Interruptions in Remote Work: a Resource-based Model of Work and Family Stress

Sara Jansen Perry1 · Dawn S. Carlson1 · K. Michele Kacmar2 · Min (Maggie) Wan3 · Merideth J. Thompson4

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Abstract

We use the conservation of resources (COR) theory to propose a work-family model of stress in remote work. We propose that interruptions from family are a unique hindrance stressor, detrimental for the employee’s challenge and hindrance stress responses in remote work, which, in turn, have distinct effects on resource-oriented attitudes and states of both the employee and spouse. Namely, we expect that both partners’ satisfaction with the work arrangement, employee engagement, and spouse family overload will be associated with the way the employee experiences stress in remote work (stress response). We also integrate the effort-recovery model to examine whether two types of breaks taken by employees while working remotely replenish resources lost through interruptions. Using a sample of 391 couples, we find support for all hypotheses that pertain to the employee. Findings involving the spouse support the primacy of the resource loss tenet in COR theory, in that these detrimental effects are significant in crossing over to the spouse via hindrance but are not significant via challenge stress. We discuss the implications of these findings, emphasizing that interruptions are harmful for both types of stress experienced by remote employees (i.e., lower “good” and higher “bad” stress responses), and interruptions appear to have far-reaching effects on both partners. However, choosing to use breaks for both nonwork goals and self-care can buffer these otherwise detrimental effects.

Keywords Stress · Remote work · Interruptions · Work breaks · Work-family · Engagement · Overload

Although many workers express interest in working remotely and this form of work has many benefits, including increased well-being, satisfaction, and job performance, it is not without challenges. For instance, it can lead to more work-family conflict, an inability to disengage from work, isolation, and inaccessibility of coworkers or leaders (e.g., Eddleston & Mulki, 2017; Felstead & Henseke, 2017; Field & Chan, 2018; Gajendran & Harrison, 2007; Golden, 2012; Golden & Fromen, 2011; Golden & Gajendran, 2019; Lapierre et al., 2016; Vega et al., 2015). Remote work involves a change in the work context (i.e., location) during typical work hours, and for many, this change involves a home office (Allen et al., 2015; Golden & Gajendran, 2019). When members of the same household occupy the home space, working from home may result in overlap between the work and family domains, involving tremendous taxing of resources (Dunn, 2020; Radulović et al., 2021; Trougakos et al., 2020).

To better understand the dynamics surrounding stress for employees and their families in remote work, we apply the conservation of resources (COR) theory (Hobfoll, 2001) to propose a resource-based model of work and family stress, as presented in Fig. 1. As shown in our model, we suggest interruptions from family during work hours (resource
depletion; Du et al., 2018) associate distinctly with two forms of remote employee stress responses (challenge and hindrance; LePine et al., 2016) and have subsequent effects on employee and spouse satisfaction with the overall work arrangement (which we describe as resource allocation attitudes), as well as their respective resource availability states (employee work engagement and spouse family overload). Furthermore, we apply the effort-recovery model (Meijman & Mulder, 1998) to examine the potential buffering effect of resource replenishment in the form of two types of work breaks (activities involving nonwork goals and self-care). In testing our model, we explicate the resource dynamics for employees and their partners when work and family intersect via remote work, ultimately aiming to understand how states of resource availability may be optimized among remote workers and their spouses.

With this effort, we contribute to the literature on stress in remote work, work-family dynamics, and breaks. First, we contribute to the remote work and work-family bodies of literature by exploring how stress in a remote work context affects the employee and spouse, applying COR theory (Hobfoll, 2001) and crossover theory (Westman, 2001). Following the guidance of Charalampous et al. (2019), we use a broader lens to examine the well-being of remote workers, also exploring the well-being of spouses. Furthermore, we explore less-understood aspects of well-being when engaging in this form of work by including a highly salient but perhaps underestimated stressor for remote employees, interruptions from family. This hindrance stressor requires intensive cognitive switching throughout the workday and is particularly salient when work and family exist in the same physical space, as in remote work. We test the association of interruptions with two distinct stress responses (challenge and hindrance stress), further answering calls to shed light on the effects of interruptions from family as a specific stressor, as well as how these two stress responses act as mediators to important attitudes and states (Carlson et al., 2018; Du et al., 2018; Puranik et al., 2020). This builds on past research that primarily focuses on interruptions as a hindrance stressor (Ma et al., 2020) to also explore possible linkages with the more positive response, challenge stress, providing insight on the ways remote work may be successful, based at least in part on how employees view it (Perry et al., 2018). By including spouse outcomes, we extend our understanding of how interruptions also affect the spouse, based on the employee’s view of their remote work stress (Bakker & Demerouti, 2013). This builds on recent research that demonstrates the impact of employee stress on domestic partners (Carlson et al., 2018, 2019) and lends insight into how remote employee stress affects others at home.

Second, we add insight into the burgeoning break and recovery literature (Bennett et al., 2020; Chawla et al., 2020) by focusing on breaks in the context of remote work, which are topics that have been studied primarily independently, despite the recognition that recovery time in remote work is important and can be uniquely implemented (Abdel Hadi et al., 2021; Charalampous et al., 2019; Craig et al., 2021; Radulović et al., 2021). Drawing on the effort-recovery model (Meijman & Mulder, 1998) in conjunction with COR, we theorize about the role of breaks in reducing resource depletion in remote work, thus impacting subsequent stress responses to interruptions. We further theorize about the unique ways remote employees may use their breaks to replenish their resources, examining two broad categories

Fig. 1 Theoretical model of the resource-based view of breaks and remote work. Note. Italicized variable names are measured from the spouse’s perspective. Interruptions, challenge stress, hindrance stress, breaks, and employee satisfaction were measured at time 1. Employee engagement, spouse satisfaction, and spouse family overload were measured at time 2.
of break activities: (1) pursuing nonwork goals and (2) self-care. Even when individuals expend resources in these break activities, COR and the effort-reward model suggest they may still buffer the resource-depleting qualities of interruptions by replenishing resources in other domains. This effort to integrate the two bodies of literature provides much-needed insight into the ways remote work can be effectively implemented through the appropriate use of breaks, including what types of training and structure can be provided to help employees thrive in this work arrangement, optimizing the benefits of remote work for all.

**Theory and Hypotheses**

**Resources and Stress in Remote Work**

Resources are valued, finite tools (e.g., energy, time, job factors, social context) that help individuals manage challenges, maintain well-being, and attain goals (Gorgievski et al., 2011; Hobfoll, 1989). COR theory suggests that when resources are plentiful, individuals are in the best position to address stressors and maintain their well-being, whereas when they are depleted, individuals are motivated to protect remaining reserves by withdrawing from threats of a further drain. When faced with a potential threat (i.e., stressor), individuals respond (i.e., stress response). As part of this response, they evaluate whether it is something from which they can learn and acquire additional resources (i.e., challenge or “good” stress; LePine et al., 2005) or something that only threatens or consumes resources, thus inspiring a resource conservation response (i.e., hindrance or “bad” stress; Cavanaugh et al., 2000; Dawson et al., 2016; Folkman et al., 1986; Mitchell et al., 2015; Stiglbauer, 2018). Using this foundation, we study these two stress responses as they are specifically tied to remote work—remote work challenge stress and remote work hindrance stress.

Remote work challenge stress is an individual’s perception that the difficulties faced in remote work provide them with opportunities to learn, grow, and achieve goals, in line with the resource acquisition tenet of COR theory (Dawson et al., 2016; Hobfoll, 1998). For example, remote workers may use their autonomy to make their own decisions about how to use their time, and this may feel beneficial to them even if it means they do not always have input from their supervisor for decisions (Charalampous et al., 2019). In contrast, in line with the resource conservation tenet of COR theory (Dawson et al., 2016; Hobfoll, 1989), remote work hindrance stress reflects views that remote work presents hassles, barriers, or threats, which inhibit learning, growth, and/or goal achievement (Cavanaugh et al., 2000). Examples of hindrance stress responses in remote work include frustration with inaccessible coworkers or annoyance with micromanagement from distrustful supervisors (Charalampous et al., 2019).

Meta-analytic evidence supports the contrast between these two stress responses; challenge stress responses involve more motivation and energy, whereas hindrance stress responses include withdrawing to protect remaining resources, often feeling depleted and demotivated (Cavanaugh et al., 2000; Edwards et al., 2014; LePine et al., 2016). By examining these forms of stress responses experienced in remote work, we shed light on the effects of the remote workers’ views of their work arrangement, positioning this as one potential explanation for why some people do better in remote work than others (Perry et al., 2018).

Two significant concerns regarding remote work are the increased risk of interruptions from others in the household during the workday and the risk of over-integrating work and family so that work becomes a non-stop endeavor for the remote employee (Adkins & Premeaux, 2014; Charalampous et al., 2019; Gajendran & Harrison, 2007; Lapierre et al., 2016). Our work addresses both concerns by exploring interruptions in conjunction with breaks. We focus first on one specific hindrance stressor often experienced in remote work—interruptions from family during work hours—as an antecedent of both types of stress responses.

Interruptions are unexpected disruptions in behavioral patterns or attentional focus, typically considered a hindrance stressor (Keller et al., 2020; Ma et al., 2020; Pachler et al., 2018; Puranik et al., 2020). Disruptions force cognitive switching, which consumes cognitive and time resources, inhibiting performance on the interrupting task, as well as preventing a sufficient return to the interrupted task (Leroy & Schmidt, 2016). These processes are aligned with the characteristics of hindrance stressors rather than challenge stressors because they do not clearly promote growth and learning, but rather act as impediments to completing one’s work.

Remote work is one solution to minimize interruptions experienced at the office ( Fonner & Roloff, 2010; Ma et al., 2020), but more interruptions from family are likely in this work arrangement, particularly if family members are also home during the workday (Adkins & Premeaux, 2014; Fonner & Roloff, 2012; Radulović et al., 2021). The extensive work-family literature suggests that, as individuals make transitions between work and family roles throughout the workday, these interruptions, or boundary violations, consume resources by diverting attention from required work tasks and enhancing time pressure, frustration, and demands ( Delaeteje et al., 2019; Hunter et al., 2019; Ma et al., 2020; Vaziri et al., 2020).

Although interruptions from family may also have benefits by forcing employees to take a break from work (e.g., Hunter et al., 2019; Pendem et al., 2016; Vaziri et al., 2020), we build upon research that views interruptions as a hindrance stressor...
to predict that interruptions from family during work hours will generally be detrimental due to the resources consumed (Ma et al., 2020). Interruptions consume resources by forcing task switching, an effortful cognitive process that consumes resources in the moment as well as after resuming the interrupted task (Altmann & Trafton, 2007; Leroy & Schmidt, 2016). Thus, individuals are likely to perceive interruptions as an obstacle, preventing them from reaching basic goals or partaking in anything beyond the fundamental job requirements. In particular, interruptions from family are a unique type of hindrance stressor, occurring uniquely in remote work compared to other work locations (Leroy et al., 2021). That is, due to their close and salient proximity, the family may have more opportunities to interrupt remote work (Eddleston & Mulki, 2017), through their direct demands on the remote worker’s time, requests involving remote workers’ attention in the home, or simply by their presence in the home. Since interruptions from family are obstacles that impede remote employees’ task accomplishment and goal progress, we argue that these interruptions play the role of hindrance stressor in the remote work context. We expect remote workers to take a resource conservation stance (hindrance stress response) to minimize further loss from this resource depletion stressor as they switch between work and family roles, consuming resources in both domains (Dawson et al., 2016; Hobfoll, 1998; Zohar, 1999).

Furthermore, we expect the resource consumption by interruptions acts against any challenge stress response an individual may otherwise experience in remote work. That is, instead of viewing tasks as challenging and developmental, or devoting energy and attention toward accomplishing basic or stretch work goals, individuals may have to focus on managing the task switching demanded by the interruption (Leroy & Schmidt, 2016). Upon returning to work, it takes more time and energy to resume focus, further preventing the employee from engaging in other enriching or replenishing activities (Altmann & Trafton, 2007). Thus, we propose that remote employees who face resource-consuming interruptions from family are less likely to view their work arrangement as one in which they are growing and learning (challenge stress response) and are more likely to have a hindrance stress response.

Hypothesis 1. Interruptions from family during work hours have (a) a negative relationship with remote work challenge stress response and (b) a positive relationship with remote work hindrance stress response.

Positive and Negative Stress Responses in Remote Work

In turn, we expect that challenge and hindrance stress responses, as resource acquisition and conservation processes, respectively, translate the effects of interruptions to other resource-oriented factors for both the remote worker and their spouse (Keller et al., 2020; LePine et al., 2005; Ma et al., 2020; Pachler et al., 2018; Pindek & Spector, 2016). We propose a mediation model with four total paths – two for each partner (challenge and hindrance affecting remote worker outcomes, as well as challenge and hindrance affecting spouse outcomes). We expect a challenge stress response has a favorable impact and a hindrance stress response has a detrimental impact on subsequent outcomes for each partner (Tadić et al., 2015).

Satisfaction with Work Arrangement

First, we expect each partner’s satisfaction with the remote employee’s overall work arrangement will be impacted. This form of satisfaction is an attitude reflecting an evaluation of the work context (Locke, 1969), which includes assessments of resource allocation in work overall, including remote and non-remote work. When one deems the resource supply or potential for resource acquisition as favorable in remote work (higher challenge stress, lower hindrance stress), more pleasurable affective feelings of satisfaction with the overall work arrangement should be present for both parties. We describe the impacts of these on each partner in turn below.

Satisfaction of the Remote Worker

If the remote worker views their remote work as containing stimulating challenge stress from which to grow, they likely feel they have plentiful resources and opportunities to gain further resources as well, meaning they may view their overall work arrangement as more satisfying, even if they must work hard and address challenging problems (Cavanaugh et al., 2000; Dawson et al., 2016; Fredrickson, 2001). This aligns with work on intrinsic motivation, which emphasizes the inherent satisfaction that comes from mastering challenges and developmental opportunities (LePine et al., 2005). If challenge stress is viewed to be lower, remote employees do not perceive as many opportunities for personal development or growth, perhaps feeling invisible or left out of opportunities while in remote work (Charalampous et al., 2019), diminishing their satisfaction with their overall work arrangement.

In contrast, when the employee views their remote work as containing low levels of hindrance stress, they likely feel well-positioned in their work arrangement and do not feel their resources have been overly taxed or threatened, leading to higher satisfaction in that work arrangement. If hindrance stress is higher, they likely spend their time in remote work dealing with obstacles to task completion. Some hindrance stress responses particular to remote work include difficulty accessing information or approval from afar, isolation from
crossover process within the couple (Carlson et al., 2019; Demerouti et al., 2005).

Although perceptions of stress are internal states within the employee, we focus on these factors as stress responses, suggesting that many (though not all) manifestations of both challenge and hindrance stress responses will be visible to the spouse observing their remote working partner (Chen & Ellis, 2021). Thus, these responses will impact the spouse through both direct and indirect crossover, consistent with the resource acquisition and conservation processes experienced by the employee (Li et al., 2021; Westman, 2001). That is, a spouse who is in close proximity to the remote worker has more opportunities to interrupt that remote worker (Eddleston & Mulki, 2017), as well as to observe the various stressors prevalent in remote work. Even if they do not directly observe a stress response internally initiated by the remote worker, the spouse is likely to hear about it (directly from the remote worker or via overheard conversations) or feel the effects of it (via negative or positive emotions associated with the remote worker’s affective well-being; Charalampous et al., 2019).

In contrast, if spouses see their remote working partners initiating a challenge stress response by directly witnessing their work activities, through their overall demeanor, or by hearing their comments about work, they are likely to benefit as well from those positive experiences (Fredrickson, 2001; Westman, 2001). They may appreciate having access to their partner’s positive experiences through the remote work that the partner conducts (i.e., greater satisfaction). But when a spouse witnesses a hindrance stress response in their partner’s remote work, seeing them deal with frustrations experienced in work tasks or by noticing the absence of positive behaviors and emotions that would otherwise characterize their own interactions with their partner, this likely further consumes resources of a spouse, resulting in lower satisfaction (Bolger et al., 1989; Carlson et al., 2018; Chen & Ellis, 2021; Podsakoff et al., 2007).

### Resource Availability States

We also expect that each partner’s satisfaction will, in turn, impact each partner’s resource availability. Given our focus on resources throughout the model, we are ultimately interested in two states reflecting resource availability in the work and home domains – the remote worker’s work engagement and the spouse’s family overload.

### Remote Worker Engagement

For the employee, satisfaction with the work arrangement reflects a situation in which they have the resources required to do their work, allowing them to accomplish work goals and invest consistently in their work role, as
reflected in work engagement (i.e., a socioemotional, motivational state of resource availability for work-related endeavors; Christian et al., 2011; Kahn, 1990; Tadić et al., 2015). As interruptions from a family increase, we expect a detrimental impact on engagement via stress response and satisfaction. A greater challenge stress response is likely associated with higher engagement via higher satisfaction, whereas a greater hindrance stress response is likely associated with lower engagement via lower satisfaction (LePine et al., 2005).

**Spouse Family Overload**

For the spouse, we examine family overload, which is the extent to which a spouse feels that the demands of their family outweigh the resources available to address them (Halinski et al., 2020). This is an appropriate focus as we examine interruptions coming from the family, impacting the stress response of the remote employee, in turn impacting the spouse. Regardless of whether the spouse works outside the home, it is insightful to understand how the work-related stress processes of remote employees impact others in the household, particularly the spouse. Research on any type of role overload suggests it has serious health, work, and interpersonal implications (Halinski et al., 2020; Park & Jang, 2017). Scholars suggest that spouses who believe the remote worker contributes more equally to the household are more satisfied (Giovanis, 2018). When a spouse is less satisfied with their partner’s work arrangement, however, we expect a corresponding increase in the family overload of the spouse (Bakker et al., 2008; Chen & Ellis, 2021; Li et al., 2021). We suggest the spouse may feel less satisfied with the work arrangement when they experience resource depletion in a detrimental working environment, such as when the remote worker experiences fewer challenges and more hindrance stress responses in the face of interruptions (Bosch & Sonnentag, 2019). This resource depletion for the spouse is likely to translate to feelings of inadequacy or being overwhelmed in meeting family demands. Put another way, we expect higher levels of resource depletion in the form of family overload as the spouse bears the burden of a dissatisfying work arrangement in the family domain (i.e., their partner working at home in a less-than-desirable work arrangement; Chen & Ellis, 2021). In summary, we hypothesize the following mediation relationships, which represent four total paths: two through challenge stress response (for the employee and spouse, respectively) and two through hindrance stress response (for the employee and spouse, respectively). See Fig. 1 for an illustration of these paths.

**Hypotheses 2a and 3a.** The relationship is negative between interruptions from family during work hours and employee work engagement through the serial mediators of (2a) challenge stress response and employee satisfaction with the work arrangement, respectively, and (3a) hindrance stress response and employee satisfaction with the work arrangement, respectively.

**Hypotheses 2b and 3b.** The relationship is positive between interruptions from family during work hours and spouse family overload through the serial mediators of (2b) challenge stress response and spouse satisfaction with the work arrangement, respectively, and (3b) hindrance stress response and spouse satisfaction with the work arrangement, respectively.

**Resource Replenishment Breaks**

Some research suggests that interruptions could also have benefits in some contexts (e.g., Hunter et al., 2019; Pendem et al., 2016; Vaziri et al., 2020), leading us to suggest that decisions about how to use one’s nonwork time during the workday (i.e., breaks) may buffer any detrimental impact of this stressor, perhaps even allowing the benefits of interruptions to emerge. According to the effort-recovery model (Meijman & Mulder, 1998), breaks can vary in duration and content as they restore resources throughout the workday. This is accomplished as employees pause resource investment in work, thus pausing the accumulation of strain, allowing time for work-related resources to replenish. Depending on the activity, breaks can even add to that resource reserve during that time (Meijman & Mulder, 1998). Remote work offers even more choices in how to take breaks that are beneficial to the employee and their household than office work, but it is likely that some people may take better advantage of these opportunities than others (Anicich et al., 2020; Gajendran & Harrison, 2007; Kaufman-Scarborough, 2006; Kossek et al., 2006). Charalampous et al. (2019) noted in their review that remote workers who took time to disconnect from their work achieved greater well-being. We apply the effort-recovery model in conjunction with COR theory to describe two broad categories of breaks that might be used for resource replenishment – nonwork goals and self-care. Research on breaks touts the importance of autonomy in deciding when and how to detach from work to maximize resource replenishment, and these two categories represent the full spectrum of ways that a remote worker can choose what to do during nonwork time (Bosch & Sonnentag, 2019; Gilbert et al., 2017; Kim et al., 2017, 2018).

First, achieving nonwork goals during one’s breaks can include pursuing any goal not related to work, such as household chores, making plans with friends, or caring for children (Kim et al., 2018, 2019). Research suggests that pausing one’s work activities to accomplish a goal in another domain can build a positive effect on subsequent resource replenishment, even if it means continuing to expend resources in that domain (Fredrickson, 2001; Gilbert...
ers most clearly see the opportunities that remote work gives
needed in those domains. We expect that such remote work-
domain goals and procuring a sufficient store of resources
thus are likely to feel accomplished in achieving cross-
work arrangement for the benefit of themselves and others
flexibility to maximize their time and the use of their remote
breaks for both nonwork goals and self-care deploy their
workday. In other words, individuals who report using their
when interruptions are experienced from family during the
breaks complement each other so that both accomplishment
and respite can be experienced through the day or week,
resulting in more favorable levels of remote work challenge and hindrance stress responses.

Together, pursuing nonwork goals and self-care repre-
sents the broadest spectrum of potential activities that could be undertaken during breaktime throughout the workday, with most (if not all) other possibilities of break activities falling under one of these two categories (Gilbert et al., 2017; Kim et al., 2018). Thus, we are most interested in the joint effects of both types of breaks (three-way interaction with interruptions), rather than analyzing their independent effects or analyzing the specific frequency of each type. We expect that individuals who use both types of breaks more often throughout the workday likely use their time in the full range of potential productive and healthy behaviors, addressing the full spectrum of resource replenishment and goal achievement across life domains. That is, self-care activities and time spent on nonwork goals during breaks complement each other so that both accomplishment and respite can be experienced through the day or week, leading to more positive views of remote work stress, even when interruptions are experienced from family during the workday. In other words, individuals who report using their breaks for both nonwork goals and self-care deploy their flexibility to maximize their time and the use of their remote work arrangement for the benefit of themselves and others and thus are likely to feel accomplished in achieving cross-domain goals and procuring a sufficient store of resources needed in those domains. We expect that such remote workers most clearly see the opportunities that remote work gives them compared to those who do not engage in such break activities. This includes realizing how remote work helps them thrive, rather than hindering them, even if they face interruptions during the workday. These activities may also result in confidence that they are able to acquire resources even in the face of remote work challenges.

If remote employees do not use their breaks for either purpose, however, they fail to replenish resources consumed by interruptions throughout the day, leading to continued accumulated strain and resource consumption (Meijman & Mulder, 1998), and likely undesirable consequences for challenge and hindrance stress responses in remote work. These individuals are less likely to see the opportunities in remote work since their behavior suggests they do not use their remote work flexibility to its maximum potential in terms of work breaks. Results are likely mixed when breaks are used for one of these purposes but not both; we are less interested in these nuances in this first attempt to explore the joint effects of these types of breaks in remote work.

In sum, we propose a three-way interaction with interruptions and both types of breaks. Although we test differences for all combinations (high and low levels of both types of breaks), we expect that remote workers who use breaks for both purposes will view their remote work stress more positively (in terms of challenge and hindrance stress responses) in the face of interruptions than those who use breaks for neither purpose.

Hypothesis 4. Breaks will moderate the interruptions-stress relationships, such that remote workers who use breaks for both nonwork goals and self-care will view their remote work stress more positively (higher challenge, lower hindrance) in the face of interruptions from family during work hours, but remote workers who use breaks for neither of these purposes will view it more negatively.

Method

Participants and Procedure

We collected three complete online survey responses from 391 couples (two from employees, one from spouses) in the early part of the COVID-19 pandemic response in the USA (during spring of 2020). We offered a gift card to each couple who returned all three completed surveys, which resulted in a 71% retention rate from 548 completed employee surveys at time 1 to the final sample of 391 couples with three complete surveys. We invited participants through social media, posting in relevant online communities and asking personal contacts to share our study with their networks. To increase exposure, anyone who referred couples who fully completed
the study also earned entries in a referral raffle; we awarded 10 gift cards to randomly selected winners of this raffle.

To participate in the study, the employee was required to work remotely for at least 10% of their work time, but the average remote work time was much higher ($M = 79\%$ of each week). Employees were 42% male with an average age of 35.68 years. They worked for their current organization for an average of 4.73 years and had, on average, 1.18 children. Spouses were 57% male with an average age of 36.24 years. They worked for their current organization for an average of 4.91 years. The relationship length average was 10.66 years. The study was approved by the institutional review board at the lead author’s institution. See the Appendix for the data transparency table specifying the non-overlapping use of variables from this dataset for other manuscripts.

**Measures**

In all surveys, we asked the participants and their spouses to think about the time during the last few weeks as they responded to the questions. In the first survey (time 1), we surveyed the employee; a month later (time 2), both employees and spouses responded to a survey. Unless otherwise noted, we used 5-point agreement response scales (5 = “strongly agree”).

**Interruptions from Family During Work Hours**

Employees used a 3-item measure at time 1 to report interruptions from family during work time (e.g., “Family life has interrupted my work more than I desire;” $\alpha = 0.83$; Hunter et al., 2019).

**Challenge and Hindrance Stress Response in Remote Work**

Employees responded to two 3-item measures of challenge and hindrance stress response at time 1, asking them to consider their view of stress in their current remote work arrangement (e.g., “Working remotely helps to improve my personal growth and well-being” and “Working remotely thwarts my personal growth and well-being;” $\alpha = 0.93$ and 0.92, respectively; LePine et al., 2016).

**Use of Breaks**

We used four total items based on the break literature (Trougakos & Hideg, 2009) to assess the extent to which employees used their breaks while working remotely to achieve nonwork goals (2 items; $\alpha = 0.93$) and self-care (2 items; $\alpha = 0.95$; both at time 1). An example item for nonwork goals is “During the past few weeks, I was able to effectively use my breaks while working remotely to achieve

**Satisfaction with Work Arrangement**

Employees and spouses used the same 5-item scale to assess satisfaction with the overall work arrangement. Both were asked to consider their satisfaction with the remote worker’s overall current work arrangement, including time spent working remotely and non-remotely (e.g., “In most ways my [my spouse’s] work arrangement is close to my ideal;” employee (time 1): $\alpha = 0.93$; spouse (time 2): $\alpha = 0.92$; Diener et al., 1985; Grawitch et al., 2013).

**Family Overload**

Spouses reported their current level of family overload at time 2 using a 3-item scale (e.g., “I feel overloaded in managing the demands of my family;” $\alpha = 0.85$; Boyar et al., 2007; Maslach et al., 1986).

**Work Engagement**

Employees reported their current level of work engagement at time 2 using a 3-item scale and frequency response options (e.g., “At work I am bursting with energy;” $\alpha = 0.82$; 1 = “never” to 5 = “always;” Schaufeli et al., 2019).

**Controls**

We controlled for the level of anxiety felt by both participants during the previous four weeks at time 2 (2 items; $\alpha = 0.86$ for both employee and spouse; Rodell & Judge, 2009) because we expected people who were more emotionally impacted by the events of the world on their lives during that time might exhibit different stress and resource-related dynamics (e.g., “In the past month, how often have you felt anxious?”). We controlled for the employee’s extent of remote work (remote work hours as a proportion of total hours worked) as well as their years of experience working remotely since these are also likely to impact the variables in our remote work model. We controlled for the employee’s work segmentation preference (4 items; $\alpha = 0.91$; Kreiner, 2006) measured at time 2 because those who have less preference for separating work and family (segmentation) may be less impacted by interruptions while working. We controlled for the age and gender of both participants, as well as the employment status of the spouse, since these may impact the experiences, level of demands on their time outside the household, and respective levels of responsibility in the household (Eagly & Wood, 2012). Finally, we controlled for
the family size, as we expected that the number of individuals (e.g., children, grandparents, friends, relatives) living in the home may reflect more opportunities for demands on remote workers and their spouses. We ran the model with and without the control variables, and the results were the same, so the final reported model does not include the non-significant control variables (Bernerth & Aguinis, 2016).

Analyses

We employed structural equation modeling (SEM) using MPLUS 7.4 to test a measurement model to confirm that our variables were distinct given a possible concern of common method bias. Once the measurement model was established, we tested the fully mediated portion of the model (Fig. 1). We then added the moderators to test the interaction hypothesis. We used a bias-corrected bootstrapping approach (Shrout & Bolger, 2002) to test the hypotheses with indirect effects.

Results

Table 1 presents descriptive statistics and inter-correlations of the study variables.

Initial Analyses

Prior to testing our hypotheses, we explored the discriminant validity of our scales.

The fit statistics for a 9-factor measurement model (one factor per variable) can be found in Table 2. This model fit the data well, but prior to accepting this model as best fitting, we estimated several alternative models for comparison. Due to the strong correlation between variables, we estimated two 8-factor models. In one 8-factor model, we combined the two forms of breaks into one factor, and in the other, we combined challenge and hindrance stress into one factor. We then estimated a 6-factor model in which breaks and stress were combined into one factor. Next, we estimated a 2-factor model in which the data from each respondent (employee versus spouse) served as a separate factor. Finally, we estimated a 1-factor model. In each case, the 9-factor measurement model produced the best fit.

Next, we added paths to the 9-factor measurement model to test the mediated portion of our hypothesized model. We also included paths for our 13 control variables to the appropriate dependent variable (eight for employee engagement and five for spouse family overload, with two used for both paths, spouse employment status and family size, for a total of 11 unique control variables, as listed in Table 1). The data fit the model ($\chi^2 = 1033.31$ (df = 528, $p = 0.00$), CFI = 0.93, TLI = 0.92, RMSEA = 0.05), but not all control variables were significant. Specifically, for the employee, age, gender, family size, and remote work experience were not significant, and for the spouse, age, gender, and employment status were not significant. Thus, we removed these seven variables (Bernerth & Aguinis, 2016) and reran the model with the remaining six controls. The data also fit this revised model ($\chi^2 = 839.07$ (df = 410, $p = 0.00$), CFI = 0.94, TLI = 0.93, RMSEA = 0.05), and all remaining control variables were significant.

Although the model in Fig. 1 depicts full mediation, we also tested a partial mediation model as an alternative representation. This model produced identical fit statistics ($\chi^2 = 830.63$ (df = 408, $p = 0.00$), CFI = 0.94, TLI = 0.93, RMSEA = 0.05), but the chi-square difference test was significant ($\chi^2_{\text{diff}} = 8.44$ (df = 2, $p < 0.05$) and one of the added paths (interruptions – spouse family overload) was significant. Thus, we selected the partially mediated model as the best fitting and used the results from that model, shown in Fig. 2, to test our indirect effects hypotheses.

For parsimony’s sake, the control variables are not shown in Fig. 2. Anxiety ($-0.21$, $p = 0.000$), work segmentation preference ($-0.17$, $p = 0.002$), spouse employment status ($0.14$, $p = 0.002$), and extent of remote work ($-0.12$, $p = 0.028$) were significantly related to employee engagement. These results suggest that work engagement is higher for remote workers who are less anxious, who do not prefer to segment their work and nonwork lives, whose spouse is employed, and who work remotely less often. Anxiety ($0.28$, $p = 0.000$) and family size ($0.34$, $p = 0.000$) were significantly related to spouse family overload, suggesting that spouses who have lower anxiety and smaller families experience less family overload.

Hypothesis Tests

Figure 2 presents the results of the hypothesis tests. Hypothesis 1 was fully supported, with analyses revealing a negative interruptions-challenge stress response path and a positive interruptions-hindrance stress response path. Hypotheses 2a and 3a predicted a negative relationship between interruptions during work hours and employee work engagement through the serial mediators of challenge and hindrance stress responses, respectively, and employee satisfaction with work arrangements. Both hypotheses were supported as the 95% bias-corrected confidence intervals for the indirect effects did not contain zero (H2a: $B = -0.026$ (SE = 0.011), 95%CI $[-0.047, -0.005]$; H3a: $-0.033$ (0.011), $[-0.055, -0.011]$). Hypotheses 2b and 3b predicted a positive relationship between interruptions from family during work hours and spouse family overload through the serial mediators of challenge and hindrance stress responses, respectively, and spouse satisfaction with overall work arrangements. Hypothesis 2b was not supported; the link between challenge stress...
### Table 1  Correlations, means, and standard deviations

| Variable                                      | 1        | 2        | 3        | 4        | 5        | 6        | 7        | 8        | 9        | 10       |
|-----------------------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| **Time 1 employee measures**                  |          |          |          |          |          |          |          |          |          |          |
| 1. Interruptions from family during work hours| -0.09    |          |          |          |          |          |          |          |          |          |
| 2. Use of breaks for nonwork goals            | -0.28*** | 0.62***  |          |          |          |          |          |          |          |          |
| 3. Use of breaks for self-care                | -0.24*** | 0.20***  | 0.33***  |          |          |          |          |          |          |          |
| 4. Remote work challenge stress               |          |          |          | -0.29*** | -0.63*** |          |          |          |          |          |
| 5. Remote work hindrance stress               | 0.32***  | -0.20*** | -0.29*** | -0.63*** |          |          |          |          |          |          |
| 6. Satisfaction with overall work arrangement | -0.24*** | 0.30***  | 0.22***  | 0.44***  | -0.46*** |          |          |          |          |          |
| **Time 2 spouse measures**                    |          |          |          |          |          |          |          |          |          |          |
| 7. Satisfaction with employee's overall work arrangement | -0.18*** | 0.13***  | 0.20***  | 0.17***  | -0.23*** | 0.35***  |          |          |          |          |
| 8. Family overload                            |          |          |          |          |          |          |          |          |          |          |
| 9. Work engagement                           | -0.08    | 0.03     | 0.06     | 0.23***  | -0.16**  | 0.33***  | 0.14**   | -0.01    |          |          |
| **Control variables**                         |          |          |          |          |          |          |          |          |          |          |
| 10. Employee general anxiety                  | 0.25***  | -0.03    | -0.05    | -0.06    | 0.14***  | -0.15**  | -0.21*** | 0.14**   | -0.10    |          |
| 11. Employee age                              | -0.03    | -0.06    | -0.11*   | -0.00    | -0.08    | 0.09     | -0.02    | -0.00    | 0.08     | -0.14**  |
| 12. Employee gender                           | 0.02     | 0.00     | -0.03    | -0.04    | 0.10*    | -0.02    | 0.00     | -0.13*   | -0.03    | 0.18***  |
| 13. Work segmentation preferences            | -0.07    | -0.06    | 0.03     | -0.04    | -0.01    | -0.07    | 0.02     | -0.04    | -0.18*** | 0.07     |
| 14. Employee remote work experience           | 0.00     | -0.07    | -0.04    | 0.09     | -0.06    | 0.13*    | 0.02     | 0.09     | 0.09     | 0.03     |
| 15. Employee extent of remote work            | 0.03     | -0.08    | -0.02    | -0.08    | 0.11*    | -0.02    | 0.06     | 0.03     | -0.09    | -0.04    |
| 16. Spouse employment status                  | 0.03     | -0.12*   | -0.07    | -0.04    | 0.00     | 0.05     | 0.03     | 0.03     | 0.12*    | -0.11*   |
| 17. Family size                               | 0.24***  | 0.06     | -0.13*   | -0.01    | 0.05     | 0.01     | -0.05    | 0.33***  | 0.08     | 0.07     |
| 18. Spouse general anxiety                    | 0.05     | -0.08    | -0.02    | 0.00     | 0.05     | -0.10    | -0.17**  | 0.28***  | -0.15**  | 0.10*    |
| 19. Spouse age                                | -0.04    | -0.03    | -0.02    | -0.05    | 0.09     | -0.02    | -0.03    | 0.10*    | -0.11*   |          |
| 20. Spouse gender                             | -0.05    | -0.01    | 0.03     | 0.06     | -0.12*   | 0.02     | 0.01     | 0.13**   | 0.03     | -0.17**  |
| **Mean**                                      | 2.41     | 3.67     | 3.57     | 3.55     | 2.31     | 3.68     | 3.76     | 2.23     | 3.23     | 2.68     |
| **Standard deviation**                        | 1.14     | 1.23     | 1.31     | 0.98     | 1.14     | 1.02     | 1.00     | 1.12     | 0.85     | 1.05     |
Table 1 (continued)

| Variable | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Time 1 employee measures |     |     |     |     |     |     |     |     |     |     |
| 1. Interruptions from family during work hours |     |     |     |     |     |     |     |     |     |     |
| 2. Use of breaks for nonwork goals |     |     |     |     |     |     |     |     |     |     |
| 3. Use of breaks for self-care |     |     |     |     |     |     |     |     |     |     |
| 4. Remote work challenge stress |     |     |     |     |     |     |     |     |     |     |
| 5. Remote work hindrance stress |     |     |     |     |     |     |     |     |     |     |
| 6. Satisfaction with overall work arrangement |     |     |     |     |     |     |     |     |     |     |
| Time 2 spouse measures |     |     |     |     |     |     |     |     |     |     |
| 7. Satisfaction with employee’s overall work arrangement |     |     |     |     |     |     |     |     |     |     |
| 8. Family overload |     |     |     |     |     |     |     |     |     |     |
| Time 2 employee measure |     |     |     |     |     |     |     |     |     |     |
| 9. Work engagement |     |     |     |     |     |     |     |     |     |     |
| Control variables |     |     |     |     |     |     |     |     |     |     |
| 10. Employee general anxiety |     |     |     |     |     |     |     |     |     |     |
| 11. Employee age |     |     |     |     |     |     |     |     |     |     |
| 12. Employee gender | −0.00 |     |     |     |     |     |     |     |     |     |
| 13. Work segmentation preferences | −0.10* | 0.03 |     |     |     |     |     |     |     |     |
| 14. Employee remote work experience | 0.31*** | −0.01 | −0.08 |     |     |     |     |     |     |     |
| 15. Employee extent of remote work | 0.06 | 0.05 | 0.09 | −0.10 |     |     |     |     |     |     |
| 16. Spouse employment status | 0.02 | −0.18*** | 0.04 | −0.04 | 0.05 |     |     |     |     |     |
| 17. Family size | 0.11* | −0.02 | −0.09 | 0.04 | −0.07 | 0.01 |     |     |     |     |
| 18. Spouse general anxiety | −0.11* | −0.17** | 0.06 | −0.01 | 0.05 | 0.08 | −0.04 |     |     |     |
| 19. Spouse age | 0.91*** | 0.14** | −0.10* | 0.30*** | 0.08 | 0.01 | 0.09 | −0.17** |     |     |
| 20. Spouse gender | −0.00 | −0.93*** | −0.03 | 0.01 | −0.06 | 0.18*** | 0.02 | 0.18*** | −0.16** |     |
| Mean | 35.68 | 1.58 | 4.05 | 2.43 | 0.89 | 2.46 | 3.13 | 2.40 | 36.24 | 1.43 |
| Standard deviation | 8.95 | 0.50 | 0.90 | 4.31 | 0.23 | 1.09 | 143 | 0.98 | 9.47 | 0.51 |

N = 391

*p < .05

**p < .01

***p < .001
response and spouse satisfaction with work arrangement was not significant. However, Hypothesis 3b (hindrance stress response as a mediator on spouse outcomes) was supported as the 95% bias-corrected confidence intervals for the indirect effects did not contain zero (0.014 (0.007), [0.001, 0.028]).

Finally, we tested Hypothesis 4 (three-way interaction predicting challenge and hindrance stress). The interaction term was significant for both challenge and hindrance stress responses (see Table 3 and Figs. 3 and 4). The interruptions-stress response relationships were significant for both groups (high-high for challenge: slope = -0.21, t = -2.10, p < 0.05; hindrance: slope = 0.32, t = 3.45, p < 0.01; and low-low for challenge: slope = -0.17, t = -2.40, p < 0.05; hindrance: slope = 0.28, t = 3.04, p < 0.01). Those who used breaks for both purposes (high-high) exhibited better overall views of their remote work stress (higher challenge, lower hindrance) than those who used breaks for neither purpose. Although the slopes for these groups were not significantly different from each other (challenge difference = -0.04, t = -0.19, p = 0.77; hindrance difference = 0.03, t = 0.24, p = 0.81), the differences in the overall levels of stress for each group (intercepts) suggest support for Hypothesis 4.

**Discussion**

We tested a resource-based model of stress in remote work with implications for employees and spouses. Applying COR theory, we found that interruptions from family during

**Table 2** Confirmatory factor analysis results

| Model                                      | X²   | df | CFI | TLI | RMSEA | X²_diff | df_diff |
|--------------------------------------------|------|----|-----|-----|-------|---------|---------|
| 9-factor                                   | 476.79 | 341 | .98 | .98 | .03   |         |         |
| 8-factor – breaks combined                 | 881.02 | 349 | .93 | .92 | .06   | 404.23*** | 8       |
| 8-factor – stress combined                 | 746.15 | 349 | .95 | .94 | .05   | 269.36*** | 8       |
| 6-factor – breaks and stress combined      | 2120.77 | 362 | .78 | .75 | .11   |         |         |
| 2-factor – separated by respondent         | 4465.35 | 376 | .49 | .45 | .17   | 3988.56*** | 35      |
| 1-factor                                   | 5757.44 | 377 | .33 | .28 | .19   | 5280.65*** | 36      |

N = 391 couples  
*** p < .001

![Fig. 2 Standardized path loadings for mediation model. Note. N = 391 couples. *p < .01; *** *p < .001. Interruptions, challenge stress, hindrance stress, and employee satisfaction were measured at time 1. Employee engagement, spouse satisfaction, and spouse family overload were measured at time 2.](image-url)
work hours are detrimental for employee work engagement via two types of stress responses experienced in remote work, challenge and hindrance, and satisfaction with the work arrangement. These findings support the detrimental, mediated effect of interruptions on work engagement through both positive and negative responses to stress. For the spouse, only hindrance stress response emerged as a significant mediator, linking interruptions to spouse satisfaction and family overload. Crossover to the spouse was not supported for challenge stress, which failed to mediate the effects of interruptions on spouse outcomes. Furthermore, although not hypothesized, interruptions experienced by the employee from the family were directly associated with spouse family overload. Integrating the effort-recovery model (Meijman & Mulder, 1998), we also suggest that the way employees use breaks to restore resources may buffer the detrimental effects of interruptions, affecting the way they view the stress experienced in remote work (challenge and hindrance stress responses).

**Theoretical Implications**

These findings contribute to research on stress in remote work, work-family, and breaks (Bolger et al., 1989; Hunter & Wu, 2016; Hunter et al., 2019; Perry et al., 2018). First, this study contributes knowledge on how stress is experienced or viewed in a remote work context, affecting both the employee and spouse. Thus, by answering calls by Charalampous et al. (2019), we offer a broader view of well-being among remote workers. In doing so, we also add to research on workplace interruptions by showing linkages with two distinct stress responses in the remote work context, going beyond the past emphasis on the interruptions – hindrance stress linkage (Ma et al., 2020). Consistent with previous literature, our findings indicate that this stressor is detrimental to both challenge and hindrance stress responses, despite the possibility that some interruptions could be beneficial (Hunter et al., 2019). Applying research on cognitive switching that is required by interruptions from family during work hours, we suggest that the resource depletion may impact the remote worker in

| Variable                                      | B   | se  | p     |
|-----------------------------------------------|-----|-----|-------|
| **Dependent variable – remote work challenge stress** |     |     |       |
| Interruptions from family during work hours (A) | −.04| .06 | .514  |
| Use of breaks for nonwork goals (B)            | −.01| .08 | .948  |
| Use of breaks for self-care (C)                | .23 | .08 | .003  |
| A × B                                         | .01 | .06 | .853  |
| A × C                                         | −.03| .06 | .556  |
| B × C                                         | .01 | .04 | .773  |
| A × B × C                                     | −.09| .04 | .200  |
| **Dependent variable – remote work hindrance stress** |     |     |       |
| Interruptions from family during work hours (A) | .14 | .07 | .037  |
| Use of breaks for nonwork goals (B)            | −.00| .08 | .971  |
| Use of breaks for self-care (C)                | −.19| .08 | .014  |
| A × B                                         | −.07| .06 | .272  |
| A × C                                         | .08 | .05 | .118  |
| B × C                                         | −.05| .04 | .196  |
| A × B × C                                     | .11 | .04 | .002  |

N=391 couples

**Table 3** Moderation results predicting remote work challenge and hindrance stress (Hypothesis 4)

**Fig. 3** Predicting remote work challenge stress in remote work (Hypothesis 4). Note. N=391 remote workers. Simple slopes for both groups shown are significant (p < .05). No slopes were significantly different from each other, including the high-low or low–high combinations, which fell between these two lines (both non-significant simple slopes) but are not shown here since they were not the focus of our hypothesis.
terms of their views of the stress they experience in their remote work arrangement (challenge and/or hindrance; Carlson et al., 2018; Du et al., 2018; Puranik et al., 2020). We also found the interruptions stressor is directly associated with spouse-reported family overload – further supporting the resource-depleting characteristics of this stressor that extend beyond the employee. Of course, the relationship may also exist in the opposite direction, such that a spouse interrupts a remote worker because they are overloaded with family demands. Future research should explore these relationships in both directions in a more comprehensive model.

Our results also extend prior research on these two types of stress responses in light of their effects on the remote worker’s spouse. By exploring these crossover processes, we contribute to recent work on the impact of work dynamics on the employee’s domestic partner (Carlson et al., 2018, 2019; Cavanaugh et al., 2000; LePine et al., 2016). Interestingly, the challenge stress response in remote work had benefits for the employee, but not for the spouse. Hindrance stress response in remote work, in contrast, appeared to be the only mechanism linked to the satisfaction of both partners and subsequent states of resource availability. These findings suggest that negative employee stress responses may be more likely than positive responses to cross over to the spouse, perhaps because hindrance stress is more consistently related to negative outcomes, whereas challenge stress has both positive and negative effects (Edwards et al., 2014; Stiglbauer, 2018). This supports the primacy of the resource loss tenet within COR theory (Hobfoll, 1989), and future research could assess why positive stress experiences may be less salient in crossing over to the spouse. Perhaps challenge stress responses are more internally focused and less externally manifested than hindrance stress responses or the stressors themselves. Furthermore, the invigorating nature of challenge stress could actually mean that an employee engages in their work so much that they further burden their spouse with family demands, which could have unintended negative consequences (Edwards et al., 2014). These are fruitful possibilities for future research. Our findings also add important insights on interruptions from family during work time, including for the work-home resource model (ten Brummelhuis & Bakker, 2012), by exploring a unique family demand and several distinct outcomes of interruptions (Puranik et al., 2020).

Additionally, the study brings important contributions to the breaks and recovery literature (Bennett et al., 2020; Chawla et al., 2020), as we found support for the idea that using breaks to accomplish both nonwork goals and self-care may be the most beneficial way to buffer the resource-depleting impact of interruptions for remote workers (Meijman & Mulder, 1998). Despite finding detrimental impacts of interruptions on both challenge and hindrance stress responses, the three-way interaction suggests that how time is used during breaks while working remotely is an important consideration with multiplicative benefits for the employee’s views of work stress. Combining the effort-recovery model with COR theory is helpful for understanding how break time can and should be used differently in remote work. Namely, when using time for oneself and for addressing demands in one’s nonwork life, perhaps one’s time is used most wisely recovering resources, protecting resources, and acquiring new resources, such as positive emotion derived from accomplishing goals. Using these paradigms together is also helpful as we seek to find ways to buffer the impact of interruptions from the family in remote work – Specific
uses of breaks may be a key ingredient that scholars can continue to explore.

**Practical Implications**

Organizations are keenly interested in learning how to foster optimal work engagement, particularly among remote employees, which has grown exponentially recently (Bloom, 2020; Gallup, 2020; Global Workplace Analytics, 2020, 2021). Our examination of predictors of work engagement suggests that maximizing challenge stress and minimizing hindrance stress in remote work can foster satisfaction with the remote work arrangement, which can enhance work engagement. Interestingly, the control variables also shed light on factors that could promote work engagement – Employees who have a more integrated view of work and family life are likely to be more engaged (lower segmentation preferences), as well as those who experience less anxiety, and who work remotely less frequently. Female employees or those who have an employed spouse are also more likely to report higher levels of engagement, according to our results. Thus, organizations should find ways to help employees foster conditions that these controls imply, including by minimizing interruptions in remote work to optimize the ways they view and respond to their stress and their overall satisfaction with the work arrangement. This could occur as organizations help employees configure home-based workspaces and learn to communicate expectations with family members. Leaders can also provide opportunities in remote work that push employees to learn and grow (e.g., autonomy to make decisions about their work or training and development opportunities that continue to be available virtually) while protecting them from other hindrance stressors (e.g., inadequate information access, micromanagement, or bureaucracy). Leaders who think carefully about how to manage differently from a distance may be most successful in fostering the right types of stress responses (challenge) among their remote employees while protecting them from the harmful types (hindrance; Gallup, 2020).

Educating employees on the use of breaks during remote work is also a worthwhile effort. Initial studies show that as many as two-thirds of the remote workforce take very few breaks throughout the workday, and over half work longer hours at home than in the office (Radulović et al., 2021). We expect that people who use their time and flexibility for breaks wisely can appreciate their remote work arrangement even more, and conversely, those who fail to take any breaks may suffer the most (Hunter & Wu, 2016; Hunter et al., 2019). For instance, starting a load of laundry and taking a walk in the same break may accomplish both nonwork and self-care goals, thus providing multiplicative benefits in reducing hindrance and enhancing challenge stress responses in remote work (Carlson et al., 2019). But some employees may feel they are not acting appropriately when crossing work and nonwork boundaries during the workday, even if the break may help them sustain their well-being and productivity. Training and open communication about how to best use one’s time in remote work may help with this disconnect.

**Strengths, Limitations, and Future Research**

The strengths of this research include a multi-source, time-lagged design. As with all research, however, it also has limitations. We did not measure a behavioral mechanism explicitly assessing the crossover of the employee’s stress in remote work to the spouse’s satisfaction, although crossover theory supports the notion that internal states also cross over (Li et al., 2021). An explicit measure of a crossover mechanism could shed light on the differential results that emerge from both forms of employee stress on the spouse. This approach could also help scholars better understand the indirect and direct forms of crossover, particularly when originating from internal processes like stress responses. Additionally, more precise measurements of the family system could be valuable as control variables, such as the number of small children at home during the day, number of children homeschooling, and other family elements that may contribute to stress in remote work.

While we found that using both types of breaks may protect individuals from the more detrimental levels and forms of stress responses (Griffin & Clarke, 2011), we do not yet know how breaks impact the perceptions of the remote work experience more broadly. Namely, in what other ways might remote work breaks affect one’s evaluation of working remotely, including other more traditional well-being indicators as mediators? How might breaks impact the people surrounding the remote employees, and what are the longer-lasting implications of breaks for remote employees themselves? Particularly when employees have more autonomy in remote work to choose how to use their time, answers to these questions could lend valuable insight. Our break measures, although based on the extant break literature and including all types of break activities in two broad categories, would also benefit from validation across work contexts, perhaps capturing more details about specific activities remote workers may choose for optimal benefits.

In sum, as remote work is expected to continue in the future in new forms (i.e., ranging from hybrid to fully remote; Bloom, 2020; De Smet et al., 2021; Global Workplace Analytics, 2021), our results suggest that resource depletion and conservation processes of remote employees can have serious implications. Scholars should continue to explore this interplay between stress in remote work, work-family, and the use of breaks for the benefit of all.
The data reported in this manuscript were collected as part of a larger data collection at two points in time. Findings from the data collection have been reported in separate manuscripts. The overlap between the current submission and the other two is in the use of one control variable: the extent of remote work. The table below displays where each data variable appears in each study, as well as the current status of each.

| Variables used in manuscripts | MS 1 (STATUS = under review at another journal) | MS 2 (STATUS = under review at another journal) | MS 3 (current submission to JBP) |
|-------------------------------|-----------------------------------------------|-----------------------------------------------|---------------------------------|
| Employee work-family conflict | X                                             |                                               |                                 |
| Spouse relative deprivation   | X                                             |                                               |                                 |
| Couple relationship tension   | X                                             |                                               |                                 |
| Spousal resentment toward the employee’s remote work | X |                                               |                                 |
| Employee marital intent to quit | X |                                               |                                 |
| Spouse marital intent to quit | X                                             |                                               |                                 |
| Marital tenure (control)      | X                                             |                                               |                                 |
| Children living at home (control) | X |                                               |                                 |
| Employee gender (control)     | X                                             | X                                             |                                 |
| Perceived stress              | X                                             |                                               |                                 |
| Work-family balance           | X                                             |                                               |                                 |
| Sense of control at home      | X                                             |                                               |                                 |
| Sense of control at work      | X                                             |                                               |                                 |
| Scheduling flexibility        | X                                             |                                               |                                 |
| COVID shift strength          | X                                             |                                               |                                 |
| Age (control)                 | X                                             |                                               |                                 |
| Total number of people living in home (control) | X |                                               |                                 |
| Extent of remote work (control) | X | X                                             |                                 |
| Family size (control)         | X                                             |                                               |                                 |
| Emotional stability (control) | X                                             |                                               |                                 |
| Work engagement               | X                                             |                                               |                                 |
| Family overload               | X                                             |                                               |                                 |
| Employee satisfaction with work arrangement | X |                                               |                                 |
| Spouse satisfaction with work arrangement | X |                                               |                                 |
| Hindrance stress              | X                                             |                                               |                                 |
| Challenge stress              | X                                             |                                               |                                 |
| Use of breaks for nonwork goals and self-care | X |                                               |                                 |
| Interruptions at work         | X                                             |                                               |                                 |

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