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A Transactional Stress Theory of Global Work Demands: A Challenge, Hindrance, or Both?

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Running Head: Global Work Demands

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Abstract

We integrate research on global work demands (Shaffer et al., 2012) with transactional stress theory to examine both the harmful and beneficial effects of three global work demands -- international travel, cognitive flexibility, and nonwork disruption – for employees engaged in global work. We propose that global work demands have indirect, and conditional, effects on burnout and work-family conflict (WFC), as well as thriving and work-family enrichment, through employees' appraisals that their global work is both hindering and challenging, respectively. We tested the hypotheses with a matched sample of 229 global employees and their spouses. We found that cognitive flexibility demands is related to harmful and beneficial outcomes: it increases WFC through hindrance appraisals of the global work, but also increases thriving through challenge appraisals. In comparison, international travel demands has only beneficial outcomes, such that it positively related to employee thriving through challenge appraisals, but only among employees working in jobs that have fewer nonwork disruption demands. Finally, nonwork disruption demands had only harmful effects in that it positively related to burnout and WFC through hindrance appraisals. Exploratory analyses also revealed that nonwork disruption demands negatively related to employee thriving, through challenge appraisals, when employees experienced *lower* levels of cognitive flexibility demands. These findings contribute to our understanding of how employees may react to their global work demands and to the transactional theory of stress by providing a more nuanced understanding of when and why job demands contribute to appraisals that work is hindering and/or challenging.

Key Words: Transactional stress theory; international travel; global work experienced; employee well-being

A Transactional Stress Theory of Global Work Demands: A Challenge, Hindrance, or Both?

With globalization continuing to influence business practices and opportunities, larger numbers of employees are required to work in an international context. As described by Shaffer and colleagues (2012), the globalization of work itself has meant increased job requirements to engage in international travel, adapt to cross-cultural differences in interpersonal interactions, and/or expect work to disrupt one's nonwork life. They referred to these three global work requirements, respectively, as physical mobility demands, cognitive flexibility demands, and nonwork disruption demands. Of the three global work demands, only physical mobility, which we henceforth refer to as "international travel demands," has received much attention in the academic literature. A few early studies examined the role of international travel in developing employees' global competencies (Oddou et al., 2000; Welch et al., 2007). More recently, Phillips and colleagues (2014) examined strategies to recruit employees to job roles that require international travel. Other research has examined how international travel affects employees' family and personal well-being (e.g., Dimitrova, 2020; Mäkelä et al., 2015; Westman & Etzion, 2002; Westman et al., 2009), finding that international travel demands may have both positive (thriving, vigor) and negative (exhaustion, work-family conflict) outcomes on employees. Given that negative work outcomes, such as reduced job performance and increased turnover intentions, are associated with exhaustion and work-family conflict (Allen et al., 2000), it is important to further investigate when and how international travel demands are related to negative and positive outcomes for global employees. In doing so, we believe the other two global work demands, cognitive flexibility and nonwork disruption demands, may play an important role.

Accordingly, the primary purpose of our study is to examine the three global work demands as a set to shed light on (a) how and when international travel demands relate to both beneficial

and harmful employee outcomes, and (b) whether and how cognitive flexibility and nonwork disruption demands independently or interactively relate to employee outcomes. Our employee outcomes include a harmful and beneficial indicator of psychological well-being (burnout and thriving, respectively) and work-family balance (work-family conflict and enrichment, respectively). These are not only salient outcomes for global employees (Shaffer et al., 2012), but are also relevant outcomes of work stressors based on the transactional theory of stress (Lazarus & Folkman, 1987), which provides the theoretical basis for our model.

More specifically, the transactional theory of stress recognizes that employees respond to work stressors based on how they appraise the stressor (Lazarus & Folkman, 1987). Consistent with other scholars (e.g., Cavanaugh et al., 2000; Webster et al., 2011) and our interest in global work demands as stressors, we define *hindrance appraisals* as employees' perceptions that the requirements of their global work are threatening and debilitating; in contrast, *challenge appraisals* are employees' perceptions that their global work requirements are motivating and energizing. We first hypothesize that hindrance and challenge appraisals, respectively, provide a psychological explanation for why each of the three global work demands can simultaneously relate to negative and positive outcomes for employees. Next, because international travel demands may be associated with the experience of increased cognitive flexibility and nonwork disruption demands, we further propose that the effect of international travel demands on hindrance and challenge appraisals depends on the degree to which the job also entails cognitive flexibility and nonwork disruption demands. Finally, we explore whether cognitive flexibility and nonwork disruption demands interact in predicting hindrance and challenge appraisals. Our hypothesized model is shown in Figure 1.

***** Insert Figure 1 About Here *****

Our study makes three contributions to the global work and stress literatures. First, we shift the focus of international experience from primarily a “person” perspective to a “job” perspective (e.g., Dimitrova, 2020; Shaffer et al., 2012). A “job” perspective can help researchers and practitioners better understand how the demands associated with global job roles are related to employees’ motivation, attitudes, and competency development. We go beyond previous research that has focused only on international travel demands to include all three global work demands proposed by Shaffer and colleagues. In doing so, we use the transactional theory of stress (Lazarus & Folkman, 1984) to propose that global work demands may contribute to employees’ perceptions that their global work is both challenging and hindering, thereby having competing effects on employee outcomes. This leads to our second contribution: most studies on challenge and hindrance stressors have examined a specific job demand (e.g., workload and work hassles) as either a challenge *or* hindrance stressor and assume that employees appraise that stressor accordingly (Crawford et al., 2010; Podsakoff et al., 2007). Only recently have researchers measured appraisals as a mediating process whereby challenge appraisals link challenge stressors with desirable work outcomes and hindrance appraisals link hindrance stressors with undesirable work outcomes (Liu & Li, 2018; Searle & Auton, 2015; Webster et al., 2011). However, transactional stress theory says that a single stressor can be simultaneously appraised as both a challenge and a hindrance (Lazarus & Folkman, 1984). We directly test this notion and extend it by proposing direct and interactive effects of the three global work demands on both hindrance and challenge appraisals. Third, we contribute to the global work literature by developing and validating measures to assess the three global work demands proposed by Shaffer and colleagues (2012) to further this research.

THEORETICAL FOUNDATION

In their review of the various types of global workers, Shaffer and colleagues (2012) identified three work demands that differentiate “global” work (i.e., work that involves interacting with colleagues from, and understanding the culture of, multiple countries) from “domestic” work (i.e., work that is primarily restricted to a single country). *International travel demands* are the degree to which the work role requires employees to travel, or relocate, internationally and includes frequency, duration, and breadth of international trips. *Cognitive flexibility demands* are the degree to which the work requires employees to adjust their thought patterns and scripts to effectively interact with people and adapt to situational demands across cultures. It concerns the job requirement to be flexible, not the employee’s ability to effectively adjust thought patterns. *Nonwork disruption demands* are the degree to which the work role requirements disrupt or interfere with employees’ normal activities and routines outside of work.

Although the three work demands may be correlated, they are independent (Shaffer et al., 2012). For example, employees on expatriate assignments would experience moderate to high levels of international travel demands due to the requirement of living and working in a foreign country and the potential need to engage in additional international trips to fulfill job responsibilities. Whether expatriates experience high or moderate levels of cognitive flexibility demands would depend on the number of host country colleagues, versus number of other home country expatriates at the same location, that employees need to interact with to fulfill their job responsibilities. Similarly, expatriates may experience low or high levels of nonwork disruption demands depending on whether their family members relocated with them (or not).

Further, Shaffer and colleagues (2012) proposed that the degree of stress experienced by global workers depends on the extent to which their job requires international travel, cognitive flexibility, and nonwork disruptions as well as the interactive effects of these three demands.

Yet, to date, we are aware of no research on cognitive flexibility or nonwork disruption demands. Studies thus far have only examined the effects of international travel demands with mixed findings. Some have found negative outcomes: Westman and Etzion (2002) found that job exhaustion increased during an international business trip (compared to pre- and post- trip levels) and Mäkelä et al. (2015) found more frequent and longer international trips contributed to work-life conflict. Yet, positive consequences have also been reported: frequency of international travel positively related to work engagement (vigor) and positive attitudes of travelers' spouses (Westman et al., 2009). In the only study that examined how international travel interacts with other job demands, Dimitrova (2020) found that the frequency of international business travel positively related to the employees' sense of thriving at work only when employees also had managerial job responsibilities; in turn, thriving negatively related to employees' intentions to quit their global work role. We extend this research by answering Shaffer and colleagues' (2012) call for research on all three global work demands, and their interaction effects, on employees' psychological and work-family outcomes. We believe the transactional theory of stress is particularly relevant to explain such effects.

According to the transactional theory of stress (Lazarus & Folkman, 1984), individuals evaluate the demands placed upon them as challenging and/or hindering. Challenge stressors are motivating because they promote personal growth and achievement; hindrance stressors are debilitating because they constrain personal development and work-related accomplishment (Cavanaugh et al., 2000). Further, it is the primary appraisal of the environment, as opposed to the secondary appraisal related to coping mechanisms, that generates stress (Lazarus & Folkman, 1984). The primary appraisal is an individual's assessment of the meaning and significance of a situation (i.e., an environmental condition), and it is the major psychological process that

connects job demands to outcomes. We capture this primary appraisal with employees' perceptions of the degree to which their global work is challenging (challenge appraisals) and hindering (hindrance appraisals). Our focus on the appraisal of global work in general is consistent with scholars who have focused on the appraisal of the demands of the job in general (e.g., LePine et al., 2016; Ohly & Fritz, 2010) and reflects that the appraisal assessment may stem from a combination of the three global work demands.

The transactional theory of stress also contends that the primary appraisal influences the type of outcomes an individual will experience, such as strain, motivation, and performance (Lazarus & Folkman, 1984; LePine et al., 2005). Hindrance appraisals sap employees of energy and focus, leading to more strain and inability to focus on multiple demands. Challenge appraisals motivate employees to use their skills and knowledge to successfully handle the challenge presented by work demands, thereby stimulating learning and growth outcomes (LePine et al., 2005). Accordingly, we anticipate that hindrance appraisals are associated with employee *burnout*, defined as feelings of emotional exhaustion and fatigue (Shirom & Melamed, 2006), and *work-to-family conflict* (WFC), which is a specific form of inter-role conflict in which work responsibilities interfere with family responsibilities (Greenhaus & Beutell, 1985)¹. We expect challenge appraisals to relate to *thriving at work* (Spreitzer et al., 2005), conceptualized as a common experience of vitality (i.e., feelings of energy and aliveness) and learning (i.e., the acquisition and application of knowledge and skills), and *work-to-family enrichment* (WFE), which occurs when experiences in the work domain improve the quality of the family domain.

¹Although we anticipate that nonwork disruption demands will be associated with WFC, the two constructs differ in that the former is a direct function (or description) of one's global job responsibilities and fits with Cavanaugh et al.'s (2000) definition of a hindrance stressor, whereas the latter is the emotional stress of having work interfere with the family domain (Greenhaus & Beutell, 1985).

In sum, we expect the three global work demands to indirectly relate to burnout and WFC through hindrance appraisals, and to thriving and WFE through challenge appraisals. Several studies support the mediating role of appraisals in the relationship between work demands and various employee outcomes (e.g., LePine et al., 2016; Webster et al., 2011). Although most empirical studies of the challenge and hindrance framework have classified specific job stressors as either hindering or challenging (e.g., Cavanaugh et al., 2000; LePine et al., 2005; Podsakoff et al., 2007), the transactional theory of stress acknowledges that a certain stressor may not be exclusively appraised as either a challenge or a hindrance stressor, but instead could be appraised as both (Lazarus & Folkman, 1984). In support of this, Webster et al. (2011) found that role conflict, role ambiguity, and workload were appraised by employees as both a hindrance and a challenge, resulting in negative and positive outcomes, respectively. We adopt this perspective to propose that international travel and cognitive flexibility demands are related to appraisals that their global work is both challenging and hindering. Given the nature of nonwork disruption demands, however, we conceptualize it as only a hindrance stressor.

International Travel Demands as a Job Stressor

For the most part, international business travel has generally been characterized as a hindrance stressor that results in adverse physical and psychological reactions (Rogers & Reilly, 2000). Exhaustion is a common refrain among international business travelers who must deal with the logistics of international travel, such as flight delays, navigating immigration and customs upon arrival in a foreign country, as well as the accompanying jet lag and sleep deprivation (e.g., Burkholder et al., 2010; Demel & Mayrhofer, 2010; Striker et al., 2000). Further, international business travelers often sacrifice family and personal time (e.g., DeFrank et al., 2000; Mäkelä and Kinnunen, 2016), and forgo a healthy lifestyle to work long hours that

frequently include extensive “after-hours” entertainment with clients, customers, and colleagues (e.g., Striker et al., 2000). As such, the more an employee experiences the demands of international travel, the more likely they are to experience burnout and work-family conflict. Moreover, frequent international business trips, especially when combined with trips to many different countries, are likely to be perceived as a hindrance to achieving work goals and maintaining work-family balance. According to transactional theory of stress (Lazarus & Folkman, 1984), demands that are appraised as obstructions to goal attainment will deplete one’s energy and focus, thus providing the psychological mechanism linking demands to harmful employee outcomes (LePine et al., 2005). Accordingly, when global employees experience more international travel demands, they will be more likely to appraise their global work as debilitating, leading them to experience more burnout and WFC.

Hypothesis 1: International travel demands *positively* relate indirectly to (a) burnout and (b) WFC through hindrance appraisals.

At the same time, international travel also has aspects that are consistent with challenge demands, which are seen as creating opportunities and contributing to a sense of accomplishment (Cavanaugh et al., 2000). According to Oddou and colleagues (2000), international business travel allows employees to learn about different cultures and develop effective cross-cultural skills and abilities, which can help employees enhance their ability to communicate across cultures, develop interpersonal relationships with culturally diverse colleagues, and grow professionally (Andresen & Bergdolt, 2019; Demel & Mayerhofer, 2010; Striker et al., 2000). It has also been suggested that such travel may foster the development of global networks (Bozkurt & Mohr, 2011; Mayerhofer et al., 2010; Urry, 2003), enabling employees to have a broader perspective on a firm’s foreign markets and subsidiaries (Welch et al., 2007). Indeed, there is

empirical support for the positive relationship between frequent international travel and motivational outcomes such as vigor and thriving (Dimitrova, 2020; Westman et al., 2009). Accordingly, and consistent with transactional theory of stress, we expect international travel demands to also be positively related to thriving and work-family enrichment indirectly through employees' appraisals that their global work is challenging.

Hypothesis 2: International travel demands *positively* relate indirectly to (a) thriving at work and (b) WFE through challenge appraisals.

Cognitive Flexibility Demands as a Job Stressor

Cognitive flexibility demands occur in jobs that require incumbents to interact with people from other cultures, such as foreign countries' clients and coworkers, and/or solve problems related to global work issues (Shaffer et al., 2012). When interacting with people from other countries or learning about foreign cultures, employees may find that culturally foreign individuals have different assumptions and norms regarding appropriate behavior and preferences, requiring one to adjust their own thought patterns to better match those norms and preferences. As such, employees may perceive cognitive flexibility demands as contributing to hindrance appraisals because of the increased cognitive complexity and effort that is required when interacting with culturally diverse others or having to consider different perspectives when solving problems. Research has found that people do not easily change their assumptions about people or what they view as ethical (Leung et al., 2005), and thus, being required to do so may be anxiety-inducing. In this case, global employees may experience ambiguity and uncertainty about their ability to achieve these goals, resulting in hindrance appraisals of their global work (Cavanaugh et al., 2000). Consistent with transactional theory of stress, we expect hindrance appraisals will in turn be associated with more burnout and WFC.

Hypothesis 3: Cognitive flexibility demands *positively* relate indirectly to (a) burnout and (b) WFC through hindrance appraisals.

At the same time, it is possible employees may recognize an opportunity to grow and learn from cognitive flexibility demands, and thus, be energized and motivated by it (Ashford et al., 2018). For example, thinking about a problem from an entirely different perspective or realizing assumptions underlying one's own point of view can be eye-opening and unleash creativity (Dreu et al., 2011). In this case, cognitive flexibility demands would contribute to challenge appraisals (Cavanaugh et al., 2000), motivating employees to successfully respond to the stressor (Lazarus & Folkman, 1984). Accordingly, we propose that cognitive flexibility demands will also be related to thriving and WFE through challenge appraisals.

Hypothesis 4: Cognitive flexibility demands *positively* relate indirectly to (a) thriving at work and (b) WFE through challenge appraisals.

Nonwork Disruption Demands as a Job Stressor

We expect nonwork disruption demands to contribute primarily to hindrance appraisals of their global work. Nonwork disruption demands are the degree to which incumbents perceive that the work role requirements disrupt or interfere with their normal activities and routines outside of work (Shaffer et al., 2012). Examples include having to work outside of normal work hours due to time zone differences when working virtually with global colleagues, missing family events due to international travel, or difficulty maintaining a normal exercise or sleep routine. In the work-nonwork literature, work demands that deplete employees' time and energy to attend to nonwork activities have been consistently conceptualized as hindrance stressors, resulting in adverse outcomes such as burnout (Bakker et al., 2014) and WFC (Allen et al., 2020). As a hindrance stressor, we also expect that nonwork disruption demands will be

negatively related to the outcomes of thriving and WFE because nonwork disruption demands are less likely to motivate and encourage learning from their global work (and, thus, are less likely to be perceived as a challenge).

Hypothesis 5: Nonwork disruption demands *positively* relate indirectly to (a) burnout and (b) WFC through hindrance appraisals.

Hypothesis 6: Nonwork disruption demands *negatively* relate indirectly to (a) thriving at work and (b) WFE through challenge appraisals.

Interactive Effects of the Global Work Demands

Consistent with a key tenet of the transactional theory of stress that contextual conditions may influence whether job demands are appraised as hindering and/or challenging (Lazarus & Folkman, 1984), we propose that cognitive flexibility and nonwork disruption demands may explain when international travel demands will be appraised as more challenging and when they will be appraised as more hindering. We focus on international travel demands as the independent variable, and the other two work demands as the moderators, for two reasons. First, as reviewed above, prior studies have found that frequency of international travel is associated with both beneficial (thriving) and harmful (exhaustion, work-family conflict) employee outcomes; thus, our focus on international travel demands as the independent variable can help shed light on these inconsistent findings. Second, international travel typically means that employees who travel will have to interact with colleagues from other countries and will be spending time away from home, thereby increasing cognitive flexibility and nonwork disruption demands, respectively. In contrast, cognitive flexibility demands and nonwork disruption demands do not necessarily require international travel (e.g., the case of global virtual teams). Accordingly, we expect that when cognitive flexibility and nonwork disruption demands are also

experienced in conjunction with international travel, they will influence how strongly international travel demands relate to hindrance and challenge appraisals.

International Travel and Cognitive Flexibility Demands. We first expect cognitive flexibility demands to moderate the positive indirect relationship between international travel demands and burnout and WFC via hindrance appraisals. When the job requires a high level of cognitive flexibility demands, international travel demands is expected to have a stronger positive relationship with hindrance appraisals and subsequent burnout and WFC. As discussed above (see Hypothesis 3), higher levels of cognitive flexibility demands may be stressful and anxiety-inducing. When employees experience the need to put in extra cognitive and behavioral effort to be effective in their global work role, they will have less energy to deal with the hassles of international travel, such as jet lag, unfamiliar foods, and travel disruptions. In this case, the negative hassles of international travel will have a stronger positive effect on hindrance appraisals when employees are also expected to adjust their decision-making and interaction patterns to conform to different cultural norms. In contrast, when employees can be effective in their global work role without changing assumptions about people or approaches to problems (i.e., low cognitive flexibility demands), international travel demands will be perceived as less hindering and emotionally taxing. This might occur when the international travel is primarily to a country that is culturally similar to one's home country. When cognitive flexibility demands are low, employees likely have more energy and resources to manage the daily hassles of international travel. Under these conditions, global employees will be less likely to appraise the situation as hindering and experience less burnout and WFC.

Hypothesis 7: There is an indirect conditional effect of international travel demands on (a) burnout and (b) WFC through hindrance appraisals, such that travel demands more

strongly positively relate to burnout and WFC when cognitive flexibility demands are higher, compared to when cognitive flexibility demands are lower.

At the same time, we propose that cognitive flexibility demands strengthen the positive relationships between international travel demands and thriving and WFE via challenge appraisals. This is because high levels of cognitive flexibility demands may also be motivating and challenging. From this perspective, learning about people from other cultures and developing new ways to solve problems provide employees with valuable skills to further their global career. High levels of cognitive flexibility demands may also help employees better understand why international travel is important. Research has shown that people tend to have more meaningful interactions and productive meetings in-person rather than virtually (Baltes et al., 2002; Ortiz de Guinea et al., 2012). Thus, when the job requires that employees spend more time learning how to motivate people from other cultures and/or solve problems differently, they are more likely to perceive international travel as contributing to their overall personal growth and job effectiveness. Energized by the challenges of a job that demands both traveling and cognitive flexibility, global employees may more likely thrive at work and experience more WFE. In contrast, when the job requires little adaptation to working with people (i.e., low cognitive flexibility demands), the importance of international travel to overall job effectiveness and personal growth may be less apparent, resulting in a weaker effect on thriving and WFE.

Hypothesis 8: There is an indirect conditional effect of international travel demands on (a) thriving at work and (b) WFE through challenge appraisals, such that travel demands more strongly positively relate to thriving at work and WFE when cognitive flexibility demands are higher, compared to when cognitive flexibility demands are lower.

International Travel and Nonwork Disruption Demands. We expect nonwork disruption demands to strengthen the positive effect of international travel demands on hindrance appraisals, thereby increasing burnout and WFC. As noted earlier, when employees perceive international travel demands as a hindrance, it is likely to contribute to greater burnout and WFC, and nonwork demands also tend to be perceived as an obstacle. Therefore, when the demands of international travel already seem to interfere with their personal and professional success, the additional demands created when employees are unable to carry out their normal routines and activities outside of work are likely to further increase the likelihood that employees will feel tired, physically drained, and that their work is causing them to be more irritable and less engaged at home. In other words, confronted by the obstacles presented when a job not only involves travel, but also creates nonwork disruption, global employees are likely to experience greater burnout and WFC. In contrast, when a job creates little disruption to employees' nonwork routines and activities (i.e., low nonwork disruption demands), the difficulties that are generally associated with international travel are less likely to be exacerbated, resulting in weaker effects on burnout and WFC via hindrance appraisals.

Hypothesis 9: There is an indirect conditional effect of international travel demands on (a) burnout and (b) WFC through hindrance appraisals, such that travel demands more strongly positively relate to burnout and WFC when nonwork disruption demands are higher, compared to when nonwork disruption demands are lower.

Finally, we expect nonwork disruption demands to weaken the positive effect of international travel demands on thriving and WFE via challenge appraisals. By definition, nonwork disruption demands make it difficult for one to attend to nonwork activities, and as such they are associated with low motivation as discussed above. Consequently, for employees who

experience high levels of nonwork disruption demands as part of their global work responsibilities, the additional demand of frequent or long durations of international travel is less likely to contribute to their overall experience of job challenge, thriving, and WFE. In this case, high levels of nonwork disruptions may negate any growth and challenge associated with international travel. However, when employees can fulfill global work responsibilities with minimal nonwork disruption demands, international travel will more likely be positively related to perceptions that their global work is challenging, thus leading to thriving and WFE. For example, the positive aspects of international travel, such as building more trusting relationships and cross-cultural skills (Oddou, et al., 2000) and enjoying a respite from everyday activities (Westman & Etzion, 2002), are more likely to manifest among employees whose international travel is to countries in the same time zone, or who have flexibility in deciding when to travel (thus reducing nonwork disruption).

Hypothesis 10: There is an indirect conditional effect of international travel demands on (a) thriving at work and (b) WFE through challenge appraisals, such that travel demands more strongly positively relate to thriving at work and WFE when nonwork disruption demands are lower, compared to when nonwork disruption demands are higher.

Although our primary interest in testing interaction effects is to better understand the relationship between international travel demands and the employee outcomes, in the interest of fully exploring the interaction effects among all three work demands, we will test for the interaction between cognitive flexibility and nonwork disruption demands and the 3-way interaction among the three global work demands in predicting challenge and hindrance appraisals in supplemental analyses.

METHOD

We first conducted a pilot study to develop and validate scales to measure the three global work demands. The procedures for both the pilot and main studies were approved by the first author's IRB (IOWA IRB#201205720, Stresses and Challenges of Global Work).

Transparency and Openness

In both the pilot and primary studies, we describe our sampling plan/recruitment strategy, all data exclusions, and all measures used in the respective studies (see below, Table 1, and Appendices). We also adhered to the *Journal of Applied Psychology* methodological checklist. All data, analysis codes, and syntax are available from the first author upon request (maria.kraimer@rutgers.edu). Data in both studies were analyzed with SPSS (latest version available at the time of data analysis) and MPLUS 8.3 (Muthen & Muthen, 2019). The study's design, hypotheses, and its' analysis were not preregistered.

Pilot Study: Scale Development and Validity of Global Work Demands

Procedure and Sample

Three of the authors deductively generated items for each of the global work demands based on their theoretical definitions (from Shaffer et al., 2012). To ensure the final sets of items adequately covered the definitions and allow for assessment of internal reliability (De Vellis, 2003), we initially developed 13 items for international travel demands, 25 items for cognitive flexibility demands, and 22 items for nonwork disruption demands. We then asked 24 subject matter experts (i.e., faculty and Ph.D. students who conduct international research or had prior work experience that involved international travel) to rate the items in terms of their relevance to the definitions and their clarity. Based on the authors' analysis and discussion of the expert ratings and open-ended comments, we deleted or refined items that were redundant or were rated

low on clarity or relevance. As a result, we retained 5 items for international travel², 18 for cognitive flexibility demands, and 16 for nonwork disruption demands.

We next assessed internal consistency and convergent/discriminant validity of the items. To do so, we recruited 1,000 participants to complete a web survey through a U.S. web-based survey panel of pre-screened members from which we received 266 usable responses (see Appendix A for more details). The survey included items to measure the global work demands, demographics, plus other variables to assess convergent and discriminant validity listed in Appendix A. The global work demands were measured with the 39 items that survived the content validation phase above: the 5 international travel items have open-ended responses (count data); and the items for nonwork disruption and cognitive flexibility demands were assessed on a 5-point scale from 1 = “not at all” to 5 = “a great deal.”

Analyses and Results

Before proceeding with reporting the results of factor analyses and reliability scores, we note that international travel demands is a formative construct. Compared to latent constructs where the items reflect the definition of the construct, a formative construct is measured with a combination of items that define the construct, and items neither share a common theme nor are they interchangeable (see Coltman et al., 2008, for a discussion of formative measurement models). Our focus is on quantitative aspects of international travel taken during the past 12 months, including the frequency (i.e., number of international trips), breadth of international trips

²Shaffer et al.’s (2012) definition of physical mobility (i.e., international travel) also included qualitative aspects of international travel, such as being exposed to foreign cultures and travel-related stress. Here we focus only on the quantitative aspects of international travel because the subject matter experts in this content validation phase were consistent in noting that our items designed to assess exposure to foreign cultures and travel stress tapped into a separate construct than frequency and duration of international travel demands and is already captured by existing constructs such as cultural novelty.

(i.e., number of different countries visited for work purposes and average number of different countries visited per business trip), and duration of the travel (i.e., average duration of the physical travel time from the home country and average number of days of the international business trips). In contrast with reflective measures, it is not necessary – or even desirable – for formative constructs to demonstrate unidimensionality or internal consistency (Petter et al., 2007; Williams et al., 2009); however, they should all have the same directional relationship (Coltman et al., 2008). Therefore, in determining which items to retain to measure international travel demands, we focused on the direction of each item's factor loading (positive or negative), but not the strength of the loadings nor internal consistency among the items.

We first assessed the dimensionality of the three global work demand constructs using principal axis factor (PAF) analysis in SPSS, including all 39 items: 5 for international travel, 18 for cognitive flexibility, and 16 for nonwork disruption. Specifying a promax rotation, the results revealed 5 factors with eigenvalues greater than 1.0. Factor 1 included all 16 items intended to measure nonwork disruption demands (all factor loadings $> .81$). Factor 2 included all 18 items intended to measure cognitive flexibility demands (all loadings $> .65$). Factor 3 included three items intended to measure international travel (number of trips taken per year, number of countries visited per year, and number of countries visited per trip; all loadings $> .50$). Factor 4 included one item intended to measure international travel (average number of days traveling per trip) with a factor loading of $.50$. Factor 5 consisted of 4 cognitive flexibility items that cross-loaded above $.30$; these were removed from further analysis. One item intended to measure international travel demands (average time travelling from home country to destination, i.e., flight time) had a negative loading ($-.05$) on Factor 3, and a negative correlation with two of the other travel items, and thus was removed from further analysis following best practices for

formative constructs (e.g., Coltman et al., 2008). We then removed an additional four items for cognitive flexibility demands and six for nonwork disruption demands so that the scales would be more practical in length, with 10 items each. In selecting the 10 items, we retained the highest loading items while ensuring the full content domain of the construct was represented.

We then re-ran the PAF analysis with the reduced set of 24 items and obtained 3 factors representing nonwork disruption, cognitive flexibility, and international travel demands, providing evidence that these are three distinct constructs. Although one of the four items measuring international travel demands had a low factor loading on the third factor, we retained it in our analyses as is acceptable for formative constructs (Petter et al., 2007; Williams et al., 2009). The final set of scale items are reported in Table 1.

***** Insert Table 1 about here *****

Reliability measures for cognitive flexibility demands ($\alpha = .94$) and nonwork disruption demands ($\alpha = .97$) were strong; as reliability scores are not relevant for formative constructs, we do not report it for international travel demands. Because the response options for the four international travel items are on different metrics (e.g., number of trips, countries, days), these items were standardized before computing an average scale score. Discriminant validity was initially demonstrated as the three global work demands were only moderately correlated: international travel positively correlated with cognitive flexibility demands ($r = .18, p = .004$) and nonwork disruption demands ($r = .14, p = .025$); cognitive flexibility and nonwork disruption demands also positively correlated ($r = .33, p = .000$).

Finally, we assessed convergent and discriminant validity by examining the relationships among the three global work demands and several theoretically related constructs. The constructs, theoretical expectations, and measures are described in Appendix A with results

reported in Tables A1 and A2. In short, the results provided convergent and discriminant validity evidence for our new measures, as each global work demand differentially correlated with theoretically related variables.

Primary Study: Test of Hypotheses

Procedures and Sample

In late 2013, we collected data from 229 employees and their spouses across five multinational companies headquartered in France or Switzerland. The companies represent oil and gas, technology, pharmaceutical, and consumer products industries. One of the authors emailed the web survey link to the HR executive responsible for global employees at each of the companies, who then forwarded the survey invitation and link to their global employees (in four of the companies, all relevant employees were invited to participate in the survey; at one company, the HR executive sent the email to 500 randomly selected global employees). Across the five companies, we had 6,306 employees click on the survey link, with 81% representing a single company (Company A in oil and gas industry). Of those who clicked on the survey, 3,026 were eligible to continue with the survey by answering “yes” to the following eligibility question: “In my current job, I have global work responsibilities that require me to live in a foreign country for business purposes, to travel to other countries for business purposes, and/or to communicate with business associates in other countries.”

Of those who were eligible, 2,326 completed at least part of the employee survey (a 37% response rate of those who clicked on the survey link). At the end of the survey, we asked employees if they would consent to us sending a separate survey to their spouse/partner (hereafter, we use “spouse” to refer to both) and, if so, we asked them to provide us with that person’s email address. Of the respondents, 2,216 (84%) indicated they had a spouse and 541 of

those employees (24% of those who completed the survey) responded affirmatively to our request for their spouse's email addresses. Approximately one month later, we emailed the 541 spouses a link to the spouse survey. To match spouse data to the employee data, in the email invitation, we included the employee's unique ID code, which we asked spouses to enter at the beginning of the survey. We received responses from 255 spouses (47%), of which 229 could be matched to employees with complete data (using scale-level listwise deletion) on the study variables.

Thus, we tested the hypotheses with the 229 matched responses from employees and their spouses. A MANOVA indicated that respondents with spouse data did not statistically differ from respondents without spouse data ($n=1630$ with complete data) on any of the self-reported study variables ($F = 1.18, df=9, p=.30$). Chi-square tests, however, indicated that, compared to the respondents without spouse data, our final sample was less likely to be female ($\chi^2 = 9.09, p < .01$) and held lower-level jobs ($\chi^2 = 8.74, p < .05$); therefore, we included sex and job level as covariates when testing the hypotheses.

Seventy-one percent ($n = 163$) of the 229 employee respondents were from Company A; the remainder were from the other four companies. The respondents worked at their company for an average of 9.24 years and had an average of 10 years of experience with global responsibilities. Their current primary type of global work was as follows: 49% expatriate assignment, 8% short-term international assignment, 18% international business traveler; 11% global virtual team member, and 14% global domestic. In terms of job level, 15% were top-level managers, 43% middle-level managers, 25% lower-level managers, and 17% non-management. Their average age was 43 years, 87% were male, and all were currently married. They were generally well-educated, with highest degrees as follows: 11% Ph.D. or MD, 48% master's or law degree, 31%

bachelor's degree, 7% some college course work, and 2% high school diploma. They were citizens of a variety of countries: 28% France, 12% USA, 12% Great Britain, 11% India, 4% Brazil, and the remaining 33% hailed from 27 different countries.

Measures

For the design of our survey and measures, our overarching goal was to capture the effects of between-person differences in global work demands on employee appraisals and the dependent variables in our model. Common method variance that is associated with cross-sectional/between-person designs was minimized by using spousal ratings for outcome variables where appropriate. The hypothesized relationships were examined over a period of 12 months by referencing this specific time frame, as appropriate, for the items measuring each variable. This strategy was employed to account for potential fluctuations in global work demands over the course of a year, while also acknowledging the potential for accumulating effects of global work demands on our outcome variables. We specify the temporal framing and rater source for each of the variables below. Surveys were in English, the *lingua franca* of all companies participating in our study.

Global work demands. We used the items retained in the pilot study to measure the three global work demands (see Table 1 for items). Employees responded to these items using the previous 12 months of work as the time frame of reference. We measured *international travel demands* with four open-ended items and we standardized these before computing an average score for each participant. We assessed *nonwork disruption demands* and *cognitive flexibility demands* with 10 items for each on a 5-point Likert scale (1 = *not at all* to 5 = *a great deal*). For each demand, we averaged the 10 items to create a scale score ($\alpha = .86$ for nonwork disruption demands and $.83$ for cognitive flexibility demands). The observed range was $-.94$ to 3.68 for

international travel, and 1.00 to 4.90 for both nonwork disruption and cognitive flexibility, demands.

Hindrance and challenge appraisals. We adapted four items each to measure employees' perceptions of hindrance and challenge appraisals of global work demands over the previous twelve months, based on the conceptual definition of each appraisal (e.g., Webster et al., 2011). The eight scale items appear in Appendix B. Based on the results of a content validation study (also in Appendix B), we eliminated one item from the challenge appraisal scale. With our primary study sample, we confirmed the 2-factor structure of the remaining 7 items with a confirmatory factor analysis (CFA). The 2-factor CFA fit the data very well ($\chi^2=19.92$, $df=13$, $p=.097$; CFI=.98; RMSEA=.05; SRMR=.04) and significantly better than a 1-factor model ($\Delta\chi^2=+211.34$, $\Delta df=1$, $p=.000$; CFI=.40; RMSEA=.26; SRMR=.69). In the 2-factor model, all items had statistically significant loadings above .55 on the hypothesized factor. Coefficient alphas were .74 for the 4-item hindrance appraisal scale and .76 for the 3-item challenge appraisal scale. The observed range was 1.00 to 4.00 for hindrance appraisals and 1.00 to 5.00 for challenge appraisals.

Burnout. Spouses rated the employee's burnout using the six items from Shirom and Melamed's (2006) scale that focus on physical fatigue. Items were revised from the original item battery to reflect the referent shift from self-report to spouse perceptions of the employee. We chose a 30-day reference period for this variable to capture both stable and episodic tendencies of current burnout (Schaufeli et al., 2011). We believe spouses could provide a reliable measure of the employee's burnout from work because burnout manifests through observable behaviors at

home³. The six items appear in Appendix C. Using a Likert scale ranging from (1) *never or almost never* to (7) *always or almost always*, spouses reported their perceptions of how often the employee felt that way during the 30-day period. The six items had acceptable reliability ($\alpha=.90$) and the observed range was from 1.00 to 6.00.

WFC. Spouses rated four items (see Appendix C) from Grzywacz and Marks (2000) on a 5-point Likert scale (1 = *never* to 5 = *all of the time*), using the 12-month period as the time referent to align with the global work demands and appraisal measures. Items were revised from the original scale to reflect the referent shift from self-report to spouse perceptions of the employee. The four items were averaged to create a scale score ($\alpha=.82$) and the observed range was 1.00 to 5.00.

Thriving at work. Employees responded to the eight positively worded items from Porath and colleagues' (2012) scale (see Appendix C). Respondents were asked to indicate the extent to which each item reflected how they felt towards their jobs on a Likert scale ranging from (1) *strongly disagree* to (5) *strongly agree*. Similar to burnout, we chose a 30-day reference period for this variable. The eight items were averaged to form a single score ($\alpha=.84$) and the observed range was 2.00 to 5.00.

WFE. Spouses rated four items (see Appendix C) from Grzywacz and Marks (2000) on a Likert scale (1=*never* to 5=*all of the time*), using the 12-month period as the time referent to align with the global work demands and appraisal measures. Items were revised from the original scale to reflect the referent shift from self-report to spouse perceptions. The four items were averaged to create a single score ($\alpha=.75$) and the observed range was 1.00 to 5.00.

³To provide one check on the validity of the spouse's rating, we also collected employee's self-report of burnout using the same six items. The spouse- and self-ratings of burnout significantly correlated ($r=.45, p=.001$).

Covariates. We controlled for several individual attributes that may relate to perceptions that global work is hindering or challenging. First, *cultural intelligence (CQ)*, which describes someone's capability to function effectively in culturally diverse settings (Ang & Van Dyne, 2008), was controlled for because it provides employees with personal resources to effectively cope with the stress of international travel. CQ was measured using the 9-item Mini CQ scale (see Appendix C; Ang & Van Dyne, 2008; Ng et al., 2019) on a 5-point response scale ($\alpha=.76$). Second, *job level* (coded: 4=top-level manager; 3=middle manager; 2=low-level manager; 1=non-management) was included because employees in higher level jobs within the organization should perceive their global work as less hindering and more challenging due to the status, support, and power that comes with higher-level positions. Third, we controlled for *English language native speaker* because employees who are fluent in English should find their global work to be less hindering, due to English being the official language of business in the participating companies. For this measure, respondents indicated "yes" (scored 1) or "no" (scored 0) to the following question: "Is English your native language?" Fourth, we controlled for *sex* (1=male; 0=female), as females may experience discrimination or gender bias working in some countries (Shortland & Porter, 2020), thus contributing to stress and burnout. Fifth, because a MANOVA indicated that employees in Company A (which also had the majority of respondents) had significantly different mean scores on WFE and challenge appraisals ($F=1.51$, $p=.023$), we included a dummy-code for Company A. Finally, we considered controlling for *years of global work responsibilities*, but it was not correlated with any of the study variables (see Table 2); thus, it was excluded from hypothesis testing.

Analyses and Results

Table 2 reports the descriptive statistics and correlations for all study variables.

***** Insert Table 2 about here *****

Confirmatory factor analyses and discriminant validity of measures. To demonstrate discriminant validity among our constructs, we used MPLUS 8.3 (Muthen & Muthen, 2019) to conduct a CFA of the measurement model including all scales that were measured with multiple scale items. Thus, including the control variable of CQ, we expected 10 correlated latent factors. To reduce the number of estimated parameters relative to our sample size, we created parcels for CQ, nonwork disruption demands, cognitive flexibility demands, thriving, and burnout (all variables measured with 6 or more items); the remaining five latent factors were estimated using their scale items. Item parcels for the CFA is recommended when the use of scale items in the CFA would result in the number of estimated parameters being greater than the sample size, as was our case (Little et al., 2013). Because CQ is a multidimensional construct, the internal consistency approach was used to create 4 parcels representing the 4 facets underlying the CQ construct (Ang & Van Dyne, 2008); this maximizes the internal consistency of each parcel (Williams & O'Boyle, 2008). The balancing approach was used for nonwork disruption demands (3 parcels), cognitive flexibility demands (3 parcels), thriving (3 parcels) and burnout (3 parcels) as the items for each construct represented a single factor in our data, and thus, we sought to equally balance each parcel in terms of item discrimination (Little et al., 2002).

The 10-factor measurement model fit the data reasonably well ($\chi^2=698.54$, $df=515$, $p=.000$; CFI=.93; RMSEA=.04; SRMR=.06). Further, with the exception of one international travel demand item (number of countries visited per trip), all scale items had statistically significant loadings on their latent factor. As discussed previously, international travel demands is a formative construct so high factor loadings are not necessary (Coltman et al., 2008). Retaining it ensures the scale captures the various ways international travel is demanding. We then compared

the 10-factor model to several alternative nested models (see Table 3). In all cases, the 10-factor model provided better fit. In the 10-factor model, the average variance explained (AVE) by the items composing each latent construct ranged from .36 (international travel demands) to .72 (burnout). Following Fornell and Larcker (1981), evidence for discriminant validity is present in our data as the square root of the AVE for each latent construct is greater than its correlations with other study variables (see Table 2 for AVE scores and correlations). Overall, our CFA measurement model results indicate that our measures capture 10 distinct theoretical constructs.

***** Insert Table 3 about here *****

Finally, to check for common method variance (CMV) among the self-reported variables, we ran a CFA with a method factor, excluding the three spouse-rated measures (e.g., Podsakoff et al., 2012). Thus, we specified an 8-factor model including the method factor, with 24 items/parcels as the observed variables as described in the CFA measurement model above. Because specifying every observed variable to load on the common method factor, as well as their theoretical factor, resulted in a non-identified model, we estimated a common method factor loading for two observed variables per theoretical construct. However, the 8-factor model did not converge even after several alternative estimations of the CMV loadings. We therefore removed the items for international travel demands from the analysis with the rationale being that because these four items were objective measures with a different response format (open-ended responses) than all other scale items (Likert scales), common method bias is less likely to influence the international travel demands measure (Podsakoff et al., 2012). Thus, the CFA now specified 7-factors, including the method factor, with 20 observed variables. This model converged with good fit ($\chi^2=200.70$, $df=143$, $p=.001$; CFI=.96; RMSEA=.04; SRMR=.06). Importantly, only one of the factor loadings on the method factor (of 12 possible) was

statistically significant and it was for one of the parcels measuring CQ, a control variable. For all items/parcels, the standardized loading on the theoretical factor was greater than the standardized loading on the method factor. Further, the method factor explained only 4% of the total variance in the observed variables, well below the 50% cutoff that is suggestive of a single substantive factor (Podsakoff et al., 2012).

Analyses for hypothesis testing. The hypotheses were tested simultaneously with Latent Moderated Structural Equation Procedures (LMS) (Sardeshmukh & Vandenberg, 2017) in MPLUS 8.3, which allows for testing of interaction terms in structural models. We used MLR estimation and specified a RANDOM analysis. Centered scores were used for cognitive flexibility and nonwork disruption demands to aid in the interpretation of the interaction terms (Sardeshmukh & Vandenberg, 2017). The observed variable was used for international travel demands because it is a formative construct and for the covariates which were each assessed with a single item. A reflective latent construct was created for all remaining variables using the single-score indicator approach, where the path from the latent construct to the observed indicator was set equal to one and measurement error was calculated (Williams & O'Boyle, 2008). The use of single-score indicators is recommended in complex models where the goal is to understand relations among the latent variables, as opposed to measurement items, so that the fit of the structural model is not confounded with the fit of the measurement model (Anderson & Gerbing, 1988; Williams & O'Boyle, 2008). The correlations between hindrance and challenge appraisals (the two mediators), and between burnout and WFC (because of their high intercorrelation, $r=.60$), were estimated. We used two-tailed tests for hypothesis testing.

Following the procedures described by Sardeshmukh and Vandenberg (2017), we first ran a baseline model without the interaction terms included (i.e., a mediated model in which hindrance

appraisals mediate the relationships between the three global work demands and burnout and WFC, and challenge appraisals mediate the relationships between the work demands and thriving and WFE). We ran the first model with paths from all control variables to all endogenous variables estimated. This model converged, but several control variable paths were not statistically significant. Thus, to improve model fit, we re-ran the baseline model including only the nine significant control variable paths.⁴ This baseline model fit the data reasonably well ($\chi^2=84.83$, $df=52$, $p=.003$; CFI=.91; RMSEA=.05; SRMR=.07). We then compared the baseline model to a model in which we added the non-hypothesized paths from hindrance appraisals to thriving and WFE, and from challenge appraisals to burnout and WFC. This second baseline model did not reveal significant improvement in fit ($\Delta\chi^2=2.88$, $\Delta df=4$, *n.s.*) and none of the additional paths were statistically significant. Thus, we retained our original baseline model to test Hypotheses 1-6, using the “MODEL INDIRECT” command to examine the indirect effects. In a second set of analyses, to test Hypotheses 7-10⁵, we added the four hypothesized and one exploratory interaction terms to the baseline model specifying a “random” analysis and MLR estimation. For significant interaction effects, we used the MODEL CONSTRAINT command to examine the nature of the conditional indirect effects (Sardeshmukh & Vandenberg, 2017).

Hypotheses 1-6 results. In the baseline model, none of the indirect effects from international travel demands to the outcomes were statistically significant: to burnout ($\beta =.01$, $t=.55$, $p=.581$), to WFC ($\beta =.02$, $t=.55$, $p=.579$), to thriving ($\beta =.06$, $t=1.61$, $p=.108$), and to

⁴The significant control variable paths included: CQ to challenge and hindrance appraisals; English language to challenge appraisals, hindrance appraisals, and burnout; job level to WFC; sex to burnout; and Company A to challenge appraisals and WFE. A model excluding all control variables had substantially similar results as the model with control variables and made no difference to the results of hypothesis testing.

⁵Indirect effects cannot be computed in a random analysis, which is why Hypotheses 1-6 were tested using the baseline model.

WFE ($\beta = .01, t = .79, p = .430$). Thus, neither Hypotheses 1 nor 2 was supported. For cognitive flexibility demands, the positive indirect effect to burnout through hindrance appraisals did not reach statistical significance ($\beta = .06, t = 1.95, p = .051, 95\% \text{ CI } [.000, .118]$); however, it was statistically significant to WFC ($\beta = .08, t = 2.05, p = .040, 95\% \text{ CI } [.003, .146]$). Thus, Hypothesis 3b, but not 3a, was supported. In addition, there was a statistically significant positive indirect effect from cognitive flexibility demands to thriving through challenge appraisals ($\beta = .10, t = 2.33, p = .020, 95\% \text{ CI } [.016, .189]$), but it was not significant to WFE ($\beta = .02, t = 0.85, p = .397, 95\% \text{ CI } [-.022, .057]$). Thus, Hypothesis 4a, but not 4b, was supported. For nonwork disruption demands, there was a statistically significant positive indirect effect to burnout ($\beta = .12, t = 3.09, p = .002, 95\% \text{ CI } [.043, .190]$) and WFC ($\beta = .15, t = 3.53, p = .000, 95\% \text{ CI } [.066, .229]$) through hindrance appraisals. Thus, Hypothesis 5 was supported. Finally, there was a statistically significant negative indirect effect from nonwork disruption demands to thriving through challenge appraisals ($\beta = -.12, t = -2.81, p = .005, 95\% \text{ CI } [-.199, -.035]$), but it was not significant to WFE ($\beta = -.02, t = -0.85, p = .393, 95\% \text{ CI } [-.064, .025]$). Thus, Hypothesis 6a, but not 6b, was supported.

Hypotheses 7-10. Next, we tested Hypotheses 7-10 in a second model, in which we created the two interaction terms (international travel demands X cognitive flexibility demands and international travel demands X nonwork disruption demands) and estimated their paths to both hindrance and challenge appraisals per the hypotheses. For exploratory purposes, we also added the interaction of nonwork disruption demands X cognitive flexibility demands predicting hindrance and challenge appraisals (see results below). Figure 2 displays this model. Because MPLUS does not compute Chi-square values or the common fit statistics when interaction terms are included, we compared the AIC scores between the model with the interaction terms (4031.49) and the baseline model (4034.73). According to Sardeshmukh and Vandenberg (2017),

because the AIC is almost equivalent across the two models, we can conclude that the interaction terms model fits just as well as the baseline model.

The results indicated that the interaction of international travel demands X cognitive flexibility demands did not significantly predict hindrance or challenge appraisals. Since the first stage effects were not supported, neither Hypothesis 7 nor 8 were supported. In addition, international travel demands X nonwork disruptions demands was not significant in predicting hindrance appraisals, so Hypothesis 9 was not supported. However, international travel demands X nonwork disruption demands significantly predicted challenge appraisals ($\beta = -.13$, $t = -2.15$, $p = .031$). To estimate the conditional indirect effects of international travel demands on thriving and WFE per Hypothesis 10, we used the MODEL CONSTRAINT command (Sardeshmukh & Vandenberg, 2017). Table 4 reports the full model results of the conditional effects. Consistent with Hypothesis 10a, and shown in Figure 3, there was a statistically significant, positive, total indirect effect from international travel demands to thriving, through challenge appraisals, for employees with *lower nonwork disruption demands* ($b = .12$, $t = 2.69$, $p = .007$), but this indirect effect was not significant for employees with higher nonwork disruption demands ($b = .02$, $t = .50$, $p = .620$). The indirect effects from international travel demands to WFE were not significant at either higher or lower levels of nonwork disruption demands, so Hypothesis 10b is not supported.

***** Insert Figures 2 and 3 and Table 4 about here *****

Supplemental exploratory results. Although not hypothesized, for exploratory reasons, we included the paths from the interaction for nonwork disruption demands X cognitive flexibility demands to both hindrance and challenge appraisals in the second model described above. Notably, the interaction of nonwork disruption demands X cognitive flexibility demands

significantly predicted challenge appraisals ($\beta=.18, t=2.33, p=.020$) (see Figure 2). We therefore also examined the conditional indirect effect of nonwork disruption demands on thriving, with cognitive flexibility demands as the moderator (see Table 4). As shown in Figure 4, nonwork disruption demands negatively related to thriving, through challenge appraisals, only for employees with *lower* cognitive flexibility demands ($b=-.17, t=-2.85, p=.004$). Finally, to be thorough in our analyses, we tested the three-way interaction effect among international travel X cognitive flexibility X nonwork disruptions demands predicting both hindrance and challenge appraisals, and neither path estimate was statistically significant.

***** Insert Figure 4 about here *****

Finally, because international travel demands was measured as a formative construct, we re-ran the analyses separately, substituting each of the four scale items as a single indicator for international travel (results are available from first author). To summarize, the item “number of trips in past 12 months” positively related to hindrance appraisals ($\beta=.16, p=.03$) and indirectly to WFC ($\beta=.06, p=.049, 95\% \text{ CI } [.001, .115]$), providing support for Hypothesis 1b. In addition, the “number of different countries visited **per trip**” positively related to hindrance and challenge appraisals ($\beta=.50$ and $.52$, respectively, $p < .007$), with higher levels of nonwork disruption demands and cognitive flexibility demands each significantly weakening both effects (i.e., all four interaction terms were statistically significant at $p < .01$). However, none of the conditional indirect effects from “countries per trip” to burnout, WFC, nor thriving were statistically significant. The other two items measuring international travel demands – “number of countries visited in past 12 months” and “average number of days of international trips” -- did not have statistically significant relationships to any of the mediators or outcome variables. In sum, only Hypothesis 1b was supported with one of the scale items.

Summary of results. The results of our hypothesis testing are summarized in Table 5. The explained variance in the endogenous variables in the model with all interaction terms included was 11% for burnout, 15% for WFC, 23% for thriving, 3% for WFE, 32% for hindrance appraisals, and 33% for challenge appraisals. In the baseline model (without interaction terms), the explained variance in challenge appraisals was 23%, indicating that the two significant interaction terms explained an additional 10% of the variance in challenge appraisals.

***** Insert Table 5 about here *****

DISCUSSION

Based on transactional stress theory, we proposed that global work demands may have both harmful and beneficial consequences for global employees. Indeed, we found that cognitive flexibility demands increase WFC through hindrance appraisals of the global work, but also increase thriving through challenge appraisals. On the other hand, international travel demands had only positive consequences but only under certain conditions: it was associated positively with employee thriving through challenge appraisals, but only among employees working in jobs that have fewer nonwork disruption demands. Finally, nonwork disruption demands only had negative consequences: it positively related to burnout and WFC through hindrance appraisals. Further, nonwork disruption demands negatively related to employee thriving through challenge appraisals, especially among employees working in jobs that have *fewer* cognitive flexibility demands. Taken together, our study makes important theoretical and practical contributions to the global work literature and transactional stress theory.

Theoretical and Empirical Contributions

First, we contribute to research on global work experiences by shifting the focus from individual differences to the job demands associated with global work (Shaffer et al., 2012). In

doing so, in contrast to prior research, we examined all three global work demands, not just international travel, and their interactions. Adopting a job-focused perspective offers new insights into the ways that the demands inherent in global roles are associated with important employee outcomes. Our findings demonstrate that global work demands which disrupt employees' nonwork activities contribute to perceptions that their global work is debilitating and exhausting, and it interferes with their family life. These nonwork disruption demands also reduce employee thriving through lower perceptions that the global work is motivating and stimulating. Our unexpected finding that the combination of high nonwork disruption demands and low cognitive flexibility demands is significantly detrimental to perceptions of thriving (see Figure 4) suggests that this particular combination results in feelings of global work being a nuisance, rather than invigorating and challenging. Furthermore, as the two interaction effects accounted for 10% of the variance in challenge appraisals, considering the interaction of global work demands is important for understanding the appraisals that global employees make.

We further contribute to the limited research that has examined the international travel demand of global work by identifying when international travel may be hindering or challenging. Specifically, we found that international travel demands positively relate to thriving through challenge appraisals, but only when employees are working in jobs with fewer nonwork disruption demands. Whereas previous research on international travel has found it positively relates to exhaustion (Westman & Etzion, 2002) and WFC (Mäkelä et al., 2015), especially among women travelers (Westman et al., 2008), in our sample, international travel demands did not correlate with hindrance appraisals, burnout, or WFC. The differing findings may be due to how we measured international travel demands. The above studies focused only on frequency of travel (number of trips) and/or duration of travel (number of days spent traveling). It may be that

by also including number of countries visited, as we did in the current study, international travel is no longer perceived as hindering and exhausting. Indeed, supplemental analyses using single items for travel demands indicated that number of trips positively related to hindrance appraisals and indirectly to WFC. However, our broader measure of international travel demands positively relates to challenge appraisals and thriving when nonwork disruption demands are low. Thus, it may be important in future studies to not only measure international travel demands with a broad formative measure, but also account for other job demands to fully understand the implications of international travel demands and when they can be beneficial to employees.

Our second contribution is to transactional stress theory, which proposes that a stressor can be appraised as both a challenge and a hindrance (Lazarus & Folkman, 1984). Thus, instead of assuming that a specific global work demand is a hindrance or challenge stressor (Mazzola & Disselhorst, 2019), we directly and simultaneously assessed hindrance and challenge appraisals of global work demands. Our finding that cognitive flexibility demands positively related to employees' appraisals that their global work was both hindering and challenging illustrates the importance of assessing appraisals separately from work demands/stressors to better understand the potential benefits and harmful effects of work demands. Further, consistent with the theory (Crawford et al., 2010; Lazarus & Folkman, 1984), we found that hindrance appraisals positively related to burnout and WFC, while challenge appraisals positively related to thriving at work, providing validity for our appraisal measures. However, we did not find an expected positive relationship between challenge appraisals and WFE. It may be that the learning and growth associated with typical tasks of global work, such as cross-cultural interactions and international travel, are not that relevant to doing "practical" and "useful" things at home; perhaps challenge appraisals stemming from other work roles, such as leadership, may be more relevant to work-

family enrichment. Nevertheless, our findings support the idea that the same job demands may be associated with both positive and negative outcomes depending on how they are appraised.

Finally, our third contribution stems from developing and providing initial validation of the global work demand scales, which provides a preliminary tool to enable researchers to further investigate the nature, antecedents, and consequences of global work demands. As demonstrated in our study, all three global work demands are important for understanding global work experiences and employee well-being. As such, this instrument could facilitate research that seeks to investigate the demands and experiences encountered by international business travelers, self-initiated expatriates, short-term international assignees, global virtual team members, and other types of global workers (Shaffer et al., 2012). We encourage future research to further examine the validity of the scales and modify items as necessary to ensure a valid instrument that captures the three global work demands. It is important to note that the international travel demands scale is a formative measure and, as such, there are both theoretical and empirical implications that need to be taken into consideration (see Coltman et al., 2008, for a review). As an example, with formative measures, the individual items of the construct may relate differentially to antecedents and/or consequences – as we demonstrated with our supplemental analyses with each of the four international travel demand items separately.

Directions for Future Research

Our research opens several avenues for future research on global work demands and related topics. First, we examined how people appraise, and consequently experience, the demands of global work. Importantly, our findings indicate that work demands may interact to influence such appraisals in somewhat unexpected ways. For instance, although high levels of nonwork disruption demands generally have negative implications (through hindrance appraisals),

employees who work in jobs with high levels of nonwork disruption may experience more thriving when their jobs also require greater cognitive flexibility. Building on this research, it would be worthwhile to examine if there might also be individual differences that influence when global work demands are perceived as challenges and/or hindrances. For instance, figuring out new ways of solving problems and looking at things from a different perspective (i.e., cognitively flexibility demands) may be uncomfortable and overwhelming for someone relatively new to the job, but may be perceived as exciting and eye opening for someone who has been in the job role for many years and has developed greater cultural intelligence. Likewise, although nonwork disruption can be upsetting and aggravating for some, such as those who prefer routines and stability, others may enjoy a life of constant change, variety, and surprises.

Second, other theoretical and methodological approaches could shed additional light on the configuration of global work demands described by Shaffer et al. (2012). For example, it might be worthwhile to use latent profile analysis (LPA) to empirically identify profiles of global work demands. Although LPA is often described as a person-centered approach (Gabriel et al., 2018), it is also a pattern-oriented technique that might reveal different profiles of global work demands that employees encounter in their jobs (e.g., a pattern of high levels of all three demands; a pattern of high international travel demands, but low levels of cognitive flexibility demands and nonwork disruption demands; a pattern of low international travel demands, high levels of cognitive flexibility, and moderate nonwork disruption demands). By first identifying profiles of global work demands, it could then be determined if these patterns reflect different types of global work assignments, such as expatriates, global virtual team members, or international business travelers, and/or are related in a systematic manner to global employees' psychological and work outcomes.

Third, in this study, we examined the between-person implications of appraising global work as hindering and challenging. However, recent studies suggest that such appraisals may also vary within-persons (e.g., Mitchell et al., 2019; Prem et al., 2017). Thus, it would be instructive to use experience sampling methodologies to determine the degree to which appraisals of global work demands vary on a day-to-day, week-to-week, or assignment-to-assignment basis within persons. Such studies could also explore the factors that influence the appraisal of demands. For instance, when employees are dealing with multiple demands at a specific moment in time, it may increase the likelihood that they appraise other demands as more of a hindrance. At the same time, in those moments when employees are enjoying the personal and professional rewards associated with global work assignments (Stahl et al., 2002), they may appraise their global work demands more positively. It may also be that, from an affective events theory (Weiss & Cropanzano, 1996) and crossover perspective (Westman et al., 2009), challenge appraisals of employees' work demands relate to WFE only on a day-to-day basis, which may be another explanation for why we did not find support for that relationship in our study.

Finally, future research should explore how the experience and importance of global work demands may have changed due to the COVID-19 global pandemic. For instance, with different testing and quarantine requirements around the world and health-related concerns regarding exposure to COVID, some employees may now perceive international travel as more of a hindrance today than prior to the pandemic. On the other hand, after being deprived of the opportunity to travel, others might have heightened excitement at the prospect of travelling again, and thus, feel a stronger sense of challenge and thriving from international travel post-pandemic. Research should also explore how the reduction in international travel demands relates to the experience of other demands. Generally speaking, international travel demands are

now likely to be lower because more work is being done remotely. However, those with global work responsibilities may experience higher levels of nonwork disruption demands because they need to connect virtually with colleagues and customers located in different countries and time zones. By the same token, reduced international travel also means fewer face-to-face interactions among global colleagues; what this means for cognitive flexibility demands needs to be explored. It may be that reduced international travel limits cognitive flexibility demands because there are now fewer informal cross-cultural interactions (such as dinners and drinks with business partners), which may be a significant source of cognitive flexibility demands; however, it may be that reduced travel increases cognitive flexibility demands because the lack of face-to-face interaction limits the availability of the cues to decipher business partners' intentions and thoughts (because virtual interactions are less rich than face-to-face interactions). In general, future research on global work demands should consider how environmental factors and individual differences influence both the interrelationship among global work demands and how employees respond to specific global work demands.

Practical Implications

Our research provides insights on how to design jobs with global work demands that minimize their negative effect on employees' well-being, and instead, foster learning, growth, and thriving. We found that nonwork disruption demands and cognitive flexibility demands are positively related to hindrance appraisals for employees, which increases the likelihood of burnout and undermines work-family balance. At the same time, when nonwork disruption demands are high, organizations should be aware that greater cognitive flexibility demands can help employees thrive. Thus, when high levels of nonwork disruption demands cannot be reduced, managers should try to create cognitive flexibility demands by, for example,

encouraging their global employees to learn more about the culture of the country with whom they are doing global business and think about how their cultural values may be associated with appropriate solutions to problems and interactions with their people.

When considering international travel demands, it is useful for organizations to also consider the nonwork disruption demands in the job because global employees are more likely to see their work as challenging and to thrive when they experience both higher international travel demands and lower nonwork disruption demands. Thus, when organizations cannot reduce international travel demands, they should do their best to minimize the likelihood of nonwork disruption demands. Allowing teleworking, regulating meeting hours to the extent possible, granting flexibility in work schedules, and providing time to recover from demanding trips may help in this regard. Likewise, whenever possible, organizations should help and encourage employees to see the challenges, rather than the hindrances, associated with global work demands.

Finally, with the global pandemic and reduction in international business travel, some managers and HR professionals may conclude that global work is not as demanding as it was prior to the pandemic. Importantly, however, our work shows that this may be an incorrect conclusion as cognitive flexibility and nonwork disruption demands, compared to international travel, related more strongly to employees' hindrance appraisals. Both demands can be taxing, hindering, and relate to burnout and WIF conflict. For this reason, companies should continue to recognize the unique challenges of global work, even for employees who engage in less or no international travel after the pandemic has ended.

Strengths and Limitations

One strength of the current study is the use of multi-source data, such that employees provided data for the independent and mediator variables, while spouses provided ratings of

three of the dependent variables.⁶ This helps minimize common method bias from influencing the indirect effects found in the current study (Podsakoff et al., 2012). Moreover, although the data is cross-sectional and the global work demands and appraisal mediators were all measured from the same source, evidence suggests that method bias cannot inflate interaction effects (Podsakoff et al., 2012; Siemsen et al., 2010). A second strength is that our sample is comprised of individuals from several multinational companies representing various industries, job roles/levels, nationalities, and global work arrangements. In combination, these factors provide a reasonable level of assurance on the generalizability of our results for global work.

Despite these strengths, one potential limitation of our research is that all respondents worked for companies based in central Europe, which could hinder generalizability of our results to employees working in companies in other geographic regions around the world. Therefore, future studies should seek to validate our findings in other geographies, particularly in non-Western locations. Another limitation is that both employees and their spouses provided input at a single point in time; therefore, we cannot draw causal conclusions. By its very nature, global work demands can vary greatly from one time period to another; in turn, within-person variation in hindrance and challenge appraisals of global work demands is certainly possible across multiple points in time. Thus, longitudinal and within-person studies of global workers will be helpful to better understand the stability of our findings across multiple episodes. A final limitation is that several constructs in our model required the development of new measures, including global work demands and appraisals of global work. While we undertook considerable effort to develop and validate these scales, further validation and calibration is needed.

Conclusion

⁶All findings in our model related to thriving are from a single source (employee self-report) and should therefore be interpreted with caution.

Consistent with transactional stress theory, we found that the global work demands of international travel, cognitive flexibility, and nonwork disruption can be viewed as both challenges and hindrances and such appraisals related to global workers' thriving, burnout, and work-family conflict. Specifically, nonwork disruption demands contributed primarily to hindering appraisals, and thus, increased burnout and WFC. Cognitive flexibility demands contributed to both hindering and challenging appraisals, and thus, increased burnout, WFC, and thriving. International travel demands did not relate to hindrance appraisals, but positively related to employee thriving through challenge appraisals only when nonwork disruption demands were low. We hope our findings and new global work demand scales encourage further research on the benefits and challenges of global work.

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Table 1*Results of Principal Axis Factor Analysis of Global Work Demand Scales (Pilot study sample)*

Scale Item	Nonwork Disruption	Cognitive Flexibility	International Travel
To what extent do your global work responsibilities cause you to experience difficulty with the following...			
Attending family celebrations and events	.91		
Spending time with your family members	.89		
Keeping up with routine house maintenance (e.g., lawncare, cleaning, basic repairs)	.88		
Taking care of family members	.88		
Having time for yourself	.86		
Participating in or attending cultural, social, religious, or sporting events	.86		
Maintaining your normal/preferred diet	.86		
Meeting new people	.84		
Maintaining your normal exercise routine	.83		
Maintaining a normal sleep schedule	.81		
When working cross-culturally, to what extent does your job require you to...			
Consider things from new perspectives before deciding on a course of action		.87	
Look at problems using a different lens than you might normally use		.87	
Consider a wider range of options than usual before making decisions		.84	
Develop new ways of solving problems		.80	
Alter the ways you might normally interact with people		.77	
Reevaluate judgments and evaluations about why people behave as they do		.75	
Change your assumptions about what motivates people		.74	
Change fundamental assumptions about how work is done		.73	
Look at things from the perspective of people from other countries		.72	
Reconsider what you think of as ethical or unethical		.60	

Table 1*Continued*

Scale Item	Nonwork Disruption	Cognitive Flexibility	International Travel
During the past 12 months, how many different countries (besides your home country of work) have you visited for work-related purposes?			.92
On average, how many different countries did you <u>visit per each</u> international business trip that you took during the past 12 months?			.75
During the past 12 months, how many international business trips have you taken?			.49
On average, how many days was each of your international business trips (from the time you left home until you returned to your home) that you have taken in the past 12 months?			.18
Eigenvalue; Percent Variance Explained	9.21; 38%	4.43; 18%	1.58; 7%

Note: All cross-loadings were below .16 and not reported to ease interpretation of factors; n = 266.

Table 2*Descriptive Statistics, AVE Square Root, and Correlations among Study Variables (Primary Study)*

	Mean	SD	1	2	3	4	5	6	7	8
1. International Travel Demands (ITD)	-.006	.55	(.60)							
2. Cognitive Flexibility Demands (CFD)	3.53	.61	.07	(.68)						
3. Nonwork Disruption Demands (NWD)	3.07	.78	.22**	.29**	(.77)					
4. Hindrance Appraisals	2.42	.67	.05	.21**	.35**	(.65)				
5. Challenge Appraisals	3.89	.69	.12	.23**	-.07	-.18**	(.68)			
6. Burnout (spouse-rated)	2.79	1.17	.09	.14*	.11	.21**	-.14*	(.85)		
7. WFC (spouse-rated)	2.66	.73	.10	.18**	.14*	.30**	-.09	.60**	(.74)	
8. Thriving at work	3.89	.51	.08	.08	.01	-.09	.39**	-.23**	-.11	(.82)
9. WFE (spouse-rated)	3.12	.76	-.02	-.06	-.12	-.10	.03	-.16*	-.17**	.17*
10. Cultural Intelligence	3.87	.47	.18**	.27**	.14*	-.09	.30**	-.01	.06	.17*
11. Job Level	2.57	.94	.21**	.17**	.19**	.08	.14*	.13*	.17**	.04
12. Years Global Responsibilities	9.98	7.39	-.01	.01	.01	-.08	-.01	-.03	.00	-.10
13. Sex (1=male; 0=female)	.87	.33	.13*	-.05	.12	.05	-.05	-.16*	-.05	.07
14. Native English Speaker	.31	.47	.11	-.17**	-.02	-.14*	-.18**	.14*	.04	-.10
15. Company A	.71	.45	-.17**	-.21**	-.11	-.05	-.20**	-.05	-.12	-.10
16. ITD X CFD	.02	.31	.13	-.06	-.09	.04	.05	.01	.06	-.01
17. ITD X NWD	.09	.48	.26**	-.07	-.06	-.13*	-.08	.00	-.03	-.04
18. NWD X CFD	.14	.51	-.07	-.26**	.03	-.04	.01	.02	.00	.13

Note: N=229; International travel demands score was standardized; WFC = work-to-family conflict; WFE = work-to-family enrichment; Job level is coded 1 (no managerial responsibilities) to 4 (top-level manager); Native English Speaker is coded 1=yes, 0=no; Company A (coded 1) is compared to the other four companies (coded 0); Square root of AVE score is on the diagonal.

* $p < .05$

** $p < .01$

Table 2
Continued

	9	10	11	12	13	14	15	16	17
9. WFE (spouse-rated)	(.66)								
10. Cultural Intelligence	.02	(.59)							
11. Job Level	.00	.04							
12. Years Global Responsibilities	.08	.05	.24**						
13. Sex (1=male; 0=female)	.02	.04	-.01	.06					
14. Native English Speaker	-.02	-.16*	.03	.08	-.05				
15. Company A	.14*	-.23**	-.22**	.15*	.11	.04			
16. ITD X CFD	.06	.04	.06	.12	-.04	.07	-.01		
17. ITD X NWD	.03	.03	-.03	-.07	.05	.09	.06	.09	
18. NWD X CFD	.04	-.08	-.06	.01	.01	.01	.07	.21**	.10

Note: N=229; International travel demands score was standardized; WFC = work-to-family conflict; WFE = work-to-family enrichment; Job level is coded 1 (no managerial responsibilities) to 4 (top-level manager); Native English Speaker is coded 1=yes, 0=no; Company A (coded 1) is compared to the other four companies (coded 0); Square root of AVE score is on the diagonal.

* $p < .05$

** $p < .01$

Table 3
Confirmatory Factor Analysis Results for Measurement Model

Model	Chi-Square/df	$\Delta\chi^2$	SRMR	RMSEA	CFI
10-Factor hypothesized model	698.54 / 515		.06	.04	.93
9-Factors: challenge and hindrance appraisals combined + remaining 8 factors	914.17 / 516	215.63**	.22	.06	.85
9-Factors: challenge appraisals and thriving combined + remaining 8 factors	847.11 / 516	148.57**	.25	.05	.88
8-Factors: Spouse-rated variables combined (burnout, WFC, and WFE) + remaining 7 factors	885.56 / 518	187.02**	.18	.06	.86
8-Factors: Global work demands combined (international travel, cognitive flexibility, and nonwork disruption) + remaining 7 factors	838.79 / 518	140.25**	.20	.05	.88
7-Factors: Global work demands and challenge appraisals combined + remaining 6 factors	914.08 / 521	215.54**	.29	.06	.86
7-Factors: Global work demands and hindrance appraisals combined + remaining 6 factors	864.12 / 521	165.58**	.23	.05	.87

N= 229; the statistical significance of $\Delta\chi^2$ is based on comparisons to the 10-factor model.

Table 4*Results for Conditional Indirect Effects of Global Work Demands on Thriving*

	Intercept	First Stage Effect	Second Stage Effect	Indirect Effect	Direct Effect	Total Effect
International Travel Demands on Thriving (NWD as moderator)						
Lower NWD through challenge	1.44**	.33* [.119, .534]	.37** [.236, .506]	.12* [.033, .209]	.03 [-.057, .118]	.15* [.035, .268]
Higher NWD through challenge	1.30**	.04 [-.117, .199]	.37** [.236, .506]	.02 [-.045, .075]	.03 [-.057, .118]	.05 [-.038, .129]
Difference between lower and higher NWD		.29* [.017, .554]	.00 [.000, .000]	.10* [.004, .208]	.00 [.00, .00]	.11* [.004, .208]
Nonwork Disruption Demands on Thriving (CFD as moderator)						
Lower CFD through challenge	1.30**	-.45** [-.710, -.187]	.38** [.241, .526]	-.17** [-.290, -.054]	-.02 [-.156, .114]	-.19 [-.393, .007]
Higher CFD through challenge	1.47**	-.04 [-.227, .138]	.38** [.241, .526]	-.02 [-.086, .052]	-.02 [-.156, .114]	-.04 [-.189, .114]
Difference between lower and higher CFD		-.40* [-.746, -.063]	.00 [.000, .000]	-.16* [-.301, -.008]	.00 [.00, .00]	-.16* [-.301, -.008]

Note: N = 229; all coefficients are unstandardized beta estimates, 95% Confidence Intervals are in brackets. NWD = nonwork disruption demands; CFD = cognitive flexibility demands.

* $p < .05$.

** $p < .01$

Table 5*Summary of Hypotheses and Results*

Hypothesis	Conclusion of statistical tests
H1: International travel demands positively relate indirectly to (a) burnout and (b) WFC through hindrance appraisals.	H1 not supported
H2: International travel demands positively relate indirectly to (a) thriving at work and (b) WFE through challenge appraisals.	H2 not supported
H3: Cognitive flexibility demands positively relate indirectly to (a) burnout and (b) WFC through hindrance appraisals.	H3a not supported H3b supported
H4: Cognitive flexibility demands positively relate indirectly to (a) thriving at work and (b) WFE through challenge appraisals.	H4a supported H4b not supported
H5: Nonwork disruption demands positively relate indirectly to (a) burnout and (b) WFC through hindrance appraisals.	H5 supported
H6: Nonwork disruption demands negatively relate indirectly to (a) thriving at work and (b) WFE through challenge appraisals.	H6a supported H6b not supported
H7: There is an indirect conditional effect of international travel demands on (a) burnout and (b) WFC through hindrance appraisals, such that travel demands more strongly positively relate to burnout and WFC when <i>cognitive flexibility demands are higher</i> , compared to when cognitive flexibility demands are lower.	H7 not supported
H8: There is an indirect conditional effect of international travel demands on (a) thriving at work and (b) WFE through challenge appraisals, such that travel demands more strongly positively relate to thriving at work and WFE when <i>cognitive flexibility demands are higher</i> , compared to when <i>cognitive flexibility demands</i> are lower.	H8 not supported
H9: There is an indirect conditional effect of international travel demands on (a) burnout and (b) WFC through hindrance appraisals, such that travel demands more strongly positively relate to the outcomes when <i>nonwork disruption demands are higher</i> , compared to when nonwork disruption demands are lower.	H9 not supported
H10: There is an indirect conditional effect of international travel demands on (a) thriving at work and (b) WFE through challenge appraisals, such that travel demands more strongly positively relate to the outcomes when <i>nonwork disruption demands are lower</i> , compared to when nonwork disruption demands are higher.	H10a supported H10b not supported

Figure 1

Hypothesized Model

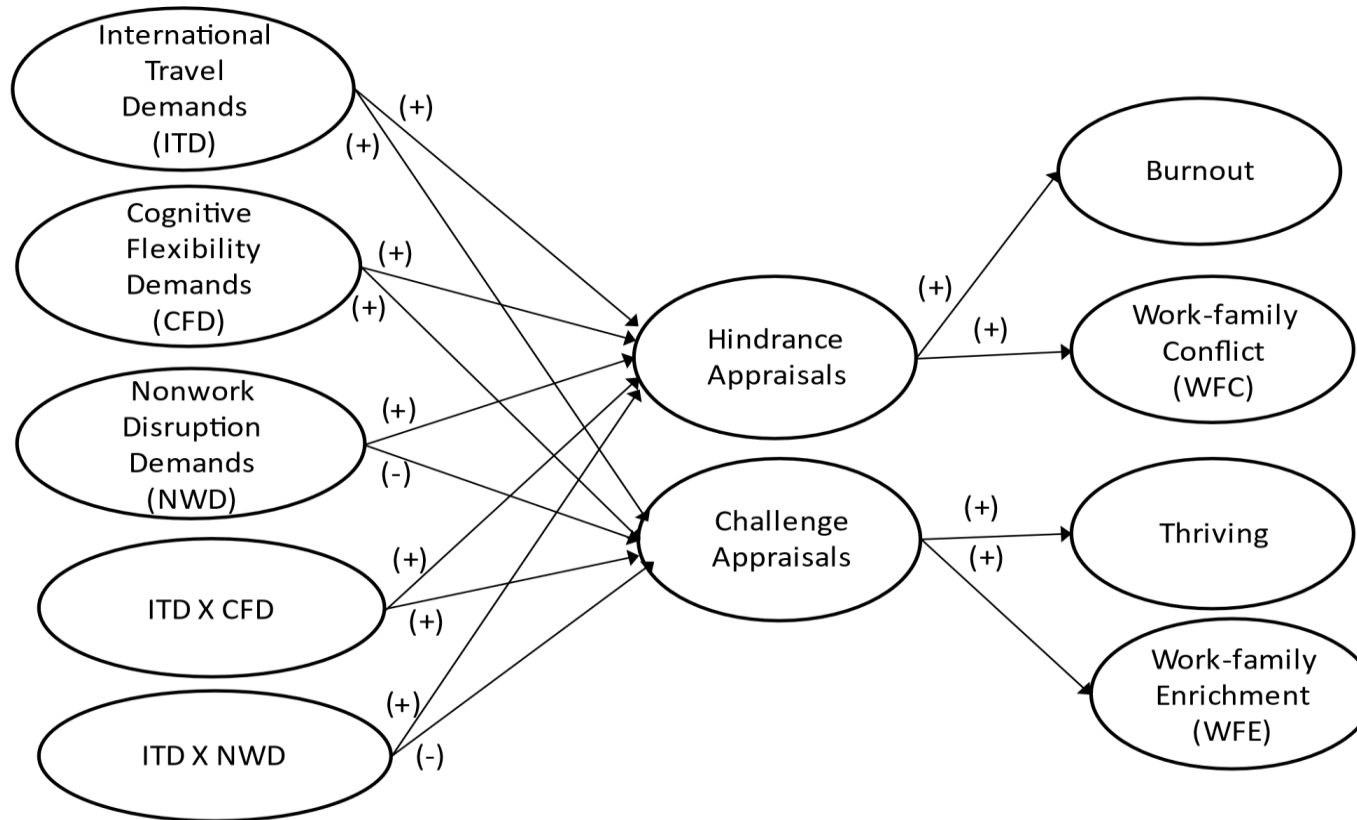
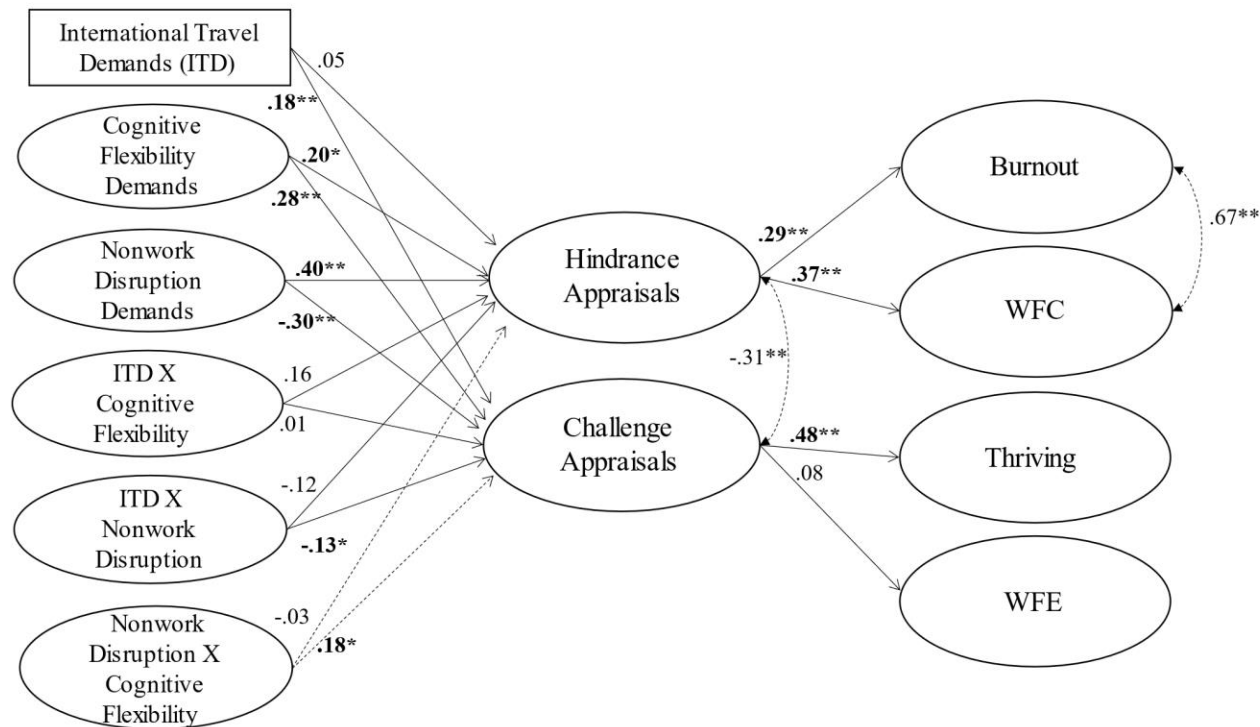


Figure 2

Results of Moderated Structural Equation Model 3: Hypothesized and Exploratory Interaction Terms Included



Note: N=229. Standardized parameter estimates are reported; international travel demands was measured with the observed variable; latent constructs were created for all other variables using the single-score indicator approach. Non-hypothesized paths are shown with dotted lines. For sake of clarity, control variables are not depicted, but included the following paths (all $p < .05$): Cultural intelligence to hindrance appraisals ($\beta = -.28$) and challenge appraisals ($\beta = .28$); English language fluency to hindrance appraisals ($\beta = -.15$), challenge appraisals ($\beta = -.14$), and burnout ($\beta = .14$); Company A to challenge appraisals ($\beta = -.12$) and work-family enrichment (WFE) ($\beta = .18$); Sex to burnout ($\beta = -.13$); Job level to work-family conflict (WFC) ($\beta = .10$).

Figure 3

Conditional Indirect Effects for International Travel Demands X Nonwork Disruption Demands on Thriving (Hypothesis 10a)

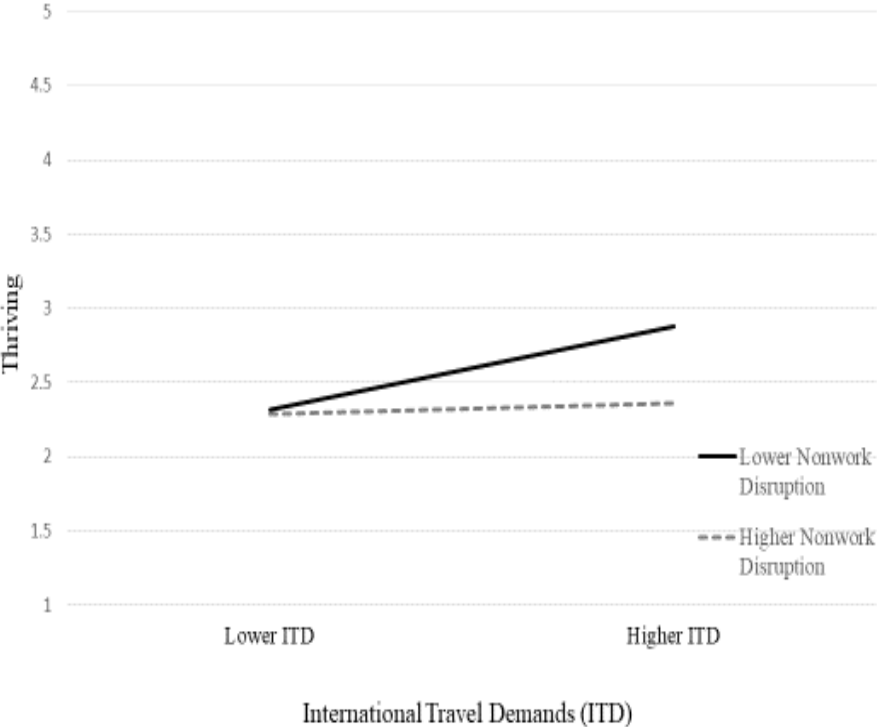
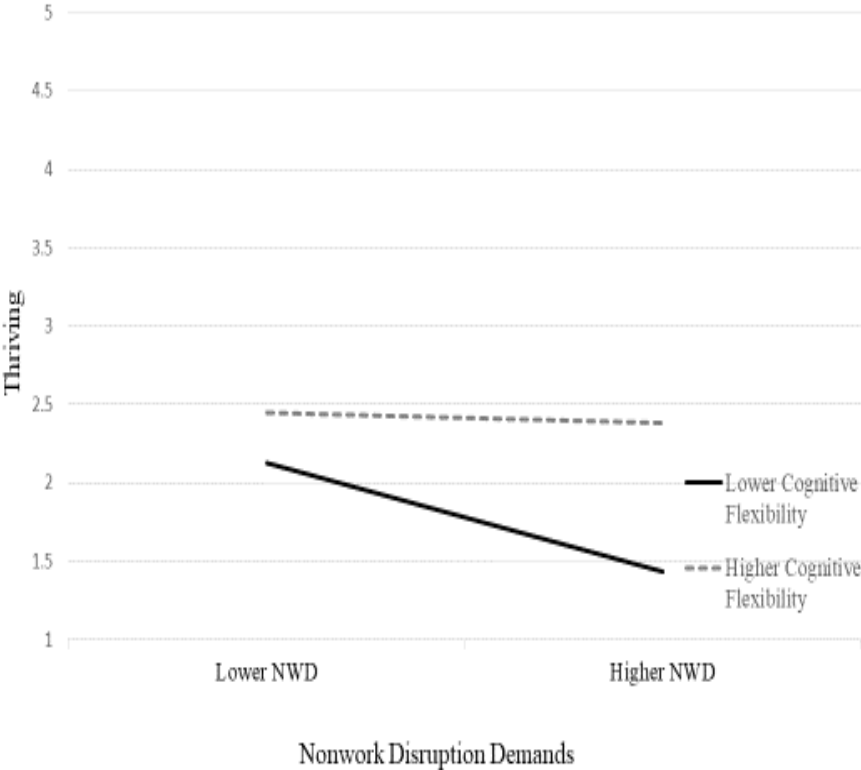


Figure 4

Conditional Indirect Effects for Nonwork Disruption Demands X Cognitive Flexibility Demands on Thriving (exploratory analysis finding)



Appendix A

Pilot Study: Validity Evidence for the Global Work Demand Scales

We recruited 1,000 participants to complete a web survey through Zoomerang, a U.S. web-based survey panel of pre-screened members. We filtered respondents by only inviting participants who answered “yes” to this initial question: “In my current job, I have global work responsibilities that require me to live in a foreign country for business purposes, to travel to other countries for business purposes, and/or to communicate with business associates in other countries.” We received at least partial responses from 306 employees (30% response rate). After deleting 40 cases with excessive missing data or suspect answers (e.g., little to no discrimination across responses), our final sample consisted of 266 responses. The average organizational tenure was 9 years, with an average of 8 years of global work responsibilities. Average age was 40 years, 62% were male, and 98% were U.S. citizens. We measured type of global work following Shaffer and colleagues (2012) by providing the definition of each type of global work arrangement (see Table A1 in the Appendix) and asking respondents to indicate which *one best reflects the majority of their work responsibilities*. The sample includes the following types of workers: 26% international business travelers, 25% global domestics, 16% global virtual team members, 15% corporate expatriates, and 13% short-term assignees.

To empirically demonstrate the convergent and discriminant validity of the three global work demands scales, we: (a) examined the mean scores on each of the three work demands across the different types of global workers (see Table A1); and (b) assessed relationships among our three global work demands and several constructs we expected to be theoretically related to one or more of the work demands but not necessarily to all of them. Specifically, we assessed two individual difference constructs (cultural intelligence and cognitive flexibility disposition),

two job characteristics (frequency of face-to-face communication and job complexity), and two stress outcomes (job stress and work-to-family conflict).

Theory and Measures

Individual differences. *Cultural intelligence* (CQ), defined as the ability to adapt effectively to new cultural contexts, was measured with 20 items from Ang et al., 2007). We expected CQ to positively correlate with both international travel and cognitive flexibility demands because CQ is a personal resource that will facilitate the cross-cultural interactions that are an inherent feature of these two demands. *Cognitive flexibility disposition*, describes individuals' tendencies to see difficult situations as controllable and their ability to make sense of the events around them and to come up with alternative solutions for challenging situations (Dennis & Vander Wal, 2010). We measured this with the 20-item cognitive flexibility inventory by Dennis and Vander Wal (2010). We anticipated that this disposition would be a personal resource that would enable employees to better respond to both the cognitive flexibility and nonwork disruption demands, both of which require the global employee to shift mentalities or thoughts when spanning boundaries (i.e., across cultures or between the work/nonwork domains).

Job characteristics. The *frequency of face-to-face communications* with work contacts in other countries was measured with one item on a scale from 1= never to 7 = daily. We expected it to correlate positively with all three global work demands because each of these demands entailed interactions with others across cultures. *Job complexity* refers to jobs that are mentally challenging and require the use of complex skills (Campbell, 1988). We measured this with 7 items selected from Karasek (1979) and Dean and Snell (1991). We expected job complexity to positively correlate with cognitive flexibility demands because both constructs describe jobs that are ambiguous and that require the ability to come up with novel solutions to problems.

Stress outcomes. *Job stress* refers to a reaction to the work environment that is “an unpleasant emotional experience associated with elements of fear, dread, anxiety, irritation, annoyance, anger, sadness, grief, and depression” (Motowidlo et al., 1986, p. 618); it was measured with the two positively worded items from these authors. We anticipated that job stress would positively correlate with the cognitive flexibility and nonwork disruption demands because both of these are mentally and emotionally challenging aspects of the job. *WFC* occurs when demands from the work role intrude into the family family role (Greenhaus & Beutell, 1985); we measured this with 4 items from Grzywacz & Marks, 2000). We expected WFC to positively correlate with both cognitive flexibility and nonwork disruption demands because both require employees to devote more time and energy to the work role, thus detracting from employees’ ability to effectively participate in the family role.

Results

With regard to the mean scores on each of the three work demands across the different types of global workers, a MANOVA indicated that the overall F-test for global work arrangement type was statistically significant ($F = 7.38, p = .000$), with the test of between-subject effects indicating there were significant mean score differences among the types of global workers for all three job demands: international travel ($F = 12.17, p = .000$), cognitive flexibility ($F = 9.50, p = .000$), and nonwork disruption ($F = 7.43, p = .000$). Shaffer and colleagues (2012) proposed that international travel demands would be significantly higher among expatriate employees, international business travelers, and short-term assignees, compared to global virtual team members and global domestics. Our results supported these mean score differences in international travel demands (see Table A1). Cognitive flexibility demands were proposed to be highest among expatriates and global virtual team members, moderate among short-term

assignees and international business travelers, and lowest among global domestics. Our results were somewhat consistent with this proposition in finding that cognitive flexibility demands were significantly lower among global domestics, compared to all other types of global workers. Nonwork disruption demands were proposed to be highest among international business travelers and short-term assignees, moderate among expatriates and global virtual team members, and lowest among global domestics. The results partially supported this proposition; nonwork disruption demands was significantly higher among expatriates and short-term assignees, moderate among international business travelers, lowest among global virtual team members and global domestics (see Table A1).

With regard to the correlations among the three global work demands and each of the theoretically-related variables, as shown in Table A2, they are largely consistent with our expectations. In particular, international travel demands positively correlated with cultural intelligence ($r = .31, p < .01$) and frequency of face-to-face meetings with colleagues in other countries ($r = .27, p < .01$); also, as expected, it was not correlated with job complexity, job stress, or the dispositional trait of cognitive flexibility. Cognitive flexibility demands positively correlated with all of the variables ($p < .01$): cultural intelligence ($r = .28$), job complexity ($r = .22$), face-to-face meetings with colleagues in other countries ($r = .24$), job stress ($r = .29$), WFC ($r = .35$), and cognitive flexibility disposition ($r = .30$). Finally, nonwork disruption demands positively correlated ($p < .01$) as expected with face-to face communications ($r = .20$), job stress ($r = .41$), WFC ($r = .43$), and cognitive flexibility disposition ($r = .28$), but it did not correlate with cultural intelligence nor job complexity. These results provide convergent and discriminant validity evidence for our new measures.

Table A1*Mean Scores on Global Work Demands by Type of Global Work Arrangement^{ab}*

Global Work Arrangement	International Travel Demands	Cognitive Flexibility Demands	Nonwork Disruption Demands
Global domestics (n = 68) An employee who primarily remains in his/her home country but has responsibilities and/or interactions with individuals in or from other countries.	-.32 ^a	2.45 ^a	2.55 ^a
Global virtual team members (n = 42) An employee working in a global geographically dispersed team who carries out interdependent tasks and communicates mainly through information technology.	-.28 ^a	2.85 ^b	2.61 ^a
Short-term assignees (n = 35) An employee who has an international assignment that is less than one year; the employee does not relocate their household.	.02 ^b	3.25 ^b	3.40 ^b
International business (IB) travelers (n = 70) An employee who takes frequent international business trips to foreign countries to conduct work on foreign markets, units, etc., usually for periods of a week or so.	.23 ^b	3.08 ^b	3.05 ^{ab}
Corporate expatriates (n = 39) An employee who is temporarily relocated to another country, to work and live, usually for several years, to complete a specific task or accomplish an organizational goal.	.25 ^b	3.26 ^b	3.61 ^b

^aMean scores are compared within columns, such that mean scores with different subscripts are significantly different from each other. The items for international travel demands were standardized before computing the average score. Cognitive flexibility and nonwork disruptions demands were scaled from 1 to 5.

^bN=254; a sixth category (*international commuters*, defined as employees who live in one country and regularly commute to work in another country) was used in the pilot survey, but the number of respondents who selected this option was quite low (n=12, or less than 5% of our total sample). Hence, their data were dropped from this analysis.

Table A2*Correlations for Convergent and Discriminant Validity Evidence, Pilot Study*

Variables	Mean	SD	1	2	3	4	5	6	7	8	9
1. International travel demands	0.00	.69	--								
2. Cognitive flexibility demands	2.92	0.87	.18**	.94							
3. Nonwork disruption demands	2.99	1.22	.14*	.33**	.97						
4. Cultural intelligence	3.80	0.62	.31**	.28**	.09	.94					
5. Job complexity	3.83	0.66	.11	.22**	.03	.53**	.84				
6. Face-to-face communication	3.64	2.03	.27**	.24**	.20**	.16*	.20**	--			
7. Job stress	3.20	1.05	.04	.29**	.41**	.15*	.12*	.10	.84		
8. WFC	3.14	0.83	.06	.35**	.43**	.13*	.07	.20**	.70**	.85	
9. Cognitive flexibility inventory (dispositional trait)	4.87	.81	.05	.30**	.28**	.53**	.46**	.23**	.33**	.26**	.87

Note: N = 266; scale reliabilities (alpha) are reported on the diagonal; WFC = work-to-family conflict

*p < .05

**p < .01

Appendix B

Content Validation Study of Global Work Challenge and Hindrance Appraisal Scale

To assess validity of the eight items to measure the appraisals (items are listed below), we conducted a content validation study (IRB approval # H21171, Georgia Southern University) following the protocols of Hinkin and Tracey (1999) and the recommendations of Colquitt and colleagues (2019). We used a 5-item job satisfaction scale (Agho et al., 1992) as the orbital construct, slightly adapting the items to refer to “global work” rather than “job” so that all items had the same referent focus (Colquitt et al., 2019). For example, the original item “I feel fairly well satisfied with my present job” was revised as “I feel fairly well satisfied with my present global work.” We recruited 100 MTurk subjects that met our qualifications (e.g., native English speaker, currently employed, minimum of a Bachelors degree so as to be similar to our primary study sample, and 21 years or older) and asked respondents to rate the 13 items on the degree to which each item is relevant to the conceptual definition of hindrance appraisals, challenge appraisals, and overall job satisfaction on a five-point Likert scale ranging from “not at all relevant” to “extremely relevant.” We included two attention check items in the survey that were failed by five respondents, resulting in a final sample of 95 subjects. The mean relevance rating for the four hindrance appraisal items with respect to the conceptual definition of hindrance appraisals was 4.22 (range of 4.05-4.45); thus, all four items were retained in further analyses. For the challenge appraisal items, three items were rated highly (mean = 4.43; range 4.32-4.53) on its intended construct, but one item (“I enjoy the global work aspects of my job”) was rated significantly lower (mean = 3.62) and scored higher with respect to overall job satisfaction, and thus, this item was dropped in further analyses.

Following Colquitt et al. (2019), we first calculated the *htc* (*Hinkin Tracey correspondence*) for each of the focal scales. This measure of content accuracy is derived by dividing “the average definitional correspondence rating across a scale’s items by a , the number of anchors. The *htc* statistic would therefore take on a perfect value of 1 when all judges selected the maximum anchor for all scale items” (Colquitt et al., 2019: 1249). The *htc* was 0.89 for challenge appraisals and 0.84 for hindrance appraisals, indicating “strong” validity for the 3-item challenge appraisal scale and “moderate” validity for the 4-item hindrance appraisal scale per Table 5 in Colquitt et al. (2019: 1257). We then calculated a second statistic – *htd* (*Hinkin Tracey distinctiveness*) – which demonstrates the relationship between ratings for the intended construct (i.e., challenge/hindrance appraisal) and the orbital construct (overall job satisfaction) by taking the average difference in ratings between the intended and orbital constructs and dividing by $a-1$. Positive values indicate that items received higher ratings for the intended construct as compared to the orbital construct, with a possible range of -1 to 1. The *htd* was 0.19 for challenge appraisals and 0.51 for hindrance appraisals. Per Colquitt et al. (2019), these results indicate “moderate” validity for the challenge appraisal scale, and “very strong” validity for the hindrance appraisal scale. In sum, the content validity results indicated moderate to strong content validity for three items measuring challenge appraisals and four items measuring hindrance appraisals and demonstrated that both appraisal constructs are distinct from job satisfaction.

Using a separate, independent sample of global workers from our larger data set ($n=1636$), we conducted a principal axis factor analysis of the seven items. In this sample, respondents indicated the extent to which each item reflects their global work requirements on a 5-point Likert scale (1=*not at all* to 5=*most of the time*). The results (using promax rotation) revealed two factors with eigenvalues greater than 1.0. Factor 1 explained 33.3% of the variance

(eigenvalue=2.33) and consisted of the three challenge appraisal items with all loadings above .74. Factor 2 explained an additional 18.7% of the variance (eigenvalue=1.31) and consisted of the four hindrance appraisal items with all loadings above .62. The highest cross-loading was .21 indicating the items reflect distinct factors. In this sample, the scales' internal consistencies were acceptable (α =.76 and .81, respectively, for hindrance and challenge appraisals).

Challenge Appraisal Items (1 = *not at all* to 5 = *most of the time*)

- My global work requirements challenge me in a positive way.
- I feel invigorated when doing my global work.
- I enjoy the global work aspects of my job. (This item was deleted for primary study.)
- I am energized by my global work requirements.

Hindrance Appraisal Items (1 = *not at all* to 5 = *most of the time*)

- I find my global work requirements to be debilitating.
- I find the global work aspects of my job to be draining.
- My global work requirements are stressful to me.
- My global work requirements can be overwhelming.

Appendix C

Previously Validated Scales Used in Primary Study

Burnout (Shirom & Melamed, 2006; adapted for spouse ratings)

Scale anchors: 1=*never or almost never* to 7=*always or almost always*

Please indicate how often in the past 30 workdays, you observed your spouse/partner...

1. felt tired
2. had no energy for going to work in the morning
3. felt physically drained
4. felt fed up
5. felt like his/her "batteries are dead."
6. felt burned out.

Work-family conflict (items 1-4) and Work-family enrichment (items 5-8) (Grzywacz & Marks, 2000; adapted for spouse ratings)

Over the past year, evaluate how your spouse/partner's job impacted his/her home life (1=*never* to 5=*all of the time*).

1. His/her job has reduced the effort s/he could give to activities at home.
2. His/her stress at work makes him/her irritable at home.
3. His/her job makes him/her feel too tired to the things that needed attention at home.
4. His/her job worries or problems distract him/her when at home.
5. The things s/he does at work helps her/him deal with personal and practical issues at home.
6. The things s/he does at work makes her/him a more interesting person at home.
7. Having a good day on the job makes her/him a better companion when s/he gets home.
8. The skills s/he uses on the job are useful for things s/he has to do at home.

Thriving at work (Porath et al., 20012; self-reported)

Indicate the extent to which you agree with each statement regarding your feelings towards your job (1=*strongly disagree* to 5=*strongly agree*).

1. I find myself learning often.
2. I am developing a lot as a person.
3. I continue to learn more as time goes by.
4. I see myself continually improving.
5. I feel alive and vital.
6. I have energy and spirit.
7. I feel alert and awake.
8. I am looking forward to each new day.

Cultural Intelligence (Ang & Van Dyne, 2008; self-reported control variable) (**SEE COPY RIGHT ON NEXT PAGE**)

Indicate the extent to which you agree that each statement accurately describes you (1=*strongly disagree* to 5=*strongly agree*).

1. I enjoy interacting with people from different cultures.
2. I am sure I can deal with the stresses of adjusting to a culture that is new to me.
3. I change my verbal behavior (e.g., accent, tone, rate of speaking) when a cross-cultural interaction requires it.
4. I change my non-verbal behavior (e.g., facial expressions, hand gestures) when a cross-cultural situation requires it.
5. I am conscious of the cultural knowledge I use when interacting with people with different cultural backgrounds.
6. I check the accuracy of my cultural knowledge as I interact with people from different cultures.
7. I know the legal and economic systems of other cultures.
8. I know the cultural values and religious beliefs of other cultures.

9. I know the rules (e.g., grammar) of other languages.

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