| | B | SE |
|---|---|---|
| Intercept | -0.01 | 0.06 |
| *Level 1 predictors* | | |
| Work hours | -0.01 | 0.01 |
| Subjective schedule instability | 0.06 | 0.04 |
| Work-to-nonwork transitions | -0.01 | 0.06 |
| *Level 2 predictors* | | |
| Objective schedule instability | 0.00 | 0.01 |
| Age | 0.00 | 0.00 |
| White | -0.02 | 0.05 |
| Dependent | 0.00 | 0.05 |
| Partner | 0.02 | 0.05 |
| Night Shift | 0.01 | 0.05 |

Note: N=245. * p<.05, **p<.01, ***p<.001

Table 5: Cross-level interaction analyses

| | Nonwork-to-work Conflict | | | | | Work-to-nonwork Conflict | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | B | SE | | B | SE | | B | SE | B | SE |
| Intercept | 0.60 | 0.20 | ** | 0.60 | 0.20 | ** | -0.02 | 0.07 | -0.02 | 0.07 |
| *Level 1 predictors* | | | | | | | | | | |
| Work hours | -0.01 | 0.01 | | -0.01 | 0.01 | | -0.01 | 0.01 | -0.01 | 0.01 |
| Subjective schedule instability | 0.07 | 0.05 | | 0.07 | 0.05 | | 0.07 | 0.04 | 0.06 | 0.04 |
| Work-to-nonwork transitions | -0.06 | 0.08 | | -0.06 | 0.08 | | -0.05 | 0.06 | -0.04 | 0.06 |
| *Level 2 predictors* | | | | | | | | | | |
| Objective schedule instability | 0.07 | 0.03 | ** | 0.07 | 0.03 | ** | 0.00 | 0.01 | 0.00 | 0.01 |
| Workflexibility willingness | 0.06 | 0.06 | | 0.06 | 0.06 | | 0.02 | 0.02 | 0.02 | 0.02 |
| Workflexibility ability | -0.12 | 0.06 | | -0.12 | 0.06 | * | 0.01 | 0.02 | 0.01 | 0.02 |
| Age | 0.00 | 0.01 | | 0.00 | 0.01 | | 0.00 | 0.00 | 0.00 | 0.00 |
| White | 0.50 | 0.15 | ** | 0.50 | 0.15 | ** | -0.01 | 0.05 | -0.01 | 0.05 |
| Dependent | -0.14 | 0.17 | | -0.14 | 0.17 | | 0.00 | 0.05 | 0.00 | 0.05 |
| Partner | 0.10 | 0.15 | | 0.10 | 0.15 | | 0.02 | 0.05 | 0.02 | 0.05 |
| Night shift | 0.63 | 0.17 | *** | 0.63 | 0.17 | *** | 0.02 | 0.05 | 0.02 | 0.05 |
| *Interactions* | | | | | | | | | | |
| Transitions X Willingness | 0.00 | 0.06 | | | | | 0.01 | 0.05 | | |
| Transitions X Ability | | | | -0.05 | 0.05 | | | | -0.05 | 0.04 |

Note: N=245. * p<.05, **p<.01, ***p<.001

# FIGURES

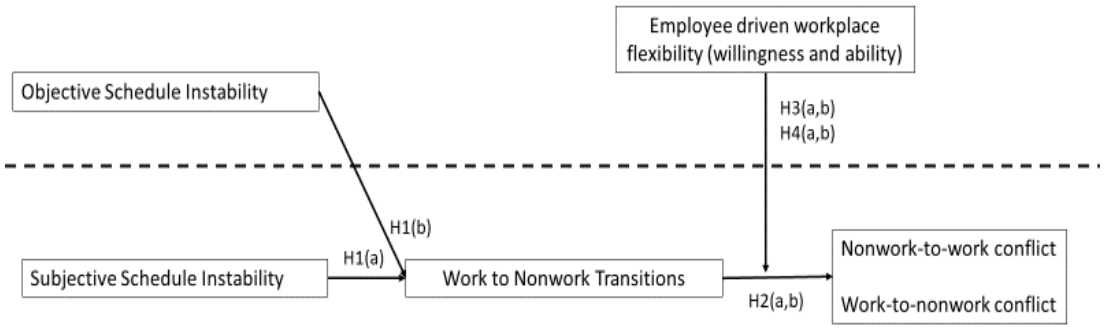


Figure 1: Conceptual Model

# APPENDIX A: Analysis of missing data

Assessment of Missing Data [1]

**Sample size by week**

| | |
|---|---|
| Week 1 | 245 |
| Week 2 | 123 |
| Week 3 | 116 |
| Week 4 | 132 |

**Participation Totals**

| | |
|---|---|
| Week 1 only | 56 |
| At least 2 weeks | 188 |
| At least 3 weeks | 125 |
| All 4 weeks | 53 |

**Mean comparison tests**

| *Focal constructs* | Sum of Squares | df | Mean Square | F | p-value | Partial eta squared | Cohen's d |
|---|---|---|---|---|---|---|---|
| Work-to-nonwork conflict | 2.37 | 3 | 0.79 | 0.68 | 0.57 | 0.01 | |
| Nonwork-to-work conflict | 1.94 | 3 | 0.65 | 1.11 | 0.34 | 0.01 | |
| Schedule instability (subjective) | 1.81 | 3 | 0.60 | 0.68 | 0.57 | 0.01 | |
| Schedule instability (objective) | 20.42 | 2 | 10.21 | 1.18 | 0.31 | 0.02 | |
| Work-to-nonwork transitions | 1.26 | 3 | 0.42 | 0.62 | 0.60 | 0.01 | |
| Work flexibility willingness | 3.06 | 3 | 1.02 | 0.54 | 0.65 | 0.01 | |
| Work flexibility ability | 12.87 | 3 | 4.29 | 2.28 | 0.08 | 0.03 | |
| *Demographics* | | | | | | | |
| Work hours | 82.61 | 3 | 27.54 | 1.14 | 0.34 | 0.02 | |
| Age [2] | 807.10 | 3 | 269.03 | 4.17 | 0.01 | 0.05 | 0.54; 0.62 |
| Tenure [3] | 29.13 | 3 | 9.71 | 3.87 | 0.01 | 0.05 | 0.56 |
| Education | 2.72 | 3 | 0.91 | 1.30 | 0.27 | 0.02 | |
| Income | 11.06 | 3 | 3.69 | 0.80 | 0.49 | 0.01 | |

| | Chi square | df | p-value |
|---|---|---|---|
| Parent | 5.70 | 3 | 0.13 |
| Partner | 6.46 | 3 | 0.09 |
| Race | 4.16 | 3 | 0.24 |
| Shift | 12.10 | 3 | 0.01 |
| Gender | 2.49 | 3 | 0.48 |

[1] ANOVA tests were run for continuous variables and chi square tests for categorical variables

[2] The sample who only participated once is older than the samples who participated 2 or 4 times

[3] The sample who only participated once has greater tenure than the samples who participated 2 times

# APPENDIX B: Measures

**Work-to-nonwork conflict**

I come home from work too tired to do things I would like to do

My job makes it difficult to maintain the kind of personal life I would like

I often neglect my personal needs because of the demands of my work

My personal life suffers because of my work

I have to miss out on important personal activities due to the amount of time I spend doing work

**Nonwork-to-work conflict**

My personal life drains me of the energy I need to do my job

My work suffers because of everything going on in my personal life

I would devote more time to work if it weren't for everything I have going on in my personal life

I am too tired to be effective at work because of things I have going on in my personal life

When I'm at work, I worry about things I need to do outside work

I have difficulty getting my work done because I am preoccupied with personal matters at work

**Schedule instability (one item altered)**

How frequently did the number of hours you are scheduled to work vary from week to week?

- How frequently did the number of hours you are scheduled to work vary from day to day?

How frequently did your supervisor change your work hours without your consent?

How often were last minute changes made to your schedule?

**Work-to-nonwork transitions (items altered)**

Arrived to work late so you could deal with family demands?

- Arrived to work late so you could deal with demands in your personal life?

Left work early to meet family responsibilities?

- Left work early to meet responsibilities in your personal life?

Changed the hours you work to meet family demands?

- Changed the hours you work to meet demands in your personal life?

Left work during your lunch break to meet family responsibilities?

- Left work during your lunch break to meet responsibilities in your personal life?

Stopped what you were doing at work to meet a family responsibility (like making a dentist or doctor appointment)?

- Stopped what you were doing at work to meet a responsibility in your personal life (like making a dentist or doctor appointment)?

Received calls from family members while at work?

- Received calls from family members or friends while at work?

**Work flexibility-willingness**

I am willing to take an extended lunch break so that I can deal with responsibilities relating to my family and personal life

Assuming it was all right with my supervisor, I would not mind arriving to work late so that I could meet my family and personal life responsibilities

If it became necessary in order to meet my family and personal life responsibilities I would be willing to change the shift, or start stop times, that I normally work

I am willing to take time off from work to deal with my family and personal life responsibilities

**Work flexibility-ability**

I am able to arrive and depart from work when I want in order to meet my family and my personal life responsibilities

If the need arose, I could leave work early to attend to family related issues

If something came up in my personal life, it would be all right if I arrived to work late

While at work, I can stop what I am doing to meet responsibilities related to my family and personal life

**Organizational tenure**

0-6 months

7-11 months

1-3 years

4-6 years

7-10 years

10+ years

**Shift time**

Day

Night

**Gender**

Male

Female

**Age**

As of today, how old are you?

**Race**

African-American or Black

Asian or Pacific Islander

Caucasian or White

Hispanic or Latino/a

Native American

Other

**Parent status**

Do you have children? (Y/N)

**Partner status**

Married

Living with someone as a couple

Single (never married and not living with someone as a couple)

Divorced and not living with someone as a couple

Widowed and not living with someone as a couple

Separated and not living with someone as a couple

**Highest level of completed education**

Less than high school

High school or GED

Trade or technical school beyond high school

Two-year Associate's Degree

Four/five-year Bachelor's Degree

Professional degree in medicine, law, dentistry

Master's Degree or Doctorate

**What is your household income?**

Less than $10,000

$10,000 to $19,999

$20,000 to $29,999

$30,000 to $39,999

$40,000 to $49,999

$50,000 to $59,999

$60,000 to $69,999

$70,000 to $79,999

$80,000 to $89,999

$90,000 to $99,999

$100,000 to $149,99

$150,000 or more

APPENDIX C: Subjective schedule instability item information

| Appendix C: Interitem correlations and descriptive statistics for subjective schedule instability | | | | | |
|---|---|---|---|---|---|
| | M | SD | 1 | 2 | 3 |
| 1. How frequently did the number of hours you are scheduled to work vary from day to day? | 3.63 | 1.04 | 1.00 | | |
| 2. How frequently did your supervisor change your work hours without your consent? | 2.12 | 1.26 | .20** | 1.00 | |
| 3. How frequently were last minute changes made to your work schedule? | 2.29 | 1.19 | .18** | .63** | 1.00 |
| * p< 0.05; ** p< 0.01 | | | | | |

| Appendix C: Weekly α alpha scores for subjective schedule instability | | | |
|---|---|---|---|
| Week 1 | Week 2 | Week 3 | Week 4 |
| 0.65 | 0.44 | 0.66 | 0.64 |

# APPENDIX D: Analysis of model fit

Appendix D: Multi-Level Confirmatory Factor Analyses for Focal Variables

| Model | N | CFI | TLI | RMSEA | SRMR | $\chi^2$ | df | $\chi^2$ Difference |
|---|---|---|---|---|---|---|---|---|
| Within person model | | | | | | | | |
| One factor (all items) | 296 | 0.40 | 0.32 | 0.13 | 0.14 | 10.37.39 | 190 | |
| Three factor (schedule instability, transitions, work-nonwork conflict) | 296 | 0.61 | 0.55 | 0.11 | 0.12 | 728.27 | 167 | *** |
| Four factor (schedule instability, transitions, work-nonwork conflict (both directions)) | 296 | 0.94 | 0.93 | 0.04 | 0.06 | 254.94 | 164 | *** |
| Between person model | | | | | | | | |
| Five factor (schedule instability, transitions, work-nonwork conflict (both directions, employee-driven flexibility ) | 296 | 0.80 | 0.78 | 0.10 | 0.10 | 1970.82 | 340 | |
| Six factor (schedule instability, transitions, work-nonwork conflict (both directions, employee-driven flexibility (both willingness and ability)) | 296 | 0.88 | 0.87 | 0.08 | 0.07 | 1319.06 | 335 | *** |

*Note*: CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root-mean-square error of approximation; SRMR = standardized root mean square. Difference = difference in chi-square from the next model. *** $p < .001$

| Appendix D: Standardized factor loadings for all study items | | |
|---|---|---|
| | Within-Person[a] | Between-Person[b] |
| **Schedule Instability** | | |
| How frequently did the number of hours you are scheduled to work vary from day to day? | 0.27 | 0.21 |
| How frequently did your supervisor change your work hours without your consent? | 0.52 | 0.95 |
| How often were last minute changes made to your schedule? | 0.80 | 0.80 |
| **Work-to-Nonwork Transitions** | | |
| Arrived to work late so you could deal with demands in your personal life? | 0.51 | 0.68 |
| Left work early to meet family responsibilities? | 0.60 | 0.82 |
| Changed the hours you work to meet demands in your personal life? | 0.56 | 0.72 |
| Left work early to meet responsibilities in your personal life? | 0.64 | 0.79 |
| Stopped what you were doing at work to meet a responsibility in your personal life (like making a dentist or doctor appointment)? | 0.55 | 0.79 |
| Received calls from family members or friends while at work? | 0.43 | 0.54 |
| **Work-to-Nonwork Conflict** | | |
| I come home from work too tired to do things I would like to do | 0.63 | 0.79 |
| My job makes it difficult to maintain the kind of personal life I would like | 0.73 | 0.90 |
| I often neglect my personal needs because of the demands of my work | 0.68 | 0.88 |
| My personal life suffers because of my work | 0.77 | 0.94 |
| I have to miss out on important personal activities due to the amount of time I spend doing work | 0.69 | 0.87 |
| **Nonwork-to-Work Conflict** | | |
| My personal life drains me of the energy I need to do my job | 0.64 | 0.66 |
| My work suffers because of everything going on in my personal life | 0.76 | 0.87 |
| I would devote more time to work if it weren't for everything I have going on in my personal life | 0.56 | 0.66 |
| I am too tired to be effective at work because of things I have going on in my personal life | 0.77 | 0.89 |
| When I'm at work, I worry about things I need to do outside work | 0.44 | 0.56 |

| | | |
|---|---|---|
| I have difficulty getting my work done because I am preoccupied with personal matters at work | 0.72 | 0.82 |
| **Work Flexibility-Willingness** | | |
| I am willing to take an extended lunch break so that I can deal with responsibilities relating to my family and personal life | | 0.61 |
| Assuming it was all right with my supervisor, I would not mind arriving to work late so that I could meet my family and personal life responsibilities | | 0.82 |
| If it became necessary in order to meet my family and personal life responsibilities I would be willing to change the shift, or start stop times, that I normally work | | 0.68 |
| I am willing to take time off from work to deal with my family and personal life responsibilities | | 0.62 |
| **Work Flexibility-Ability** | | |
| I am able to arrive and depart from work when I want in order to meet my family and my personal life responsibilities | | 0.54 |
| If the need arose, I could leave work early to attend to family related issues | | 0.74 |
| If something came up in my personal life, it would be all right if I arrived to work late | | 0.72 |
| While at work, I can stop what I am doing to meet responsibilities related to my family and personal life | | 0.79 |

*Note*: [a]Within-person, 4-factor model [b]Between-person, 6-factor model

APPENDIX E: Analysis of gender

| Appendix E: Multilevel analysis for schedule instability predicting work-to-nonwork transitions | | |
|---|---|---|
| | B | SE |
| Intercept | -0.01 | 0.05 |
| *Level 1 predictors* | | |
| Work hours | 0.00 | 0.01 |
| Subjective schedule instability | 0.00 | 0.03 |
| *Level 2 predictors* | | |
| Objective schedule instability | 0.00 | 0.01 |
| Dependent | 0.03 | 0.04 |
| Partner | -0.01 | 0.04 |
| Night Shift | 0.01 | 0.04 |
| Women | -0.01 | 0.07 |

Note: N=245. * p<.05, **p<.01, ***p<.001

Appendix E: Multilevel analysis for schedule instability and work-to-nonwork transitions predicting nonwork-to-work conflict

| | B | SE | |
|---|---|---|---|
| Intercept | 0.57 | 0.19 | ** |
| *Level 1 predictors* | | | |
| Work hours | -0.01 | 0.01 | |
| Subjective schedule instability | 0.07 | 0.05 | |
| Work-to-nonwork transitions | -0.03 | 0.07 | |
| *Level 2 predictors* | | | |
| Objective schedule instability | 0.06 | 0.03 | * |
| Age | 0.00 | 0.01 | |
| White | 0.51 | 0.15 | ** |
| Dependent | -0.21 | 0.17 | |
| Partner | 0.15 | 0.15 | |
| Night shift | 0.70 | 0.16 | *** |
| Women | 0.50 | 0.52 | |

Note: N=245. * p<.05, **p<.01, ***p<.001

Appendix E: Multilevel analysis for schedule instability and work-to-nonwork transitions predicting work-to-nonwork conflict

| | B | SE |
|---|---|---|
| Intercept | -0.01 | 0.06 |
| *Level 1 predictors* | | |
| Work hours | -0.01 | 0.01 |
| Subjective schedule instability | 0.06 | 0.04 |
| Work-to-nonwork transitions | -0.01 | 0.06 |
| *Level 2 predictors* | | |
| Objective schedule instability | 0.00 | 0.01 |
| Age | 0.00 | 0.00 |
| White | -0.02 | 0.05 |
| Dependent | 0.00 | 0.05 |
| Partner | 0.02 | 0.05 |
| Night shift | 0.01 | 0.05 |
| Women | 0.00 | 0.16 |

Note: N=245. * p<.05, **p<.01, ***p<.001

Appendix E: Cross-level interaction analyses

| | Nonwork-to-work Conflict | | | | Work-to-nonwork Conflict | | | |
|---|---|---|---|---|---|---|---|---|
| | B | SE | B | SE | B | SE | B | SE |
| Intercept | 0.58 | 0.20 ** | 0.58 | 0.20 ** | -0.02 | 0.07 | -0.02 | 0.07 |
| *Level 1 predictors* | | | | | | | | |
| Work hours | -0.01 | 0.01 | -0.01 | 0.01 | -0.01 | 0.01 | -0.01 | 0.01 |
| Subjective schedule instability | 0.07 | 0.05 | 0.07 | 0.05 | 0.07 | 0.04 | 0.06 | 0.04 |
| Work-to-nonwork transitions | -0.06 | 0.08 | -0.06 | 0.08 | -0.05 | 0.06 | -0.04 | 0.06 |
| *Level 2 predictors* | | | | | | | | |
| Objective schedule instability | 0.07 | 0.03 ** | 0.07 | 0.03 ** | 0.00 | 0.01 | 0.00 | 0.01 |
| Workflexibility willingness | 0.05 | 0.06 | 0.06 | 0.06 | 0.02 | 0.02 | 0.02 | 0.02 |
| Workflexibility ability | -0.13 | 0.06 * | -0.13 | 0.06 * | 0.01 | 0.02 | 0.01 | 0.02 |
| Age | -0.01 | 0.01 | -0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| White | 0.49 | 0.15 ** | 0.49 | 0.15 ** | -0.02 | 0.05 | -0.01 | 0.05 |
| Dependent | -0.16 | 0.17 | -0.16 | 0.17 | 0.00 | 0.06 | 0.00 | 0.05 |
| Partner | 0.14 | 0.16 | 0.14 | 0.16 | 0.02 | 0.05 | 0.02 | 0.05 |
| Night shift | 0.63 | 0.16 *** | 0.63 | 0.16 *** | 0.02 | 0.05 | 0.02 | 0.05 |
| Women | 0.96 | 0.63 | 0.96 | 0.63 | 0.02 | 0.19 | 0.02 | 0.19 |
| *Interactions* | | | | | | | | |
| Transitions X Willingness | 0.00 | 0.06 | | | 0.01 | 0.05 | | |
| Transitions X Ability | | | -0.05 | 0.05 | | | -0.05 | 0.04 |

Note: N=245. * p<.05, **p<.01, ***p<.001

APPENDIX F: Post-hoc analysis

| Appendix F: Multilevel analysis for schedule instability predicting nonwork-to-work transitions | | |
|---|---|---|
| | B | SE |
| Intercept | -0.01 | 0.05 |
| *Level 1 predictors* | | |
| Work hours | 0.01 | 0.01 |
| Subjective schedule instability | -0.01 | 0.04 |
| *Level 2 predictors* | | |
| Objective schedule instability | 0.01 | 0.01 |
| Dependent | 0.00 | 0.05 |
| Partner | -0.02 | 0.05 |
| Night shift | 0.01 | 0.05 |

Note: N=245. * p<.05, **p<.01, ***p<.001

Appendix F: Multilevel analysis for schedule instability and nonwork-to-work transitions predicting nonwork-to-work conflict

| | B | SE | |
|---|---|---|---|
| Intercept | 0.54 | 0.19 | ** |
| *Level 1 predictors* | | | |
| Work hours | -0.01 | 0.01 | |
| Subjective schedule instability | 0.03 | 0.05 | |
| Nonwork-to-work transitions | 0.05 | 0.06 | |
| *Level 2 predictors* | | | |
| Objective schedule instability | 0.06 | 0.03 | * |
| Age | 0.00 | 0.01 | |
| White | 0.50 | 0.15 | ** |
| Dependent | -0.16 | 0.17 | |
| Partner | 0.16 | 0.15 | |
| Night Shift | 0.70 | 0.15 | *** |

Note: N=245. * p<.05, **p<.01, ***p<.001

Appendix F: Multilevel analysis for schedule instability and nonwork-to-work transitions predicting work-to-nonwork conflict

| | B | SE |
|---|---|---|
| Intercept | -0.01 | 0.06 |
| *Level 1 predictors* | | |
| Work hours | -0.01 | 0.01 |
| Subjective schedule instability | 0.05 | 0.04 |
| Nonwork-to-work transitions | 0.05 | 0.05 |
| *Level 2 predictors* | | |
| Objective schedule instability | 0.00 | 0.01 |
| Age | 0.00 | 0.00 |
| White | -0.03 | 0.04 |
| Dependent | 0.00 | 0.05 |
| Partner | 0.03 | 0.05 |
| Night Shift | 0.02 | 0.05 |

Note: N=245. * p<.05, **p<.01, ***p<.001

Appendix F: Cross-level interactions

| | Nonwork-to-work conflict | | | | | Work-to-nonwork conflict | | | |
|---|---|---|---|---|---|---|---|---|---|
| | B | SE | | B | SE | B | SE | B | SE |
| Intercept | 0.57 | 0.20 | ** | -0.01 | 0.06 | -0.02 | 0.06 | -0.01 | 0.06 |
| *Level 1 predictors* | | | | | | | | | |
| Work hours | -0.01 | 0.01 | | -0.01 | 0.01 | -0.01 | 0.01 | -0.01 | 0.01 |
| Subjective schedule instability | 0.03 | 0.05 | | 0.05 | 0.04 | 0.05 | 0.04 | 0.05 | 0.04 |
| Nonwork-to-work transitions | 0.07 | 0.06 | | 0.04 | 0.05 | 0.06 | 0.05 | 0.04 | 0.05 |
| *Level 2 predictors* | | | | | | | | | |
| Objective schedule instability | 0.07 | 0.03 | * | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.01 |
| Work flexibility willingness | 0.08 | 0.06 | | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 |
| Work flexibility ability | -0.13 | 0.06 | * | 0.01 | 0.02 | 0.01 | 0.02 | 0.01 | 0.02 |
| Age | 0.00 | 0.01 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| White | 0.47 | 0.15 | ** | -0.02 | 0.05 | -0.02 | 0.05 | -0.02 | 0.05 |
| Dependent | -0.12 | 0.17 | | 0.00 | 0.05 | 0.00 | 0.05 | 0.00 | 0.05 |
| Partner | 0.12 | 0.15 | | 0.03 | 0.05 | 0.03 | 0.05 | 0.03 | 0.05 |
| Night shift | 0.66 | 0.16 | *** | 0.03 | 0.05 | 0.03 | 0.05 | 0.03 | 0.05 |
| *Interactions* | | | | | | | | | |
| Transitions X Ability | -0.07 | 0.05 | | | | -0.05 | 0.04 | | |
| Transitions X Willingness | | | | -0.04 | 0.03 | | | -0.04 | 0.03 |

Note: N=245. * p<.05, **p<.01, ***p<.001

APPENDIX G: Between-person subjective schedule instability

| Appendix G: Multilevel analysis for schedule instability predicting work-to-nonwork transitions | | |
|---|---|---|
| | B | SE |
| Intercept | 0.01 | 0.09 |
| *Level 1 predictors* | | |
| Work hours | 0.00 | 0.01 |
| *Level 2 predictors* | | |
| Subjective schedule instability | -0.01 | 0.03 |
| Objective schedule instability | 0.00 | 0.01 |
| Dependent | 0.02 | 0.04 |
| Partner | -0.02 | 0.04 |
| Night Shift | 0.01 | 0.04 |

Note: N=245. * p<.05, **p<.01, ***p<.001

Appendix G: Multilevel analysis for schedule instability and work-to-nonwork transitions predicting nonwork-to-work conflict

| | | B | SE | |
|---|---|---|---|---|
| | Intercept | -0.19 | 0.33 | |
| *Level 1 predictors* | | | | |
| | Work hours | -0.01 | 0.01 | |
| | Work-to-nonwork transitions | -0.03 | 0.07 | |
| *Level 2 predictors* | | | | |
| | Subjective schedule instability | 0.27 | 0.10 | ** |
| | Objective schedule instability | 0.06 | 0.02 | ** |
| | Age | 0.00 | 0.01 | |
| | White | 0.53 | 0.14 | *** |
| | Dependent | -0.12 | 0.16 | |
| | Partner | 0.17 | 0.15 | |
| | Night shift | 0.62 | 0.15 | *** |

Note: N=245. * p<.05, **p<.01, ***p<.001

Appendix G: Multilevel analysis for schedule instability and work-to-nonwork transitions predicting work-to-nonwork conflict

| | B | SE |
|---|---|---|
| Intercept | -0.02 | 0.11 |
| *Level 1 predictors* | | |
| Work hours | -0.01 | 0.01 |
| Work-to-nonwork transitions | -0.01 | 0.06 |
| *Level 2 predictors* | | |
| Subjective schedule instability | 0.00 | 0.03 |
| Objective schedule instability | 0.00 | 0.01 |
| Age | 0.00 | 0.00 |
| White | -0.01 | 0.05 |
| Dependent | 0.00 | 0.05 |
| Partner | 0.01 | 0.05 |
| Night shift | 0.01 | 0.05 |

Note: N=245. * p<.05, **p<.01, ***p<.001

| Appendix G: Cross-level interactions | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Nonwork-to-work conflict | | | | | | Work-to-nonwork conflict | | | |
| | B | SE | | B | SE | | B | SE | B | SE |
| Intercept | -0.07 | 0.36 | | -0.07 | 0.36 | | -0.03 | 0.12 | -0.03 | 0.12 |
| *Level 1 predictors* | | | | | | | | | | |
| Work hours | -0.01 | 0.01 | | -0.01 | 0.01 | | -0.01 | 0.01 | -0.01 | 0.01 |
| Work-to-nonwork transitions | -0.05 | 0.08 | | -0.05 | 0.08 | | -0.04 | 0.06 | -0.04 | 0.06 |
| *Level 2 predictors* | | | | | | | | | | |
| Subjective schedule instability | 0.24 | 0.11 | * | 0.24 | 0.11 | * | 0.00 | 0.04 | 0.00 | 0.04 |
| Objective schedule instability | 0.07 | 0.03 | ** | 0.07 | 0.03 | ** | 0.00 | 0.01 | 0.00 | 0.01 |
| Work flexibility willingness | 0.05 | 0.06 | | 0.05 | 0.06 | | 0.02 | 0.02 | 0.02 | 0.02 |
| Work flexibility ability | -0.10 | 0.06 | | -0.10 | 0.06 | | 0.01 | 0.02 | 0.01 | 0.02 |
| Age | 0.00 | 0.01 | | 0.00 | 0.01 | | 0.00 | 0.00 | 0.00 | 0.00 |
| White | 0.50 | 0.15 | ** | 0.50 | 0.15 | ** | 0.00 | 0.05 | 0.00 | 0.05 |
| Dependent | -0.09 | 0.17 | | -0.08 | 0.17 | | 0.00 | 0.05 | 0.00 | 0.05 |
| Partner | 0.14 | 0.15 | | 0.14 | 0.15 | | 0.01 | 0.05 | 0.01 | 0.05 |
| Night shift | 0.59 | 0.16 | *** | 0.59 | 0.16 | ** | 0.02 | 0.05 | 0.02 | 0.05 |
| *Interactions* | | | | | | | | | | |
| Transitions X Willingness | -0.03 | 0.06 | | | | | -0.01 | 0.05 | | |
| Transitions X Ability | | | | -0.07 | 0.05 | | | | -0.06 | 0.04 |

Note: N=245. * p<.05, **p<.01, ***p<.001