Childhood Psychological Maltreatment and Work–Family Conflict Throughout Adulthood: A Test of Self-Concept and Social Mechanisms

Kimberly A. French¹, Lindsey Drummond², and Rebecca Storey¹

¹ School of Psychology, Georgia Institute of Technology
² Department of Counseling, Northwestern University

This study uses a life course stress and attachment framework to examine the relationship between childhood psychological maltreatment and adulthood work interference with family (WIF) and family interference with work (FIW). We analyze longitudinal survey data across 20 years collected in the Midlife Development in the United States (MIDUS) study (N = 307). We suggest childhood psychological maltreatment is associated with reduced perceptions of control (decreases in mastery, increases in perceived constraints) and social support (reduced supervisor and spouse support), which are then positively associated with WIF and FIW levels and increases over 20 years. Consistent with attachment theory, psychological maltreatment is associated with increased levels of WIF and FIW in adulthood through increased levels of perceived constraints and reduced levels of supervisor and spouse support. Results do not show support for life course stress proliferation ideas that suggest psychological maltreatment should be indirectly associated with escalating WIF and FIW over time. Our study illuminates novel developmental mechanisms that link childhood experiences with chronic WIF and FIW in adulthood. Our findings extend the known implications of psychological maltreatment to managing two central adulthood roles: work and family.

Keywords: psychological maltreatment, work–family conflict, mastery, perceived constraints, social support

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Work–family conflict, which occurs when the demands of work and family are incompatible, is a common experience shared by working adults, particularly for those in early and middle adulthood (ages 19–40 and 40–65; Allen & Finkelstein, 2014; Erikson, 1994; Greenhaus & Beutell, 1985). For example, a survey conducted with 2,000 professionals showed that 76% of workers believe work stress negatively impacts their personal relationships (Ferry, 2018). Work–family conflict has well-documented and widespread implications for functioning in and outside of work, including work and family performance (Amstad et al., 2011; Fellows et al., 2016; Hoober et al., 2010), work and family attitudes (e.g., commitment, satisfaction; Allen et al., 2020; Amstad et al., 2011), and general findings extend the known implications of psychological maltreatment to managing two central adulthood roles: work and family.

To test our hypotheses, we use public-use data from the Midlife Development in the United States study (MIDUS I, II, and III). The MIDUS data set has been used in over 1,600 publications to date. A searchable database of these publications is available at http://www.midus.wisc.edu/findings/index.php. This article does not substantially overlap with previously published work using the MIDUS data set. For the replication analyses, we use public-use data from the Add Health data set. The Add Health data set has been used in over 8,000 publications to date. A searchable database of these publications is available at https://addhealth.cpc.unc.edu/publications/. This article does not substantially overlap with previously published work using the Add Health data set.

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Correspondence concerning this article should be addressed to Kimberly A. French, School of Psychology, Georgia Institute of Technology, 654 Cherry Street North West, Atlanta, GA 30313, United States. Email: KFrench0429@gmail.com
well-being (e.g., life satisfaction, anxiety, burnout, alcohol abuse, feelings of stress; Allen et al., 2020; Amstad et al., 2011; Nohe et al., 2015). Identifying the drivers of work–family conflict is therefore critical for understanding and promoting healthy functioning for adults across the lifespan.

Most of the research on work–family conflict antecedents focuses on malleable and transient features of the work and family environments, such as work and family demands, involvement, supports, and control (Allen et al., 2020; French & Shockley, 2020; Michel, Kotrba, et al., 2011). Theory typically used to explore the antecedents of work–family conflict (e.g., conservation of resources theory, resource drain, affective events theory) focuses almost exclusively on these environmental inputs (Allen, 2012; Edwards & Rotbard, 2000; Hobfoll, 1989; Weiss & Cropanzano, 1996). Correspondingly, research on daily and monthly changes in work–family conflict and environmental correlates has exploded in recent years (Allen et al., 2019).

A smaller set of recent studies, however, suggests work–family conflict has stable features as well. For example, longitudinal work research suggests work–family conflict is relatively consistent on average across several years (e.g., Cho et al., 2013; Cooklin et al., 2016; Hecht & McCarty, 2010; Rantanen et al., 2012; Smith et al., 2021). Studies with monthly assessment similarly show work–family conflict is highly correlated across waves (e.g., r ranges from .66 to .83 across 1-month lags in Matthews et al., 2014; see also Nohe et al., 2015 meta-analysis). Even during a major societal change such as the COVID-19 pandemic, an estimated 75%–87% of individuals maintain similar profiles of work–family conflict and enrichment (Vaziri et al., 2020). Additionally, meta-analyses and correlational primary studies suggest that individual differences such as personality and trait affect are associated with levels of work–family conflict (Allen et al., 2012; Michel & Clark, 2009; Michel, Clark, et al., 2011; Michel, Kotrba, et al., 2011). Thus, it seems that in addition to short-term environmentally driven fluctuations in work–family conflict, people have a relatively stable set point for work–family conflict (e.g., Matthews et al., 2014, 2016; Zapf et al., 1996). These stable levels of work–family conflict serve as a gauge for typical feelings of work–family conflict, guiding the level and range of shorter term fluctuations (Smith et al., 2021). There is an important, unrealized opportunity in the work–family literature to expand our understanding of how stable work–family conflict levels are established and what drives changes in stable levels of work–family conflict across adulthood.

The present study addresses this opportunity by examining the relationship between childhood psychological maltreatment and work–family conflict across 20 years among middle-aged adults. Psychological maltreatment is a form of childhood trauma in which caregivers are emotionally abusive or neglectful (Glaser, 2002; Hart et al., 2017). We suggest psychological maltreatment in childhood predicts sense of control (reduced mastery, increased perceived constraints) and social relationship quality (reduced supervisor and spouse support), which are in turn associated with increased work–family conflict throughout adulthood. Our model is informed by the life course stress framework (Pearlin, 1989, 2010) and attachment theory (Ainsworth, 1989; Hazan & Shaver, 1987). These theoretical perspectives posit that psychological maltreatment in childhood thwarts the development of personal and social resources (e.g., mastery, social support) and increases personal risk factors (e.g., perceived constraints),1 which in turn accumulate to have downstream effects on adjustment and well-being in adulthood. We test these predictions using three waves of longitudinal data collected from working adults every 10 years from the Midlife in the United States study (psychological maltreatment assessed at Time 2, all other variables assessed at all three waves; Brim et al., 1999; Ryff et al., 2007, 2015).

This study makes several contributions to the existing literature. First, by drawing upon sociology (Pearlin, 1989, 2010) and developmental psychology (Ainsworth, 1989; Hazan & Shaver, 1987, 1990) perspectives, our study adds theoretical richness to our understanding of how stable levels of work–family conflict come to be. We also demonstrate the potential use of developmental theories in future interdisciplinary long-term change investigations within the work–family and occupational health field (see also Harms, 2011; Wright & Perrone, 2008; Yip et al., 2018).

Second, the present study illuminates the novel relationship between psychological maltreatment and work–family conflict. Childhood experiences rarely receive attention in the work–family literature, despite the known importance of childhood experiences for adulthood success and well-being (e.g., Currie & Wodin, 2010; Mc Elroy & Hevey, 2014; Stafford et al., 2016; Sun et al., 2017). Psychological maltreatment is one of the most commonly experienced and developmentally impactful forms of childhood trauma (Brassard et al., 2020; Hart & Brassard, 1987). Adverse childhood experiences like psychological maltreatment are also associated with historically vulnerable populations, such as lesbian, gay, bisexual, and transgender (LGBT) status and low socioeconomic status (Merrick et al., 2018; Schneeberger et al., 2014). Yet, psychological maltreatment is infrequently studied (Hibbard et al., 2012; Spinazzola et al., 2014) and underaddressed by policy and the law (Brassard et al., 2020; Hart et al., 2002). This study extends our understanding of the implications of psychological maltreatment beyond clinical outcomes (e.g., posttraumatic stress disorder; PTSD, substance use, aggression, depression, suicide; Brassard et al., 2020; Hart et al., 2002; Hibbard et al., 2012; Norman et al., 2012). We expand psychological maltreatment correlates to underresearched self-concept (mastery and perceived constraints, two facets of perceived control) and social (supervisor and spouse support) adulthood experiences, and we show psychological maltreatment is associated with managing two central adulthood roles essential for mental and financial stability: work and family. In doing so, we hope to highlight the importance of this issue, contribute to knowledge regarding a potential source of social disparities in work–family experiences, and encourage others to continue exploring ways in which psychological maltreatment intersects with nonclinical work and family experiences in adulthood.

Third, this study tests mechanisms that explain why childhood experiences are associated with work–family conflict in adulthood. Work–family research has been criticized for the underdevelopment of theoretically driven rationale, and most studies do not explicitly

1 During the review process, we considered using the terms stressor, demand, and risk factor to describe perceived constraints. We opted for the term “risk factor” as opposed to “stressor” or “demand” due to (a) lack of clear fit with theory (e.g., conservation of resource, job demands–resources) which focuses on environmental or work-specific stressors and demands, (b) lack of fit with conceptual definitions of stressors or demands (i.e., perceived constraints is an individual difference, rather than an environmental feature or event), and (c) lack of precedence in the literature when discussing similarly detrimental individual differences like negative affect (e.g., Allen et al., 2012; Michel, Clark, et al., 2011).
and systematically test mechanisms invoked in theory (e.g., Matthews et al., 2016). Our study provides empirical evidence for theoretically posited attachment mechanisms that connect psychological maltreatment to adulthood work–family conflict. These mechanisms reflect self-concept resources (mastery and risk factors (perceived constraints)), as well as social resources (supervisor and spouse support). Our focus on mechanisms also informs interventions aimed to help psychological maltreatment victims successfully transition into adulthood.

Finally, consistent with our theoretical focus on development over time, our study uses a growth modeling approach to examine whether early life experiences are associated with not only average work–family conflict experiences but also changes in work–family conflict across decades. This study thus contributes to the growing body of research seeking to describe and explain work–family conflict changes over time, specifically across the span of decades in middle adulthood (Allen et al., 2019).

### A Life Course Perspective on Stress and Attachment

Chronic stress is thought to develop over the life course, stemming from social structures such as socioeconomic status, race, and family roles (Pearlin, 1989). Pearlin suggests these social structures set the stage for more acute experiences, decisions, and stressors over time (1989; 2010). For example, individuals growing up in an impoverished neighborhood may have limited access to future resources, decision-making options, or have exposure to distinct stressors, which snowball to negatively impact future chronic stress-related states and episodic experiences. In this way, chronic stressor conditions experienced early in life have the potential for cumulative downstream implications into adulthood (Pearlin, 2010; Pearlin et al., 2005; Thoits, 2010).

One such influential social structure is the relationship developed between parents and their children (Ainsworth, 1989; Pearlin, 1989, 2010; Repetti et al., 2002). Attachment theory is a well-established developmental theory that posits children develop internalized schemas about themselves and others through interactions with caregivers (Bowlby, 1988). These schemas ultimately shape perceptions, behavior, social relationships, and emotions in adulthood (Shaver & Mikulincer, 2009; Yip et al., 2018). Long-term relationships developed early in life serve as an invaluable source of personal meaning (positive views of the self) and security (positive views of others; Ainsworth, 1989; Bartholomew, 1990). Positive, secure relationships between parents and their children are characterized by warmth, availability, and security (Ainsworth, 1989; Bartholomew, 1990). These secure relationships foster positive self-concept, or views of the self, such as a sense of self-worth and self-efficacy. Secure relationships also foster positive views about the self in relation to others, in the form of trustworthiness and availability (Ainsworth, 1989; Bartholomew, 1990; Bowlby, 1988).

In contrast, parents may be inconsistent, rejecting, punitive, or unavailable toward their children, resulting in insecure forms of attachment (Bartholomew, 1990; Hazan & Shaver, 1987). Children with such relationships internalize insecure behaviors and consequently have difficulty developing positive self-concept (e.g., self-efficacy, self-esteem) and social relationships (e.g., lack of trust, support, or openness in relationships) into adulthood (Bartholomew, 1990, 1997; Hazan & Shaver, 1990; Mikulincer & Shaver, 2009; Yip et al., 2018). Poor self-concept and the inability to develop supportive, secure relationships then create opportunities for additional stressor exposure (Pearlin, 2010; Repetti et al., 2002). Thus, damaged relationships between parents and their children have the potential to serve as a chronic source of stress that compounds over time, affecting social relationships and success across social domains over the lifespan (Hazan & Shaver, 1987; Pearlin, 1989, 2010; Repetti et al., 2002, 2011; Sumer & Knight, 2001; Yip et al., 2018).

This study specifically focuses on perceived control as a theoretically interesting and key aspect of self-concept that is relevant for navigating work–family conflict. Perceived control is also relatively understudied both in the maltreatment and work–family literature compared to other forms of self-concept, such as self-esteem. Modern definitions of perceived control recognize there are two related but independent components: (a) the belief that individuals can carry out an intended action or goal (high mastery), and (b) the belief that external barriers will not thwart those actions or goal efforts (low perceived constraints; Infurna et al., 2018; Infurna & Mayer, 2015; Lachman et al., 2011; Skinner, 1996). Although both mastery and perceived constraints are considered necessary components of perceived control (Skinner, 1996), emerging evidence suggests each component may indicate different motivational and psychological processes. For example, mastery may be considered a personal resource (Neupert et al., 2007; see also Hobfoll, 1989; ten Brummelhuis & Bakker, 2012) that reflects an approach motivation orientation (Infurna et al., 2018). Individuals with a strong sense of mastery feel motivated and positive when encountering stressors and may put forth greater and more effective effort when confronted with challenges (Infurna & Mayer, 2015; Lachman, 2006; Lachman et al., 2011). In contrast, perceived constraints is a risk factor that reflects difficulty making decisions and loss avoidance (Infurna et al., 2018; Infurna & Mayer, 2015). Those high in perceived constraints tend to believe external factors control their life circumstances and consequently may put forth limited effort or use ineffective strategies when encountering stressors (Infurna & Mayer, 2015; Lachman, 2006; Lachman & Weaver, 1998). In the present study, we examine both components as separate variables and theoretically unique aspects of perceived control.

To capture the social mechanism posited by attachment theory, this study examines two key supportive relationships in the work and family domains: supervisor support and spouse support (French & Schackley, 2020). Support is broadly defined as perceptions that each relationship provides emotional and/or tangible help. Support from supervisors and spouses can serve as a key stable resource that helps individuals arrange work–family responsibilities and navigate work–family issues in a way that effectively reduces chronic levels of work–family conflict (e.g., French et al., 2018; Hammer et al., 2009; Kossek et al., 2011; Selvarajan et al., 2013; ten Brummelhuis & Bakker, 2012; Van Daelen et al., 2006).

### Childhood Psychological Maltreatment

Adverse childhood experiences, or childhood trauma or maltreatment, can occur in many forms including emotional neglect, physical neglect, emotional abuse, physical abuse, and sexual abuse (Bernstein & Fink, 1998; U.S. Department of Health and Human Services, Administration for Children and Families, Children’s Bureau, 2019). In 2019, the National Child Abuse and Neglect Data System estimated roughly 656,000 children in the United States alone were
victims of maltreatment (U.S. Department of Health and Human Services, Administration for Children & Families, Administration on Children, Youth and Families, Children’s Bureau, 2021). Notably, researchers have posited a heightened risk of childhood maltreatment during the COVID-19 pandemic due to risk factors such as restrictive lockdowns, work and economic stress, increased family conflict, and parental burnout (Griffith, 2020; Pereda & Díaz-Faes, 2020; Rodriguez et al., 2021). Early studies have demonstrated these predicted increases in physical abuse (Kovler et al., 2021) and child emotional abuse and neglect (Sharma et al., 2021). Moreover, there is possible underreporting of child abuse during the pandemic, potentially due to the decreased contact with external monitors such as teachers and doctors (Baron et al., 2020; Thomas et al., 2020).

Childhood trauma is an ongoing consequential issue with life-altering and life-threatening medical, psychological, and sociological implications for victims and their families (e.g., Fang et al., 2012; Gilbert et al., 2015; Hart et al., 2002; Leeb et al., 2008; Mandelli et al., 2015; Merrick et al., 2018; Metzler et al., 2017).

The present study focuses on psychological maltreatment because this is the most commonly reported form of trauma across the globe (Stoltenborgh et al., 2015; U.S. Department of Health and Human Services, Administration for Children and Families, Children’s Bureau, 2019). Psychological maltreatment remains infrequently studied and underaddressed in relation to other forms of trauma (e.g., Brassard et al., 2020; Hibbard et al., 2012; Spinazzola et al., 2014). Psychological maltreatment is also theoretically and empirically appropriate, as it has ramifications for decreased self-worth and social adjustment above and beyond other forms of trauma (Brassard et al., 2020; Hart et al., 2002; Schneider et al., 2005; Spinazzola et al., 2014).

The definition of psychological maltreatment has been debated for decades (Brassard et al., 2020; Glaser, 2002; Hart & Brassard, 1987). Today, psychological maltreatment is defined as caretaker behavior that impedes basic psychological needs (e.g., safety, socialization, support, cognitive stimulation, respect) and conveys that a child is unwanted, unwanted, unloved, damaged, endangered, or expendable (Glaser, 2002; Hart et al., 2017). Psychological maltreatment behaviors include psychological abuse (verbal and nonverbal degradation, threats, exploitation) as well as psychological neglect (e.g., withholding nurturance, love, and support; Bernstein et al., 1994, 2003; Hart et al., 2002, 2017). Psychological maltreatment is most typically assessed using self-report retrospective surveys and interviews that ask potential victims to recall instances of maltreatment, although prospective or other report methods may also be used (Baldwin et al., 2019).

Psychological maltreatment experienced during childhood has major implications for health and development (Brassard et al., 2020; Hart et al., 2002). By definition, psychological maltreatment facilitates insecure attachment styles due to the withholding or active thwarting of psychological resources that satisfy developmental needs (love, affection), conveying a message that the child is unworthy of need satisfaction, unloved, and unwanted (Hart et al., 2002; Soffer et al., 2008). Consistent with attachment theory and the life course stress perspective, children who are victims of maltreatment have difficulty developing emotional and social skills, over time manifesting in negative views about themselves and their relationships with other people (Hart et al., 2002; see, e.g., Muller et al., 2012; Perlman et al., 2016; Riggs, 2010).

In comparison to other forms of trauma, children who have experienced psychological maltreatment show greater levels of behavioral problems and are particularly likely to psychologically internalize their trauma, developing psychological symptoms and disorders such as depression, anxiety, and suicidality (Brassard et al., 2020; Norman et al., 2012; Spinazzola et al., 2014). This impaired emotional and social development has a sustained and accumulating impact as mistreatment survivors navigate stressors into adulthood (Pearlin, 2010; Repetti et al., 2002, 2011), ultimately impacting long-term health and adulthood adjustment (e.g., Hager & Runtz, 2012; Hazan & Shaver, 1990; Higgins & McCabe, 2000; Repetti et al., 2011).

**Psychological Maltreatment and Levels of Work–Family Conflict in Adulthood**

This study builds on previous work that focused largely on psychological and physical health (see Brassard et al., 2020; Hibbard et al., 2012; Norman et al., 2012, for recent reviews) by considering the downstream implications of psychological maltreatment for managing two major life roles: work and family. The present study focuses on work–family conflict, which occurs when the demands of family/work make it difficult to meet demands in the alternative domain. Work–family conflict can occur in two directions: work interference with family (WIF), which occurs when work interferes with family role responsibilities, and family interference with work (FIW), which occurs when family interferes with work role responsibilities.

Longitudinal research suggests that individuals have relatively stable levels of WIF and FIW that endure over months and years (Cho et al., 2013; Cooklin et al., 2016; Hecht & McCarthy, 2010; Rantanen et al., 2012; Smith et al., 2021). Stable WIF and FIW levels are likely due to chronic dispositions and situations (Smith et al., 2021), akin to consistencies found in daily hassles over time (e.g., Chamberlain & Zika, 1990). Yet, the typical exclusive focus on adulthood experiences obfuscates our understanding of how these levels develop.

The few studies that address the question of how work–family conflict levels develop suggest children look to their parents as role models to understand, prepare for, and anticipate work–family conflict and role norms as adults. These studies suggest parental engagement in paid and unpaid work sets examples that show managing work and family is normal and possible. For example, Lupu et al.’s (2018) qualitative study showed that adults learn work and family norms throughout their childhood, and implicitly use these norms to govern their work and family role involvement when they reach adulthood. Quantitative research shows emerging adults whose mothers worked were less concerned about the conflict between marriage and career compared to those whose mothers did not work. The authors rationalize emerging adults who saw their mothers working vicariously learned that balance can be accomplished and subsequently developed confidence that they can manage work and family as well (Barnett et al., 2003). Cinamon (2006) also found young adults who grow up with parents that shared caregiving work had greater self-efficacy for managing work–family conflict and anticipated less future work–family conflict compared to those whose parents had more traditional divisions of labor. A third study found exposure to a same-sex parent’s work–family conflict is associated with greater preparedness and more positive attitudes toward managing work and family in emerging adulthood (Basuil & Casper, 2012). As one exception to this pattern of...
findings, Weer et al. (2006) found sons whose mothers worked more regularly throughout childhood anticipated greater work–family conflict than those whose mothers worked less regularly. The authors also interpret these findings from a role modeling perspective, suggesting sons learn to expect their future partner will work, but that this work involvement will increase their own work–family conflict.

The present study theoretically expands thinking beyond modeling and vicarious learning using the life course perspective and attachment theory. Although attachment theory has been used to predict work behavior (see reviews by Harms, 2011; Wright & Perrone, 2008; Yip et al., 2018), it has been applied sparingly within occupational health and the work–family literature. This is particularly surprising given that two major pathways by which childhood experiences affect adult behavior and health are self-concept and social factors, which are instrumental for managing occupational stressors and the work–family interface (e.g., Allen et al., 2012; Bliese et al., 2017; French & Shockley, 2020; Repetti et al., 2002). For example, commonly used resource theories posit mastery and social support are personal and contextual resources that enable people to better meet demands at work and home (Bakker & Demerouti, 2018; Hobfoll, 1989; ten Brummelhuis & Bakker, 2012). Perceived constraints is also a theoretical risk factor for WIF and FIW due to increased stress reactivity and use of ineffective behavioral coping strategies.

As one exception, Sumer and Knight (2001) found adults with secure attachment styles had more work–family positive spillover compared to insecure attachment styles, and that adults with preoccupied attachment (a form of insecure attachment) were less likely to separate work and family and more likely to experience WIF and FIW compared to those with secure attachment. The present study extends beyond this work by (a) examining the specific and impactful childhood experience of psychological maltreatment and (b) by empirically testing mechanisms posited by attachment theory (Bartholomew, 1990; Hart & Brassard, 1987; Soffer et al., 2008; Thoits, 2010): mastery and perceived constraints (a self-concept resource and risk factor), as well as supervisor and spouse support (social resources).

Children who are victims of psychological maltreatment receive negative messages about their worth and capabilities and do not receive ego-building resources such as love and affection (Hart et al., 2002). These messages are internalized into the victim’s self-schemas (e.g., Riggs, 2010). Consequently, psychological maltreatment is associated with more negative views of the self (e.g., Arslan, 2016; Bak et al., 2005; Gross & Keller, 1992; Hibbard et al., 2012; Higgins & McCabe, 2000; Soffer et al., 2008), including decreased mastery and increased perceived constraints.

By definition, individuals with low mastery lack confidence in their capabilities to navigate stressful events (Pearlin & Schooler, 1978; Skinner, 1996). Thus, individuals low in mastery may fail to take control and effectively manage their work and family situation, increasing both WIF and FIW in adulthood. In support, meta-analyses find similar concepts such as core self-evaluations, self-efficacy, and internal locus of control are negatively and similarly associated with WIF and FIW (Allen et al., 2012; Michel, Clark, et al., 2011). On the other hand, those who perceive constraints believe circumstances are insurmountable and beyond control (Infurna & Mayer, 2015; Lachman & Weaver, 1998). Consequently, those high in perceived constraints may be at greater risk of WIF and FIW, because they have difficulty making decisions and fail to use effective strategies when managing work and family demands. In sum, we suggest psychological maltreatment impairs sense of control in the form of reduced mastery and increased perceived constraints. In turn, reduced mastery and increased perceived constraints limit willingness and ability to navigate work–family issues, increasing chronic levels of WIF and FIW.

**Hypothesis 1:** Psychological maltreatment is positively indirectly associated with WIF through (a) a negative association with personal mastery and (b) a positive association with perceived constraint.

**Hypothesis 2:** Psychological maltreatment is positively indirectly associated with FIW through (a) a negative association with personal mastery and (b) a positive association with perceived constraint.

Schemas precipitated by psychological maltreatment also set the tone for social relationships. According to attachment theory, those who are insecurely attached internalize the view that others cannot be relied upon to help meet basic needs. Consequently, insecure attachment is associated with reduced perceptions of support, satisfaction with support, and support-seeking behavior (Florian et al., 1995; Kafetsios & Sideridis, 2006; Ognibene & Collins, 1998). Thus, because victims of psychological maltreatment internalize insecure attachment schemas, they develop the belief that they cannot trust or rely on others to provide support and consequently perceive less support in their relationships and fail to take steps toward building supportive relationships (Bartholomew, 1990; Bowlby, 1988; Mikulincer & Shaver, 2009). Moreover, children who experience psychological maltreatment may lack examples of (effective) emotional regulation and social skills needed to form secure, supportive relationships (Berzenski, 2018). Therefore, psychological maltreatment impairs the development of social and emotional skills (Aber & Allen, 1987; Berzenski, 2018; Ometto et al., 2016; Reyome, 2010), creating difficulty for victims in adulthood when they try to form supportive adult relationships (e.g., Berzenski, 2018; Paradis & Boucher, 2010; Reyome, 2010; Riggs, 2010; Umberson et al., 2016).

Supportive relationships have domain-specific effects, such that supervisors shape the work domain and are thus key stakeholders that have the potential to reduce levels of WIF, whereas spouses play a large role in family responsibilities and thereby have the potential to reduce levels of FIW (French et al., 2018). Meta-analyses show the relationship between supervisor support and WIF tends to be stronger than the relationship with FIW, whereas the relationship between spouse support and FIW tends to be stronger than the relationship with WIF (French et al., 2018; French & Shockley, 2020). In sum, we posit psychological maltreatment impairs the ability to develop supportive relationships with supervisors and spouses, in turn increasing chronic levels of WIF and FIW, respectively.

**Hypothesis 3:** Psychological maltreatment is positively indirectly associated with WIF through supervisor support.

**Hypothesis 4:** Psychological maltreatment is positively indirectly associated with FIW through spouse support.
Psychological Maltreatment and Changes in WIF and FIW Throughout Adulthood

The life course stress perspective suggests psychological maltreatment has the potential for accumulating, downstream impacts throughout adulthood (Pearlin, 2010; Pearlin et al., 2005; Repetti et al., 2011; Thoits, 2010). Children who grow up in neglectful, unsupportive, or aggressive home environments may fail to develop understanding and mastery of emotions and social interactions, creating a “cascade of risk” as they age (Repetti et al., 2002). Children who feel a lack of efficacy and control or who have difficulty developing supportive and stable relationships may experience troubles in academic performance and relationship building and are more likely to engage in risky behavior (Repetti et al., 2011). These early difficulties set individuals up in adulthood for increased risk of relationship conflict, multiple marriages, job instability, and hyperresponsiveness to stress (e.g., Pearlin, 1989; Thoits, 2010; Umberger et al., 2016). Each stressor builds on the last, proliferating hardship as individuals age (Pearlin et al., 2005; Thoits, 2010). Conservation of resources theory similarly posits people who lack resources experience loss spirals over time (Hobfoll, 1989). Traumatic events, such as psychological maltreatment, threaten and deplete key resources (e.g., sense of control, sense of belonging, socioemotional skills), leaving individuals vulnerable and ill equipped to cope with and recuperate from future loss (Hobfoll et al., 2016).

Several studies show childhood trauma and, to a lesser extent, psychological maltreatment predicts future performance and psychological well-being (e.g., Norman et al., 2012; Repetti et al., 2011). However, there is little empirical documentation of this theoretical accumulation process occurring across time, within-person (Allen et al., 2019; Repetti et al., 2011). The present study addresses this gap by positing childhood psychological maltreatment is associated with increases in chronic levels of WIF and FIW over time as individuals age. We further posit this relationship can be explained by reduced mastery, increased perceived constraints, and reduced supportive relationships.

Hypothesis 5: Psychological maltreatment is positively indirectly associated with an increase in WIF across 20 years through (a) personal mastery, (b) perceived constraint, and (c) supervisor support.

Hypothesis 6: Psychological maltreatment is positively indirectly associated with an increase in FIW across 20 years through (a) personal mastery, (b) perceived constraint, and (c) spouse support.

Method

Participants

This study used longitudinal data collected from the Midlife Development in the United States (MIDUS), including Project 1, the general survey, from MIDUS I (1995–1997), MIDUS II (2004–2006), and MIDUS III (2013–2015; Brim et al., 1999; Ryff et al., 2007, 2015), as well as MIDUS II Project 4, the biomarker project (2004–2009; Ryff et al., 2013). MIDUS is a longitudinal study of age-related variations in health and well-being funded by the National Institute of Aging. The aim of MIDUS is to examine these variations in relation to behavioral, psychological, and social factors in a national sample, thus allowing for research questions to be explored across time periods.

We included participants who reported working at least part time (20 hr per week or more) and who had a child or were married at each of the three general survey (Project 1) time points. Twenty hours per week was chosen to allow for a sufficient number of hours to experience WIF and FIW, while also maintaining as many participants as possible. There were initially 5,165 participants who responded to at least one wave of the MIDUS study. We excluded participants who were not working at least 20 hr per week each wave (3,839 participants removed), had missing or invalid data for our exogenous variable (psychological maltreatment, 937 participants removed), and who were not married or parents (82 participants removed). Study analyses were based on the remaining sample of 307 participants. The number of observations for each variable ranges from complete (childhood psychological maltreatment) to 27.36% missing (supervisor support at Time 3, see Table 1 for n for each variable).

Approximately half of the participants were males (53.42%, females 46.58%) with an average age of 40.10 years at the first time point (SD = 7.63, minimum = 25, maximum = 62). Participants primarily identified themselves as White (90.88%), Black and/or African American (3.26%), other (2.28%), and Native American or Alaska Native Aleutian Islander/Eskimo (0.32%). Most participants had between some college and 4 year college degree (Time 1: M = 7.64, SD = 2.30; Time 2: M = 7.89, SD = 2.43; Time 3: M = 8.01, SD = 2.37). Participants were working full time on average across each wave (Time 1: M = 46.27 hr, SD = 14.37; Time 2: M = 43.68 hr, SD = 10.35; Time 3: M = 40.76 hr, SD = 10.90). Most participants were married at each wave (Time 1: 82.41%, Time 2: 81.11%, Time 3: 76.87%) and had approximately two children on average (Time 1: M = 1.94, SD = 1.20; Time 2: M = 2.61, SD = 1.47; Time 3: M = 2.65, SD = 1.50).

Procedure

The MIDUS participants were recruited through random-digit dialing across the United States and were between 25 and 74 years old. The MIDUS Project 1 for all three waves entailed a phone survey and a mail-in survey. For Project 1, participants were compensated $20 (MIDUS I), $60 (MIDUS II), and $60 (MIDUS III). Upon completion of the MIDUS II Project 1, participants were subsequently asked to participate in further projects, including Project 4. Project 4 aimed to understand the health and physiological functioning of participants, measured using survey questionnaires, a medical interview, and a physical examination with urine and fasting blood samples (e.g., functioning of the immune system, antioxidants, and metabolic processes) collected from participant visits to medical clinic sites which lasted 2 days and one night. Participants were compensated $200 for participation in Project 4.

Measures

All scales except childhood psychological maltreatment were assessed at all three waves of the MIDUS (I, II, III) during the general survey (Phase 1). Childhood psychological maltreatment was assessed during the MIDUS II biomarker study (Phase 4).
Table 1
Bivariate Correlations Among Study Variables

| Variable                      | N   | M    | SD   | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17   | 18   |
|-------------------------------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Psychological maltreatment    | 307 | 1.93 | .86  | —    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| WIF T1                       | 282 | 2.67 | .62  | .17  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| WIF T2                       | 289 | 2.68 | .67  | .19  | .42  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| WIF T3                       | 269 | 2.56 | .72  | .23  | .41  | .51  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| FIW T1                       | 282 | 2.20 | .60  | .20  | .58  | .32  | .42  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| FIW T2                       | 289 | 2.12 | .55  | .06  | .27  | .49  | .38  | .35  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| FIW T3                       | 270 | 2.09 | .58  | .14  | .37  | .39  | .59  | .50  | .53  |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
| Supervisor support T1        | 251 | 3.69 | .82  | −.12 | −.35 | −.16 | −.33 | −.30 | −.20 | −.23  |      |      |      |      |      |      |      |      |      |      |      |      |      |
| Supervisor support T2        | 246 | 3.54 | .82  | −.18 | −.22 | −.29 | −.27 | −.30 | −.22 | −.28  | .31  |      |      |      |      |      |      |      |      |      |      |      |      |
| Supervisor support T3        | 223 | 3.58 | .92  | −.25 | −.12 | −.17 | −.29 | −.20 | −.20 | −.22  | .32  | .34  |      |      |      |      |      |      |      |      |      |      |      |
| Spouse support T1            | 260 | 3.59 | .53  | −.21 | −.16 | −.09 | −.08 | −.21 | −.12 | −.06  | .16  | .07  | .15  |      |      |      |      |      |      |      |      |      |      |
| Spouse support T2            | 264 | 3.56 | .56  | −.23 | −.11 | −.19 | −.16 | −.13 | −.27 | −.14  | .13  | .01  | .16  | .49  |      |      |      |      |      |      |      |      |
| Spouse support T3            | 226 | 3.53 | .52  | −.12 | −.13 | −.17 | −.21 | −.20 | −.25 | −.33  | .10  | .15  | .16  | .43  | .54  |      |      |      |      |      |      |      |
| Mastery T1                   | 298 | 5.96 | .90  | −.07 | −.25 | −.21 | −.16 | −.32 | −.25 | −.22  | .24  | .13  | .08  | .15  | .12  | .16  |      |      |      |      |      |      |
| Mastery T2                   | 307 | 5.88 | .97  | −.10 | −.20 | −.21 | −.24 | −.17 | −.26 | −.27  | .16  | .02  | .02  | .07  | .15  | .22  | .46  |      |      |      |      |      |
| Mastery T3                   | 287 | 5.83 | .85  | −.06 | −.20 | −.18 | −.24 | −.18 | −.16 | −.28  | .12  | .07  | .06  | .05  | .01  | .16  | .41  | .54  |      |      |      |      |
| Perceived constraints T1     | 298 | 2.38 | 1.03 | .18  | .32  | .26  | .36  | .20  | .30  | −.24  | −.08 | −.11 | −.24 | −.13 | −.16 | −.49 | −.31 | −.30  |      |      |      |      |
| Perceived constraints T2     | 307 | 2.32 | 1.07 | .19  | .26  | .38  | .30  | .26  | .34  | .34  | −.06 | −.11 | −.10 | −.19 | −.33 | −.33 | −.29 | −.55  | −.36  | .45  | .45  | .50  |
| Perceived constraints T3     | 287 | 2.35 | .96  | .13  | .33  | .32  | .34  | .30  | .25  | .42  | −.21 | −.08 | −.15 | −.15 | −.17 | −.37 | −.35 | −.45  | −.50  | .50  | .50  | .65  |

**Psychological Maltreatment**

Ten items from the Childhood Trauma Questionnaire assessed childhood psychological maltreatment (Bernstein & Fink, 1998). Respondents were asked to think of their “experiences growing up as a child and a teenager” and indicate how true statements were on a scale ranging from 1 = never true to 5 = very often true. Five items assessed emotional neglect (“I felt loved” (reversed) and “People in my family felt close to each other” (reversed)), and five items assessed abuse (“I felt that someone in my family hated me” and “People in my family said hurtful or insulting things to me”). Items were averaged to create a composite score ($\alpha = .92$).

**Mastery**

Mastery was measured using four items from the Lachman and Weaver’s (1998) sense of control measure. Respondents indicated agreement on a 7-point scale ranging from 1 = strongly agree to 7 = strongly disagree. A sample item is “I can do just about anything I really set my mind to.” Items were reverse scored and averaged to create a composite score (Time 1: $\alpha = .67$, Time 2: $\alpha = .73$, Time 3: $\alpha = .68$).

**Perceived Constraints**

Perceived constraints was measured using eight items from the Lachman and Weaver’s (1998) sense of control measure. Respondents indicated agreement on a 7-point scale ranging from 1 = strongly agree to 7 = strongly disagree. A sample item is “What happens in my life is often beyond my control.” Items were reverse scored and averaged to create a composite score (Time 1: $\alpha = .81$, Time 2: $\alpha = .85$, Time 3: $\alpha = .81$).

**Supervisor Support**

Supervisor support was measured using three items assessed as part of the job characteristics scale. Respondents indicated frequency of experiencing supervisor support on a 5-point scale ranging from 1 = all of the time to 5 = never. A sample item is “How often do you get help and support from your immediate supervisor?” Items were reverse scored and averaged to create a composite score (Time 1: $\alpha = .85$, Time 2: $\alpha = .81$, Time 3: $\alpha = .86$).

**Spouse Support**

Spouse support was measured using a six-item marital empathy scale. Respondents indicated how much spouse support they received on a 4-point scale ranging from 1 = a lot to 4 = not at all. A sample item is “How much does your spouse or partner really care about you?” Items were reverse scored and averaged to create a composite score (Time 1: $\alpha = .90$, Time 2: $\alpha = .90$, Time 3: $\alpha = .88$).

**WIF and FIW**

WIF and FIW were each measured using four items from the work-to-family and family-to-work spillover scale (Grzywacz & Marks, 2000). Respondents indicated frequency of experiencing WIF and FIW on a 5-point scale ranging from 1 = all of the time to 5 = never. Sample items include “stress at work makes you irritable at home” (WIF) and “responsibilities at home reduce the effort you can devote to your job” (FIW). Items were reverse scored and averaged to create composite scores (WIF Time 1: $\alpha = .77$, WIF Time 2: $\alpha = .80$, WIF Time 3: $\alpha = .84$; FIW Time 1: $\alpha = .77$, FIW Time 2: $\alpha = .74$, FIW Time 3: $\alpha = .72$).

**Analytic Approach**

Hypotheses were tested using multivariate latent growth modeling, following published recommendations (Bliese & Ployhart, 2002; Ferrer & McArdle, 2003; Ghisletta & McArdle, 2012; McArdle, 2005). Multivariate latent growth modeling allows for us to explore the nature of change in our mediators (supervisor support, spouse support, mastery, perceived constraints) and outcomes (WIF and FIW) without needing to specify an a priori change trajectory. Further, multivariate latent growth modeling allows us to test the complex mediated relationships proposed among longitudinally assessed variables and/or fixed covariates. For example, the framework allows us to test whether childhood psychological maltreatment levels indirectly predict both the intercept (average level at Time 1) and slope (change over time) in WIF and FIW through the intercept (average level at Time 1) of our mediator variables.

**Data and Analysis Transparency**

Instructions to locate the data, additional analysis details, and all code and RMarkdown html output files for results presented in this article are available for download at https://osf.io/sje84/?view_only=ac157e68f2074cc088d742341e4a942a.

**Preliminary Analyses**

**Data Cleaning**

Data analysis was conducted in R (R Core Team, 2020), and lavaan was used for hypothesis testing (Rosseel, 2012). Descriptive statistics and correlations among study variables are displayed in Table 1. Only 15% of the sample (n = 46) reported “never” for all psychological maltreatment items, and 30% reported psychological maltreatment was “rarely true” to “very often true” on average across items. Data were checked for assumptions (e.g., normality, outliers, missingness, linearity, homoscedasticity, heterogeneity of variance over time). As expected based on population values, childhood psychological maltreatment was positively skewed. Because the skew is representative of the population, we used the raw, untransformed values in our analysis (Becker et al., 2019). Only 8.80% of data points were missing for all study variables in the sample, with most missing data for supervisor support and spouse support (missing data on these variables ranges from 14.01% for Time 2 spouse support to 27.36% missing data for Time 3 supervisor support). To help curb the potential bias from missing data, hypothesis testing used maximum likelihood estimation.

**Longitudinal Measurement Invariance and Description of Change**

We also examined measurement invariance over time for all longitudinal variables in the sample (supervisor support, spouse support, mastery, perceived constraints, WIF, FIW) to ensure values...
are comparable over time (following Vandenberg & Lance, 2000). For all constructs, metric invariance models were not significantly different from the previous model, indicating item loadings did not vary over time \((p > .05)\). We also ran a series of univariate growth models for each of our mediator and outcome variables separately to identify the nature of change across the three waves of data spanning approximately 20 years (McArdle, 2005). Perceived constraints showed a curvilinear, U-shaped change over time, and mastery showed a curvilinear, inverted U-shaped decrease over time. Supervisor and spousal support did not change over time. WIF decreased linearly over time, while FIW decreased following an inverted U-shape. For the multivariate growth curve models estimated for hypothesis testing, we used the most parsimonious univariate growth curve model for each construct.

### Hypothesis Testing

Next, we tested our hypotheses by conducting multivariate growth curve analyses (McArdle, 2005). We tested each outcome variable in separate models (one model with all three mediators and WIF, one model with all three mediators and FIW). In all models, we specified the final most parsimonious growth model for each construct per the univariate growth models described above. In all models, observed childhood psychological maltreatment was included as a predictor of the mediator intercepts. We also covaried the intercepts and slopes for mastery and perceived constraints, consistent with their conceptual definition as two distinct, but related aspects of perceived control (Lachman & Weaver, 1998). To test Hypotheses 1–4 (psychological maltreatment predicting levels of WIF/FIW through levels of self-concept and support), we estimated regression paths from observed childhood psychological maltreatment to the mediator variable intercept, as well as from the mediator intercept to the outcome intercept. Hypotheses 5–6 (psychological maltreatment predicting change in WIF/FIW over time through levels of self-concept and support), we estimated paths from observed childhood psychological maltreatment to the mediator variable intercept, as well as from the mediator intercept to the outcome slope. For all models, we computed the indirect effect; a significant indirect effect \((p < .05)\) with a confidence interval that excluded zero was considered support for the hypothesis. Model fit for each model was sufficient, WIF model \(\chi^2(78) = 1069.53, p < .01\), comparative fit index \((\text{CFI}) = .91\), Tucker–Lewis index \((\text{TLI}) = .90\), root-mean-square error of approximation \((\text{RMSEA}) = .07\), standardized root-mean-square residual \((\text{SRMR}) = .08\); FIW model \(\chi^2(1200.89, p < .01, \text{CFI} = .89, \text{TLI} = .87, \text{RMSEA} = .08, \text{SRMR} = .10\). Unstandardized model parameter estimates are shown in Table 2 and Figure 1 (WIF) and Table 3 and Figure 2 (FIW). We discuss only the indirect effects here as tests of our hypothesis.

Psychological maltreatment was not indirectly associated with levels of WIF, \(\text{estimate} = 0.00, p = .91, 95\% \text{ CI} [-0.02, 0.02]\), or FIW, \(\text{estimate} = 0.01, p = .51, 95\% \text{ CI} [-0.01, 0.03]\), through mastery. Psychological maltreatment was indirectly positively associated with levels of WIF, \(\text{estimate} = 0.08, p < .01, 95\% \text{ CI} [0.02, 0.14]\), and FIW, \(\text{estimate} = 0.08, p < .01, 95\% \text{ CI} [0.02, 0.14]\), through constraints. Thus, Hypotheses 1a and 2a were not supported, and Hypotheses 1b and 2b were supported. Psychological maltreatment was indirectly positively associated with levels of WIF through supervisor support, \(\text{estimate} = 0.06, p = .02, 95\% \text{ CI} [0.02, 0.11]\), but not with levels of FIW through spousal support, \(\text{estimate} = 0.02, p = .20, 95\% \text{ CI} [-0.01, 0.05]\). Thus, Hypothesis 3 was supported, and Hypothesis 4 was not supported. Psychological maltreatment was not indirectly associated with WIF change over time through mastery, \(\text{estimate} = 0.00, p = .93, 95\% \text{ CI} [-0.01, 0.01]\), perceived constraints, \(\text{estimate} = -0.00, p = .80, 95\% \text{ CI} [-0.04, 0.03]\), or supervisor support, \(\text{estimate} = 0.02, p = .11, 95\% \text{ CI} [-0.01, 0.05]\). Psychological maltreatment was not indirectly associated with FIW change over time through mastery, \(\text{estimate} = 0.00, p = .75, 95\% \text{ CI} [-0.01, 0.02]\), perceived constraints, \(\text{estimate} = -0.02, p = .31, 95\% \text{ CI} [-0.06, 0.02]\), or spousal support, \(\text{estimate} = 0.01, p = .42, 95\% \text{ CI} [-0.01, 0.03]\). Thus, Hypotheses 5 and 6 were not supported.

### Supplemental Analyses

#### Modeling Mediators Separately

We ran five additional sets of models to test robustness of our results using other plausible analysis multiverses (Steegen et al., 2016). We conducted a series of simpler multivariate latent growth models in which only one mediator and one outcome were modeled, and we estimated only indirect effects to WIF and FIW intercepts and the indirect effects to change in WIF and FIW, 2 outcomes (WIF, FIW) × 3 mediators (mastery, perceived constraints, support) × 2 effects

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Mediator</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mastery</td>
<td>Perceived constraints</td>
</tr>
<tr>
<td>Intercept</td>
<td>Est</td>
<td>SE</td>
</tr>
<tr>
<td>Slope</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>PM – intercept</td>
<td>−0.09*</td>
<td>0.06</td>
</tr>
<tr>
<td>PM – slope</td>
<td>1.10**</td>
<td>0.11</td>
</tr>
<tr>
<td>Mediator intercept → WIF intercept</td>
<td>−0.01</td>
<td>0.10</td>
</tr>
<tr>
<td>Mediator intercept → WIF slope</td>
<td>−0.01</td>
<td>0.07</td>
</tr>
<tr>
<td>PM – mediator intercept → WIF intercept</td>
<td>0.00</td>
<td>0.01</td>
</tr>
<tr>
<td>PM – mediator intercept → WIF slope</td>
<td>0.00</td>
<td>0.01</td>
</tr>
</tbody>
</table>

*Note.* WIF = work interference with family; Est = estimate; SE = standard error; PM = psychological maltreatment; NA = not estimated. Nonlinear growth parameters are not shown here.

*\(p < .10\).  *\(p < .05\).  **\(p < .01\).
These simpler models allowed us to isolate potential effects that may be masked from estimating multiple indirect paths simultaneously. These analyses yielded the same results regarding support for Hypotheses 1, 2, and 3, namely that indirect effects to WIF/FIW were significant via perceived constraints and supervisor support \( p < .01 \) but not mastery \( p > .05 \). In contrast to our main findings, we also found support for Hypothesis 4 suggesting psychological maltreatment is indirectly associated with levels of FIW through spouse support, \( \text{estimate} = 0.05, \text{SE} = 0.02, p = .01, 95\% \text{ CI [0.01, 0.08]} \). Additionally, we found significant indirect effects for WIF and FIW slope. Psychological maltreatment was indirectly associated with increases in WIF change over time via perceived constraints, \( \text{estimate} = 0.03, \text{SE} = 0.01, p < .01 \).

Figure 1
Unstandardized Estimated Effects for the WIF Growth Model

![Diagram showing unstandardized estimated effects for the WIF growth model.](diagram)

Note. Standard errors in parentheses. Intercepts and slopes were identified using all three time points, and psychological maltreatment was assessed at Time 2 in the biomarker substudy. Paths used to identify latent intercepts and slopes, estimated intercepts, and residuals not shown for parsimony. Please see the Rmarkdown on the study Open Science Framework (OSF) page for full model results. WIF = work interference with family.

* \( p < .05 \).

Table 3
FIW Multivariate Latent Growth Model Fixed-Effects Estimates for Hypothesis Testing

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Mastery</th>
<th>Perceived constraints</th>
<th>Spouse support</th>
<th>FIW</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Est</td>
<td>SE</td>
<td>( p )</td>
<td>Est</td>
</tr>
<tr>
<td>Intercept</td>
<td>6.10**</td>
<td>0.11</td>
<td>&lt;.01</td>
<td>1.95**</td>
</tr>
<tr>
<td>Slope</td>
<td>−0.05</td>
<td>0.04</td>
<td>.19</td>
<td>−0.04</td>
</tr>
<tr>
<td>PM → intercept</td>
<td>−0.09*</td>
<td>0.06</td>
<td>.09</td>
<td>0.26**</td>
</tr>
<tr>
<td>PM → slope</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Mediator intercept → FIW intercept</td>
<td>−0.08</td>
<td>0.11</td>
<td>.48</td>
<td>0.30**</td>
</tr>
<tr>
<td>Mediator intercept → FIW slope</td>
<td>−0.03</td>
<td>0.09</td>
<td>.74</td>
<td>−0.08</td>
</tr>
<tr>
<td>PM → mediator intercept → FIW intercept</td>
<td>0.01</td>
<td>0.01</td>
<td>.51</td>
<td>0.08*</td>
</tr>
<tr>
<td>PM → mediator intercept → FIW slope</td>
<td>0.00</td>
<td>0.01</td>
<td>.75</td>
<td>−0.02</td>
</tr>
</tbody>
</table>

Note. FIW = family interference with work; PM = psychological maltreatment; Est = estimate; SE = standard error; NA = not estimated. Nonlinear growth parameters are not shown here.

* \( p < .10 \).   * \( p < .05 \).   ** \( p < .01 \).
95% CI [0.01, 0.05], and supervisor support, estimate = 0.05, SE = 0.02, p < .01, 95% CI [0.02, 0.09], but not mastery, estimate = 0.01, SE = 0.01, p = .23, 95% CI [-0.01, 0.02]. Psychological maltreatment was indirectly associated with increases in FIW change over time via perceived constraints, estimate = 0.06, SE = 0.02, p < .01, 95% CI [0.02, 0.09], and spouse support, estimate = 0.03, SE = 0.01, p = .03, 95% CI [0.002, 0.06], but not mastery, estimate = 0.02, SE = 0.01, p = .14, 95% CI [-0.01, 0.05]. These analyses therefore lend support for Hypotheses 5b, 5c, 6b, and 6c, suggesting psychological maltreatment is indirectly associated with accelerated WIF and FIW throughout adulthood due to greater perceived constraints and less supportive relationships. These results did not support Hypotheses 5a or 6a.

**Modeling Spouse and Supervisor Support Mediators**

Although previous reviews suggest work and family support are domain-specific antecedents of WIF and FIW (respectively; French et al., 2018; French & Shockley, 2020), it is plausible that supervisor and spouse support could serve as antecedents for FIW and WIF. To address this possibility, we ran a supplemental model in which all four mediators (supervisor support, spouse support, mastery, perceived constraints) were entered into both the WIF model and the FIW model. Original hypothesis testing results remained the same. Supervisor support mediated the relationship between psychological maltreatment and FIW levels, estimate = 0.07, SE = 0.03, p = .01, 95% CI [0.02, 0.13]. All other indirect effects were nonsignificant.

**Controlling for Number of Children and Marital Status**

To account for changes in family stage, we ran additional models controlling for number of children and marital status at each time point. Both controls were entered as time-varying predictors of each concurrent WIF (or FIW) observation (e.g., Time 1 WIF regressed on Time 1 number of children and Time 1 marital status). Number of children was associated with greater levels of WIF at Time 1 and Time 2, and greater levels of FIW at Time 1. Marital status was associated with greater levels of WIF at Time 1 and was not associated with levels of FIW at any time point. These controls did not change the significance of our hypothesis tests. We also ran our analyses with the subsample married at all waves (n = 209). Although effects were similar in magnitude, the indirect association between psychological maltreatment and WIF through supervisor support which was significant in the main analysis was no longer significant (p = .11); all other significant results remained significant. Thus, we conclude time-varying marital status and number of children had little impact on our conclusions.
Constraining Mastery and Perceived Constraints Paths

To empirically establish mastery and personal constraints as distinct facets of perceived control, we ran models that constrained perceived constraints and mastery intercept mediation paths to be equivalent. The constrained models fit significantly worse than the hypothesized models, MIDUS sample: WIF $\chi^2(2) = 36.0, p < .01$, FIW $\chi^2(2) = 43.3, p < .01$; Add Health sample: WIF $\chi^2(2) = 22.8, p < .01$, FIW $\chi^2(3) = 107.6, p < .01$. Analyses therefore suggest the perceived constraints and mastery paths are significantly different from one another.

Controlling for Parental Role Modeling

Finally, we explored whether relationships held after controlling for potential role modeling relationships found in previous research (Barnett et al., 2003; Basuil & Casper, 2012; Cinamon, 2006). We ran our two sets of hypothesized models controlling for (a) mothers’ work involvement in childhood and (b) the same-sex parent’s work involvement in childhood on WIF and FIW intercepts and slopes. MIDUS Wave I contained two items that measure each parent’s work involvement throughout childhood: “How much of your childhood did your father (mother) either work for pay or work in a family business?” Responses were scored from 1 (not at all) to 5 (all). When controlling for same-sex parent work status, the indirect effect from psychological maltreatment to FIW through spouse support became statistically significant, $estimate = 0.03, SE = 0.01, p = 0.03$, 95% CI [0.003, 0.05]. All other findings remained the same.

Replication Study

We analyzed publicly available cross-sectional self-report data from Wave IV (2007–2009) of the National Longitudinal Study of Adolescent to Adult Health (Add Health) to test Hypotheses 1a, 1b, 2a, 2b, and 4 (Harris, 2009). Our study analyses were based on a sample of 1,181 participants who were between the ages of 25 and 32. The correlations among study variables aligned with correlations found in MIDUS, offering preliminary support for the hypotheses; however, none of the indirect effects were significant. We believe lack of support for indirect effects stems from the fact that we took a path analysis approach in which all mediators were tested simultaneously. Testing mediators simultaneously meant that each mediator contributed less unique variance to the model, and therefore it was harder to find significant results. Second, Add Health participants were on average younger ($M = 28.38$) than the MIDUS participants ($M = 40.10$) and had fewer children. There is evidence that the experience of parenting a child can trigger a person’s memories of childhood abuse (Kendall-Tackett, 2001), so MIDUS participants were perhaps better able to recollect instances of childhood psychological maltreatment, leading to significant results. As a Supplemental Analysis, we tested each mediation path separately using percentile bootstrapping methods (10,000 samples; Hayes, 2009). We found support for Hypothesis 2a using bootstrapping. The indirect effect from psychological maltreatment to FIW through personal mastery became significant, $estimate = 0.005, SE = 0.002, p = .024$, 95% CI [0.001, 0.024].

Discussion

The present study investigated childhood psychological maltreatment as a predictor of WIF and FIW levels and change throughout middle adulthood via self-concept (mastery and perceived constraints) and social (supervisor and spouse support) mechanisms. In line with attachment theory and life course stress perspective (Bowby, 1988; Hazan & Shaver, 1987; Pearl, 1989), childhood psychological maltreatment has implications for individuals into adulthood, predicting WIF and FIW (i.e., intercepts). This relationship was mediated by increased perceived constraints and decreased supervisor support. There was a lack of support for the hypothesis that psychological maltreatment indirectly predicted changes in WIF and FIW over time (i.e., slopes). We also found no support for spouse support or mastery as mediating mechanisms that explain the link between psychological maltreatment and WIF or FIW levels or change across middle adulthood. Although our replication sample yielded significant correlations for the individual paths proposed, indirect effects for the full path model were not significant. Additionally, models using individual mediators suggested stronger support for all mechanisms. Thus, our combined analyses suggest the relationships demonstrated here are small in magnitude and overlapping.

Theoretical Implications

This is one of the few studies that uses a life course perspective to understand predictors of stable WIF and FIW levels (e.g., Basuil & Casper, 2012; Lupu et al., 2018). By focusing on childhood psychological maltreatment, this study shows that WIF and FIW levels (i.e., intercepts) are associated with transformative experiences in childhood. Findings held after controlling for time-varying family structure (marital status, number of children) and parental work status, suggesting lasting and stable effects even after accounting for some life cycle and role modeling factors. Our study complements previous research connecting childhood experiences with WIF and FIW, which uses role modeling and vicarious learning (e.g., Barnett et al., 2003; Basuil & Casper, 2012; Cinamon, 2006; Lupu et al., 2018) as theoretical mechanisms. The present study shows that the life course perspective on stress and attachment is an additional theoretical framework that explains how experiences in childhood set the tone for future work–family management.

Our study finds support for attachment theory mechanisms as an explanation for why childhood experiences are ultimately associated with work and family roles into adulthood. Developing healthy views of the self and the self in relation to others is a key outcome of attachment that have long-standing implications for adult functioning (e.g., Bartholomew, 1990; Hazan & Shaver, 1987; Repetti et al., 2002; Yip et al., 2018). To our knowledge, this is the second study to apply an attachment framework to further understanding of the work–family interface (see Sumer & Knight, 2001, for an additional test of attachment theory and WIF and FIW that did not use the MIDUS data). This study is the first to explicitly test these two
attachment theory mechanisms in connecting childhood experiences with WIF and FIW.

Our Supplemental Analyses also revealed perceived constraints was a stronger mediating mechanism than mastery for both WIF and FIW. This result emphasizes the importance of negative aspects of self-concept for managing the work–family interface. There is a notable absence of individual differences as risk factors in formal theory typically used to study work–family conflict. Our result underscores the need to consider such individual differences theoretically and empirically within work–family and the broader occupational health literature. The particularly strong linkage with perceived constraints might also help to explain why psychological maltreatment manifests in clinical outcomes characterized by hopelessness and ineffective stress response, such as anxiety, depression, and suicide (Brassard et al., 2020).

Indeed, high levels of perceived constraints in adulthood have been associated with an increased likelihood of having experienced childhood trauma (Elliot et al., 2018).

Our differential mediation results also suggest the two primary components of perceived control (mastery and perceived constraints) are conceptually distinct and may operate in distinct ways. Although both components are integral to feelings of control (Lachman & Weaver, 1998; Skinner, 1996), recent studies have shown that each component has distinct correlates in the context of health and aging (Inzera et al., 2018; Inzera & Mayer, 2015). The present study similarly finds childhood psychological maltreatment is associated with increased levels of WIF and FIW through perceived constraints, but not mastery. Perceived constraints is thought to stem uniquely from memory and cognitive functioning, which is important for learning, stress adaptation, and avoiding loss. Childhood maltreatment is associated with such cognitive functioning difficulties, including ability to regulate thoughts and emotions regarding negative stimuli and impaired memory (although memory findings are somewhat tentative; see Goodman et al., 2010, for a review). Such cognitive skills may be particularly important for the perception of external barriers, but less important for developing a sense of efficacy (Inzera et al., 2018). Our pattern of findings regarding the importance of perceived constraints aligns with Inzera and colleagues (Inzera et al., 2018; Inzera & Mayer, 2015), who found perceived constraints tend to be more strongly associated with cognition and health compared to mastery. Further, it suggests specific cognitive mechanisms by which childhood psychological maltreatment indirectly affects WIF and FIW.

Future research in occupational health might continue to explore this underappreciated distinction when exploring the role of perceived control.

Similarly, our results show external mechanisms (perceived constraints, supervisor support) explained the negative relationship between psychological maltreatment and WIF and FIW, whereas an internally focused mechanism (mastery) did not. Perhaps psychological maltreatment is relatively more detrimental for beliefs about the self in relation to the outside world (constraints, supportive relationships), compared to beliefs about the self as an efficacious and capable being. In support, research shows traumatization, especially interpersonal trauma, destabilizes one’s belief system of the world being a safe and stable place (Biruk et al., 2014; Lily et al., 2011). Studies also show supportive relationships and low levels of perceived constraints are key factors in lessening the impact of negative stressors and promoting future resilience (Pitzer & Fingerman, 2010).

Although childhood maltreatment was indirectly associated with levels of WIF and FIW in adulthood, there was little evidence that maltreatment indirectly predicted changes in WIF or FIW over time. When run separately, psychological maltreatment indirectly predicted increases in WIF and FIW over time through both perceived constraints and supervisor and spouse support. However, these did not reach statistical significance after accounting for indirect effects on levels of WIF or FIW. This suggests limited support for stress proliferation hypotheses posited in sociological and clinical theories of development (Pearlin, 1989; Repetti et al., 2002). It may be that the accumulation effects seen in the separate analyses are small and difficult to detect, particularly when accounting for multiple potential predictors and pathways. Similarly, our largely nonsignificant replication analyses assessing the relationships for all mediators and outcomes in one path model suggest that the self-concept and social mechanisms explored here explain small and overlapping variance. This is perhaps expected given that psychological maltreatment is developmentally impactful but temporally distal.

**Practical Implications**

One of the primary aims of this work is to direct attention to and expand knowledge of the implications of psychological maltreatment. Adverse childhood experiences, including psychological maltreatment, are a major societal health crisis that disproportionately affects vulnerable populations (Bhushan et al., 2020). Psychological maltreatment is the most commonly experienced form of childhood trauma, yet it remains underexplored in research and underaddressed in public policy relative to other forms of trauma (Brassard et al., 2020; Spinazzola et al., 2014). Our study joins a chorus of important work by demonstrating the potential impact of psychological maltreatment on managing work and family roles. Work and family are central to identity (e.g., Frear et al., 2019), and the successful navigation of work and family demands is critical for financial and mental well-being (e.g., Amstad et al., 2011; Casper et al., 2018; Hoober et al., 2010). Thus, psychological maltreatment warrants societal attention and intervention not only due to its association with mental health and clinical disorders but also because it has implications for everyday functioning needed to maintain a healthy, secure lifestyle at work and home. We show evidence for a novel and critical path by which adverse childhood experiences may ultimately manifest in long-term disease and illness (Bhushan et al., 2020).

In addition to calling attention to the issue of psychological maltreatment, our study mediators suggest intervention points that might help to curb the association between psychological maltreatment and WIF and FIW. Specifically, our work suggests supportive relationships at work may be important targets. Supervisor supportive behaviors and training are commonly touted as an empirically backed solution to help workers manage multiple role demands (Crain & Stevens, 2018; French & Shockley, 2020; Hammer et al., 2009). Some population-specific supportive interventions show promise for reducing WIF and FIW (e.g., veterans; Hammer et al., 2019; Perry et al., 2018). Similarly, supervisors could receive training on working with vulnerable populations that have difficulty developing supportive relationships, like those who are victims of trauma. For example, training organizational leaders to recognize mental health warning signs and encouraging employees to use available resources have been shown to improve mental health (Dimoff & Kelloway, 2019). Organizations could also recommend mental health counseling for individuals that seem to be struggling with
balancing their home and work lives. Mentoring programs are another potential intervention that can foster supportive relationships, inclusion, and efficacy (Eby et al., 2013).

Our findings similarly point to perceived constraints as an intervention point. Many interventions that aim to increase perceived control focus on increasing mastery experiences (Infurna & Mayer, 2015; Lachman et al., 2011). Consistent with recommendations from Infurna and Mayer (2015), perceived constraints interventions might focus on identifying obstacles and developing skills to help trauma victims minimize or navigate these obstacles. Within the work–family realm, boundary management is often touted as a way to increase control of work. Supervisors and organizations can reduce constraints by respecting employees’ boundaries, building in break times, and working with employees one-on-one to develop individualized deals that remove barriers to success (Perrigino & Ravendran, 2020). Flexibility initiatives and practices (flextime, flexplace; French & Shockley, 2020) may also help to reduce perceived work and family barriers, communicate support for individual needs, and allow psychological maltreatment victims control that is instrumental for self-care.

Finally, we note that many of these practical implications focus on tertiary interventions which minimize the effects of psychological maltreatment well after it has occurred (Tetrick & Quick, 2011). At the societal level, primary (preventative) and secondary (early intervention) strategies are necessary to reduce the detrimental impacts of psychological maltreatment on adulthood functioning. The California Surgeon General’s recent report on adverse childhood events outlines many primary and secondary intervention suggestions (Bhushan et al., 2020). Primary intervention strategies include economic and social policies and supports to reduce poverty, racism, and financially support working parents. Secondary intervention strategies include training for health care workers to increase awareness, education, support, and role modeling in order to build knowledge of psychological maltreatment and guide healthy family interactions. Through the direct reduction or early mitigation of psychological maltreatment, this study suggests such interventions have downstream potential to reduce perceived constraints, improve supportive relationships at work, and reduce WIF and FIW. These downstream work and family correlates are not only critical for the physical and mental health of our society but are also tied to billions of dollars in economic cost (Goh et al., 2016).

Limitations and Future Directions

The present study is limited in that causality cannot be inferred from our findings. Although correlations suggest relationships hold similarly across each time point of the 20-year span in this study (see Table 1), most of the significant effects in our growth models were essentially cross sectional (relationships among intercepts), suggesting psychological maltreatment is associated with overall levels of WIF and FIW, but not changes in WIF or FIW over time. Thus, it is also plausible that there are reverse causations or person-level confounding factors, particularly between the mediators and WIF or FIW. The time lag between each of the three waves was approximately 10 years. While this allowed us to examine long-term change, we could not assess complex change patterns, and temporally distal time points may have attenuated effect sizes. Childhood trauma was also assessed in the middle of the longitudinal study (during Phase II). Because the variable clearly refers to childhood experiences, we have limited concern regarding temporal precedence of the psychological maltreatment occurrence before Wave I reports. While it is common to use retrospective reports to predict adulthood outcomes, it is possible that participants might not remember or report maltreatment that occurred in childhood or that conclusions may be different if using prospective reports (Baldwin et al., 2019).

There were high values of kurtosis and skewness in childhood psychological maltreatment, with many individuals reporting no maltreatment. This skewed distribution accurately reflects other study descriptive statistics, was replicated in our replication sample, and reflects the likely population distribution. Nevertheless, limited variation and nonnormality may have impaired our ability to find significant effects. The work exclusion criteria required that participants work at least part time, which narrowed the sample and possibly affected normality. Individuals who are able to maintain jobs may have relatively stable lives and thus may have higher levels of mastery and lower levels of perceived constraints and incidence of childhood trauma. Future studies might use targeted sampling in an effort to get more variation on psychological maltreatment.

We reemphasize that the effects here were small in magnitude and overlapping. Thus, while there seems to be a total effect of psychological maltreatment on WIF and FIW, the attachment mechanisms of self-concept and support likely work in concert, and effects are distal. There are also other self-concept (self-esteem) and social (parent support, friend support, trust) mechanisms that were not examined, but may have a significant impact on work and family roles (e.g., Allen et al., 2012; French et al., 2018; Minnott & Minnott, 2018; Mustillo et al., 2021). Additionally, emerging lines of research show trauma affects adults through a third pathway: physiological functioning (e.g., Müller et al., 2019; Repetti et al., 2011). We encourage future research to explore these mechanisms as well as the relative strength of mechanisms given their clearly simultaneous and interwoven effects.

Because correlates differ by type of trauma (Baker & Festinger, 2011; Norman et al., 2012), our results cannot be generalized beyond psychological maltreatment. Future research might explore other forms of trauma, such as physical or sexual abuse, traumatic events, or trauma in adulthood. There is also emerging research that suggests different forms of trauma tend to co-occur (Higgins & McCabe, 2000; Mc Elroy & Hevey, 2014; Schneider et al., 2005), producing unique outcomes for different constellations (e.g., Spinazzola et al., 2014; Trickett et al., 2011). Future studies could administer lifetime trauma exposure measures to examine whether similar relationships are observed in individuals who experienced varying and multiple forms of trauma occurring during and after childhood.

Conclusion

Using the life course stress perspective and attachment theory, the present study draws a novel link between psychological maltreatment in childhood and both WIF and FIW in adulthood. The study further shows maltreatment is associated with increased levels of WIF and FIW due to perceived external barriers and difficulty forming supportive relationships with supervisors. Contrary to stress proliferation ideas touted in theory, there was a lack of evidence that psychological maltreatment predicts increases in either WIF or FIW. Our study suggests there is potential for childhood experiences to impact adult WIF and FIW and brings additional information and attention to an issue important for societal health and development.
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