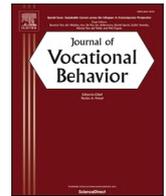


Contents lists available at [ScienceDirect](https://www.sciencedirect.com)

Journal of Vocational Behavior

journal homepage: www.elsevier.com/locate/jvbWork-family conflict, perceived control, and health, family, and wealth: A 20-year study[☆]Andrew Li^{a,*}, Jonathan A. Shaffer^a, Zhonghao Wang^b, Jason L. Huang^b^a Department of Management, Engler College of Business, West Texas A & M University, Canyon, TX 79015, United States of America^b School of Human Resources & Labor Relations, Michigan State University, East Lansing, MI 48824, United States of America

ARTICLE INFO

Keywords:

Work-family conflict
 Perceived control
 Conservation of resources
 Adaptation theory

ABSTRACT

Most studies to date have treated work-family conflict (WFC) as a static construct, typically using WFC measures collected at a single point in time to predict other variables either in the same data collection or in a follow-up collection. Drawing on conservation of resources theory, we used panel data spanning approximately 20 years to test a model in which the long-term relations between WFC change and four well-being variables—perceived health, self-esteem, income, and family support—are mediated by change in perceived control. Our results suggest that family-to-work conflict (FIW) change, but not work-to-family conflict (WIF) change, over a period of ten years was negatively associated with change in perceived control over 20 years. Change in perceived control in turn predicted lower levels of perceived health, self-esteem, income, and family support at the end of the 20-year period. We found little support for a proposition based on adaptation theory that initial levels of WFC are positively associated with subsequent levels of well-being.

Work-family conflict (WFC) represents the incompatibility between work and family demands, and it is a common experience among many employees (Frone et al., 1992; Greenhaus & Beutell, 1985). A large body of research has linked WFC to important well-being variables such as perceived health, self-esteem, income, and received family support (e.g., Allen & Armstrong, 2006; Van Daalen et al., 2006; Wright et al., 2020). Most studies to date have treated WFC as a static construct, typically using WFC measures collected at a single point in time to predict other variables either in the same data collection or in a follow-up collection (Casper et al., 2007; Lapierre & McMullan, 2016). Such studies have been informative, but they do not take into account the extent to which WFC may change within the same person over time. Research has shown that as individuals' age, they experience changes in their work and family demands (Cooklin et al., 2016; Rantanen, Kinnunen, Pulkkinen, & Kokko, 2012). For example, some may see increases in work responsibilities due to receiving promotions at work, whereas others may see increases in family demands as they welcome new members into their family.

To further the understanding of how individuals respond to WFC change over time, we use panel data spanning approximately 20 years to examine the process through which WFC change over a 10-year span is related to individuals' health, wealth, and family experience another ten years later. Our model draws on conservation of resources theory (COR, Hobfoll, 1989; Hobfoll et al., 2018), which posits that resources—such as energy, time, and social support—play a critical role in determining individuals' well-being. COR

[☆] We thank the Associate Editor Dr. Amit Kramer and two expert reviewers for their feedback during the review process. We also thank Trevor Watkins for his editorial assistance.

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<https://doi.org/10.1016/j.jvb.2021.103562>

Received 11 February 2020; Received in revised form 22 February 2021; Accepted 1 March 2021

Available online 5 March 2021

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theory also proposes that resources are often bundled in *caravans* in which “resources do not occur separately but instead tend to aggregate and create and sustain one another” (Chen et al., 2015, p. 98). As a result, gains and losses of individual resources may have cumulative properties that over time can become a beneficial gain spiral (in the case of resource gains) or a detrimental loss spiral (in the case of losses) that has implications for individuals’ well-being (Hobfoll et al., 2018). Applied to the present context, we argue that increases in WFC over time may create a downward resource spiral that manifests as decreases in individuals’ *perceived control*, defined as the belief that one has the ability to exert influence over life circumstances (Skinner, 1996). In turn, decreases in perceived control over time may eventually be associated with low levels of perceived health, self-esteem, income, and received family support (Ferrazzi, 2005). Overall, we test a model in which the relations between WFC change and four well-being variables—perceived health, self-esteem, income, and received family support—are mediated by change in perceived control (see Fig. 1).

Our study makes several important contributions to the literature. First, we examine the implications of WFC change over a period of two decades, above and beyond initial levels of WFC. Although longitudinal studies of WFC exist in the literature, most of these studies focus on relatively short timeframes, which fail to capture the changes that unfold over a longer period of time and can lead to erroneous conclusions about the long-term implications of WFC (Allen, French, Braun, & Fletcher, 2019). Thus, our study responds to the call to understand the role of *WFC change* over a long period of time, which is a topic in need of research attention (Allen & Martin, 2017; Wayne et al., 2017). Second, our examination of perceived control offers important insights into why WFC change is related to individuals’ health, wealth, and family experiences over time. In addition, we argue that changes in WFC occurring over a 10-year period are associated with changes in perceived control occurring over a 20-year period. Thus, our study suggests that individuals may continue to experience the aftershock even outside of the typical effect window during which WFC changes. Finally, we contrast our model against an alternative proposition from adaptation theory, which would suggest that after experiencing an initial shock, individuals may habituate to WFC (Matthews et al., 2014). Specifically, we test the possibility that earlier WFC may have a positive association with individuals’ subsequent well-being due to their adaptation to WFC. Taken as whole, by examining the long-term implications of WFC based on divergent propositions grounded in COR theory and adaptation theory, this study presents a more complete view of the dynamic nature and implications of WFC over time. Our results also suggest that the physical, psychological, economical, and relational tolls linked to elevated WFC may be more lasting and consequential than previously thought.

1. Hypothesis development

1.1. Work-family conflict and perceived control

Our study focuses on two different processes. First, we examine the change-to-change process, which refers to how changes occurring in one construct over time for each individual (i.e., within-person changes) are associated with within-person changes occurring over time in another construct. More specifically, we examine whether greater increases in WFC occurring over a 10-year period are linked to larger decreases in perceived control over a 20-year period. Second, we examine the change-to-level process, which refers to how the magnitude of within-person change occurring in one construct over time is associated with outcome levels obtained at the end of the study. More specifically, we examine whether larger decreases in perceived control are related to lower levels of the dependent variables at the end of the 20-year period.

COR theory proposes that individuals seek to maintain an adequate supply of resources that are critical for human functioning. Resources can take many forms, ranging from material/objects to personal characteristics (Hobfoll, 2001). A central tenet of COR theory is that individuals experience stress when they are threatened with the loss of resources, when they actually lose resources, or

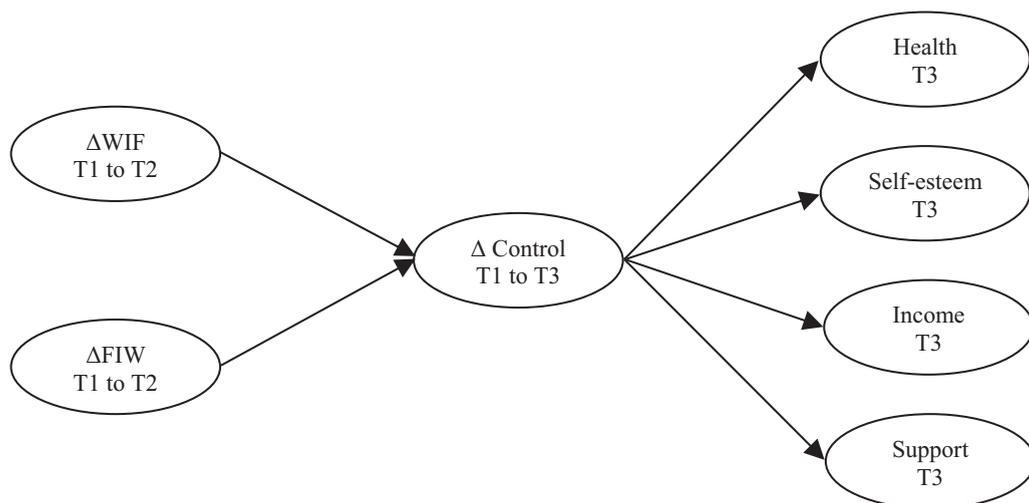


Fig. 1. Conceptual model.

Note. WIF = work-to-family conflict; FIW = family-to-work conflict; Control = perceived control; Support = family support.

when they are not able to replenish their resource supply after its depletion. The theory also suggests that individual resources “do not exist individually but travel in packs, or caravans...” and “...exist in ecological conditions that either foster and nurture or limit and block” the growth and development of additional resources (Hobfoll et al., 2018, p. 106). Finally, because resources exist in caravans, gains and losses accrue over time and in ever growing gain spirals or loss spirals (Hobfoll et al., 2018). COR theory is especially relevant in the context of the work-family interface because individuals may deplete personal resources as they endeavor to meet the demands that arise in the work and family domains. WFC occurs when individuals cannot meet these demands (Greenhaus & Beutell, 1985) and represents an escalated threat to employees' resources.

We focus first on the relation between employee WFC change and change in perceived control. Perceived control is a construct rooted in several different theoretical frameworks, such as social learning theory, social cognitive theory, and the theory of planned behavior (Jacelon, 2007; Skinner, 1996). Although different theories use different construct names for perceived control, they all describe the extent to which individuals believe they have control over their environment and circumstances. Individuals are thought to be motivated to have control because it allows them to interact effectively with their environment, demonstrate their competence, and produce outcomes that are desirable to them (Ross & Sastry, 1999; Skinner, 1996). Individuals with high levels of perceived control see connections between their actions and the consequences of those actions. In contrast, individuals low in perceived control are more likely to believe that their life is influenced by external forces beyond their control, such as powerful individuals, chance, or luck (Lachman & Weaver, 1998).

Drawing on conservation of resources theory, we argue that increases in WFC are related to decreases in perceived control. Over a period of ten years, some individuals may experience substantial changes in life circumstances, some of which may increase WFC (Allen & Finkelstein, 2014; Erickson et al., 2010; Martinengo, Jacob, & Hill, 2010). To illustrate, career advancement may increase work demands that reduce availability at home. Additionally, becoming a parent comes with resource challenges such as finding childcare. Moreover, as young children move into adolescence, employees may face growing demands at home such as the needs to support school/extracurricular activities, teach children how to drive, help navigate romantic relationships, and deal with alcohol and drugs (Allen & Finkelstein, 2014; Hundley, 2001). Finally, many employees may see increases in eldercare demands as their parents get older.

COR theory suggests that resources tend to travel in caravans, such that losing one resource may precipitate losing other resources (Hobfoll, 2001). Increases in WFC over time represent salient challenges and even crises in life. The inability to manage or reduce WFC over time may precipitate decreases in perceived control over time as individuals increasingly resign themselves to the belief that they are powerless to reverse the negative trend. In other words, greater increases in WFC may worsen people's outlook in life as they see insurmountable obstacles to their desired goals (Lachman & Weaver, 1998). Echoing this argument, Chen et al. (2011) suggested that a negative spiral may lead people to believe that there is little they can do to overcome the increasingly unpleasant experiences in their lives.

In addition, research suggests that changes in WFC and perceived control do not always operate in a parallel fashion (Dormann & van de Ven, 2014). The loss spiral model suggests that strain reactions may continue to unfold even if the stressor ceases to exist (Hobfoll, 2011). Chronic exposure to stressors—such as WFC—may cause individuals to continue to experience strain even if the stressor that causes the strain has been removed (Igic et al., 2017). Matthews and Ritter (2019) advanced the repeated exposure hypothesis, explaining that it may be impossible for individuals to recover from chronic, extended periods of resource loss. Such loss may result in permanent, negative psychological and physical changes that extend well into the future (Wirtz et al., 2013). This is consistent with allostatic load theory, which suggests that frequent and increasing exposure to stressors may lead to long-term damages to humans' physical systems (McEwen, 1998). Accordingly, we suggest that increases in WFC over a 10-year period are associated with a decline of perceived control over a 20-year period.

Hypothesis 1. WFC change is negatively associated with change in perceived control.

1.2. The mediating role of perceived control

A large volume of research has shown that perceived control predicts human functioning (Infurna et al., 2016; Ross & Sastry, 1999). We suggest that akin to a resource caravan, increases in WFC are associated with decreases in perceived control that may beget additional resource loss that manifests in critical life experiences. Next, we discuss how change in perceived control mediates the relation between WFC change and perceived health, self-esteem, income, and family support.

1.2.1. Perceived control and health

We propose several reasons that support a connection between decreases in perceived control and perceived health. First, when individuals experience decreases in perceived control, they may be left with limited resources (e.g., time, energy) needed to engage in effective health behaviors such as exercising and having a healthy diet (Infurna & Mayer, 2015; Lachman, 2006). Second, individuals who experience decreased perceived control are more likely to believe that they are not in control of their health. Therefore, they may engage in less preventative care and become less optimistic about the benefits of early interventions for medical issues (Seeman & Seeman, 1983), making future health problems more likely to occur. Third, decreases in perceived control may reduce the resources available to regulate one's emotions, which may be associated with poor health (Lachman, Neupert, & Agrigoroaei, 2011). Finally, decreases in perceived control make it less likely for individuals to bolster their health in times of stress through seeking out support from others (Infurna et al., 2011). Supporting these arguments, past research has linked lower perceived control to higher risk of cardiovascular diseases and cancer (Stürmer et al., 2006). Combining these arguments with those pertaining to Hypothesis 1, we

suggest that akin to a resource caravan, increases in WFC are linked to resource loss that may beget additional resource loss in the form of decreases in perceived control over time. Larger decreases in perceived control during the 20-year period, relative to smaller decreases, may be associated with more maladaptive health-related behaviors. Thus, individuals who experience larger decreases in perceived control due to increases in WFC may subsequently experience poorer health.

Hypothesis 2a. Change in perceived control mediates the relation between WFC change and perceived health.

1.2.2. *Perceived control and self-esteem*

The loss of resources resulting from decreases in perceived control also has broad implications for how individuals view themselves. Due to decreases in perceived control, individuals may become less likely to believe that their actions are connected to their success and achievement (Jacelon, 2007; Schmitz & Skinner, 1993), and may become more likely to give in when faced with challenges (Infurna et al., 2016). Over time, individuals who experience decreases in perceived control may come to see failure as a part of their identity. They may also be exposed to psychological issues such as depression, anxiety, and stress, which may threaten their self-esteem (Ross & Sastry, 1999). In contrast, increased perceived control is associated with the belief that one is capable of making a difference (Clark, 2002). With increases in perceived control, individuals may remain optimistic even in the face of challenges and obstacles, proactively look for solutions to engage the problems, and resist the temptation to withdraw (Skinner, 1996). When people become more effective in overcoming life challenges, they also become more positive in how they view themselves (Lachman, Neupert, & Agrigoroaei, 2011). Taken together, we argue that increases in WFC are associated with decreases in perceived control, as individuals come to believe that the broader range of challenges they face in life is beyond their ability to overcome. Over time, greater decreases in perceived control, relative to smaller decreases, can threaten one's self-view and manifest in a lower level of self-esteem.

Hypothesis 2b. Change in perceived control mediates the relation between WFC change and self-esteem.

1.2.3. *Perceived control and income*

Decreases in perceived control over time may also have financial implications. First, when individuals believe that they are losing control, they may not make sound financial decisions (Mahdzan et al., 2019). The loss of resources accompanying decreases in perceived control may limit their focus to short-term outcomes, leaving them financially vulnerable in the long run. In such situations, individuals may not save enough money or put enough money into their retirement account, which can impact their future income. Second, decreases in perceived control foster the belief that one's actions have no bearing with future outcomes, which may reduce an individual's motivation to improve their financial situation or maximize their earning potential (Britt et al., 2013). For example, individuals who experience decreases in perceived control may forego opportunities for human capital development that could equip them with the knowledge and skills necessary to secure higher-income occupations (Wang et al., 1999). This is consistent with the loss spiral argument that when facing resource loss, individuals are less likely to invest resources as a method of resource conservation (Hobfoll, 1989). Third, decreases in perceived control may make it difficult for individuals to have enough resources to maintain or improve their job performance, making it less likely that they will be eligible for merit-based pay increases (Judge & Bono, 2001). Taken together, we argue that greater increases in WFC are associated with decreases in perceived control that possibly leave individuals more vulnerable to income loss. Thus, these arguments suggest that decreases in perceived control may transmit increases in WFC to their income 20 years later.

Hypothesis 2c. Change in perceived control mediates the relation between WFC change and income.

1.2.4. *Perceived control and family support*

Decreases in perceived control may be negatively related to the amount of support individuals receive from their family. When individuals experience decreases in perceived control over time, they may become more inward-focused and less outward-focused (Heckhausen & Schulz, 1995). This argument is consistent with COR theory, which suggests that when resource loss occurs, individuals switch to a self-protective mode to conserve resources (Elst et al., 2014). However, as individuals choose to withdraw from the family domain in an attempt to conserve resources, they may also impair their relationship with family members who then withdraw support. In addition, decreases in perceived control may drain resources that individuals can use to manage negative emotions such as depression, distress, and sadness (Ross & Sastry, 1999). The inability of individuals to control negative emotions may alienate people around them, leading others to reduce their extended social support. Overall, consistent with the loss spiral argument, we suggest that greater increases in WFC, through the mechanism of decreases in perceived control, may aggravate resource loss in the family domain, which will manifest in lower levels of support received from family members.

Hypothesis 2d. Change in perceived control mediates the relation between WFC change and received family support.

1.3. *Adaptation theory*

To this point, based on COR, we have predicted that increases in WFC over time may trigger a downward resource spiral characterized by decreases in perceived control and subsequent lower levels of well-being. An alternative perspective on the long-term implications of stressors is found in adaptation theory, which suggests that individuals are capable of habituating to stressors, thereby allowing them to return to the level of well-being prior to the start of the stressor (Lucas, 2007; Taylor, 1983). Stated differently, individuals may experience an initial drop in well-being when they first encounter a stressor such as a job loss or a divorce. However, once the shock has been absorbed and the ramifications of the stressor have been processed, individuals gradually adapt and

develop coping mechanisms to counteract the negative experience (Diener et al., 2006). In this way, over time an individual's well-being may rebound from a lower level that follows initial exposure to a stressor to a higher level that approximates the level prior to exposure to the stressor. Consistent with this argument, recent research has shown that initial stressors have a positive, rather than negative, lagged association with subsequent well-being after controlling for the concurrent effects of the stressors (Matthews et al., 2014; Matthews & Ritter, 2019; Ritter et al., 2016). However, it is important to note that the few studies cited above that draw on adaptation theory focus on rather short timeframes (e.g., a few months). Thus, it is unclear whether these results may generalize when the time lag extends to two decades. In addition, as Matthews and Ritter (2019) noted, adaptation does not account for stressors that are recurring. Consistent with cautions from scholars who suggest that adaptation does not always happen (e.g., Luhmann et al., 2012), and individuals may more readily adapt to isolated occurrences of WFC than to chronic experiences of increasing WFC. Due to a lack of strong predictions that can be drawn from adaptation theory for the present setting, we propose the following research question:

Research question: Do people adapt to WFC over time, such that initial WFC may have a positive association with the subsequent experience of perceived control, perceived health, self-esteem, income, and family support, controlling for concurrent levels of WFC?

2. Method

We used the data from all three phases of the National Survey of Midlife Development in the United States (MIDUS, 2016). MIDUS is a longitudinal panel study investigating how mental and physical health is associated with various predictors of well-being. The dataset includes variables related to a broad range of physical, social, familial, and occupational factors. The first wave of data (Time 1) for the study was collected between 1995 and 1996 from over 7000 participants between the ages of 25 and 74. Approximately ten years later, between 2004 and 2006, a second wave of data (Time 2) was collected from roughly 5000 of the original study participants. Then in the following decade between 2013 and 2015, yet another wave of data (Time 3) was collected from over 3000 of the original participants. Respectively, these waves of data collection are known as MIDUS 1, MIDUS 2, and MIDUS 3.

Because we were interested in the long-term implications of WFC, our sample included those participants who (a) reported working 20 or more hours per week in MIDUS 1; and (b) responded to any of the study variables, which resulted in a sample size of 5197. In MIDUS 1, the average age of the participants was 44.60 (SD = 11.94), 48.93% were women, and 66.11% were married; in MIDUS 2, the average age of the participants was 50.87 (SD = 9.36), 49.61% were women, and 69.87% were married; and in MIDUS 3, the average age of the participants was 62.83 (SD = 10.79), 52.44% were women, and 68.06% were married. This sample served as the basis for model testing, with the use of full information maximum likelihood (FIML) estimation to address missing data.

2.1. Measures

2.1.1. Work-family conflict

Past research has distinguished two directions of WFC: Work-to-family conflict (WIF) and family-to-work conflict (FIW). MIDUS created two separate measures to capture WIF and FIW rated on a five-point scale, ranging from 1 (*all the time*) to 5 (*never*). We reverse coded the scale so that higher scores represented higher levels of WFC. WIF was measured with four items in all three MIDUS data collection waves. A sample item is "your job reduces the effort you can give to activities at home." Reliability for WIF in MIDUS 1 and MIDUS 2 was 0.81 and 0.78, respectively. FIW was measured with four items in all three MIDUS data collection waves. A sample item is "stress at home makes you irritable at work." Reliability for FIW in MIDUS 1 and MIDUS 2 was 0.79 and 0.77, respectively. These two scales have been used in subsequent studies and are related to theoretically relevant constructs (e.g., Grzywacz & Marks, 2000; Huang et al., 2019).

2.1.2. Perceived control

We operationalized perceived control with a twelve-item scale in MIDUS 1 and MIDUS 3 from Lachman and Weaver (1998) that assessed the lack of contingency between one's actions and outcomes (Skinner, 1996). Each item was rated on a seven-point scale ranging from 1 (*strongly agree*) to 7 (*strongly disagree*). The scale focused on two dimensions of perceived control (see Lachman & Weaver, 1998): perceived constraints (i.e., one's perceived obstacles and factors beyond control that interfere with goal accomplishment) and personal mastery (i.e., one's efficacy or effectiveness in pursuing goals). The two dimensions were measured with eight and four items, respectively. Sample items are "what happens in my life is often beyond my control." (perceived constraints) and "I can do just about anything I really set my mind to" (personal mastery). We coded the scales such that higher scores indicate greater perceived control over one's environment.

We performed confirmatory factor analysis (CFA) to examine the second-order factor structure of perceived control in MIDUS 1 and MIDUS 3, given our research question on perceived control in general. In this CFA model, we included T1 and T3 perceived control that each had two first-order factors (i.e., personal mastery and perceived constraints) that were manifested in their corresponding items. Factor loadings of personal mastery and perceived constraints on perceived control were constrained to be equal while the variance of the second order-factor, perceived control, was fixed at 1 for model identification. As the same set of items were measured at both time points, we added correlation between item uniquenesses for identical items across time. The model showed adequate fit to the data: $\chi^2 = 2141.564$, $df = 237$, RMSEA = 0.039, 90% CI = [0.038 0.041], CFI = 0.936, TLI = 0.926. In comparison, we tested an alternative model where all twelve items of the scale were loaded on one single factor of perceived control in MIDUS 1 and MIDUS 3. The model poorly fitted the data: $\chi^2 = 4511.118$, $df = 239$, RMSEA = 0.059, 90% CI = [0.057 0.060], CFI = 0.857, TLI = 0.835. Thus, we found

support for perceived control as a single factor that encompassed personal mastery and perceived constraints. We retained this second-order factor structure of perceived control in testing measurement models. Reliability for the overall perceived control was 0.85 and 0.87, in MIDUS 1 and MIDUS 3, respectively.

2.1.3. Perceived health

Perceived health was measured with two items. For the first item (Prenda & Lachman, 2001), participants were asked to rate their current health on a scale ranging from 0 (*worst*) to 10 (*best*). For the second item, participants were asked to rate the amount of control they had on their health on a scale ranging from 0 (*none*) to 10 (*very much*). We used the perceived health measure in MIDUS 2 ($\alpha = 0.68$) and MIDUS 3 ($\alpha = 0.75$). In a separate validation study that recruited participants from Amazon's Mechanical Turk ($N = 109$), this perceived health measure showed strong convergent validity ($r = 0.88, p < .001$) with the perceived health measure by Ross et al. (2015).

2.1.4. Self-esteem

We used six items from Rosenberg (1965) in MIDUS 2 and MIDUS 3 to measure self-esteem. Responses were made on a seven-point scale that ranged from 1 (*strongly agree*) to 7 (*strongly disagree*). We reverse scored the scale so that higher ratings represented higher levels of self-esteem. A sample item is "I take a positive attitude toward myself." Reliability of the self-esteem measure was 0.86 and 0.84 in MIDUS 2 and MIDUS 3, respectively. In the same validation study mentioned above, this six-item self-esteem scale showed convergent validity ($r = 0.70, p < .001$) with the Lifespan Self-Esteem Scale (Harris, Donnellan, & Trzesniewski, 2018) and strongly correlated with the 10-item full-length version of Rosenberg's (1965) self-esteem scale, $r = 0.98, p < .001$.

2.1.5. Income

We used income measures in MIDUS 2 and MIDUS 3. Participants were asked to indicate their total income, including wages, pension, social security, and other sources in the last calendar year. Income was rated on a scale that ranged from 1 (*less than \$0*) to 44 (*\$300,000 or more*). MIDUS used actual dollar amount at the midpoint of each category range to represent participants' report of total income. Thus, the average total income of the participants in our sample was \$58,593.71 in MIDUS 2 and \$60,052.26 in MIDUS 3. Given the right-skewed pattern of participants' total income, we transformed the income measure in MIDUS 2 and MIDUS 3 using natural logarithm (see Kahneman & Deaton, 2010).

2.1.6. Family support

Family support was measured in MIDUS 2 and MIDUS 3 with a four-item scale adapted from Schuster, Kessler, and Aseltine (1990). A sample item is "how often can you rely on members of your family for help if you have a serious problem?" A four-point scale was used, ranging from 1 (*a lot*) to 4 (*not at all*). We reverse coded the scale so that higher scores represented higher levels of family support. Reliability of this measure was 0.84 and 0.83 in MIDUS 2 and MIDUS 3, respectively.

2.1.7. Control variables

We controlled for participants' perceived health, self-esteem, income, and family support as measured in MIDUS 2 vis-à-vis the corresponding dependent variables in MIDUS 3 to rule out their autoregressive effect on the subsequent time point.¹ We also controlled for the effect of WIF and FIW in MIDUS 1 on perceived control change from MIDUS 1 to MIDUS 3 in order to ensure that the effect of WIF and FIW change on perceived control change is not confounded with that of the initial level.

2.2. Analytic strategies

We used Mplus Version 8.4 (Muthén & Muthén, 1998–2019) to test the hypothesized model in three steps. First, we examined measurement invariance of WFC in MIDUS 1 and MIDUS 2 and perceived control in MIDUS 1 and MIDUS 3. The measurement invariance test allowed us to ensure that change in repeated measures at different time points reflects true change in absolute levels over time rather than change in measurement instruments and conceptual domains (Chan, 1998). Second, we used a latent change score (LCS) approach (McArdle, 2001, 2009; McArdle & Hamagami, 2001; Voelkle & Oud, 2015) to represent the change in scores on measures over two time points (in this case, change in WFC and perceived control) and circumvented the issues associated with the use of difference scores (Li et al., 2014). Finally, we tested our mediation hypotheses with 5000 bootstrapped samples to evaluate the 95% confidence interval (CI) for the indirect effect.

Given that the chi-square test is sensitive to sample size (Chen, 2007; Cheung & Rensvold, 2002; Marsh, Hau, & Grayson, 2005) and that our sample size is relatively large, we followed common guidelines (see Chen, 2007; Cheung & Rensvold, 2002; Hu & Bentler, 1999; Marsh, Hau, & Grayson, 2005) to evaluate multiple fit indices simultaneously, including comparative fit index (CFI), Tucker-Lewis Index (TLI), and root mean square error of approximation (RMSEA). Specifically, we used $CFI/TLI \geq 0.95$ and $RMSEA \leq 0.06$ as evidence of excellent model fit (Hu & Bentler, 1999) and $CFI/TLI \geq 0.90$ and $RMSEA \leq 0.08$ as evidence of adequate model fit (Marsh, Hau, & Grayson, 2005). When comparing measurement invariance models, we used $\Delta CFI/\Delta TLI < 0.010$ and $\Delta RMSEA < 0.015$ as evidence of no significant change in model fit (Chen, 2007; Cheung & Rensvold, 2002), thus favoring the more parsimonious model.

¹ We also tested an alternative model that controlled for perceived health, income, and family support in MIDUS 1 as opposed to MIDUS 2 (the self-esteem measure was unavailable in MIDUS 1). The conclusions from this analysis remained the same compared to those in our focal analysis.

Table 1
Descriptive statistics of study variables.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. WIF T1	<i>0.81</i>																	
2. WIF T2	0.42	<i>0.78</i>																
3. FIW T1	0.48	0.32	<i>0.79</i>															
4. FIW T2	0.22	0.47	0.41	<i>0.77</i>														
5. Perceived control T1	-0.25	-0.18	-0.25	-0.19	<i>0.85</i>													
6. Personal mastery T1	-0.16	-0.10	-0.15	-0.14	0.81	<i>0.69</i>												
7. Perceived constraints T1	-0.26	-0.21	-0.27	-0.19	0.88	0.44	<i>0.85</i>											
8. Perceived control T3	-0.12	-0.12	-0.16	-0.19	0.56	0.42	0.53	<i>0.87</i>										
9. Personal mastery T3	-0.06	-0.01 [†]	-0.10	-0.13	0.46	0.44	0.35	0.83	<i>0.73</i>									
10. Perceived constraints T3	-0.15	-0.18	-0.17	-0.19	0.50	0.30	0.54	0.88	0.46	<i>0.88</i>								
11. Health T2	-0.18	-0.18	-0.16	-0.23	0.28	0.23	0.24	0.25	0.18	0.25	<i>0.68</i>							
12. Health T3	-0.12	-0.16	-0.13	-0.19	0.25	0.17	0.26	0.38	0.29	0.36	0.54	<i>0.75</i>						
13. Self-esteem T2	-0.16	-0.27	-0.16	-0.27	0.45	0.34	0.43	0.51	0.38	0.49	0.27	0.25	<i>0.86</i>					
14. Self-esteem T3	-0.16	-0.20	-0.19	-0.20	0.43	0.30	0.43	0.64	0.44	0.64	0.20	0.31	0.68	<i>0.84</i>				
15. Income T2	0.12	0.13	0.06 [†]	0.03 [†]	0.15	0.10	0.16	0.20	0.17	0.19	0.09	0.09	0.17	0.16	-			
16. Income T3	0.11	0.06 [†]	0.07	0.12	0.11	0.06	0.12	0.20	0.14	0.20	0.07 [†]	0.16	0.11	0.16	0.64	-		
17. Family support T2	-0.16	-0.13	-0.06 [†]	-0.12	0.22	0.19	0.19	0.23	0.18	0.21	0.14	0.14	0.25	0.24	-0.01 [†]	-0.02 [†]	<i>0.84</i>	
18. Family support T3	-0.15	-0.11	-0.07	-0.12	0.21	0.12	0.23	0.25	0.15	0.28	0.13	0.17	0.37	0.31	0.02 [†]	0.03 [†]	0.50	<i>0.83</i>
<i>M</i>	2.64	2.61	2.08	2.07	5.65	5.88	5.41	5.54	5.64	5.43	7.70	7.52	5.42	5.41	10.74	10.61	3.49	3.51
<i>SD</i>	0.70	0.65	0.62	0.59	0.93	0.97	1.20	0.94	1.02	1.19	1.31	1.49	1.06	1.02	0.76	1.07	0.61	0.57

Note. $N = 721\text{--}5036$. WIF = work-to-family conflict; FIW = family-to-work conflict. Perceived constraints were reverse coded such that higher scores indicate lower perceived constraints (and hence greater perceived control). Reliability coefficients (italicized) are presented along the diagonal.

[†] $p > .05$. Other correlations in the table were all significant at $p < .05$.

It is worth noting that TLI and RMSEA penalize lack of model parsimony, so it is possible that adding constraints to sequential invariance models may yield higher TLI and lower RMSEA scores (i.e., better fit values), which should be viewed as support for the more constrained model (Cheung & Rensvold, 2002; Marsh et al., 2009; Marsh et al., 2010).

3. Results

Means, standard deviations, scale reliability scores, and intercorrelations for all study variables are presented in Table 1. Before testing our hypotheses, we first examined measurement models of all focal variables except income and perceived health in our hypothesized model.² Model fit information is presented in Table 2. Model 1 established the latent factor structure for each conceptually different construct measured at different time points, including WIF (T1, T2), FIW (T1, T2), perceived control (T1, T3), self-esteem (T2, T3) and family support (T2, T3). Item uniquenesses for identical items were allowed to correlate with each other across time. The resulting 10-factor structure tested in Model 1 showed adequate fit to the data. We then tested two alternative measurement models. Compared with Model 1, Model 2 collapsed WIF and FIW into a single construct at each time. The resulting 8-factor model showed worse fit to the data. Model 3 treated items measuring the same construct over time as joint indicators of the underlying construct, thus ignoring measurement occasions. For example, items measuring WIF in MIDUS 1 and MIDUS 2 were used together as manifest variables to one single construct of WIF. The resulting 5-factor model (i.e., WIF, FIW, perceived control, self-esteem, and family support) showed poorer fit to the data. Thus, Model 1, which conceptually differentiated items of different constructs at different occasions, indicated good discriminant validity in measurement of the variables used in this study.

Next, we tested longitudinal measurement invariance for WFC (i.e., WIF and FIW were examined together in the same model) and perceived control. We followed standard steps for testing measurement invariance (see Marsh et al., 2009; Meredith, 1993; Widaman & Reise, 1997) and examined four major forms of measurement invariance that are relevant to the current study: (a) configural factorial invariance, which pertains to same factor structures of repeated measures at different time points, (b) weak factorial invariance, which assesses whether repeated measures are calibrated to the construct in the same way (i.e., equal factor loadings); (c) strong factorial invariance, which builds on weak factorial invariance and requires equal item intercepts across time points; and (d) strict factorial invariance, which extends strong factorial invariance by adding constraints on equal item uniqueness over time. In addition, item uniquenesses for identical indicators were allowed to covary across time. We examined these measurement models sequentially for WFC and perceived control, respectively.

Model fit information for measurement invariance models is presented in Table 3. All measurement invariance models for WFC showed adequate fit to the data, and results of model comparison based on Δ RMSEA, Δ CFI, and Δ TLI supported weak, strong, and strict factorial invariance for WFC measured in MIDUS 1 and MIDUS 2. For perceived control, we found that weak factorial invariance was supported, but strong factorial invariance showed mixed results as only Δ RMSEA was smaller than the recommended threshold (i.e., Δ RMSEA < 0.015). We continued to examine partial strong factorial invariance by relaxing the constraints on equal item intercepts over time for one of the twelve items, "There is really no way I can solve the problems I have", as suggested by model modification indices (see Little, 2013). The partial strong factorial invariance model for perceived control was supported based on Δ RMSEA, Δ CFI, and Δ TLI. Building on this model, we found support for the strict factorial invariance model. Thus, partial strong and strict factorial invariance of perceived control were supported. Therefore, we concluded that measurement invariance could be established for measures of WFC and perceived control.

We proceeded to configure LCS structure representing change in WFC and perceived control over time to test our hypotheses. To ensure parsimonious structures in model testing, we used single-item indicators for constructs within the LCS structure (i.e., WIF, FIW, and perceived control). Specifically, we set each single-item factor loading at 1.0 and fixed each residual variance as the observed variance multiplied by one minus reliability (DeShon, 1998; Little, 2013). As for outcome variables, we adopted different approaches depending on the number of items used to measure the constructs. Family support and self-esteem, which each had more than three items, were modeled with a full latent structure. Perceived health, which had two items, was operationalized with the single-item indicator approach described above. Income was measured with only one item, and we used this observed score after natural logarithm transformation. The hypothesized, full mediation model that adopted this measurement structure showed adequate fit to the data: $\chi^2 = 1693.679$, $df = 354$, $RMSEA = 0.027$, 90% CI = [0.026 0.028], $CFI = 0.928$, $TLI = 0.912$. In addition, we compared this hypothesized fully mediated model with a partial mediation model that included the direct effects of WIF and FIW change on each dependent variable. The model showed adequate fit to the data: $\chi^2 = 1681.070$, $df = 346$, $RMSEA = 0.027$, 90% CI = [0.026 0.029], $CFI = 0.929$, $TLI = 0.910$. However, the partial mediation model did not show significant improvement in model fit ($\Delta\chi^2[8] = 12.609$, $p = .13$). We thus adopted the more parsimonious fully mediated model as the basis for evaluating study hypotheses (see Fig. 2).

Hypothesis 1 proposed that WFC change would be negatively related to change in perceived control. We found that FIW change but not WIF change was negatively related to change in perceived control (see Fig. 2), controlling for the effect of the initial level of WIF and FIW on perceived control change. Thus, individuals who perceived a decrease in FIW from MIDUS 1 to MIDUS 2 were more likely to experience an increase in their sense of control from MIDUS 1 to MIDUS 3. Thus, Hypothesis 1 was partially supported. Hypothesis 2 posited that perceived control change would be related to perceived health (H2a), self-esteem (H2b), income (H2c), and family support (H2d), and thus mediate the relation between WFC change and these variables. Change in perceived control from MIDUS 1 to MIDUS 3

² Income was not included in the measurement model because it was measured with a single objective indicator. We excluded perceived health because keeping the health scales at T1 and T3, which were measured with two items each, in the measurement model caused a model convergence problem.

Table 2
Model fit information for measurement models.

	χ^2	df	RMSEA	90% CI	CFI	TLI
Model 1	7190.776	1633	0.026	[0.025 0.026]	0.910	0.902
Model 2	9651.481	1650	0.031	[0.030 0.031]	0.870	0.860
Model 3	15,289.480	1700	0.039	[0.039 0.040]	0.779	0.770

Note. $N = 5197$. RMSEA = root mean square error of approximation; CI = confidence interval; CFI = comparative fit index; TLI = Tucker-Lewis Index.

Table 3
Model fit information for measurement invariance models.

	χ^2	df	RMSEA	90% CI	CFI	TLI	$\Delta\chi^2$	Δdf	$\Delta RMSEA$	ΔCFI	ΔTLI
WFC											
1. Configural	1161.081	92	0.052	[0.049 0.054]	0.926	0.904					
2. Weak	1176.120	98	0.050	[0.048 0.053]	0.926	0.909	15.039	6	-0.002	<0.001	0.005
3. Strong	1179.981	104	0.049	[0.046 0.051]	0.926	0.914	3.861	6	-0.001	<0.001	0.005
4. Strict	1188.139	112	0.047	[0.045 0.050]	0.926	0.920	8.158	8	-0.002	<0.001	0.006
Perceived control											
1. Configural	2280.107	236	0.041	[0.039 0.042]	0.932	0.920					
2. Weak	2324.728	246	0.040	[0.039 0.042]	0.931	0.922	44.621	10	-0.001	-0.001	0.002
3. Strong	2691.336	256	0.043	[0.041 0.044]	0.919	0.912	366.608	10	0.003	-0.012	-0.010
3a. Partial strong	2606.034	255	0.042	[0.041 0.044]	0.921	0.915	281.306	9	0.002	-0.009	-0.007
4. Strict	2892.530	267	0.044	[0.042 0.045]	0.912	0.909	286.496	12	0.002	-0.009	-0.006

Note. $N = 4330$ for WFC and 5176 for perceived control. WFC = work-family conflict (including both family-to-work and work-to-family conflict); RMSEA = root mean square error of approximation; CI = confidence interval; CFI = comparative fit index; TLI = Tucker-Lewis Index. The ΔCFI between partial strong and weak invariance of perceived control was rounded from $-0.00909 = 0.92147-0.93056$.

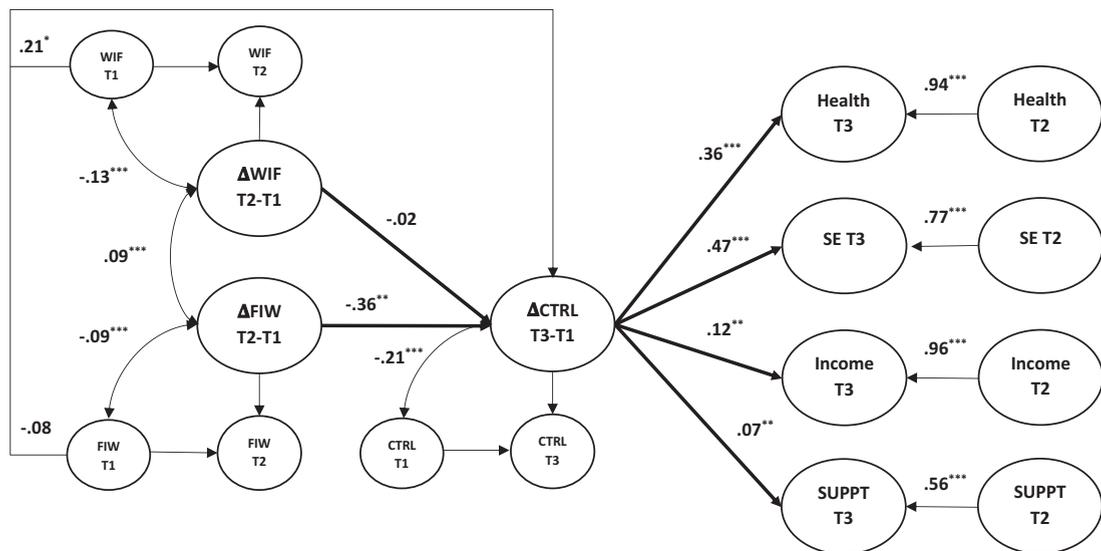


Fig. 2. Modeling results from hypothesized model based on full sample.
Note. $N = 5148$. WIF = work-to-family conflict; FIW = family-to-work conflict; CTRL = perceived control; SE = self-esteem; SUPPT = family support. Unstandardized coefficients are reported. Paths without a specified coefficient were constrained to 1. Measurement structures, residual variances, and covariances among exogenous variables are omitted from the figure for readability. Bolded paths present results of hypothesis testing. * $p < .05$; ** $p < .01$; *** $p < .001$.

was positively related to perceived health, self-esteem, income, and family support after controlling for their respective counterparts assessed at MIDUS 2. We further evaluated the indirect effects using 5000 bootstrapped samples. Table 4 presents the unstandardized indirect effects. We found that, through change in perceived control, FIW change was indirectly related to perceived health, self-esteem, income, and family support. Thus, Hypothesis 2a, 2b, 2c, and 2d were supported for the indirect effect of FIW change but not WIF change.

Finally, our research question asked about the relation between WFC at an earlier time point (MIDUS 1 or MIDUS 2) and perceived control, health, self-esteem, income, and received family support at MIDUS 3, controlling for the effects of WFC in MIDUS 3 and the

Table 4
Confidence intervals of unstandardized indirect effect of WIF and FIW.

	Lower 2.5%	Estimate	Upper 2.5%
Δ WIF T2-T1 → Δ CTRL T3-T1 → Health T3	-0.134	-0.007	0.117
Δ WIF T2-T1 → Δ CTRL T3-T1 → Self-esteem T3	-0.157	-0.009	0.157
Δ WIF T2-T1 → Δ CTRL T3-T1 → Income T3	-0.059	-0.002	0.033
Δ WIF T2-T1 → Δ CTRL T3-T1 → Family support T3	-0.031	-0.001	0.025
Δ FIW T2-T1 → Δ CTRL T3-T1 → Health T3	-0.277	-0.127	-0.021
Δ FIW T2-T1 → Δ CTRL T3-T1 → Self-esteem T3	-0.337	-0.168	-0.020
Δ FIW T2-T1 → Δ CTRL T3-T1 → Income T3	-0.107	-0.042	-0.009
Δ FIW T2-T1 → Δ CTRL T3-T1 → Family support T3	-0.072	-0.026	-0.004

Note. N = 5148. WIF = work-to-family conflict; FIW = family-to-work conflict; CTRL = perceived control. Bootstrapping = 5000.

levels of the respective dependent variables at MIDUS 2. We examined this research question with two models. As reported in Table 5, Models 1 and 2 focus on WFC in MIDUS 1 and MIDUS 2 as predictors, respectively. When testing the effect of WFC in MIDUS 1, Model 1 showed adequate fit to the data: $\chi^2 = 1512.842$, $df = 334$, $RMSEA = 0.028$, 90% CI = [0.026 0.029], CFI = 0.936, TLI = 0.917. The only significant relation was a positive association between FIW in MIDUS 1 and perceived control in MIDUS 3. Model 2 also yielded acceptable fit to the data: $\chi^2 = 1502.031$, $df = 334$, $RMSEA = 0.037$, 90% CI = [0.035 0.039], CFI = 0.933, TLI = 0.913. Model 2 results indicate that WIF in MIDUS 2 negatively predicted self-esteem and income in MIDUS 3. In contrast, FIW in MIDUS 2 positively predicted perceived health and income in MIDUS 3. It is worth noting that these findings from either MIDUS1 or MIDUS 2 were generally opposite in sign when compared to their counterparts in MIDUS 3.

4. Discussion

Our study focuses on a process through which individuals' earlier experience of WFC change over time is associated with subsequent health, wealth, self-esteem, and family experiences. We found that increases in FIW, but not WIF, over a period of approximately 10 years were associated with decreases in perceived control over the course of 20 years. Decreases in perceived control, in turn, predicted lower levels of perceived health, self-esteem, income, and family support at the end of the 20-year study period. We also examined whether WFC at MIDUS 1 and MIDUS 2 is linked to individuals' well-being at the end of the 20-year study based on propositions grounded in adaptation theory. We found little support for these propositions in our data. Our results have important theoretical and practical implications.

Table 5
Modeling results for research question.

	CTRL T3		Health T3		SE T3		Income T3		SUPPT T3	
	b	S.E.	b	S.E.	b	S.E.	b	S.E.	b	S.E.
Model 1										
WIF T1	0.03	0.07	0.15	0.13	-0.07	0.09	-0.11	0.08	-0.08	0.05
FIW T1	0.17*	0.08	0.14	0.15	0.03	0.11	0.13	0.10	0.11	0.07
WIF T3	0.03	0.08	-0.01	0.16	0.08	0.10	0.30**	0.11	0.03	0.07
FIW T3	-0.44***	0.11	-0.38	0.22	-0.43**	0.14	-0.19	0.15	-0.26**	0.09
CTRL T2	0.76***	0.03								
Health T2			0.94***	0.06						
SE T2					0.68***	0.04				
Income T2							0.94***	0.04		
SUPPT T2									0.51***	0.04
Model 2										
WIF T2	0.08	0.13	-0.30	0.27	-0.46*	0.20	-0.70***	0.18	-0.10	0.13
FIW T2	0.25	0.15	0.73*	0.29	0.40	0.22	0.43*	0.21	0.13	0.15
WIF T3	0.01	0.11	0.14	0.23	0.33*	0.16	0.66***	0.16	0.08	0.11
FIW T3	-0.49**	0.15	-0.76*	0.31	-0.73**	0.23	-0.43	0.23	-0.29	0.15
CTRL T2	0.79***	0.03								
Health T2			0.94***	0.06						
SE T2					0.66***	0.04				
Income T2							0.95***	0.04		
SUPPT T2									0.51***	0.04

Note. Model 1: N = 4653; Model 2: N = 2578. WIF = work-to-family conflict; FIW = family-to-work conflict; CTRL = perceived control; SE = self-esteem; SUPPT = family support. Unstandardized coefficients are reported.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

4.1. Theoretical implications

Past research has shown that employees' WFC is related to poor job attitudes, problematic work behaviors, health trouble, family relationship difficulties, among others (e.g., Amstad et al., 2011; Bagger & Li, 2012; Byron, 2005; Ford et al., 2007). However, most of these studies only assess WFC once and use it to predict other variables either concurrently or longitudinally (Lapierre & McMullan, 2016). This approach has been criticized in recent research as it overlooks the dynamic nature of WFC within-person over time (Rantanen, Kinnunen, Pulkkinen, & Kokko, 2012). Our study addresses this important limitation by not only assessing initial levels of WFC but also assessing WFC change over a 10-year span. We found that FIW (but not WIF) change over a 10-year period was associated with change in perceived control over a 20-year period and that change in perceived control mediated the relation between FIW change and perceived health, self-esteem, income, and family support. These results support the core propositions of COR, showing that greater increases in FIW may create a loss cycle, precipitating even greater losses over time. Although some studies have suggested that WFC remains relatively constant over time (Rantanen et al., 2008), our study shows that when WFC (FIW specifically) did increase, the magnitude of increase had profound negative implications a decade later.

The association between the 10-year increases in FIW and the 20-year decreases in perceived control is particularly informative as it suggests that stressors may be related to negative responses even when they vary in their timeframe (Matthews & Ritter, 2019). These results are consistent with the dynamic accumulation model, which suggests that stressors can continue to negatively impact well-being even if the source of the stress is removed (Dormann & van de Ven, 2014). Notably, our results depart from prior research that often models perceived control as a predictor of WFC (e.g., Lapierre & Allen, 2012; Thomas & Ganster, 1995) and instead align with evidence from the existing stress literature suggesting that under conditions of chronic exposure to stress, individuals' perceived control will decrease (Skaff et al., 1996). Our results support the contention that individuals determine their level of perceived control based on whether they can function effectively to address life circumstances and whether they can control their emotions (Infurna, Kappes, & Fraire, 2018; Infurna & Okun, 2015). In a particularly salient way, large increases in FIW may "strip away the insulation that otherwise protects the self against threats to it" (Pearlin et al., 1981, p. 340) and may "confront people...with inescapable proof of their inability to alter the unwanted circumstances of their lives", making them susceptible to decreases in perceived control (p. 340). Overall, Infurna and Okun (2015) noted a lack of research on what predicts rates of change in perceived control. Given the important role that change in perceived control plays in shaping individuals' physical, mental, financial, and relational well-being, our research on the role of perceived control as a mediator represents an important addition to the literature.

Unexpectedly, we found that WIF change was not related to change in perceived control over time. There are several possible explanations. First, change in FIW may have stronger impact on change in perceived control than change in WIF because individuals tend to have more flexibility in the family domain than they do in the work domain (Rothbard & Edwards, 2003). As such, even if employees experience increases in WIF over time, they may improvise ways within the home domain to cope with the challenge (such as hiring a nanny if one faces increases in work demands). In contrast, since individuals have less discretion in work matters such as schedule and attendance, they are not able to change their work arrangement even if FIW increases over time. Second, when experiencing increases in WIF individuals may be able to extract themselves from a stressful work situation by finding alternative employment, which might help them maintain or increase their sense of control. In contrast, increases in FIW may be more difficult to navigate and may lead to decreases in perceived control (the defeat-entrapment model, Taylor, Gooding, Wood, & Tarrier, 2011).

We also examined a research question based upon adaptation theory; however, we found rather limited support for its propositions. In most cases, initial levels of WFC were either negatively or non-significantly related to the variables at MIDUS 3 after controlling for the concurrent effects of WFC. These results serve as a contrast against several recent studies showing that due to adaptation, initial levels of a stressor shared a positive association with subsequent well-being. For example, Matthews et al. (2014) found that prior experience of WFC (Time I) was positively associated with subsequent well-being (Time II), after controlling for Time I well-being and Time II WFC. It is important to note that their study spanned six to twelve months whereas the current study spanned a period of 20 years. It is possible that individuals are able to adapt to the initial FIW over a relatively short period of time such as weeks or months. However, over longer periods of time, such as many years, persistent exposure to FIW may tax one's psychological and physical resources to a "tipping point" beyond which levels of well-being cannot rebound (Matthews & Ritter, 2019). This argument is consistent with Igie et al. (2017) who suggested that being in an unfavorable condition for an extended period of time may render it difficult to reverse its negative effects. Thus, our study points to the need for future research to look into possible factors (other than, possibly, the time lag) that may facilitate/inhibit individuals' ability to adapt to long-term stressors, such as individual differences (e.g., resilience, coping skills, and neuroticism) and organizational variables (e.g., the availability of supervisor family support and family-friendly programs, Eby et al., 2015).

4.2. Practical implications

From a practical standpoint, our findings on the longitudinal implications of FIW change may inform organizational practices when it comes to helping employees balance their work and family demands (Kelly et al., 2008). Knowing that some employees experience large increases in FIW over time may necessitate systematic managerial interventions to correct the trajectory, relative to when their employees experience small or no increase over time. For example, even though two employees may experience identical levels of FIW at a given point in time, one of those employees may experience a greater increase in FIW that puts them at greater risk for various negative outcomes such as decreased performance or increased absenteeism.

Our results also suggest that a single organizational survey on employees' FIW most likely offers an inadequate assessment of employees' work-family experiences over time. Instead, such surveys should be conducted on a periodic basis. In addition, results from

these surveys should not be reviewed in isolation. Instead, to the extent that employees remain in the same organization over time, they should be evaluated holistically, in combination with historical data for each employee. This will allow employers to more precisely identify which employees are experiencing increases in FIW and be more aware of the challenges these employees may face. Our results showing that change in perceived control is a critical mediating mechanism indicate that perceived control is an ideal area for intervention as it relates to the improvement of employees' wellbeing (Lachman, Neupert, & Agrigoroaei, 2011). Organizations can help employees develop more effective coping strategies, which may enhance their sense of control (Elst et al., 2016).

4.3. Limitations and future research

While the time lag of approximately ten years between each MIDUS phase lends certain strengths to our study and allows us to examine WFC over a long period of time, it also introduces the possibility that causal processes that went unobserved during the course of the study affected our results in a meaningful way. This possibility precludes our ability to make definitive conclusions regarding causal pathways in our model. There has been considerable discussion on the appropriate lag in longitudinal research with arguments either in favor of a long lag or a short lag (e.g., Ployhart & Vandenberg, 2010). Overall, such decisions should be guided by theoretical considerations (Shaffer, DeGeest, & Li, 2016). In the context of the present research, individuals may be unlikely to experience dramatic changes in WFC unless significant events occur in their life—and such events may take considerable time to materialize (Rantanen et al., 2008). We believe the long time lag between the MIDUS phases may allow for critical life events to develop that may bring about meaningful changes in WFC and our analysis thus responds to the call for using longer time lags in work-family research (Rantanen et al., 2008). Work-family research would benefit from additional longitudinal research that collects data at more regular intervals, such as annually over a period of several decades. Although conducting such research would perhaps be a herculean undertaking, its potential value to our understanding of work-family dynamics cannot be overstated.

Relatedly, one empirical challenge of longitudinal research is that initial levels of key variables may constrain the trajectory of changes over time. For the present study, to observe a relation between WFC change and change in perceived control, there should be variance on both variables. However, not all individuals exhibit changes to their WFC or perceived control due to the initial levels of these two variables. Individuals reporting the highest levels of WFC at the beginning of the study cannot exhibit empirical increases in WFC over time. Similarly, even if a person exhibits WFC change over time that may precipitate decreases in perceived control, the association would not be observed when individuals report the lowest initial levels of perceived control. Fortunately, the means of WFC and perceived control at MIDUS 1 were both in the middle of the range and accordingly allowed room for changes, alleviating this concern somewhat. That said, should this constraint have had an effect on our results, it would have weakened the relationship between WFC change, change in perceived control, and our study DVs, making the current analysis a conservative test of our hypotheses.

Finally, our study focuses on a rivalry between the work and family domains. However, recent research has suggested that work and family do not necessarily compete for resources. Rather, at times they serve as allies that work together to enhance employees' overall well-being (Greenhaus & Powell, 2006). Although MIDUS did include a measure of positive spillover between work and family, in an additional analysis we found no evidence that the positive spillover measure was invariant from MIDUS 1 to MIDUS 2, thereby precluding an investigation of change in positive work-family spillover over time on employee well-being in our study. Future research should model levels of and changes in both work-family positive and negative spillovers and examine how they are related to employees' work and family experiences over time.

In conclusion, as life goes on, people's experience navigating the work-family interface also changes. Our study underscores the importance of taking a dynamic view on within-person changes in WFC over time. We hope that future inquiries will provide more insight regarding how WFC change impacts both work and family domains.

CRedit authorship contribution statement

Andrew Li: Conceptualization, methodology, writing, analyses.

Jonathan Shaffer: Conceptualization, writing.

Zhonghao Wang: Methodology, analyses, editing.

Jason Huang: Methodology, analyses, editing.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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