

Hidden costs of anticipated workload for individuals and partners: Exploring the role of daily  
fluctuations in workaholism

Clark, M. A., Hunter, E. M., & Carlson, D. S. (2021). Hidden costs of anticipated workload for individuals and partners: Exploring the role of daily fluctuations in workaholism. *Journal of Occupational Health Psychology, 26*, 393-404.

*Author Note:* This research was funded in part by the Society for Industrial and Organizational Psychology Small Grant Program. Previous versions of this manuscript were presented at the 2015 Society for Industrial and Organizational Psychology Annual Conference (Philadelphia, PA) and the 2019 European Association of Work and Organizational Psychology Congress (Turin, Italy).

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<https://doi.org/10.1037/ocp0000284>

## Abstract

The present study advances a within-person approach to the study of workaholism in line with whole trait theory, arguing that individuals have general workaholic tendencies as well as daily fluctuations in workaholism. We tested this model using an experience sampling study of 121 U.S. employees and their spouses who completed self-report surveys for ten working days. Multilevel analyses supported the idea that workaholism varies at the daily level, and trait workaholism was significantly related to higher daily fluctuations in workaholism averaged across the ten days. Consistent with whole trait theory (Fleeson, 2007), we found anticipated workload each morning positively related to daily fluctuations in workaholism. Moreover, individuals reported feeling more fatigued on days they report higher daily workaholism, and daily fluctuations in workaholism were related to stress crossover and spouse's relationship tension. Overall, results support a within-person conceptualization of workaholism, linking anticipated workload to daily fluctuations in workaholism, which in turn demonstrates negative spillover and crossover outcomes.

**Keywords:** whole trait theory; anticipated workload; daily fluctuations in workaholism; fatigue; spillover; crossover

Hidden costs of anticipated workload for individuals and partners: Exploring the role of daily fluctuations in workaholism

On a day-to-day basis, employees face various pressures and demands at work. Scholars have examined many dynamic processes related to the anticipation of and response to daily workplace stressors, linking individuals' responses to a variety of well-being and relationship outcomes (e.g., Casper et al., 2019; Mitchell et al., 2019). Additionally, scholars have begun to explore how workplace stressors and other situational cues trigger within-individual variation in personality (e.g., Judge et al., 2014; Minbashian et al., 2010). A core focus of this dynamic approach to personality is on the way in which individuals express their individual differences across different occasions in response to various situational cues. The present study adopts this dynamic approach to understand within-person fluctuations in workaholism in response to work-related contextual cues involving daily workload demands and pressures. We argue that daily fluctuations in workaholism—defined here as maladaptive and compulsive feelings, thoughts, and behaviors towards one's work—can result from expected workload and job demands at the start of the workday (i.e., anticipated workload).

To date, workaholism has been described and assessed as a between-person variable—a “stable tendency to compulsively and excessively work” (Andreassen, 2014, p. 2), and “an individual difference characteristic” (Bakker et al., 2009, p. 24). However, whole trait theory allows for a more flexible approach to the study of workaholism, arguing that traits have a stable component and a dynamic, state-like component (Fleeson, 2001). According to this theory, personality states have the same affective, behavioral, and cognitive content as the corresponding trait but may refer to a shorter moment in time, and may vary in form over time for a single person (Pytlik et al., 2002). Each person's states over time form a unique density distribution

(Fleeson, 2015), where state manifestations of the trait vary depending on the situation around the person mean. Therefore, a density distribution approach to the construct of workaholism implies individuals can have general or average levels of the degree to which they feel compelled to work, think about work constantly, and work excessively, while at the same time may exhibit variations around their average workaholism depending on events or anticipated events in their work or personal lives (Fleeson, 2001; Fleeson, 2007).

A key advantage of a flexible and dynamic approach to the study of workaholism is that it allows for the investigation of situational factors that predict expressions of this personality state (i.e., fluctuations in workaholism). Scholars have posited (Andreassen et al., 2018; Ng et al., 2007; Sussman, 2012) and found empirical support (Balducci et al., 2016) that workplace factors such as high job demands have the potential to alter or change someone's average level of workaholism over time. A key limitation of this research is that scholars have only examined changes in workaholism over a period of months or years, as opposed to changes from day to day. Based on ample evidence that personality can vary considerably over a very short period of time (Fleeson & Gallagher, 2009; Fleeson & Jolley, 2006), we argue that workaholism is also likely to vary in response to day-to-day situational factors—particularly situations comprised of psychological features related to workaholism. A greater understanding of these processes can provide critical information on the interplay between workaholism and situational factors that may affect it.

Our research contributes to the existing literature in several key ways. First, our work contributes to the literature on workaholism. Because of the common assumption that workaholism is solely a between-person trait, researchers (to our knowledge) have not considered the extent to which workaholism shows within-individual variability on a daily basis.

However, drawing from whole trait theory (Fleeson, 2001), we argue that conceptualizing workaholism as a dispositional variable does not require rejecting the possibility that individuals can also exhibit dynamic within-person fluctuations in workaholism. Applying a density distribution approach allows one to study within-person variance in workaholism, thus expanding and refining our conceptualization of the construct.

Second, our study contributes to a better understanding of the job stress process. Although there have been numerous studies of day-to-day stressor-strain dynamics in the workplace, the anticipatory phase has been largely neglected (Brosschot et al 2016; DiStaso & Shoss, 2020; Perrewe, 2011). The anticipation phase is a critical part of the stress process, as this is a period of “action preparation” in which employees can mentally and physically prepare for a stressor (Brosschot et al., 2006; Lazarus & Folkman, 1984). The anticipatory phase is also a period of uncertainty; a psychological state that has been linked to various cognitive, emotional, and behavioral responses (Anderson et al., 2019). In the present study, we focus on anticipated workload each morning, given that the start of the workday serves as a critical anticipatory phase where employees reconnect with their work and prepare for their expected workload for the day (e.g., upcoming meetings and deadlines).

Finally, this study addresses calls to examine the spillover and crossover processes related to workaholism (e.g., Westman, 2001). Prior studies have demonstrated these processes at the between-person level, indicating that trait workaholism is related to a wide range of detrimental individual and relationship outcomes (e.g., Bakker et al., 2009; Balducci et al., 2018; Clark et al., 2016). However, it is unknown whether these same processes will apply at the within-person level. If within-person fluctuations in workaholism relate to negative well-being and relationship outcomes on a daily basis, this challenges the assumption that short-term

outcomes of workaholism are benign or even positive (e.g., Baruch, 2011; Ng et al., 2007). Identification of specific short-term individual and relationship outcomes of workaholism also provides an opportunity for interventions of workaholism at a therapeutic level (e.g., cognitive behavioral therapy, stress management techniques, marriage counseling; Loscalzo & Giannini, 2017). Thus, we examine how daily fluctuations in workaholism are related to negative intra-individual spillover outcomes (i.e., higher fatigue) and negative inter-individual crossover outcomes (i.e., increased relationship tension).

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### **Trait Workaholism and Daily Fluctuations in Workaholism**

The topic of workaholism has garnered increasing attention in recent years (e.g., Balducci et al., 2018; Di Stefano & Gaudiino, 2019). Workaholism can be defined as “feeling compelled or driven to work because of internal pressures, having persistent and frequent thoughts about work when not working, and working beyond what is reasonably expected” (Clark et al., 2016, p. 1840) and “the tendency to work excessively hard in a compulsive way” (Schaufeli et al., 2008, p. 204). Trait workaholism has been linked with a wide range of negative outcomes for individuals and their families including emotional exhaustion, elevated systolic blood pressure, sleep problems, increased cardiovascular risk, relationship problems, and work-family conflict (e.g., Bakker et al., 2009; Balducci et al., 2018, 2020; Clark et al., 2016; Salanova et al., 2016).

Workaholism is thought to result in detrimental health outcomes because workaholics are unable to disengage (both mentally and physically) from work, experience prolonged activation of physiological systems, and have reduced after-work recovery experiences that are necessary for preventing fatigue and resource drain (Taris et al., 2005; ten Brummelhuis et al., 2017).

Additionally, workaholism is theorized to negatively affect family relationships on a daily basis because workaholics devote more time and energy to work than family, resulting in less emotional and instrumental support provided to partners and increased negative interactions and conflict (Bakker et al., 2009). Importantly, each of these potential explanations for causes and consequences of workaholism implies a dynamic process, best captured by within-person designs. Whole trait theory (Fleeson, 2001) provides an opportunity to apply such a dynamic conceptualization of workaholism to better understand these important questions.

As a first step in proposing a density distribution approach to workaholism in line with whole trait theory, it is important to demonstrate that there is consistency in the extent to which individuals' workaholism fluctuates. According to whole trait theory, personality traits can be thought of as the average of different behavioral expressions of a trait across a series of different occasions (Fleeson, 2001). Based on this, we expect a significant positive relationship between trait workaholism and average daily expressions of the trait. Such a relationship between personality traits and their state manifestations of that trait is widely documented across a variety of personality constructs (e.g., Fleeson, 2007; Judge et al., 2014, Sherman et al., 2015). Although previous studies have not examined these linkages for workaholism, preliminary support can be gleaned from studies examining the relationship between trait workaholism and specific workaholism components. For example, Snir and Zohar (2008) conducted an experience sampling study across 7 days (weekday and weekend) and found workaholism (operationalized solely by number of hours worked) was positively associated with performing a work-related activity and thinking about work when signaled. Similarly, Bakker and colleagues (2013) conducted a day reconstruction experience sampling study and found trait workaholism was

related to more participation in work-related activities during the evenings. Therefore, drawing from whole trait theory and existing research, we propose the following:

*Hypothesis 1: Trait workaholism is positively associated with average daily fluctuations in workaholism.*

### **Anticipated Workload, Daily Fluctuations in Workaholism, and Fatigue**

In addition to establishing the dynamic nature of workaholism, we also sought to understand the antecedents and outcomes of these daily fluctuations. According to dynamic models of personality, variations in expressions of a personality state can be influenced by situational context or cues—particularly situations comprised of psychological features related to the personality trait of interest (Judge et al., 2014; Mischel & Shoda, 1995). For example, situations involving attention to detail may trigger manifestations of the personality trait of conscientiousness, while situations involving criticism from others may trigger manifestations of the personality trait of agreeableness. In general, the greater the congruence between the social, affective, and cognitive features of the situation and aspects of a specific personality trait, the more likely a given situation will be related to shifts or fluctuations in that trait (Judge et al., 2014).

We posit anticipated workload is a situational work cue that is comprised of several psychological features related to the construct of workaholism. When individuals anticipate high workload at the start of the workday, they are likely to focus their attention on the impending workload and how they may be able to successfully accomplish these tasks. This increased focus and attention to work is a key characteristic of workaholism (i.e., compulsive work-related thoughts). Workaholism also involves feeling compelled to work and working beyond what is reasonably expected, each of which shares similarities with psychological characteristics of



anticipation of high workload. Van Wijhe and colleagues describe this as the “enough continuation rule”—a cognitive rule employees use to decide when to continue working that is a manifestation of their compulsive inner drive (van Wijhe et al., 2014). Across several studies, use of the enough continuation rule (i.e., continuing to work because of internal feelings that one has not yet done enough) had been linked to workaholism (van Wijhe et al., 2014, van Wijhe et al., 2011a; 2011b).

The anticipatory phase may also involve feelings of uncertainty and anxiety over whether or not one will be able to meet the anticipated workload that day. These psychological features have been identified in studies of daily workload (Rodell & Judge, 2009). Feelings of uncertainty and anxiety have also been identified as key components underlying the maladaptive nature of workaholism. For example, compulsive work-related thoughts are thought to stem from being in an anxious mood, making it more difficult for individuals to mentally disengage from their work after the workday is finished (Chawla et al., 2019). Uncertainty over chances of meeting demands can make it more difficult to physically stop working because individuals may feel they have not yet done enough that day to meet their job demands. Therefore, we hypothesize that on days in which individuals anticipate high levels of job demands, they report higher levels of daily workaholism.

The anticipatory phase is also a period in which individuals begin to mobilize mental and physical resources to meet expected demands. There is ample evidence that when individuals experience high workload, they experience increased strain, exhaustion, and fatigue (Bowling et al., 2015). Because the anticipation of stressors triggers very similar—if not the same—physiological reactions to actually experiencing the stressor (e.g., Smyth et al., 1998; Spangler, 1997), we also expect a positive relationship between anticipated workload and evening fatigue.

Fatigue is a critical concept in the psychological study of workload; particularly when examining short-term effects of a workday (Rook & Zijlstra, 2006). Indeed, anticipatory stress has been linked to somatic complaints including fatigue (Lacey et al., 2000). Thus, we hypothesize anticipated job demands directly relate to fatigue later that evening, defined as a state of reduced alertness and energy (Lewis & Wessely, 1992; Gross et al., 2011).

*Hypothesis 2: Anticipated workload is positively associated with a) daily fluctuations in workaholism and b) evening fatigue.*

Spillover is the within-person transmission of strain from one area of life to another (Bolger et al., 1989). Daily fluctuations in workaholism are also expected to positively relate to fatigue through the spillover process. Prior studies have found links between workaholism and strain-based outcomes of fatigue and emotional exhaustion (Clark et al., 2016; Yang et al., 2020), and these links are thought to occur because of high effort expenditure in one's work and a lack of recovery experiences that are particularly necessary for workaholics (e.g., Balducci et al., 2020; ten Brummelhuis et al., 2017). On a daily basis, compulsive feelings, thoughts, and behaviors towards one's work are expected to spillover from the work domain to the home domain, preventing individuals from physically and mentally disengaging from work. This inability to physically and mentally disengage from work results in insufficient opportunities to recover from their efforts and in turn, fatigue and exhaustion (Sonnentag & Bayer, 2005; Sonnentag et al., 2008). Overall, when individuals spend long hours working, experience persistent work-related thoughts and have difficulty disengaging with work, this spills over to the home domain and impairs recovery of critical cognitive, physical, and emotional energies that were depleted by high expenditure in one's work during the day (Bakker et al., 2013; Gillet et

al., 2018; Shirom, 2003). Thus, we hypothesize that daily fluctuations in workaholism are related to fatigue.

*Hypothesis 3: Daily fluctuations in workaholism are positively associated with evening fatigue.*

### **Crossover of Daily Fluctuations in Workaholism**

The model of spillover-crossover suggest that stress from one individual not only spills over to the nonwork domain but may also cross over to impact the partner (Bakker & Demerouti, 2013). Crossover occurs when stresses and strains experienced by one partner can cross over to the other partner, leading the partner to experience greater stress (Westman, 2001). In her model of crossover, Westman (2001, 2002) describes this process as the inter-individual transmission of stress or strain where thoughts, feelings, and behaviors of one partner can impact the other as a result of the fluid boundaries between work and family. The crossover of stress and strain from one partner to another has been widely demonstrated in the literature (Bakker et al., 2008; Carlson & Perrewé, 1999; Dikkers et al., 2007; Westman & Etzion, 1995). This process can occur through a variety of direct (e.g., empathic response) and indirect (e.g., communication style, social undermining, coping strategies) processes that can occur jointly (Westman, 2001; 2002).

Daily fluctuations in workaholism are expected to relate to poor relationship outcomes through a variety of possible mechanisms. On days incumbents experience compulsive work feelings, thoughts, and behaviors, they are likely to be more consumed with work, both mentally and physically thus having less to contribute to the family domain. Spouses are likely to perceive the incumbent as less “present” in the family—more distracted, less likely to pay attention to other family members, less likely to help with family responsibilities or to participate in family

activities. For these reasons, spouses are more likely to perceive that the job incumbent's work is negatively impacting the family (i.e., stress crossover; Ferguson, 2012). Stress crossover includes general feelings that the incumbent's work hinders the well-being of the family members, as well as specific perceptions that the incumbent's continued investment (mentally and physically) in work after hours negatively impacted the family (Ferguson, 2012).

Fluctuations in daily workaholism require the expenditure of limited mental and physical resources on work rather than family, leaving incumbents with fewer resources to devote to the partner (e.g., to provide social support) or other family members (e.g., to engage in activities with the children). In line with this, Parasuramen et al. (1996) found time spent at work and work overload correlated with lower levels of family involvement, and Bakker et al. (2009) found workaholism was related to less social support provided to one's partner through increased work-family conflict. Furthermore, fatigue associated with daily fluctuations in workaholism may interfere with the individual's ability to provide assistance with domestic tasks and parental responsibilities. Thus, consistent with crossover theory, we hypothesize the following:

*Hypothesis 4: Daily fluctuations in workaholism are positively related to stress crossover.*

*Hypothesis 5: Daily fluctuations in workaholism are indirectly related to stress crossover through fatigue.*

Negative stress crossover has been linked to higher relationship tension (Ferguson, 2012; Matthews et al., 2006). Conceptually distinct from a lack of marital satisfaction, relationship tension involves feeling irritated and annoyed with one's partner (Matthews et al., 2006). Consistent with the spillover-crossover model, research shows when couples are stressed, they are likely to have increased feelings of frustration and negative interactions with one another

(Schaefer et al., 1981). Feeling that the incumbent's work is interfering with the family is likely to engender feelings of frustration, irritation, and annoyance for a variety of reasons. Spouses may become frustrated because incumbents are not helping as much around the house or because incumbents are ignoring or being short with members of the family. Stress crossover may signal a lack of commitment to the family system, causing frustration (Huffman et al., 2017). Fatigue may increase the likelihood the job incumbent is communicating or interacting with his or her partner in a negative way (Westman, 2002). Relationship tension may increase as the spouse becomes frustrated with the job incumbent's stress that is crossing over due to the work domain. Overall, we expect a job incumbent's daily fluctuations in workaholism and corresponding evening fatigue are related to tension in the relationship through the spouse's perception that the incumbent's work negatively affects the family.

*Hypothesis 6: Daily fluctuations in workaholism are indirectly related to spouse's relationship tension through serial mediation of (a) evening fatigue and (b) stress crossover.*

## METHOD

### Participants

As part of a larger data collection effort, we sampled 121 employees (70.8% female) from across the United States. Participants were on average 35.9 years old ( $SD = 10.3$  years, range = 23 to 62 years), had a job tenure of 5.6 years ( $SD = 7.2$  years), and worked on average 44.1 hours per week ( $SD = 6.9$  hours). The majority of participants identified as White (87%), with 7% identifying as Hispanic/Latino, 3% as Asian/Pacific islander, 2% as Black, and 1% as "other." Our sample was fairly well-educated as all participants held a GED or high school diploma, 65% held bachelor's or higher degrees, 9% held associate's degrees, and 19% attended

some college. Participants were required to be married or in a committed relationship and reported an average relationship length of 10.7 years ( $SD = 9.4$  years). Just over half (54.5%) of the participants had children in the same household. Participants worked in a broad range of industries, with most participants working in healthcare (43.0%), education (14.0%), computer and engineering (13.2%), management and business (8.3%), and office and administration support (8.3%). The majority of spouses worked at least part time (83.5%), on average 40.3 hours per week ( $SD = 9.5$ ).

### **Procedure**

For our daily diary methodology, participants were recruited using two methods. First, we recruited at two hospitals. We advertised our study at leadership meetings of department leaders and directly to clinic staff in administrative positions at clinics affiliated with the hospitals. We recruited 64 participants in this way after speaking with approximately 200 individuals (32% response rate). Second, we recruited online through advertisements on online forums and social media sites. Interested participants completed a detailed screening survey (451 responses) and 199 were determined as eligible. Of these, 146 consented to begin the study. Combined with the hospital employees, we had 210 participants begin the study, but 89 participants withdrew from the study before or on the first day of data collection and were subsequently removed from the dataset. The final sample consisted of 44 hospital employees and 77 participants recruited through online advertisements for a total sample size of 121.

To be eligible to participate, all participants were required to live in the US, work 35 hours or more per week, and be married or in a committed relationship and currently living with their spouse/partner. We also required that participants worked somewhat “traditional” business hours (8am-5pm on Monday through Friday), because our surveys were delivered at specific

times of the day based on a standard work schedule.

One week before the daily diary phase of the study began participants completed a baseline survey that assessed demographics and trait workaholism. In line with standard practices in the collection of intraindividual data (Gabriel et al., 2018), the daily diary phase lasted ten consecutive working days not including weekends. Participants were instructed to complete the morning survey and they received distinct survey links twice each work day: in the morning before work and in the evening. The morning survey included anticipated workload ( $n = 1117$  out of 1210 possible participant days). The evening survey included daily fluctuations in workaholism and evening fatigue ( $n = 1043$ ).

We also asked participants to give us the email address of their spouse, and we used this email to seek the spouse's consent to participate. We did not require spouse consent, and 9 individuals participated in the study without a spouse completing surveys. The spouse survey was sent to the spouse's email each evening and included measures of spouse's stress crossover and spouse's relationship tension ( $n = 894$ ).

Participants were instructed to complete the morning survey just before or immediately upon arriving to work, and participants and spouses were instructed to complete the evening survey within one hour of their bedtime. We dropped survey responses completed outside of reasonable intervals around these instructed time frames (i.e., dropped surveys between 2pm to 3am for morning survey and 6am to 5pm for evening survey). As we informed them at the time of consent, if participants completed 80% or more of the total surveys, we mailed them a \$50 gift card; those who completed 10-80% of surveys received a \$10 gift card.

## **Measures**

All measures used a response scale of 1 = “strongly disagree” to 5 = “strongly agree” unless otherwise noted.

**Trait Workaholism.** On the initial survey we measured trait workaholism with the 10-item version of the Dutch Work Addiction Scale (DUWAS; Schaufeli et al., 2009). The DUWAS consists of 5 items measuring working compulsively (e.g., “I often feel that there’s something inside me that drives me to work hard”) and 5 items measuring working excessively (e.g., “I find myself continuing to work after my co-workers have called it quits”). Cronbach’s alpha for the overall measure was .84 (.70 and .79 for the working compulsively and excessively dimensions, respectively).

**Anticipated workload.** To assess anticipated workload, each morning participants were asked to think about their expectations of their work that day. Three items derived from Karasek’s job content questionnaire (1998) assessing quantitative workload used and validated in prior studies (e.g., Demerouti et al., 2012; Demerouti et al., 2004) were adapted in line with prior studies to reflect anticipated workload (Casper et al., 2017): “Today my job will be very hectic”, “Today my job will require working very hard”, and “Today my job will require working very fast.” The average Cronbach’s alpha across all days of the study was  $\alpha = .88$ ; range of .83 to .90.<sup>1</sup>

**Daily fluctuations in workaholism.** To assess daily fluctuations in workaholism, we created a new measure inspired from existing measures of trait workaholism (i.e., Dutch Workaholism Scale, Schaufeli et al., 2009; WorkBAT, Spence & Robbins, 1992). The three-item measure, completed each evening, captured daily compulsive feelings (“At work today, I

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<sup>1</sup> As recommended by an anonymous reviewer, we also calculated the within-person and between-person  $\omega$  of our daily scales using the Mplus code from Geldhof, Preacher, and Zyphur (2014). The estimates are as follows: Anticipated workload (within-person  $\omega = .83$ , between-person  $\omega = .94$ ); daily fluctuations in workaholism (within-person  $\omega = .64$ , between-person  $\omega = .82$ ); evening fatigue (within-person  $\omega = .78$ , between-person  $\omega = .89$ ); stress crossover (within-person  $\omega = .84$ , between-person  $\omega = .98$ ); relationship tension (within-person  $\omega = .86$ , between-person  $\omega = .97$ ).



constantly felt an internal pressure to work hard”), compulsive thoughts (“Today, I often found myself thinking about work even when I was at home”), and compulsive behaviors (“Today, I found myself continuing to work even after coming home”). The average Cronbach’s alpha across all days was  $\alpha = .71$ ; range of .62 to .75.<sup>2</sup>

**Evening Fatigue.** We utilized 2 items from Matthews et al. (2012) to assess fatigue each evening: “How physically tired do you feel today?” and “How mentally tired do you feel today?” The response scale was 1 = “Not at all” to 5 = “Extremely.” The original scale had 3 items but after pilot testing<sup>3</sup> we chose to remove the item “How tense do you feel today?” because this item was not strongly correlated with the other items and our goal was to keep the daily surveys as brief as possible. The average Cronbach’s alpha across all days was  $\alpha = .83$ ; range of .78 to .87.

### Measures from the Spouse

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<sup>2</sup> To provide additional content validity evidence for this newly developed measure, we asked 12 undergraduate and graduate student research assistants unfamiliar with the study to complete a content validation task using the procedures outlined by Hinkin and Tracey (1999) and Colquitt et al. (2019). The average participant age was 22 ( $SD = 1.81$ ), 75% of participants were female, 92% identified as White, 75% worked at least part time, and average hours worked per week was 22.4 ( $SD = 9.4$ ). Participants rated the correspondence between each of our developed items and the three aforementioned components of workaholism (i.e., compulsive motivations, thoughts, and behaviors) on a 7-point scale (1 = *Item does an extremely bad job of measuring this concept*, 7 = *Item does an extremely good job of measuring this concept*). The mean level of correspondence between the daily fluctuations in workaholism items and their conceptual definitions was 6.83 and the hinkin tracey correspondence index (*htc*) was .98, indicating “very strong” level of definitional correspondence (see Colquitt et al., 2019). Definitional distinctiveness was also assessed by having participants rate on the same 7-point scale the correspondence between each of our developed items and the “orbiting” construct of work engagement as well as two other daily constructs included in this study (i.e., anticipated workload and fatigue). The mean levels of correspondence between the daily fluctuations in workaholism items and orbiting constructs of work engagement, workload, and fatigue were 4.07, 3.36, and 2.33, respectively. The average hinkin tracey distinctiveness index (*htd*) across all orbiting constructs was .60, indicating “very strong” level of definitional distinctiveness (Colquitt et al., 2019).

<sup>3</sup> All measures were pretested in a pilot study with the same study design as the primary study. The sample consisted of 11 participants (54.5% male, 81.8% White) and their spouses recruited from the authors’ personal networks. Participants worked on average 4.71 years ( $SD = 4.79$ ) for their current employer, and 54.5% held supervisory positions. Participants reported working an average of 40.18 hours per week ( $SD = 8.78$ ). Four spouses were employed, working an average of 39.38 hours per week ( $SD = 13.60$ ). Participant race, other demographic characteristics, and spouse demographics were not collected.

**Stress crossover.** Ferguson's (2012) stress crossover scale has 3 items that measure the spouse's perceptions of the transmission of the job incumbent's stress from the work domain to the family domain. An example item is "Today I felt my partner brought work home (either physical or emotional) in a way that negatively impacted our family." The average Cronbach's alpha across all days was  $\alpha = .92$ ; range of .87 to .94.

**Relationship tension.** Spouse's relationship tension was captured with three items developed by Matthews et al. (2006). A sample item is "Today, I feel irritated or resentful about things my spouse/partner did or didn't do." The average Cronbach's alpha across all days was  $\alpha = .91$ ; range of .85 to .95.

### **Analyses**

Due to the multilevel nature of our daily diary data, we utilized Mplus v8.2 (Muthén & Muthén, 1998-2012) to analyze our hypotheses with a random-intercepts multilevel path model and maximum likelihood estimation. Pathways were modeled as fixed effects (Kreft & de Leeuw, 1998). In line with methodological recommendations regarding daily data nested within individuals (e.g., Enders & Tofighi, 2007), all Level 1 predictors were within-person centered and Level 2 variables were grand-mean centered. In order to test Hypothesis 1, Mplus creates a latent variable representing the daily fluctuations in workaholism aggregated across the survey period to provide estimates of between-person relationships with trait workaholism (the level 2 variable). In testing this hypothesis, we included the between-person component of all other level 1 variables in the between-person model and allowed them to covary. Hypotheses 2-6 were simultaneously tested at the within-person level. We tested estimates of direct and total effects for significance with 95% confidence intervals (CIs) based on normal approximation. Estimates for indirect effects were tested for significance with Monte Carlo 95% CIs.

We also tried including several demographic control variables at the between-person level, including number of children, marital status and length of marriage. Our results did not change with the addition of these additional control variables, so to maximize power and increase the interpretability of the coefficients we did not include controls in our final model (Berneth & Aguinis, 2016).

## RESULTS

We present within- and between-person correlations and descriptive statistics in Table 1. We first tested for sufficient variance at the within- and between-person levels to warrant multilevel modeling. For this test we used the intra-class correlation coefficient (ICC1), or between-person variance divided by total variance (Klein & Kozlowski, 2000). Our ICC1's were fairly high (ranging from .42 for fatigue to .56 for stress crossover). We also found support for a substantial proportion of variance at the within-person level for each measure (ranging from 44% to 58%; see Table 1). Specifically, daily fluctuations in workaholism demonstrated 47% of variance at the within-person level suggesting substantial daily variance. In summary, multilevel modeling was appropriate for this sample.

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### **Multilevel Confirmatory Factor Analyses (MCFAs)**

We conducted a series of multilevel confirmatory factor analyses to evaluate the adequacy of the measurement model. At the within-person level, daily measures (i.e., anticipated workload, daily fluctuations in workaholism, evening fatigue, stress crossover, and relationship tension) were modeled as distinct factors. At the between-person level, to achieve more optimal variable-to-sample-size ratio (Bagozzi & Edwards, 1998), trait workaholism was modeled as one

factor with two 5-item parcels corresponding to the working compulsively and working excessively dimensions. Results of this model indicated good fit,  $\chi^2 (158) = 293.77, p < .01$ ; CFI = .98, TLI = .97, RMSEA = .03, SRMR<sub>within</sub> = .03, SRMR<sub>between</sub> = .08. This model fit significantly better than all alternative models, supporting the construct distinctiveness of our variables.<sup>4</sup>

### Hypothesis Tests

We fit the hypothesized model onto the data and found good fit:  $\chi^2 (4, N = 1119) = 6.33, ns$ ; CFI = .99, TLI = .96, RMSEA = .02, SRMR for within = .02, SRMR for between = .00. We compared this with an alternative model that included all possible direct effects from predictor to outcome variables (Preacher & Hayes, 2004, 2008). This alternative model was just identified but the added paths were not significant, so we present findings for the hypothesized and concise model below.

Figure 1 displays hypothesized pathways with unstandardized coefficient estimates. Our first hypothesis proposed a positive association between trait workaholism and average daily fluctuations in workaholism. Modeled at the between-person level, trait workaholism exhibited a positive association with average daily fluctuations in workaholism as expected ( $\gamma = .64, p < .01$ ). Thus, Hypothesis 1 was supported.

Hypothesis 2 predicted that anticipated workload would be positively related to evening fatigue and daily fluctuations in workaholism at the within-person level. As expected, anticipated

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<sup>4</sup> Alternative models included a model combining daily fluctuations in workaholism and evening fatigue into a single factor ( $\chi^2 (167) = 780.37, p < .01$ ; CFI = .90, TLI = .87, RMSEA = .06, SRMR<sub>within</sub> = .07, SRMR<sub>between</sub> = .14,  $\Delta\chi^2 = 486.60, p < .01$ ); a model combining stress crossover and relationship tension into a single factor ( $\chi^2 (168) = 1253.86, p < .01$ ; CFI = .82, TLI = .77, RMSEA = .08, SRMR<sub>within</sub> = .11, SRMR<sub>between</sub> = .09,  $\Delta\chi^2 = 960.08, p < .01$ ); and a model combining anticipated workload, daily fluctuations in workaholism, and evening fatigue into a single factor ( $\chi^2 (174) = 2118.12, p < .01$ ; CFI = .67, TLI = .60, RMSEA = .10, SRMR<sub>within</sub> = .13, SRMR<sub>between</sub> = .17,  $\Delta\chi^2 = 1824.35, p < .01$ ). In all models, one fatigue item had a negative residual variance resulting in the Theta matrix to be not positive definite. We fixed the residual variance of this item to .001 so the models would converge. When estimating alternative model 2, a similar problem emerged with one relationship tension item and we again fixed the residual variance to .001. To ensure this did not change our findings, we compared models with and without this change and there were no appreciable differences in model fit or parameter estimates.

workload was related to daily fluctuations in workaholism ( $\gamma = .11, p < .01$ ) and evening fatigue ( $\gamma = .13, p < .01$ ). Hypothesis 3 was also supported, as daily fluctuations in workaholism were positively related to evening fatigue ( $\gamma = .16, p < .01$ ). This demonstrates support for Hypotheses 2 and 3.

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 Insert Table 2 about Here  
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Hypothesis 4 predicted daily fluctuations in workaholism would be positively associated with stress crossover. This hypothesis was supported; daily fluctuations in workaholism were significantly associated with stress crossover ( $\gamma = .08, p < .05$ ). Further, Hypothesis 5 suggested fatigue would mediate the relationship between daily fluctuations in workaholism and stress crossover, and Hypothesis 6 proposed fatigue and stress crossover as mediators in the relationship between daily fluctuations in workaholism and spouse's relationship tension. Supporting these hypotheses, the indirect effects were significant, as indicated by the 95% confidence intervals not including zero (see Table 2).<sup>5</sup>

## DISCUSSION

A primary goal of this study was to examine workaholism from a within-person perspective by conceptualizing fluctuations in workaholism from day-to-day as state manifestations of the trait. Consistent with whole trait theory (Fleeson, 2001), we found workaholism exhibited both stability and variation within individuals. It has long been argued that workaholism is an individual difference variable. However, these results show strong support for the density distribution approach to workaholism much like has been found with

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<sup>5</sup> We also examine the relationship between trait workaholism and average anticipated workload at the between-person level. This relationship was also significant ( $\gamma = .51, p < .01$ ). Average anticipated workload was not significantly related to average fluctuations in workaholism ( $\gamma = -.08, p = .46$ ).

other personality traits. Second, contributing to our understanding of the anticipatory phase of the stressor-strain process, we found anticipated workload was positively associated with daily fluctuations in workaholism and evening fatigue. Further, we tested a spillover-crossover model examining correlates of daily fluctuations in workaholism using an experience sampling methodology. In line with spillover theory, fluctuations in daily workaholism were positively related to evening fatigue. Finally, our model supported the crossover of the stress to the spouse's relationship tension through spouse's perceptions of stress crossover.

### **Theoretical Contributions**

By demonstrating support for a density distribution approach in line with whole trait theory, our study provides the opportunity to expand current theoretical models of predictors and outcomes of workaholism to include day-to-day processes. A key advantage of applying a within-person framework to the study of workaholism is that researchers can begin to identify various momentary situational and internal factors that may correlate with higher daily workaholism. Such information can inform researchers and practitioners of potential triggers of state manifestations of workaholism and can advance theory by applying a within and across context (WAC) variability framework (Geukes et al., 2017) that disentangles the degree to which workaholism is predicted by internal vs. external factors within and across contexts (e.g., Ng et al., 2007; Snir & Harpaz, 2012). Thus, by shifting the level of analysis of workaholism research, a myriad of dynamic processes in workaholism's nomological network can be theorized and studied.

The present study addresses calls by scholars to further investigate the role of anticipatory processes in the workplace, particularly anticipatory processes prior to the start of one's workday (Casper et al., 2017; Casper & Sonnentag, 2020). Very few studies have

examined the role of anticipated workload in the literature until recently (Casper & Sonnentag, 2020; DiStaso & Shoss, 2020; Rosen et al., 2020). Drawing from whole trait theory (Fleeson, 2001), we found support for our hypothesis that perceptions of anticipated workload each morning correlate with higher reports of compulsive feelings, thoughts, and behaviors towards one's work (i.e., daily fluctuations in workaholism) as well as strain outcomes (i.e., fatigue). These results complement findings from recent studies (Casper & Sonnentag, 2020; DiStaso & Shoss, 2020; Rosen et al., 2020) that have explored anticipated workload from theoretical perspectives such as the transactional model of stress (Lazarus & Folkman, 1984) and conservation of resources theory (Hobfoll, 1989). We encourage future studies to integrate these theoretical perspectives to examine the role of appraisals of one's workload (i.e., challenge, hindrance, and threat appraisals) to explain within-individual variation in workaholism.

The focus on anticipated workload also complements and extends existing studies that have assessed daily job demands in the afternoon (e.g., Ilies et al., 2007; Rodell & Judge, 2009), or after the workday has ended (Butler et al., 2005); therefore largely focused on the past. The temporal separation of the variables was particularly important here, given the focal variable of the study involves spending a great deal of time and mental/physical energy on one's work that day. Namely, if job demands were reported at the same time as daily workaholism (i.e., in the evening), individuals may be more likely to rationalize any daily fluctuations in workaholism to their daily workload (i.e., I spent more time thinking about and doing work because I had a high workload today).

It is possible that anticipated workload may be a stronger situational cue for triggering manifestations of workaholism than experienced workload, given the unique psychological characteristics of the anticipation phase (e.g., worry, anxiety, and uncertainty). Future research

could examine these (and other) situational cues that may predict fluctuations in workaholism, and the underlying psychological features of each. Interestingly, other studies have found null or conditional relationships between anticipated workload and healthier forms of heavy work investment (i.e., work engagement, Casper et al., 2017; Casper & Sonnentag, 2020). Overall, a greater understanding of the underlying psychological characteristics of anticipated workload could inform our understanding of fluctuations in a wide range of positive and negative personality states relating to one's work.

While previous research has linked workaholism to negative employee well-being (Clark et al., 2016; Salanova et al., 2016; Taris et al., 2008), no known studies have sought to understand how short-term fluctuations in daily workaholism relate to immediate health and well-being outcomes. This study provides a first look at this spillover process by finding a positive spillover of daily fluctuations in workaholism on evening fatigue. Future research is needed to test these relationships over a longer period of time in order to understand how these relationships may function over several weeks or months. Brosschot et al.'s (2006) perseverative cognition hypothesis suggests some biological processes, such as elevated cortisol levels, are more likely to result from proximal stressors, but weakening of immune responses reflect long-term adaptation to anticipated stressors that persist over a period of time. Similarly, allostatic load theory (Ganster & Rosen, 2013) suggests relatively minor health complaints may build up over time to ultimately trigger more serious health issues. Understanding the timing and trajectory of these relationships may provide insight on how long is too long to experience elevated workload before serious health outcomes occur.

Extending the spillover-crossover model (Bakker & Demerouti, 2013) these findings extend our understanding of crossover of workaholism. Between-person studies have theorized



and found support for negative crossover of workaholism to spouses through poorer social relationships and decreased marital satisfaction (Bakker et al., 2009; Ng et al., 2007; McMillan et al., 2004; Shimazu et al., 2011). We provide evidence that daily fluctuations in workaholism cross over to negative spousal outcomes through multiple mechanisms; specifically, through increased fatigue in the evening and greater spousal perceptions of stress crossover. Additional studies should build upon these findings by examining other theoretically relevant outcomes such as family functioning and relationship with children.

This within-person approach to the study of workaholism offers practical implications. For example, an examination of specific triggers of daily fluctuations in workaholism may inform future interventions aimed at training organizations, managers, and employees to identify issues before they manifest as a behavioral addiction. Workaholism can be distinguished from work addiction in that work addiction involves “*repeated overinvolvement in work, persisting over a long time*” (Atroszko & Griffiths, 2017: 2). Thus, targeted interventions could focus on reducing environmental triggers found to positively correlate with daily workaholism to decrease the likelihood this overinvolvement in work will persist or increase over time. Interventions to reduce anticipated job demands could focus on reducing actual demands (e.g., through job redesign or realistic goal setting) or on changing the individual’s cognitive framing of their job demands (e.g., through mindfulness training; Hülshager et al., 2012).

### **Limitations and Directions for Future Research**

As with all research, there are limitations and opportunities for future development. This research suggests it may be promising to examine triggers of daily workaholism, but we only examined the role of anticipated workload. Future research may benefit from examining what dynamic factors besides anticipated workload exacerbate or mitigate daily workaholism such as

leadership demands or technology and if family variables such as financial need contribute to this phenomenon. Future research should also examine other types of job demands besides workload (e.g., job responsibility, time pressure, job ambiguity). Finally, we were also limited in that we only assessed appraisals of anticipated workload each morning. We do not know whether individuals actually experienced a heavy workload that day. Recent research also points to the importance of understanding the interaction between current workload and anticipated changes in workload (DiStaso & Shoss, 2020); such an approach may be particularly useful to understand fluctuations in workaholism over time.

We also limited our investigation of individual well-being outcomes to fatigue, but future research could extend the consequences of daily fluctuations in workaholism by measuring physical well-being, sleep or other psychological states such as depression or anxiety. Future studies using non-self-report health assessments (blood pressure or heart rate monitors) could provide more information about the objective health outcomes of daily fluctuations in workaholism and potentially long-term outcomes of workaholism. In addition to well-being outcomes, future research should explore how fluctuations in workaholism relate to work attitudes (e.g., job satisfaction) and behaviors (task and contextual performance). Finally, it would be fruitful to examine how these relationships might be different in other cultures or for workers with non-traditional work schedules.

Our measure of daily fluctuations in workaholism may not have captured all aspects of workaholism that play a critical role in within-person processes. For example, Clark et al. (2020) recently developed a multidimensional measure of workaholism which included the three components we examined here, in addition to an emotional component (i.e., feeling negative emotions when not working). Therefore, we encourage future research to refine and expand the

measurement of daily fluctuations in workaholism, as this may allow further understanding of the key mechanisms through which workaholism affects important day-to-day outcomes. Longer momentary measures that allow for separate examinations of dimensions of workaholism may be particularly useful for theoretical refinement.

A final limitation of this study is the correlational nature of the data, so we cannot speak to the causal nature of the relationship between constructs in our model. We attempted to minimize common method variance by separating out the measurement of constructs when feasible and collecting outcome data from spouses. However, daily fluctuations in workaholism and fatigue were both reported by participants in the same survey, and stress crossover and relationship tension were reported by spouses in the same survey; thus, reverse causal ordering between these variables is possible. Although theory (whole trait theory, spillover-crossover model) and research (e.g., Bakker et al., 2013; Ferguson et al., 2016) support the proposed temporal ordering of constructs in our model, we encourage future research to replicate these findings.

In conclusion, this research is the first to look at within-person fluctuations in daily workaholism. In line with whole trait theory (Fleeson, 2001), we found evidence for stability and variation within individuals of workaholism. This study serves as a first step in understanding various situational cues that may predict daily expressions of workaholism, by examining the role of anticipation of workload each day. Further, this research demonstrated the spillover and crossover of daily fluctuations in workaholism through evening fatigue and stress crossover to the spouse's experience of relationship tension, providing greater understanding of the dynamic relationship between workaholism and marital outcomes. This within-person approach to the study of workaholism has the potential to advance theory, research, and practice.

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Table 1

## Multilevel Descriptive Statistics and Correlations

Scale	1	2	3	4	5	6
<i>Job Incumbent</i>						
1. Trait workaholism						
2. Anticipated workload	.49**		.14**	.11**	.08*	-.05
3. Daily fluctuations in workaholism	.57**	.28**		.15**	.09*	.02
4. Evening fatigue	.32**	.23*	.34**		.19**	.11**
<i>Spouse</i>						
5. Stress crossover	.44**	.24*	.43**	.34**		.29**
6. Relationship tension	.30**	.15	.31**	.24**	.75**	
Grand Mean	3.44	3.39	2.41	2.90	1.97	1.98
Between-persons SD	0.71	0.67	0.69	0.64	0.67	0.62
Within-person SD		0.68	0.66	0.76	0.59	0.69
Proportion Within Variance		50%	47%	58%	44%	55%
N	120	121	118	118	112	112

*Note.* Between-person N = 121; within-person N = 1119. Between-person correlations are provided below the diagonal; within-persons correlations are provided above the diagonal.

Table 2

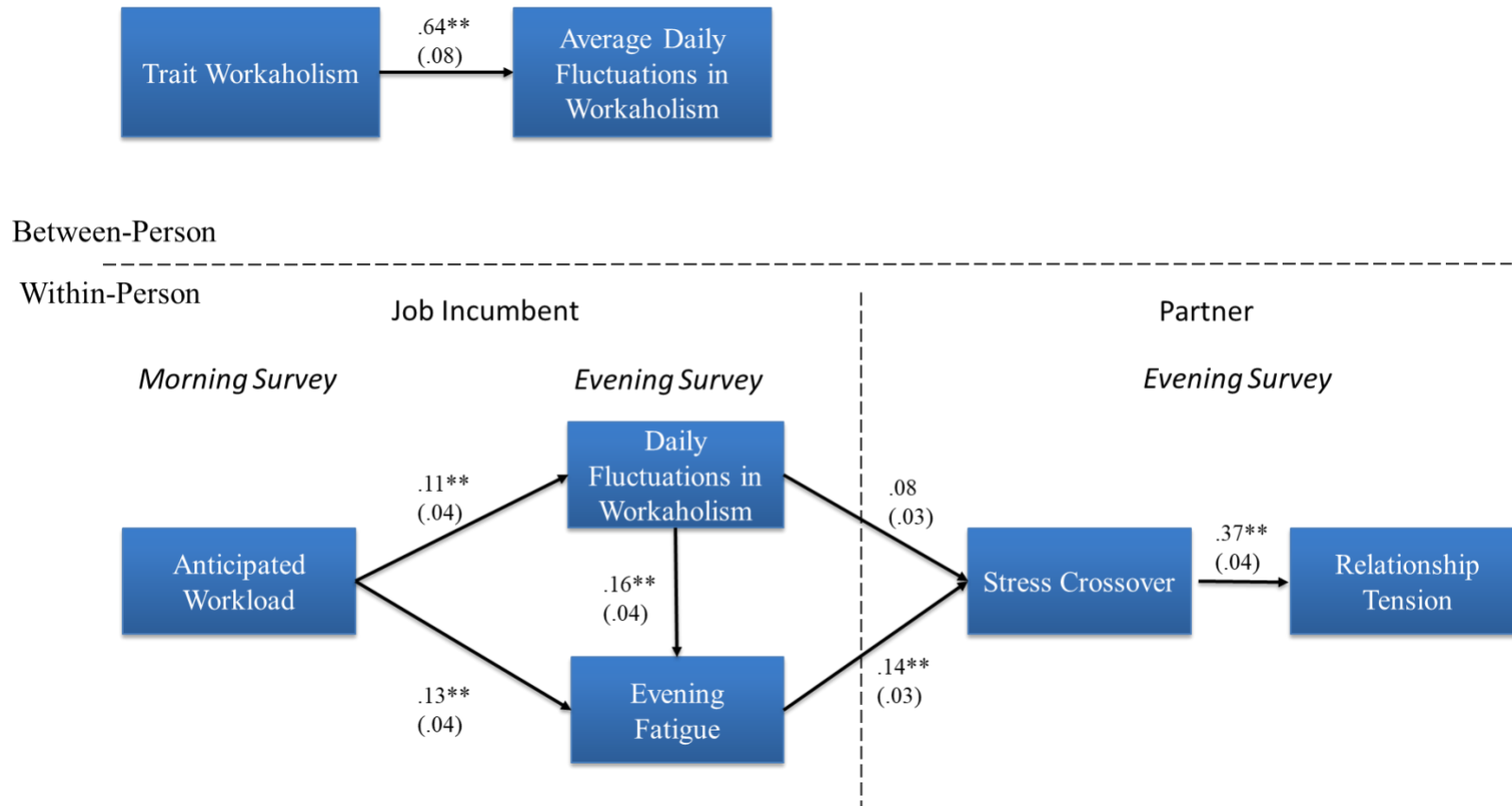
## Indirect, Direct, and Total Effect Results

Dependent variable	Mediator(s)	Independent Variable	Indirect effect	Direct effect	Total effect
Stress Crossover	Evening Fatigue	Daily Fluctuations in Workaholism	.02 [.008, .036]	.08 [.011, .138]	.10 [.033, .161]
			<i>.01</i>	<i>.03</i>	<i>.03</i>
Relationship Tension	Stress Crossover	Daily Fluctuations in Workaholism	.03 [.004, .052]		.04 [.011, .061]
	Evening Fatigue & Stress Crossover		<i>.01</i>		<i>.01</i>
			.01 [.003, .014]		
			<i>.00</i>		

*Note:* Unstandardized coefficients presented. 95% confidence intervals (CIs) reported. Estimates for direct and total effects were tested for significance with 95% CIs based on normal approximation. Estimates for indirect effects were tested for significance with Monte Carlo 95% CIs. Standard error presented in italics. The conditional indirect effect is significant when the confidence interval excludes zero.

Figure 1

Hypothesized Model and Multilevel Path Analysis Results



Note. Level 1  $n = 1119$ ; Level 2  $n = 121$ . Values in parentheses are standard errors. Unstandardized coefficients shown; \* $p < .05$ ; \*\* $p < .01$ .