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CAPTURING A MORE COMPLETE VIEW OF EMPLOYEES' LIVES OUTSIDE OF WORK: THE INTRODUCTION AND DEVELOPMENT OF NEW INTERROLE CONFLICT CONSTRUCTS

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This research introduces 4 new constructs that reflect interrole conflict (i.e., work-to-personal, personal-to-work, family-to-personal, and personal-to-family conflict) and provide a more complete view of the roles and responsibilities employees experience outside of work. An integration of interrole conflict literature and research on work and nonwork roles or domains highlights the importance of considering an individual's personal domain, which includes activities one pursues because of his or her own interests (e.g., friends, hobbies, community). Unfortunately, without conflict measures pertaining to this new role, researchers cannot clearly understand how roles other than family interfere with individuals' work role including how interrole conflict impacts employees who do not have significant responsibilities in the family domain. Five phases of research across 4 separate samples were conducted in order to develop measures for the 4 new conflict constructs and to examine relationships with important work, family, life, and health outcomes. Findings from multisource data, including self-rated, coworker-rated, as well as single and nonsingle participants, show that the 4 new forms of interrole conflict have significant implications for employees and organizations.

The study of the connection between employees' work and family lives has flourished over the past few decades (Eby, Maher, & Butts, 2010). This increasing interest in the intersection of work and family has led to a multitude of published studies on a variety of work- and family-related issues including work–family conflict (Byron, 2005; Eby, Casper, Lockwood, Bordeaux, & Brinley, 2005; Ford, Heinen, & Langkamer, 2007; Kossek & Ozeki, 1998). Work–family conflict occurs "when role

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pressures from work and family are mutually incompatible such that participation in one role is made more difficult by virtue of participation in the other role" (Greenhaus & Allen, 2011, pp. 165–166; Greenhaus & Beutell, 1985). Unfortunately, *work–family* conflict has been the primary focus of interrole conflict research, and other life roles have been largely ignored. For instance, Parker and Hall (1992) noted that work–family research has not addressed the entirety of individuals' nonwork lives. Eby and colleagues' (2005) review of the work and family literature agrees with this sentiment and notes the "omission of nonwork domain variables such as leisure activities, community, church and volunteer activities" (p. 185). This research attempts to address this concern by explicating additional yet specific forms of interrole conflict. In particular, we examine conflict between individuals' personal life domain, which includes leisure, volunteer and other nonwork and nonfamily activities, and their work and family domains.

Outside of the scores of studies that have investigated work–family conflict (e.g., Bhave, Kramer, & Glomb, 2010; Golden, Veiga, & Simsek, 2006; Ilies et al., 2007; Judge, Ilies, & Scott, 2006; Shockley & Allen, 2007), much fewer have examined conflict between work and other roles. Some research has explored work–school conflict in adolescents and students (Butler, 2007; Markel & Frone, 1998), and others have examined work–life conflict (e.g., Boswell & Olson-Buchanan, 2007). Siegel, Post, Brockner, Fishman, and Garden (2005, p. 13) "use the term *work–life conflict*, as opposed to *work–family conflict*, to reflect the fact that the extra-work demands in people's lives include, but are not limited to, the family." These studies begin to hint at the value of considering how work interferes with other life domains or roles in addition to employees' families; however, previous research typically measures work–life and work–nonwork constructs with adapted work–family scales that have not been construct validated (e.g., Rice, Frone, & McFarlin, 1992; Siegel et al., 2005). In the handful of studies that have validated a measure of work–nonwork conflict, the studies appear to combine all nonwork roles and therefore confound personal and family activities (Fisher, Bulger, & Smith, 2009; Kopelman, Greenhaus, & Connolly, 1983; O'Driscoll, Ilgen, & Hildreth, 1992).

This may be problematic because modeling an individual's life with a two role conceptualization is imperfect and overlooks specific conflict experiences (e.g., previous research fails to inform us of how the workplace impacts both the family and personal roles as well as how the family *and* personal roles uniquely impact the workplace). Edwards and Rothbard (2000) describe one problem with the popular focus on two roles: "in response to declining work satisfaction, a person may devote less time to work and more to family . . . this relationship is imperfect, because time

may be allocated to and from domains other than work or family, such as personal or community activities" (p. 187). Failing to independently account for the personal role ignores unique characteristics of this role that are not evident in the family role. In particular, we argue that activities in the personal role involve a higher degree of choice or discretion, which leads to unique relationships with important outcomes. Thus, the personal role contributes to a more complete understanding of employee experiences of interrole conflict.

Consequently, the purpose of this research is to expand our understanding of how work conflicts with employees' lives outside of work by explicitly introducing and examining a third, distinct life domain or role,[1] the personal role. The contributions of this research include, first, introducing a novel role to the interrole conflict literature that is distinct from work and family based on the element of choice or discretion (Mannell & Kleiber, 1997; Rodell, 2013). As a result of this distinctiveness, interrole conflict concerning the personal role may hold unique implications for attributions and perceptions of workplace attitudes and behaviors. A second contribution includes theoretically describing and distinguishing between the objective (conditions or structures) and subjective (attitudinal and behavioral) components of the roles (work, family and personal) involved in interrole conflict. Third, we outline multiple interrole conflict constructs concerning the personal role and develop psychometrically sound measures of each. Specifically, this research follows an established measure development process (Hinkin, 1998) and takes a bidirectional approach for examining work–personal and family–personal interrole conflict by examining how work interferes with one's personal life and vice versa (i.e., work-to-personal and personal-to-work conflict), as well as how family interferes with one's personal life (i.e., family-to-personal and personal-to-family conflict). These latter two forms of conflict may impact important outcomes such as satisfaction judgments, health, and burnout, which will be examined presently.

Finally, this research also looks to expand our understanding of individual-level outcomes, as opposed to relationship or family focused outcomes (e.g., marital and family satisfaction), of interrole conflict including participation in social activities and satisfaction of the need for relatedness. This work will offer new prescriptions for organizations regarding how to manage conflict for all employees, including single employees, in addition to the popular focus on employees with families.

[1] Additional roles may exist in employees' lives outside of the work, family, and personal roles (e.g., a political role that includes voting behavior [Near, Rice, & Hunt, 1980]; nonetheless, this is not an activity individuals typically engage in every day, week, or even month). However, we presently focus on one major role that is currently not addressed in the interrole conflict literature.

For instance, organizations may want to consider arranging various social clubs or groups (e.g., book clubs, sports teams, cooking or food clubs) for employees in addition to parent-related support groups.[2]

Theoretical Background

Roles and Sources in Interrole Conflict Research

Before defining our new interrole conflict constructs, it is important to describe the three roles presently studied and provide support for our inclusion of the personal role. A role refers to a set of activities or potential behaviors that are associated with a particular environment (Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964). First, the family role includes activities with persons related by biological ties, marriage, social custom, or adoption in addition to responsibilities at home such as cleaning the house or paying the bills (Edwards & Rothbard, 2000). Second, the work role includes only those responsibilities that you are paid to complete for your job (Eby et al., 2010). Finally, the personal role is defined as including activities one pursues due to his or her own interests or for people outside of his or her family (i.e., other than one's significant other, children, and/or relatives). Examples of personal activities include working on a hobby, spending time with friends, volunteering, religious activities, and exercising.

This endeavor extends interrole conflict research beyond the two major life domains of work and family (Greenhaus & Beutell, 1985). Participation in different roles is said to create opposing pressures (Greenhaus & Beutell, 1985), and as such, interests in one's personal life can hinder progress toward one's work and/or family responsibilities and vice versa. Research regarding roles, domain satisfactions, and life space discusses individuals' participation in roles outside of work and family. Diener and colleagues outline the life domains of work, family, and leisure (Diener,

[2]Although some work–family research explicitly includes singles (importantly, Casper, Weltman, and Kwesiga [2007] outline the dimensions of a singles-friendly work culture) as well as singles with children (e.g., Burden, 1986; DeBord, Canu, & Kerpelman, 2000), we agree with an anonymous reviewer who explained that the intent of much of the work–family conflict literature is to address family concerns and rarely provides examples or implications for individuals' personal roles or activities. Not to mention, Casper and colleagues (2007) note that the failure to explicitly study populations that include single employees is troublesome because these individuals may face important and unique work–life issues, such as expectations to put in more hours at work than their peers who have families (Casper, Eby, Bordeaux, Lockwood, & Lambert, 2007). This is also problematic given the significant changes in family composition over the past few decades. That is, for both men and women the age of first marriage is increasing, family size is decreasing, and mothers age at first child is increasing (Barnett & Hyde, 2001; Mathews & Hamilton, 2009).

Suh, Lucas, & Smith, 1999). Super (1980) discusses four principal theaters that "may be used to describe most of the life space of most people during the course of a lifetime" (p. 283). These include the home, the school, the community, and the workplace (Super, 1980). Overall, these are consistent with our conceptualization of the work, family, and personal (which encompasses leisure and community) roles within which working adults participate. In general, it may be valuable to enhance our understanding of individuals' conflict experiences concerning the personal role because people often utilize leisure activities for recovery (Sonnentag, 2003), which has important health and well-being implications (Sonnentag, 2001). Accordingly, this research investigates experiences of work and family interfering with leisure and personal activities as well as various health-related outcomes.

Interrole conflict is based on the theory of role dynamics and occurs when an individual experiences pressures from one organization that are at odds with pressures from another group (Kahn et al., 1964). We followed previous interrole conflict measurement research which distinguishes between the bidirectional forms (e.g., work-to-family and family-to-work; Netemeyer, Boles, & McMurrian, 1996). Work-to-personal conflict (WPC) is defined as occurring when the general demands of, time devoted to, and strain created by work interfere with performing personal activities and interests, whereas personal-to-work conflict (PWC) occurs when the time and strain created by personal activities and interests, interfere with work.[3] In addition, family-to-personal conflict (FPC) occurs when the general demands of, time devoted to, and strain created by one's family interfere with one's personal activities and interests, and personal-to-family conflict (PFC) entails interference in the opposite direction.

In the seminal research on work–family interrole conflict by Greenhaus and Beutell (1985), three sources of conflict are outlined including time-, strain-, and behavior-based work–family conflicts. Time-based conflict refers to time pressures from one role preventing individuals from meeting expectations in another role or creating a preoccupation with one role while one is physically attempting to fulfill another role (Greenhaus & Beutell, 1985). Strain-based conflict occurs when strain (e.g., tension, anxiety, fatigue) from one role affects performance in another role. Finally, behavior-based conflict occurs when in-role behavior from one role is incompatible with behaviors expected in another role

[3] "Demands" are not formally included in the definitions for the forms of interrole conflict initiating in the personal role (PWC and PFC) considering that individuals likely have more choice and variability in their demands in the personal domain (which is discussed in more detail in the present theoretical section as well as in the hypothesis development of the present research).

(Greenhaus & Beutell, 1985). The new forms of interrole conflict proposed presently include both time- and strain-based notions. This is consistent with taking a general approach to studying interrole conflict (general work–family conflict is typically measured using a combination of time- and strain-based conflict items; Kopelman et al., 1983). On the other hand, behavior-based conflict has not been the focus of as much development and examination as time- and strain-based conflict. Thus, it is difficult to establish a typology of behaviors that create conflict across the work, family, and personal roles; which is why behavior-based conflict is not included in the present conceptualization of personal interrole conflict.

Objective and Subjective Elements of Roles

Next, following early conceptual work by Rice, Near, and Hunt (1979) and Near, Rice, and Hunt (1980), we describe the structures and reactions that comprise the three main roles presently examined. This theoretical foundation also contributes to the existing constructs of work-to-family (WFC) and family-to-work conflict (FWC) by increasing our understanding of work and family role characteristics, as well as more precisely outlines what the personal role and interrole conflicts entail. The personal role has both similarities with the work and family roles as well as differences, and we organize this discussion around two components. Specifically, scholars studying work and extra-work domains outline the objective aspects of the life domain (i.e., situational conditions or structures) and the subjective components (i.e., reactions to the structures including attitudes and behaviors; Near et al., 1980; Rice et al., 1979). Near et al. (1980) and Rice et al. (1979) provide examples of the objective structures associated with the workplace, including pay, job type, and nature of the job, as well as the structures in one's life outside of work including family size and physical condition of one's residence and neighborhood. Subjective reactions at work may include job satisfaction and absenteeism, whereas outside of work the reactions might include life satisfaction and frequency of attendance at religious services (Near et al., 1980). Figure 1 includes examples of the various structures and reactions (attitudes and behaviors) that may exist in individuals' work, family, and personal roles, including examples collected from participants in one of the present studies.

One similarity among the three roles includes the subjective component surrounding resource drain. Subjective reactions to structures include attitudes and behaviors. Resource drain refers to the transfer of personal resources between roles, which leads to a negative relationship between resources in different domains (Edwards & Rothbard, 2000). Edwards and Rothbard (2000) generally contend that "the negative relationship

	Work role	Family role	Personal role
Structures/ conditions	•Pay •Job type •Nature of job •Internal sources of demands (e.g., workaholism) •External sources of demands (e.g., boss, clients, coworkers, employees)	•Family size •Physical condition of residence •Internal sources of demands (e.g., family involvement) •External sources of demands (e.g., children, parents, relatives)	•Number of friends and acquaintances •Volunteer commitments •Internal sources of demands (e.g., getting in shape) •External sources of demands (e.g., friends, church leaders or members, roommate)
Attitudes/ reactions	•Job satisfaction •Resource allocation reactions (e.g., amount of time spent at work)	•Family satisfaction •Resource allocation reactions (e.g., amount of energy spent at home)	•Satisfaction with friendships/relatedness •Resource allocation reactions (e.g., amount of energy spent on personal activities)
Behaviors	•Absenteeism •Helping •Task performance •Withdrawal	•Attending a family reunion •Caring for child •Caring for parent •Cleaning house	•Attending religious services •Playing sports •Attending a friend's party •Exercising •Cleaning up the community

Figure 1: **Structure and Reaction Examples for the Work, Family, and Personal Roles.**

between work and family resources (is) intentional, arising from resource allocation decisions made by the person" (p. 190). We suggest that the structures (e.g., job type, family size, neighborhood obligations) of the work, family, and personal roles likely impact such resource allocation decisions or reactions and ultimately impact behaviors in each role. Interrole conflict often involves resource drain. For instance, strain from one role likely reduces resources needed for performance in another role, leading to strain-based work–family conflict (Edwards & Rothbard, 2000). Therefore, we expect resource drain (and ultimately interrole conflict) to occur across the work, family, and personal roles; however, the amount of resource drain is expected to be weaker in the personal role considering that leaving these activities unfulfilled typically creates fewer costs (e.g., missing a community softball game holds minor if any ramifications) and individuals will likely decide not to fulfill these resource requirements if resources are required at work (e.g., submitting a report) or at home (e.g., caring for children).

Another similarity across all three roles is that we expect each includes self-imposed and other-imposed *sources* (structures) of demands. Examples of other-imposed or external sources of demands for work and family are provided subsequently (e.g., boss and children). In addition, research on workaholism (in the work role) discusses self-imposed

demands (Quick, Henley, & Quick, 2004), and research on the family role has also discussed self-imposed demands including family role involvement (Golden et al., 2006). For the personal role, many demands may be internal or self-imposed (e.g., working out at the gym), but others may originate from external sources such as church or community leaders, neighbors, or friends.

In terms of the objective aspects of roles, we expect the structures that make up individuals' work and family roles to be fairly consistent across people. That is, working individuals should all have set incomes, physical working conditions, and sources of demands (i.e., most employees report to a boss or supervisor). The actual *level* of pay, conditions, and so on will vary across individuals, but these structures exist for each employee. In addition, individuals have a known family size, condition of residence, and sources of demands within the family role (i.e., family demands may originate from the home, children, parents, or a partner).

On the other hand, individuals may not perceive demands the same in the personal role (because as noted earlier, personal role demands offer more choice given they carry fewer costs for noncompliance). Therefore, actual demands are left out of our definitions and measurement of interrole conflict initiating in the personal role (i.e., PFC and PWC). An additional difference with the personal domain includes the structures of individuals' personal roles. For instance, some individuals may have numerous friendships they devote time and energy to maintaining, whereas others participate in solitary hobbies or interests (e.g., computer gaming), and yet others attend church, socialize, and exercise frequently. Thus, individuals' objective structures and subjective reactions or behaviors within the personal domain are likely more variable than these same role elements within the work and family.

Role Structures and Identification

The varied nature of the structures in individuals' personal roles appears relevant for considering what it means to identify with the personal role. Identification with a role, or the psychological centrality of a role to one's self-concept, is related to time and resource investment in the role (Lobel, 1991; Stryker, 1968). For example, if one identifies with the family role, then they likely spend a considerable amount of time with family members. Given the consistent structures across individuals for the family role, identification with the family role should look similar across people. On the other hand, because of the varied nature of structures in the personal role, identification with the personal role could include spending time with friends or investing time in reading a book by oneself. We

suggest that this makes it less likely for individuals to fully understand the time investments and resources that others apply to their own personal interests. In other words, identification with the personal role may function differently between individuals compared to identification with the family or work roles. This identification may also shed light on the importance of understanding personal interrole conflict for some employees. That is, such conflict may be particularly problematic or stressful for employees who strongly identify with the personal role, such as single employees, but do not receive empathy from coworkers when their personal life conflicts with work. Casper and colleagues define one key component of a singles-friendly culture (at work) as equal respect for nonwork roles and found that equal respect for nonwork roles was positively related to perceived organizational support in a sample of single employees (Casper, Weltman, & Kwesiga, 2007).

Overview of These Studies

In order to develop reliable and valid measures for WPC, PWC, FPC, and PFC, we followed the measure development best practices outlined by Hinkin (1998). The present scale development process utilized four separate samples and is detailed in the five phases below. The purpose of Phase 1 was to generate and retain only content valid items. Phase 2 was conducted to reduce the number of items for each measure to a parsimonious set. In Phase 3, the psychometric properties of the new measures were tested in terms of reliability and factor structure. Following this, Phase 4 examined the construct validity of the new measures in addition to relationships with outcome variables. Finally, Phase 5 involved an investigation of the external validity of the four new interrole constructs as well as further tests of criterion-related validity.

Phase 1: Item Generation and Initial Reduction

Item Generation

A deductive approach was utilized to generate items, given that the existing literature provided a sufficient theoretical foundation on which to base the item generation (Hinkin, 1998). First, we examined the definitions for the four new interrole conflict constructs along with the theoretical grounding of the personal role. We also reviewed existing work–family scales (e.g., Carlson & Frone, 2003; Kopelman et al., 1983; Netemeyer et al., 1996) to understand how interrole conflict is currently measured. Altogether, this suggested a number of attributes that were relevant for the items' content. Given our theoretical definitions and our argument that

individuals have freedom in whether to fulfill demands in the personal role, the term "demands" was not included in any of the PWC or PFC items. Second, for each construct, we wrote multiple items that assessed time-based conflict and also several items that measured strain-based conflict. Third, given the variations in the structures and reactions in the personal role, we included a wide variety of examples for personal activities following the definition. Finally, the definition also noted that activities in the personal role might be done for oneself as well as for others, which is in line with our argument that there are both internal and external sources of demands in the personal role. These last two points emphasize the importance of our definitions for the new scales, and therefore, these definitions were included each time the items were administered to survey participants. In total, this item generation process resulted in 18 WPC items, 15 PWC items, 14 FPC items, and 14 PFC items for a total of 61 items.[4]

Item Reduction: Content Validity Assessment

A content validity assessment is conducted in order to remove items that are conceptually inconsistent with their respective construct definition (Hinkin, 1998). Following one technique described in Hinkin (1998), this study provided naive respondents (i.e., individuals unfamiliar with the new constructs) with construct definitions (see Appendix) for the four new forms of conflict and asked them to select the form of conflict that best describes each item. Participants could also select "not applicable" if they felt that the item did not fit with any of the forms of conflict. An agreement index of 75% was set for retaining an item.

Participants and procedure. An email request was sent to Management faculty, PhD students, and administrative staff in a large Midwestern business school asking them to assist in this research by completing a short online survey. Twenty-one participants completed the content validity assessment. Although this is a small number of participants, Hinkin (1998) notes that a small sample is appropriate for this phase of scale development.

Results. An item was only retained if 75% of participants correctly matched the item to its respective construct definition. Given this agreement index, 13 items (21%) were eliminated based on the content validity assessment: 2 items from WPC, 6 items from PWC, 1 item from FPC, and

[4]A complete list of the 61 items is available from the first author upon request.

4 items from PFC.[5] In the end, 16, 9, 13, and 10 items were retained for WPC, PWC, FPC, and PFC, respectively.

Phase 2: Exploratory Factor Analysis (EFA)

An EFA was conducted in order to refine the new scales down to a more parsimonious set of items that cleanly load on their expected latent factor (Hinkin, 1998). Given that data collection efforts often have space constraints, developing parsimonious measures increases the likelihood that researchers will use these scales in future studies.

Phase 2 Methods

Participants and procedure. Participants in this study were full-time employees from a variety of occupations. As part of an extra credit assignment, students in an upper-level, undergraduate business course at a large Midwestern university were asked to identify two separate working individuals who were married or cohabitating with a significant other. Then, each student provided these full-time employees with a study overview packet. In the research study materials, participants were informed that in order to participate they needed to work full-time, defined as 30 hours per week or more, and live with a significant other. These criteria were specified to ensure that all three of the life domains discussed above (i.e., work, family, and personal) were salient to the study participants (a subsequent study includes single participants).

Participants accessed an online survey via a survey link, which was provided in the study materials. The survey contained the same explicit definitions of work, family, and personal activities/interests as used previously in the content validity assessment (see Appendix). Following the definitions, items for the four new conflict constructs were presented in addition to demographic questions. One hundred sixty-three respondents completed the survey. Fifty percent of the participants were male (49% were female and 1% was unspecified). In terms of children, 83% of

[5]Two PWC items that were dropped included, "While I am at work, I worry about things related to my personal interests" and "While I am working on job-related duties, I am often thinking about my personal activities." It is possible that the preoccupation component of time-based conflict discussed in Greenhaus and Beutell (1985) is not as relevant for PWC. This might also be the case for PFC as the item "When I am with my family, I worry about things related to my personal interests" was eliminated. For WPC, an example item that was removed is, "My personal interests suffer because of my work." In this case, the term "suffer" might have been too strong for the personal role in which we suggest there are fewer costs for leaving personal interests unfulfilled. A similar item, "My personal interests suffer because of the time I spend on family activities," was also eliminated for FPC.

respondents had one or more children. Participants' ages ranged from 22 to 63 with an average age of 45. Average job tenure was 11 years.

Measures: WPC, PWC, FPC, PFC. Items retained from the content validity assessment conducted in Phase 1 were included in the Phase 2 survey. This included a total of 48 items: 16 items measuring WPC, 9 items measuring PWC, 13 items measuring FPC, and 10 items measuring PFC. Respondents were asked to indicate their agreement with each item on a 1 = *strongly disagree* to 5 = *strongly agree* scale.

Phase 2 Analysis and Results

To assess the factor structure, we conducted an EFA in SPSS using principal axis factoring with a direct oblimin rotation. An oblique rotation, where factors are allowed to correlate, was specified given that the four latent constructs are expected to be related to one another to some degree. Examination of the break in the scree plot, the extracted eigenvalues, and the percentage of variance explained (i.e., 74%) suggested a four-factor solution. Further evidence for retaining four factors was supported by a parallel analysis (Hayton, Allen, & Scarpello, 2004). The results showed that the largest four eigenvalues from the actual Phase 2 dataset (18.05, 8.38, 5.41, and 3.81) were greater than both the mean eigenvalues (1.80, 1.64, 1.51, and 1.41) and the 95th percentile eigenvalues (1.97, 1.77, 1.62, and 1.50) from the randomly generated data sets in the parallel analysis.

Next, we reviewed the item-level results. Factor loadings ranged from .48 to .92 with no cross-loadings greater than .40. Although some of the factors had a large number of items that loaded on them cleanly, only five items were retained for each new conflict measure for the sake of parsimony. These remaining items and their associated factor loadings are listed in Table 1. We could have simply retained the five items for each construct that possessed the highest loadings, but instead, we balanced both the factor loading information along with the construct definitions (which referenced general demands for WPC and FPC, time constraints, and strain) in the interest of selecting items that would cover the theoretical breadth of each construct. For example, we retained Item 3 (see Table 1) for WPC to assess conflict generated from strain even though it had a lower, although still acceptable, factor loading than other WPC items.

Phase 3: Psychometric Properties

The psychometric properties of the four new conflict scales were assessed in terms of reliability and factor structure.

TABLE 1
Phase 2: Means, Standard Deviations, and EFA Factor Loadings for Retained Items

Item	*Mean*	*SD*	WPC	PWC	FPC	PFC
1. The demands of my work interfere with my personal activities.	2.92	1.01	−.757			
2. My job produces strain that makes it difficult to fulfill personal interests.	2.65	.97	−.827			
3. When I get home from work I am often too exhausted to participate in personal activities.	2.84	1.03	−.590			
4. My work takes up time that I'd like to spend on personal activities.	3.00	1.01	−.828			
5. Responsibilities at work often prevent me from participating in personal activities.	2.73	1.01	−.870			
6. I miss work activities due to the amount of time I spend on personal activities.	1.76	.73		.821		
7. My personal activities produce stress that makes it difficult to concentrate at work.	1.86	.77		.833		
8. My personal activities drain me of energy I need to do my job.	1.87	.80		.877		
9. I am often too tired to be effective at work because of my involvement in personal activities.	1.80	.74		.901		
10. My personal interests prevent me from completing work responsibilities.	1.77	.75		.858		
11. The amount of time my family takes up makes it difficult to fulfill personal interests.	2.35	1.01			−.899	
12. My family keeps me from personal activities more than I would like.	2.27	.96			−.892	
13. I often neglect personal interests because of the demands of my family.	2.45	1.06			−.862	
14. The expectations of my family make it difficult to spend time on personal interests.	2.34	1.00			−.912	
15. I put off pursuing personal interests in order to fulfill family responsibilities.	2.51	1.11			−.893	
16. My personal activities interfere with my family.	2.04	.88				.850
17. The amount of time I spend on personal activities makes it difficult to fulfill family responsibilities.	1.86	.78				.853
18. When I get home from personal activities I am often too exhausted to participate in family activities.	1.90	.89				.885
19. My personal activities take up time that I would like to spend with my family.	1.96	.89				.850
20. My personal interests prevent me from completing family responsibilities.	1.81	.78				.851

Note. $N = 163$. WPC = work-to-personal conflict; PWC = personal-to-work conflict; FPC = family-to-personal conflict; PFC = personal-to-family conflict. Responses ranged from 1 = strongly disagree to 5 = strongly agree.

Phase 3 Methods

Participants and procedure. The same procedure that was used in Phase 2 for recruiting participants was also utilized in Phase 3, but the data collection was conducted in a different semester. Again, to be eligible for the study, participants needed to work full-time and live with a significant other. Similar to the previous phases of this research, definitions for work, family, and personal activities/interests were provided on each survey page where the new interrole conflict items were presented (see Appendix). The final sample consisted of 243 participants. Forty-eight percent of these individuals were male (51% were female and 1% was unspecified). Eighty-one percent of respondents indicated that they had one or more children. Participants' ages ranged from 21 to 62 with an average age of 46. Average job tenure was 11 years.

Measures: WPC, PWC, FPC, PFC. The five items that were retained for each new conflict construct in Phase 2 (see Table 1) were included in Phase 3.

Phase 3 Analysis and Results

Coefficient alphas (reliability) for the variables were calculated in SPSS. Then, to test the proposed four-factor structure, confirmatory factor analyses (CFA) were conducted in LISREL 8.8. Fit statistics were examined to assess whether the four-factor structure fit the data significantly better than alternative three-, two-, and one-factor structures.

Each of the four new conflict scales demonstrated adequate reliability, clearly exceeding the often-cited cutoff value of .70 (Nunnally, 1978). Coefficient alphas were .87, .93, .92, and .91 for WPC, PWC, FPC, and PFC, respectively. In terms of factor structure, a four-factor model is hypothesized to fit the data the best. At the same time, it is possible that employees do not distinguish between certain domains, such as their family and personal lives. In addition, although the bidirectional nature of work–family conflict including WFC and FWC has been supported in past research (e.g., Mesmer-Magnus & Viswesvaran, 2005; Netemeyer et al., 1996), perhaps the new constructs presented herein do not possess this bidirectional characteristic. Therefore, after testing the four-factor model, we tested alternative three-, two-, and one-factor models.

The fit statistics for each of the models are presented in Table 2. In the four-factor model, the five items retained from the EFA for each new interrole conflict construct were specified to load on their respective latent factor and all of the latent factors were allowed to correlate. The four-factor model fit the data well [$\chi^2(164) = 384.45$, $p < .001$; root mean

TABLE 2
Phase 3: Results of Confirmatory Factor Analysis

Model	χ^2	*df*	RMSEA	CFI	NNFI	SRMR
Four factor	384.45***	164	.07	.96	.96	.06
Three factor (WPC & PWC combined)	1106.42***	167	.15	.88	.87	.13
Three factor (FPC & PFC combined)	1495.70***	167	.18	.87	.85	.11
Three factor (PWC & PFC combined)	1378.29***	167	.17	.87	.85	.12
Two factor (WPC & PWC; FPC & PFC combined)	3151.58***	169	.27	.72	.69	.21
One factor (all combined)	3262.75***	170	.27	.69	.65	.18

Note. $N = 243$. χ^2 = chi-square statistic; RMSEA = root mean square error of approximation; CFI = comparative fit index; NNFI = nonnormed fit index; SRMR = standardized root mean square residual.
*$p < .05$, two-tailed. **$p < .01$, two-tailed. ***$p < .001$, two-tailed.

square error of approximation (RMSEA) = .07, comparative fit index (CFI) = .96, nonnormed fit index (NNFI) = .96, standardized root mean square residual (SRMR) = .06]. We compared the four-factor model to three different alternative three-factor models. One alternative three-factor model combined the WPC items with the PWC items. Another combined FPC and PFC items and a third combined PWC items with PFC items. The four-factor model was also compared to a two-factor model that combined WPC items with PWC items and FPC items with PFC items. A final comparison was made with a one-factor model where all of the items were allowed to load on one latent factor. After the four-factor model, the next best fitting model was the three-factor model where WPC and PWC were combined. Then again, the fit statistics for this three-factor model (RMSEA = .15, CFI = .88, NNFI = .87, SRMR = .13) did not reach conventional levels of fit (e.g., Bentler, 1990; Bentler & Bonett, 1980; Joreskog & Sorbom, 1996; Schermelleh-Engel, Moosbrugger, & Muller, 2003). Given these results, the four-factor model was retained as the best fitting model. Overall, this supports the notion that the four new conflict constructs are distinct from one another, providing evidence for discriminant validity.

Phase 4: Construct Validity

Convergent and Discriminant Validity

In order to develop a nomological network for the newly proposed forms of interrole conflict, we examined their convergent and

discriminant validity (cf. Campbell & Fiske, 1959; Hinkin, 1998). First, to test for convergent validity, we assessed the relationships between WPC, PWC, FPC, and PFC and burnout. Burnout is typically examined in the work domain and results from continued exposure to stressors; burnout is said to involve "chronic strain" (Maslach, 2003, p. 189). Individuals experiencing burnout feel overextended and have reduced and depleted resources (Maslach, Schaufeli, & Leiter, 2001). In addition, fulfilling multiple roles is said to be associated with stress and strain because of the resource loss that occurs from juggling multiple roles (Grandey & Cropanzano, 1999). Thus, burnout and interrole conflict are both linked to stress and strain through resource depletion and are, therefore, likely connected themselves. Empirical research supports a significant relationship between work–family conflict (both WFC and FWC) and burnout (Netemeyer et al., 1996). We suggest that resource drain, an underlying mechanism of work–family conflict (Edwards & Rothbard, 2000), also operates in interrole conflict involving the personal role. Therefore, the new types of conflict are expected to be related to burnout as well.

Hypothesis 1: WPC, PWC, FPC, and PFC will be positively related to burnout.

In terms of discriminant validity, the different types of interrole conflict are not identical. For instance, an individual could experience WFC (e.g., a parent misses his/her child's soccer game due to a mandatory office meeting) but not experience FWC. In addition, an individual may experience WPC (e.g., an individual is unable to visit a sick friend because he/she has to work overtime) yet not experience work-to-family conflict (e.g., because he/she has few or little responsibilities at home). Therefore, we expect the various forms of interrole conflict examined herein to be differentiable constructs. Furthermore, evidence supports the distinctiveness of two existing forms of interrole conflict: WFC and FWC. In a meta-analytic examination, Mesmer-Magnus and Viswesvaran (2005) demonstrated discriminant validity between WFC and FWC. Thus:

Hypothesis 2: WPC, PWC, FPC, and PFC will be distinct from each other and from WFC and FWC.

Criterion-Related Validity

Criterion-related validity is supported when significant relationships are found with theoretically hypothesized outcome variables (Cronbach & Meehl, 1955; Hinkin, 1998). Previous research has found that interrole conflict has a detrimental effect on individuals' well-being (Allen,

Herst, Bruck, & Sutton, 2000; Ford et al., 2007). Well-being includes domain satisfactions such as job satisfaction, marital or relationship satisfaction, as well as global assessments of life satisfaction (Diener et al., 1999). A number of reviews have been conducted on the relationships between work–family conflict and satisfaction outcomes. Eby and colleagues (2005) concluded that general work–family conflict is associated with lower job satisfaction and life satisfaction. Similarly, Allen et al. (2000) provided meta-analytic findings that WFC is negatively related to job and life satisfaction.

In a related manner, we expect a reduction in job and life satisfaction when the work and personal roles conflict with one another. A recent meta-analysis recommends examining additional directions of interrole conflict when studying affective consequences such as satisfaction, based on the source attribution perspective (Shockley & Singla, 2011). For instance, instead of solely following the domain specificity approach where personal role satisfaction would be examined as an outcome of WPC, work role satisfaction should also be considered. The source attribution perspective proposes that, although WFC may decrease performance "in the receiving domain" (i.e., family), individuals may also "psychologically attribute blame to the domain that was the source of the conflict" (i.e., the work role caused such conflict to occur; Shockley & Singla, 2011, p. 864). Thus, work role dissatisfaction may result from WFC. In summary, taking both domain specificity and source attribution arguments into consideration suggests that WPC and PWC will both relate (negatively) to job satisfaction and life satisfaction.

We believe these relationships are somewhat consistent with how individuals experiencing WFC or FWC likely feel "overwhelmed by the ensuing struggle to meet their responsibilities at work (or home) and therefore experience a reduction in the quality of their work (or home) life" (Frone, Russell, & Cooper, 1992, p. 67), yet we propose that a distinct experience also occurs because of the nature of activities in the personal role. Compared to the work and family roles, activities in the personal role involve more choice as described previously. Individuals' personal activities may include volunteering, which is a "volitional" activity (Rodell, 2013, p. 1274), as well as leisure. The "primary defining criterion of leisure is perceived freedom . . . or 'a state in which the person feels that what she or he is doing is done by choice'" (Mannell & Kleiber, 1997, p. 125–126). When work demands interfere with personal activities (i.e., WPC), individuals lose the opportunity to engage in activities that hold perceived freedom or choice. Perceived freedom has been theoretically connected to attributions regarding behavior and intrinsic motivation, along with the fulfillment of important needs (Deci & Ryan, 1991; Mannell & Kleiber, 1997; Steiner, 1970). Mannell and Kleiber (1997) state that "a sense of

freedom or control is a fundamental need and (is) essential to health and well-being" (p. 131). Overall, this suggests that individuals encountering WPC and PWC will experience unique implications for their well-being (life and job satisfaction).

Hypothesis 3: WPC will be negatively related to (a) life satisfaction and (b) job satisfaction when controlling for WFC and FWC.

Our next set of predictions examines work performance outcomes. These *behavioral* outcomes are expected to follow the domain specificity perspective, which suggests that the different directions of work–family conflict have unique work and family role outcomes (Frone, Yardley, & Markel, 1997; Shockley & Singla, 2011). Past research has demonstrated that FWC exhibits stronger relationships with work-related outcomes, whereas WFC exhibits stronger relationships with outcomes at home (Mesmer-Magnus & Viswesvaran, 2005). Thus, PWC is expected to be the primary new interrole conflict predictor of workplace behaviors.

The basic tenet of interrole conflict is the notion that resources (e.g., time, energy, etc.) spent on responsibilities in one domain cannot be spent on responsibilities in other domains (Edwards & Rothbard, 2000; Greenhaus & Beutell, 1985). This suggests that FWC or PWC will reduce one's ability to successfully perform work-related tasks. Research supports negative relationships between FWC and job performance and engagement (Allen et al., 2000; ten Brummelhuis, Bakker, & Euwema, 2010) as well as links between work–family conflict and turnover intentions, absenteeism and other withdrawal behaviors (Allen et al., 2000; Eby et al., 2005). Similarly, interrole conflict in which the personal domain reduces individuals' resources and ability to fulfill responsibilities in the work role is expected to negatively affect performance. Following recent measurement research (Ferris, Brown, Berry, & Lian, 2008), we examine performance in terms of three types of performance behavior: in-role (job) performance, extra-role or citizenship behavior (OCB), and withdrawal or counterproductive behavior (CWB). Moreover, coworker ratings of employees' performance are utilized in the present research.

As discussed in earlier arguments, activities in the personal role generally involve more choice or are more discretionary than activities in the work and family roles. We propose that this notion is especially true when it comes to others' perceptions of one's personal role. When the personal role conflicts with work, coworkers may feel that the employee could have chosen not to participate in the activity and could have prevented the PWC. For instance, colleagues are more likely to experience negative reactions regarding an employee's tardiness when the lateness is due to extra time spent on a morning exercise routine (i.e., PWC) as opposed to

being late because of a sick child (i.e., FWC). An explanation for this is evident in interpersonal attribution theory, which discusses how observers make attributions for why a person fails to perform (Weiner, 2000). When it is perceived that an individual had free will, or volitional control, over the matter then the observer is more likely to blame the person for their actions and have negative reactions (Weiner, 2000). Thus, we expect that, in addition to PWC leading to reduced performance because of a lack of resources to expend at work, there is also a perceptual process regarding the individual's performance that explains unique variance (above WFC and FWC) in coworker rated work performance. Following the support provided above as well as in the previous hypothesis, we expect:

Hypothesis 4: PWC will be negatively related to (a) life satisfaction, (b) job satisfaction, (c) job performance, (d) OCB, and positively related to (e) CWB when controlling for WFC and FWC.

As previously discussed, interrole conflict is harmful for employees' well-being including marital and family satisfaction. Specifically, findings from previous research support a negative relationship between general work–family conflict and family satisfaction (Eby et al., 2005) as well as marital satisfaction (Allen et al., 2000). Following source attribution and domain specificity arguments, we expect PFC and FPC to both be negatively related to life and marital (relationship) satisfaction. Furthermore, research has focused on the relationships between interrole conflict and health including both physical and mental health outcomes such as psychological strain, physical symptoms, depression, mood and psychiatric disorders, and substance abuse (Allen et al., 2000; Eby et al., 2005; Frone, 2000). Both Netemeyer and colleagues (1996) and Allen and colleagues (2000) found negative relationships between WFC and physical symptoms and WFC and depression. Netemeyer et al. (1996) also found similar correlations between FWC and both physical symptoms and depression. Our previous arguments regarding the importance of the personal role for perceived freedom are also relevant for health outcomes. We suggest that interrole conflict involving the personal role thwarts this sense of control, which is a fundamental need that is essential for one's health in addition to his or her well-being (Mannell & Kleiber, 1997). Thus, we expect FPC and PFC to explain unique variance in individuals' health and wellness as follows.

Hypothesis 5: FPC will be negatively related to (a) life satisfaction and (b) relationship satisfaction, and positively related to (c) depression and (d) physical symptoms when controlling for WFC and FWC.

Hypothesis 6: PFC will be negatively related to (a) life satisfaction and (b) relationship satisfaction, and positively related to (c) depression and (d) physical symptoms when controlling for WFC and FWC.

Phase 4 Methods

Participants and Procedure

The same sample of 243 full-time employees from Phase 3 was also utilized in Phase 4 to test the convergent, discriminant, and criterion-related validity of the four new measures. Given that Phase 4 examines the relationships between the new interrole constructs and important outcome variables, we obtained coworker ratings of participants' in-role and extra-role performance in addition to focal participant ratings of satisfaction and health outcomes.

Data collection occurred in two separate steps following previous work–family research, which recommends matching the domain where the construct is assessed with the nature of the construct itself (e.g., assess PWC at work where one fulfills work responsibilities, assess PFC at home where one fulfills their family responsibilities; Ilies et al., 2007; Judge et al., 2006). In the first step, participants received a link to an online survey in the study materials and were instructed to complete the survey at home. The first survey included measures of WPC, FPC, PFC, and WFC in addition to nonwork outcomes. Participants' work email addresses and the email address of a coworker who was familiar with the participants' work were also collected. Three hundred thirty-three respondents completed the first survey. Approximately 1 week after the first survey period closed, a link to the second survey was sent to participants' work email accounts. Participants were asked to take the second survey during a break at work. This survey included measures of PWC, FWC, work outcomes, health outcomes, and demographic information. At this same time, a coworker survey was disseminated asking individuals identified as coworkers to complete a short survey regarding the focal employee's performance. Two hundred forty-three participants completed the second survey for a retention rate of 73%. Out of these 243 participants, 84 were able to be matched with a completed coworker survey.

The sampling strategy utilized herein (i.e., through an extra credit assignment in an upper-level business course) results in the recruitment of participants from a wide range of occupations and has been used in previous research striving to sample participants holding a variety of different jobs (e.g., Morgeson & Humphrey, 2006; Sin, Nahrgang, &

Moregeson, 2009). In the present sample, respondents held positions from a number of professions including software engineer, physician, teacher, and librarian. Given that occupational membership has been shown to relate to work–family conflict (e.g., Dierdorff & Ellington, 2008), we coded for type of occupation to test whether significant relationships existed between occupation and each of the four new forms of interrole conflict. No significant results were found.

Measures

Unless otherwise indicated, for each item, participants were asked to select the response that best represented their agreement with that item on a five-point scale ranging from 1 = *strongly disagree* to 5 = *strongly agree*.

WPC, PWC, FPC, PFC. The five items that were retained from Phase 2 and validated in Phase 3 were used to measure the four new forms of interrole conflict. Coefficient alphas for these measures are reported in Phase 3.

WFC, FWC. WFC and FWC were measured with five items each from Netemeyer et al. (1996). A sample WFC item is, "The amount of time my job takes up makes it difficult to fulfill family responsibilities." Internal consistency reliability for this measure was .93. An example FWC item is, "Things I want to do at work don't get done because of the demands of my family or significant other." Coefficient alpha (α) for this measure was .92 in the present study.

Burnout. Burnout was assessed with the 22-item Maslach Burnout Inventory (MBI; Maslach & Jackson, 1981). Sample items include, "I feel used up at the end of the workday" and "I feel fatigued when I get up in the morning and have to face another day on the job." Internal consistency reliability for this measure was .91.

Job satisfaction. Participants responded to five items from the Brayfield Rothe Scale of Job Satisfaction during the second survey (Brayfield & Roth, 1951). A sample item is, "I feel fairly satisfied with my present job." This measure demonstrated adequate reliability ($\alpha = .84$).

Life satisfaction. Five items from Diener, Emoons, Larsen, and Griffin's (1985) Satisfaction with Life Scale (SWLS) were used to measure life satisfaction in the first survey. Internal consistency reliability for this measure was .84. A sample item is, "In most ways my life is close to ideal."

Relationship satisfaction. Relationship satisfaction was measured in the first survey with five items adapted from Norton's (1983) Quality Marriage Index (QMI). Items were slightly adapted given that participants in this study might not be married even though they are living with their

significant other. An example is, "I feel that I have a good marriage or relationship." The internal consistency reliability for this measure was .96.

Depression. Thirty items from the Automatic Thoughts Questionnaire (ATQ; Hollon & Kendall, 1980) were included in the second survey as a measure of depression. This is the same depression measure that was utilized by Netemeyer et al. (1996) to validate the WFC and FWC scales. Participants were told, "Listed below are a variety of thoughts that pop into people's heads. Please read each thought and indicate how frequently, if at all, the thought occurred to you over the last week." Responses were recorded on a five-point scale ranging from 1 = *not at all* to 5 = *all the time*. A sample item is, "I feel like I'm up against the world." The measure demonstrated high internal consistency reliability ($\alpha = .98$).

Physical symptoms. Participants were asked to indicate how frequently they experience a list of 54 symptoms (Pennebaker, 1982). This measure was also used previously by Netemeyer et al. (1996) to validate the WFC and FWC scales. For each symptom, the response scale ranged from 1 = *have never or almost never experienced* to 5 = *more than once every week*. Participant scores were calculated by summing the number of items where the selected response was a 3 (*every month or so*) or higher. Coefficient alpha for this measure was .95 and an example symptom is, "Sensation of pressure in head."

Job performance. Coworkers were asked to rate the focal employee's in-role job performance in seven different areas on a scale ranging from 1 = *poor* to 5 = *excellent*. This measure is from Holzbach (1978), and a sample item is, "Productivity: The amount of work he/she gets done is substantial." Internal consistency reliability for this measure was .93.

OCB. Coworker ratings of focal employees' OCB were measured with 11 items from Lee and Allen (2002). Coworkers were asked to indicate how often the focal employee generally engaged in the behavior at work, and responses were recorded on a scale of 1 = *never* to 5 = *always*. An example item is, "Willingly gave his/her time to help others who had work-related problems." Coefficient alpha for this measure was .94.

CWB. Focal employees' CWB was assessed by asking coworkers to rate the frequency with which they had personally witnessed the focal employee engaging in 14 different behaviors (Stewart, Bing, Davison, Woehr, & McIntyre, 2009). Responses ranged from 1 = *never* to 5 = *daily*. A sample item is, "Takes an additional or a longer break than is acceptable at their workplace." Internal consistency reliability for this scale was .92.

Demographics. Demographic information was collected during the second survey and included gender, age, number of children, education, and job tenure. Following past interrole conflict research (e.g., Huffman, Satoris, Payne, & Castro, 2008; Rothbard & Edwards, 2003; Siegel et al.,

2005), gender and number of children at home were used as control variables.

Phase 4 Analysis and Results

Descriptive statistics and bivariate correlations between all study variables utilized in Phase 4 are displayed in Table 3. In terms of mean levels for the four new forms of interrole conflict, WPC had the highest mean ($M = 2.85$), followed by FPC ($M = 2.39$), and then PFC ($M = 2.03$) and PWC ($M = 1.97$). In addition, the mean for WPC was significantly higher than the mean for PWC ($t(242) = 14.00$, $p < .01$), and the mean for FPC was significantly higher than the mean for PFC ($t(242) = 6.99$, $p < .01$). This provides preliminary evidence supporting our arguments that the personal role is a weaker source of resource drain than either the work or family roles.

Hypothesis 1 predicted that WPC, PWC, FPC, and PFC would be positively related to burnout. This hypothesis received support as burnout was positively and significantly related to WPC ($r = .35$, $p < .01$), PWC ($r = .41$, $p < .01$), FPC ($r = .23$, $p < .01$), and PFC ($r = .40$, $p < .01$). Hypothesis 2 stated that WFC, PWC, FPC, and PFC would be distinct from each other and from WFC and FWC. Support for the distinctiveness of these constructs was provided by the results of a six-factor CFA model that fit the data well [$\chi^2(390) = 853.14$, $p < .001$, RMSEA = .07, CFI = .97, NNFI = .96, SRMR = .05]. Five items were assigned to load on each latent factor and the latent factors were allowed to correlate.

Further support for discriminant validity was evidenced in the latent interfactor correlations from the CFA (see Table 4), which were generally small to medium in magnitude (Cohen, 1988). Two notable exceptions are the relationships between WPC and WFC ($\phi = .76, p < .01$) and PWC and FWC ($\phi = .73, p < .01$). Because these correlations were fairly high, we tested the distinctiveness of these constructs by comparing the six-factor CFA model with two five-factor models, one combining WPC and WFC [$\chi^2(395) = 1121.76$, $p < .001$, RMSEA = .09, CFI = .95, NNFI = .95, SRMR = .06] and one combining PWC and FWC [$\chi^2(395) = 1497.54$, $p < .001$, RMSEA = .11, CFI = .94, NNFI = .94, SRMR = .07]. Neither of the five-factor models demonstrated adequate fit in terms of RMSEA where values less than .08 have been suggested to be adequate (Browne & Cudeck, 1993; Schermelleh-Engel et al., 2003). In addition, following Cheung and Rensvold (2002), who propose that a ΔCFI greater than .01 provides evidence for rejecting the null hypothesis of measurement invariance in comparable models, we found that the six-factor model demonstrated better fit than either five-factor model. Finally,

TABLE 3
Phase 4: Descriptive Statistics, Bivariate Correlations, and Coefficient Alpha Reliabilities

Variable	*Mean*	*SD*	1	2	3	4	5	6	7	8	9
1. WPC	2.85	.81	(.87)								
2. PWC	1.97	.70	.17**	(.93)							
3. FPC	2.39	.85	.17**	.30**	(.92)						
4. PFC	2.03	.73	.17**	.48**	.47**	(.91)					
5. WFC	2.56	.90	.69**	.29**	.21**	.35**	(.93)				
6. FWC	2.09	.71	.28**	.67**	.41**	.50**	.35**	(.92)			
7. Burnout	2.37	.50	.35**	.41**	.23**	.40**	.38**	.40**	(.91)		
8. Life satisfaction	3.60	.72	−.28**	−.21**	−.20**	−.30**	−.24**	−.27**	−.44**	(.84)	
9. Job satisfaction	3.68	.65	−.24**	−.27**	−.16*	−.28**	−.23**	−.22**	−.61**	.40**	(.84)
10. Job performance[a]	4.17	.67	.04	−.39**	−.11	−.23*	−.07	−.29**	−.41**	.01	.22*
11. OCB[a]	4.15	.66	.05	−.34**	−.19	−.29**	−.00	−.27∗	−.37**	−.08	.22*
12. CWB[a]	1.37	.55	−.00	.33**	.20	.24*	.04	.21	.40**	−.03	−.22*
13. Relationship satisfaction	4.13	.84	−.19**	−.29**	−.32**	−.29**	−.22**	−.26**	−.27**	.35**	.15*
14. Depression	1.46	.61	.22**	.46**	.35**	.41**	.32**	.54**	.63**	−.42**	−.42**
15. Physical symptoms	8.52	9.99	.17**	.22**	.22**	.27**	.21**	.23**	.31**	−.16*	−.26**
16. Education	4.72	1.46	.10	.11	.02	−.02	.13*	.09	−.02	.02	.10
17. Gender[b]	.51	.50	−.13	−.08	.02	−.17*	−.21**	−.10	−.09	−.02	.02
18. Number of children at home	.97	1.06	−.09	−.11	.03	−.16*	−.11	−.06	−.19**	.05	.13

(*continued*)

TABLE 3 (continued)

Variable	10	11	12	13	14	15	16	17
10. Job performance[a]	(.93)							
11. OCB[a]	.81**	(.94)						
12. CWB[a]	−.65**	−.65**	(.92)					
13. Relationship satisfaction	.15	.14	−.23*	(.96)				
14. Depression	−.52**	−.45**	.52**	−.36**	(.98)			
15. Physical symptoms	−.32**	−.28**	.45**	−.11	.53**	(.95)		
16. Education	.01	−.06	−.04	.03	.07	.04	−	
17. Gender[b]	−.10	−.05	.09	−.02	.00	.10	−.07	−
18. Number of children at home	.14	.16	−17	.05	−.17**	−.15*	−.06	.01

Note. $N = 241$–243 for self-rated variables. $N = 83$–84 for coworker-rated variables. $N = 240$–243 for demographic variables. Reliabilities appear in parentheses on the diagonal.

[a]Performance-related variables were rated by a coworker who was familiar with the focal employee's work.

[b]Gender was coded 0 = male, 1 = female.

*$p < .05$, two-tailed. **$p < .01$, two-tailed.

TABLE 4
Phase 4: Latent Interfactor Correlations

Variable	1	2	3	4	5
1. WPC	–				
2. PWC	.18*	–			
3. FPC	.18*	.33**	–		
4. PFC	.17*	.49**	.51**	–	
5. WFC	.76**	.31**	.24**	.36**	–
6. FWC	.29**	.73**	.46**	.54**	.38**

Note. $N = 243$. WPC = work-to-personal conflict; PWC = personal-to-work conflict; FPC = family-to-personal conflict; PFC = personal-to-family conflict; WFC = work-to-family conflict; FWC = family-to-work conflict.
*$p < .05$, two-tailed. **$p < .01$, two-tailed.

we also found differences between our new forms of interrole conflict and WFC in terms of their relationships with participants' level of education. Although level of education was not significantly related to WPC ($r = .10$, *ns*), PWC ($r = .11$, *ns*), FPC ($r = .02$, *ns*), or PFC ($r = –.02$, *ns*), it was related to WFC ($r = .13$, $p < .05$). Altogether, these analyses provide evidence for the distinctiveness of WPC, PWC, FPC, and PFC from each other and from WFC and FWC. Therefore, we conclude that Hypothesis 2 is supported.

Hypotheses 3 through 6 were tested with hierarchical regression in order to examine the unique variance predicted by the new forms of interrole conflict above and beyond the existing WFC and FWC variables. Gender and number of children at home were included as control variables in these analyses. Given the directional nature of the proposed hypotheses, one-tailed tests were utilized, which is consistent with past research that tests directional relationships (e.g., Ilies, Dimotakis, & De Pater, 2010; Sumanth & Cable, 2011). The results for Hypotheses 3 and 4 are reported in Table 5. Hypothesis 3a stated that WPC would be negatively related to life satisfaction whereas Hypothesis 3b proposed that WPC would be negatively related to job satisfaction. Hypothesis 3a received support in that WPC predicted unique variance in life satisfaction ($\beta = –.21$, $p < .01$) whereas Hypothesis 3b was not supported ($\beta = –.14$, *ns*). Hypothesis 4a predicted that PWC would be negatively related to life satisfaction. For this particular hypothesis, the temporal precedence of the proposed predictor and outcome variables is not ideal because life satisfaction was measured in the first survey and PWC was measured in the second survey. However, research has shown life satisfaction to be relatively stable over the course of a 4-week period (e.g., Eid & Diener, 2004). As such, we expect that life satisfaction judgments were stable over the 1-week time lag between the two surveys in this study. The remaining portions of Hypothesis 4 proposed that PWC would relate negatively to job

TABLE 5
Phase 4: Criterion-Validity Evidence for PWC and WPC

	DV				
Variable	Life satisfaction	Job satisfaction	Job performance	OCB	CWB
	Step 1				
WFC	−.18**	−.18**	.05	.15	−.05
FWC	−.23**	−.16**	−.32**	−.32**	.23*
Gender[a]	−.08	−.03	−.11	−.04	.10
Number of children at home	.02	.10	.14	.16	−.17
F	7.65** ($dfs = 4, 235$)	5.68** ($dfs = 4, 235$)	2.54* ($dfs = 4, 77$)	2.34* ($dfs = 4, 78$)	1.73 ($dfs = 4, 77$)
R^2	.12**	.09**	.12*	.11*	.08
	Step 2				
PWC	−.04	−.20*	−.34**	−.26*	.31*
ΔF	.28 ($dfs = 1, 234$)	5.45* ($dfs = 1, 234$)	6.25** ($dfs = 1, 76$)	3.31* ($dfs = 1, 77$)	4.78* ($dfs = 1, 76$)
ΔR^2	.00	.02*	.07**	.04*	.05*
Total R^2	.12	.11	.18	.14	.14
	Step 2				
WPC	−.21**	−.14	–	–	–
ΔF	6.48** ($dfs = 1, 234$)	2.57 ($dfs = 1, 234$)	–	–	–
ΔR^2	.02**	.01	–	–	–
Total R^2	.14	.10	–	–	–

Note. Standardized betas are displayed for each step of the hierarchical regression. Separate regressions were run for PWC and WPC. DV = dependent variable; WFC = work-to-family conflict; FWC = family-to-work conflict; PWC = personal-to-work conflict; WPC = work-to-personal conflict.
[a]Gender was coded 0 = male, 1 = female.
*$p < .05$, one-tailed. **$p < .01$, one-tailed.

satisfaction, job performance, and OCB while being positively related to CWB. Although Hypothesis 4a did not receive support as PWC was not significantly related to life satisfaction ($\beta = –.04$, *ns*), the remaining four parts of Hypothesis 4 pertaining to job satisfaction ($\beta = –.20$, $p < .05$), job performance ($\beta = –.34$, $p < .01$), OCB ($\beta = –.26$, $p < .05$), and CWB ($\beta = .31$, $p < .05$) were supported. Hypothesis 5 stated that FPC would be negatively related to life satisfaction and relationship satisfaction in addition to being positively related to depression and physical symptoms. As shown in Table 6, the first part of this hypothesis did not receive support given that FPC was not significantly related to life satisfaction ($\beta = –.10$, *ns*). On the other hand, the rest of Hypothesis 5 was supported. Specifically, FPC was significantly related to relationship satisfaction ($\beta = –.24$, $p < .01$), depression ($\beta = .14$, $p < .01$), and physical symptoms ($\beta = .13$, $p < .05$). Finally, Hypothesis 6 predicted that PFC would demonstrate negative relationships with life satisfaction and relationship satisfaction while demonstrating positive relationships with depression and physical symptoms. The results for this hypothesis are also reported in Table 6, and all parts of Hypothesis 6 received supported given that PFC was significantly related to life satisfaction ($\beta = –.19$, $p < .01$), relationship satisfaction ($\beta = –.19$, $p < .01$), depression ($\beta = .16$, $p < .01$) and physical symptoms ($\beta = .19$, $p < .01$).

Phase 5: External Validity

Given the importance of the new scales for populations such as single employees and individuals without direct family responsibilities, we conducted a fifth phase to test the external validity of the new scales in a sample of participants with varying levels of family responsibilities. We first examine our earlier theoretical arguments concerning identity and interrole conflict. Previously, we explained how role identification is connected to time and resource investment in roles. In addition, research shows that characteristics of the individual relate to identification with a role (Aryee & Luk, 1996). For example, in the study by Aryee and Luk (1996), number of children was positively related to family identify. Similarly, we expect individuals with family responsibilities to identify more with the family role. On the other hand, we propose that single employees will identify more with the personal role compared to nonsingles. A study conducted on one specific personal activity, exercising, found that unmarried employees spent more time exercising than married employees (Namaguchi & Bianchi, 2004), indicating that singles may identify with and prioritize personal activities higher than nonsingle individuals. As such, we hypothesize the following.

TABLE 6
Phase 4: Criterion-Validity Evidence for FPC and PFC.

Variable	DV			
	Life satisfaction	Relationship satisfaction	Depression	Physical symptoms
	Step 1			
WFC	−.18**	−.16**	.15**	.16**
FWC	−.23**	−.20**	.49**	.18**
Gender[a]	−.08	−.08	.08	.15*
Number of children at home	.02	.02	−.12*	−.12*
F	7.65** ($dfs = 4, 235$)	5.68** ($dfs = 4, 234$)	29.62** ($dfs = 4, 235$)	7.05** ($dfs = 4, 235$)
R^2	.12**	.09**	.33**	.11**
	Step 2			
FPC	−.10	−.24**	.14**	.13*
ΔF	2.00 ($dfs = 1, 234$)	13.24** ($dfs = 1, 233$)	6.05** ($dfs = 1, 234$)	3.82* ($dfs = 1, 234$)
ΔR^2	.01	.05**	.02**	.01*
Total R^2	.12	.14	.35	.12
	Step 2			
PFC	−.19**	−.19**	.16**	.19**
ΔF	6.91** ($dfs = 1, 234$)	6.83** ($dfs = 1, 233$)	6.07** ($dfs = 1, 234$)	6.71** ($dfs = 1, 234$)
ΔR^2	.03**	.03**	.02**	.03**
Total R^2	.14	.11	.35	.13

Note. Standardized betas are displayed for each step of the hierarchical regression. Separate regressions were run for FPC and PFC. DV = dependent variable; WFC = work-to-family conflict; FWC = family-to-work conflict; FPC = family-to-personal conflict; PFC = personal-to-family conflict.
[a]Gender was coded 0 = male, 1 = female.
*$p < .05$, one-tailed. **$p < .01$, one-tailed.

Hypothesis 7: (a) Single individuals will have higher identification with the personal role compared to nonsingle individuals, and (b) individuals with family responsibilities will have higher identification with the family role compared to individuals without family responsibilities.

This research focuses on employees' personal role; as a result, in this final study we focused on outcomes concerning social activities, need for relatedness, and positive affect in the personal role. Recent research suggests that "as individuals experience increasing levels of work-to-family conflict, they are likely to withdraw from social activities and interactions; therefore, their engagement in social behaviors in the family will be limited" (Ilies et al., 2007, p. 1372). Results of this experience sampling study found that daily experiences of work-to-family conflict decreased individuals' engagement in social activities at home. In a related study, scholars concluded that job incumbents who reported greater occupational demands in terms of hours worked per week had spouses who spent fewer hours per week in voluntary community groups (Burke, Weir, & DuWors, 1980). Likewise, following the domain specificity perspective regarding behavioral outcomes, we expect WPC to be negatively related to participation in social activities.

The need for relatedness is a component of self-determination theory and refers to "the need to feel belongingness and connectedness with others" (Ryan & Deci, 2000, p. 73). Satisfaction of the need for relatedness, in conjunction with other needs, is said to contribute to individuals' health and well-being (Ryan & Deci, 2000). Previous research has examined need satisfaction within various life domains including school, work, leisure, and with significant others (Milyavskaya et al., 2009). In addition, recent theoretical work suggests that individuals may satisfy their need for relatedness through participation in multiple roles. In other words, engagement in multiple roles may expose individuals to a greater collection of people with whom to interact (Warner & Hausdorf, 2009). However, conflict or interference between roles (WPC, PWC, PFC, FPC) is expected to hinder individuals' ability to engage in such interaction and decrease feelings of relatedness.

Finally, interrole conflict has been linked to emotions and affect. Specifically, within-individuals, FWC and WFC are related to feelings of guilt and hostility at work and at home (Judge et al., 2006). In addition, Williams, Suls, Alliger, Learner, and Wan's (1991) finding that role juggling (the interruption of one role by another role) was related to negative affect was replicated by Williams and Alliger (1994), who found that work–family juggling increased feelings of distress and decreased

feelings of calmness. Given the preceding arguments, we expect interrole conflict to be negatively related to positive affect in the personal role. We follow both the source attribution and domain specificity perspectives outlined earlier and examine relationships between all four types of interrole conflict and the affective constructs of satisfaction of the need for relatedness and positive affect in the personal role. In general, we hypothesize the following.[6]

Hypothesis 8: WPC will be negatively related to (a) participation in social activities, (b) satisfaction of the need for relatedness, and (c) positive affect during personal activities while controlling for WFC, FWC, work–nonwork conflict, and nonwork–work conflict.

Hypothesis 9: PWC will be negatively related to (a) satisfaction of the need for relatedness and (b) positive affect during personal activities while controlling for WFC, FWC, work–nonwork conflict, and nonwork–work conflict.

Hypothesis 10: FPC will be negatively related to (a) satisfaction of the need for relatedness and (b) positive affect during personal activities while controlling for WFC, FWC, work–nonwork conflict, and nonwork–work conflict.

Hypothesis 11: PFC will be negatively related to (a) satisfaction of the need for relatedness and (b) positive affect during personal activities while controlling for WFC, FWC, work–nonwork conflict, and nonwork–work conflict.

Phase 5 Methods

Participants and Procedure

Participants included 207 full-time employees who were employed in a variety of different occupations. Participants were recruited through a posting in the online community Craigslist (www.craigslist.org). The

[6]Following the arguments outlined before our previous hypotheses, we also expect unique relationships herein (over WFC and FWC) given the unique nature of the personal role (regarding choice or discretion) compared to the work and family roles. In addition, we expect unique relationships when compared to broad work–nonwork conflict considering the specific nature of the new interrole constructs.

posting was visible in multiple cities throughout the United States and specified that full-time employment (defined as 30 hours per week) was required for participation. The posting directed interested individuals to a registration page where they entered their name, email address, relationship status (single or married or living with a significant other), and average number of hours worked per week. They also provided their informed consent on the registration page. Then, within two business days, respondents received an email with a link to an online survey.

Three hundred thirty-seven individuals registered to participate in the study. Out of the individuals that showed interest in the study, 207 completed the entire survey and were included in the final sample, resulting in a response rate of 61%. Respondents who completed the entire survey received a $5 Amazon.com gift card. Forty-nine percent of individuals in the final sample were male. In terms of relationship status, 49% of participants were single whereas the remaining 51% were either married or living with a significant other. In addition, 34% of respondents indicated that they had children living at home with them. Participants' ages ranged from 18 to 65 with an average age of 35. Average job tenure in this sample was 5 years.

Measures

As in previous phases, unless otherwise indicated, respondents were asked to select the answer that best represented their agreement with each item on a five-point scale ranging from 1 = *strongly disagree* to 5 = *strongly agree*.

WPC, PWC, FPC, PFC. The four new forms of interrole conflict were measured with the scales developed in the present research. Our definitions for the work, family, and personal roles (see Appendix) were presented along with the items. Internal consistency reliabilities for these measures were .93, .92, .95, and .93, respectively.

WFC, FWC. WFC and FWC were again measured with five items each from Netemeyer et al. (1996). Coefficient alphas were .93 for WFC and .92 for FWC.

Work–nonwork conflict, nonwork–work conflict. Work–nonwork conflict and nonwork–work conflict were assessed with three items each from Fisher et al. (2009). The wording of the items was slightly changed to refer to "nonwork life" instead of "personal life" (which was the referent of the original items) to be clear that we intended these items to measure (consistent with Fisher and colleagues research) conflict with the entirety of employees' nonwork lives and not just the personal role. An example item for work–nonwork conflict is, "My job makes it difficult to maintain the kind of nonwork life I would like." Internal consistency reliability for this scale was .91. An example item for nonwork–work conflict is,

"My work suffers because of everything going on in my nonwork life." Coefficient alpha for nonwork–work conflict was .81.

Identification with work, family, and personal role. Individuals' identification with the work role was measured with the scale developed by Kanungo (1982) and established as a valid operationalization of psychological identification by Blau (1985). This measure has been used in previous work–family research examining identification with work and family roles (e.g., Rothbard & Edwards, 2003). Following this research, we replaced the word "job" with "family" for the referent of the items assessing identification with the family role. This same procedure was used for identification with the personal role where items referred to "personal activities" or "personal interests." Each scale contained 10 items. An example item for identification with the work role is, "I consider my job to be very central to my existence." The internal consistency reliability for this measure was .88. A sample item for identification with family is, "The most important things that happen to me involve my family." Coefficient alpha for this scale was .93. Finally, an example item for identification with the personal role is, "I am very much involved in my personal activities." The internal consistency reliability for this measure was .85.

Participation in social activities. Participation in social activities was measured with 14 items from Watson, Clark, McIntyre, and Hamaker (1992). Respondents were asked to indicate how often they had participated in various activities. Responses were recorded on a scale from 1 = *not at all* to 5 = *daily*. Example items include, "Going out for a meal," "Exercise or playing sports," and "Watching TV." Internal consistency reliability for this measure was .76.

Satisfaction of the need for relatedness. Satisfaction of the need for relatedness was measured with the eight-item relatedness subscale from the Basic Need Satisfaction in General scale (Deci & Ryan, 2007). Participants were asked to read the following items carefully, thinking about how each item relates to their life, and then indicate how true the item was for them. The response scale ranged from 1 = *not at all true* to 5 = *very true*. A sample item is, "I really like the people I interact with." Coefficient alpha for this measure was .79.

Positive affect during personal activities. The 10-item positive affect subscale of the Positive and Negative Affect Schedule (PANAS; Watson & Clark, 1994) was utilized to assess positive affect during personal activities. Respondents were asked to indicate the extent to which they generally feel each of the following adjectives while participating in personal activities and interests on a scale from 1 = *not at all* to 5 = *always*. Example items include, "enthusiastic" and "attentive." Internal consistency reliability for this scale was .90.

Demographics. A number of demographic variables were collected including relationship status, gender, age, number of children, and job tenure. Both gender and number of children at home were utilized as control variables in this study.

Phase 5 Analysis and Results

Descriptive statistics and bivariate correlations between all study variables utilized in Phase 5 are displayed in Table 7. In the results presented, single employees refer to individuals who are not married or cohabitating with a significant other (but may include single parents). We also denote employees "with family responsibilities" and "without family responsibilities." Although we recognize that nearly all employees have some level of family responsibility, we use the term "employees with family responsibilities" to refer to individuals with direct family responsibilities that they must fulfill on a regular basis (i.e., those who have a significant other and/or children). Hypothesis 7a proposed that single individuals would have higher identification with the personal role compared to nonsingle individuals. This hypothesis was supported given the finding that single individuals ($M = 3.27$) reported having a higher level of identification with the personal role [$t(205) = 3.54$, $p < .01$] than nonsingle individuals ($M = 2.92$). Hypothesis 7b regarding identification with the family role was also supported. Individuals with family responsibilities ($M = 3.97$) reported higher identification with the family role [$t(205) = -6.63$, $p < .01$] than individuals without family responsibilities ($M = 3.19$). Interestingly, singles ($M = 2.77$) and nonsingles ($M = 2.75$) did not differ in terms of their identification with the work role [$t(203) = .18$, *ns*]. In the same manner, employees with family responsibilities ($M = 2.73$) did not differ in their level of identification with the work role [$t(203) = .55$, *ns*] compared to employees without family responsibilities ($M = 2.79$).

Hypotheses 8 through 11 were tested with hierarchical regression in order to examine the incremental variance predicted by the four new forms of interrole conflict above and beyond work–nonwork conflict, nonwork–work conflict, WFC, and FWC. Gender and number of children living at home were again included as controls and one-tailed tests were conducted. The results for these hypotheses are reported in Table 8. Hypothesis 8 proposed that WPC would be negatively related to participation in social activities, satisfaction of the need for relatedness, and positive affect during personal activities. Hypothesis 8a was supported as WPC was negatively and significantly related to participation in social activities ($\beta = -.30$, $p < .05$). On the other hand, Hypotheses 8b regarding the relationship between WPC and satisfaction of the need for relatedness ($\beta = -.19$, *ns*) and 8c regarding the relationship between WPC and positive affect

TABLE 7
Phase 5: Descriptive Statistics, Bivariate Correlations, and Coefficient Alpha Reliabilities

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9
1. WPC	3.25	1.02	(.93)								
2. PWC	2.01	.91	.24**	(.92)							
3. FPC	2.69	1.18	.43**	.36**	(.95)						
4. PFC	2.05	.85	.17*	.51**	.23**	(.93)					
5. WFC	2.92	1.07	.79**	.22**	.50**	.19**	(.93)				
6. FWC	2.14	.92	.22**	.68**	.50**	.51**	.27**	(.92)			
7. Work–nonwork conflict	3.21	1.09	.81**	.20**	.39**	.11	.73**	.22**	(.91)		
8. Nonwork–work conflict	2.39	.91	.31**	.64**	.40**	.37**	.26**	.54**	.30**	(.81)	
9. Identification with work role	2.76	.80	.12	.18**	.09	.28**	.15*	.28**	.11	.09	(.88)
10. Identification with family role	3.65	.92	−.05	−.07	.32**	−.08	.07	.05	−.10	.04	−.09
11. Identification with personal role	3.09	.74	−.21**	.04	−.31**	.16*	−.23**	−.05	−.21**	.04	−.01
12. Social activities	3.06	.53	−.20**	−.02	−.08	.01	−.12	.05	−.17*	.04	.19*
13. Need for relatedness	3.77	.66	−.28**	−.25**	−.16*	−.15*	−.21**	−.23**	−.29**	−.14*	−.05
14. Positive affect	3.48	.78	−.19**	−.26**	−.16*	−.20**	−.13	−.18**	−.20**	−.15*	.05
15. Gender[a]	.51	.50	−.05	−.04	−.01	−.12	.07	−.16*	.01	.00	−17*
16. Number of children at home	.67	1.04	.06	.16*	.39**	−.06	.12	.15*	.03	.24**	−.15*

Variable	10	11	12	13	14	15
10. Identification with family role	(.93)					
11. Identification with personal role	−.26**	(.85)				
12. Social activities	.18*	.25**	(.76)			
13. Need for relatedness	.31**	.13	.39**	(.79)		
14. Positive affect	.13	.28**	.33**	.40**	(.90)	
15. Gender[a]	.05	−.07	−.02	.04	.02	–
16. Number of children at home	.38**	−.39**	−.13	−.00	−.13	.05

Note. $N = 205–207$. WPC = work-to-personal conflict; PWC = personal-to-work conflict; FPC = family-to-personal conflict; PFC = personal-to-family conflict; WFC = work-to-family conflict; FWC = family-to-work conflict. Reliabilities appear in parentheses on the diagonal. [a]Gender was coded 0 = male, 1 = female.
*$p < .05$, two-tailed. **$p < .01$, two-tailed.

TABLE 8
Phase 5: Criterion-Validity Evidence for WPC, PWC, FPC, and PFC

	DV		
Variable	Social activities	Need for relatedness	Positive affect
	Step 1		
Work–nonwork conflict	−.22*	−.27**	−.23*
Nonwork–work conflict	.11	.03	−.01
WFC	.02	.03	.10
FWC	.06	−.20**	−.14
Gender[a]	.00	.01	.00
Number of children at home	−.16*	.02	−.12
F	2.26* ($dfs = 6, 198$)	4.21** ($dfs = 6, 198$)	2.68** ($dfs = 6, 198$)
R^2	.06*	.11**	.08**
	Step 2		
WPC	−.30*	−.19	−.16
ΔF	4.75* ($dfs = 1, 197$)	1.96 ($dfs = 1, 197$)	1.38 ($dfs = 1, 197$)
ΔR^2	.02*	.01	.01
Total R^2	.09	.12	.08
	Step 2		
PWC	–	−.20*	−.27**
ΔF	–	3.93* ($dfs = 1, 197$)	7.10** ($dfs = 1, 197$)
ΔR^2	–	.02*	.03**
Total R^2	–	.13	.11
	Step 2		
FPC	–	.01	−.01
ΔF	–	.02 ($dfs = 1, 197$)	.01 ($dfs = 1, 197$)
ΔR^2	–	.00	.00
Total R^2	–	.11	.08
	Step 2		
PFC	–	−.05	−.17*
ΔF	–	.33 ($dfs = 1, 197$)	4.33* ($dfs = 1, 197$)
ΔR^2	–	.00	.02*
Total R^2	–	.11	.10

Note. Standardized betas are displayed for each step of the hierarchical regression. Separate regressions were run for each new conflict construct. DV = dependent variable; WFC = work-to-family conflict; FWC = family-to-work conflict; WPC = work-to-personal conflict; PWC = personal-to-work conflict; FPC = family-to-personal conflict; PFC = personal-to-family conflict. [a]Gender was coded 0 = male, 1 = female.
*$p < .05$, one-tailed. **$p < .01$, one-tailed.

during personal activities ($\beta = -.16$, *ns*) were not supported. Although these relationships were not significant after including all of the control variables mentioned above, the bivariate relationships between WPC and both need for relatedness ($r = -.28$, $p < .01$) and positive affect ($r = -.19$, $p < .01$) were significant (Table 7). Hypothesis 9a suggested that PWC would be negatively related to satisfaction of the need for relatedness, and Hypothesis 9b predicted that PWC would be negatively related to positive affect during personal activities. Both of these hypotheses received support, given that PWC was negatively and significantly related to need for relatedness ($\beta = -.20$, $p < .05$) and positive affect ($\beta = -.27$, $p < .01$).

Hypothesis 10 proposed negative relationships between FPC and satisfaction of the need for relatedness and positive affect during personal activities. FPC did not demonstrate significant relationships with either need for relatedness ($\beta = .01$, *ns*) or positive affect ($\beta = -.01$, *ns*). Therefore, Hypothesis 10 did not receive support. However, the bivariate relationships between FPC and both need for relatedness ($r = -.16$, $p < .05$) and positive affect ($r = -.16$, $p < .05$) were significant (Table 7). Finally, Hypothesis 11 stated that PFC would be negatively related to these same two outcomes. Hypothesis 11a did not receive support given that PFC was not significantly related to satisfaction of the need for relatedness ($\beta = -.05$, *ns*), whereas Hypothesis 11b regarding the relationship between PFC and positive affect during personal activities was supported ($\beta = -.17$, $p < .05$). Similar to FPC, the bivariate relationship between PFC and need for relatedness was significant ($r = -.15$, $p < .05$).

Because we suggest that conflict with the personal role is especially troubling for single individuals and individuals without family responsibilities (i.e., those who have a stronger identification with the personal role), we also tested Hypotheses 8 through 11 on specific subsamples. First, we split the sample by relationship status to examine single and nonsingle employees separately. Then, we split the sample by family responsibility. The pattern of results is the same for nonsingles and individuals with family responsibilities and for singles and individuals without family responsibilities. Therefore, we only report the results related to the family responsibilities split here. In addition, for the sake of brevity, we only highlight *differences* found for these subgroups as compared to the results of the overall sample. Although Hypothesis 8a, which looked at the relationship between WPC and participation in social activities, was supported in the full sample, this hypothesis was not supported for individuals with family responsibilities ($\beta = -.15$, *ns*). This same pattern was found for Hypotheses 9a and 9b. PWC was negatively related to satisfaction of the need for relatedness and positive affect during personal activities in the full sample, but it was not significantly related to either

satisfaction of the need for relatedness ($\beta = -.02$, *ns*) or positive affect during personal activities ($\beta = -.21$, *ns*) for individuals with family responsibilities. Finally, although Hypothesis 11b regarding the relationship between PFC and positive affect during personal activities was supported in the full sample, this same relationship was not significant ($\beta = -.10$, *ns*) for individuals without family responsibilities.

General Discussion

This research set out to increase our knowledge of the roles individuals participate in that interfere with one's work role. Using role dynamics theory and research on work and extra-work roles as a foundation, we introduce the personal domain into interrole conflict research. Specifically, we proposed and developed four new interrole conflict constructs including WPC, PWC, FPC, and PFC. Following social role tenets (Near et al., 1980), we first make a theoretical contribution by describing the objective and subjective role elements that delineate the work, family, and personal roles, including the resource drain and sources of demands that will impact the new forms of interrole conflict. Second, four studies were conducted in order to develop reliable and valid measures of the four newly proposed conflict constructs. These studies include self-rated and coworker-rated data as well as data from single and nonsingle participants in order to provide strong evidence for the new constructs and scales.

A number of conclusions are evident based on our findings. First, interrole conflict includes multiple forms or dimensions in addition to WFC and FWC. Specifically, WPC, PWC, FPC, and PFC are supported as distinct conflict constructs from WFC and FWC. Second, these new forms of conflict are related to burnout and also explain additional variance in outcomes at work (i.e., job satisfaction, job performance, OCB, and CWB), outcomes at home (i.e., relationship and life satisfaction), and health outcomes (i.e., depression and physical symptoms) above existing WFC and FWC constructs. This is consistent with the well-being literature that highlights activities in the personal domain, outside of work and family (e.g., leisure, health), that have important implications for satisfaction and well-being judgments (Diener et al., 1999). Third, we find that WPC and PWC may have particularly important implications for single individuals when it comes to outcomes including social activities and satisfaction of the need for relatedness.

Specifically, WPC predicts participation in social activities. This negative relationship was supported in the full Phase 5 sample and for a subset of single participants. On the other hand, PFC and FPC are not significantly related to social activities (please see Table 7 for these

correlational results). A possible explanation for these findings is that social activities may be engaged in with family members or friends and will differ for various individuals. Thus, future research should construct social activity checklists that differentiate between family-specific and personal-specific social activities or ask participants to explicitly indicate who they participated in each activity alongside. In addition, this research finds that PWC is negatively related to satisfaction of the need for relatedness (again, especially for single individuals), whereas WPC is not related to satisfaction of the need for relatedness. These findings suggest that single individuals may primarily fulfill their need for relatedness in the work role, possibly with similar coworkers, and when their personal role interferes with work they are unable to fulfill this need. Finally, although PWC and FPC were negatively related to life satisfaction in the bivariate correlations, we did not find support for our hypotheses that either PWC or FPC would predict unique variance in life satisfaction. We did find that PFC and WPC were unique predictors of this outcome, which may indicate that individuals are more tolerant when family interferes with personal activities or when personal activities interfere with work.

Implications for Practice

This research holds a number of implications for organizations, human resource managers, and supervisors. First, the findings suggest that employees not only experience family issues and responsibilities interfering with work (FWC), but also employees' personal activities and interests impact their work, as in PWC, and such conflict hinders job performance and citizenship behaviors. Thus, organizations should carefully consider the programs or benefits offered to their employees including employee discount programs (e.g., discounts on gym memberships, retail outlets, car rentals, resorts, and amusement parks; Stanger, 2013) and relocation or other travel options (if employees relocated and left a community for their current job) that might help employees fulfill their personal roles in addition to their family and work roles.

In addition, we found that employees participate in fewer social activities when their work interferes with their personal life. Organizations may consider supporting and announcing (in company newsletters and message boards) extra-work interest groups in the local community (e.g., book, movie or cooking clubs) in order to increase employees' awareness and participation in such activities outside of the workplace. Not to mention, organizations can connect employees to various volunteer opportunities and community involvement projects as a way to encourage these activities outside of work. If such activities were facilitated by an

employees' company, this would help build the company's reputation for community service and corporate social responsibility (e.g., Carroll, 1991; McWilliams & Siegel, 2001) in addition to benefiting employees through the social interaction and personal relationships that are typically involved in such activities.

As discussed above, these findings suggest that individuals may find fulfillment for their need for relatedness at work. Therefore, we recommend organizations consider facilitating high-quality interactions and relationships in the workplace. Techniques to do this might include facilitating meet and great occasions across different departments, providing a mentoring program, or creating advice networks or online communities for all employees. Such experiences may spillover and influence employees' social behaviors outside of the workplace as well. These recommendations may also result in benefits for organizations in terms of employees' job satisfaction, which was examined herein. Finally, we also found that the new forms of interrole conflict negatively predicted numerous health outcomes. Organizations are taking health care concerns seriously given that many companies now offer counseling and on-site doctors or nurses, as well as on-site gyms or exercise facilities (Boroff, 2011), which may be important for reducing the negative implications of WPC, PWC, FPC, and PFC.

Limitations and Future Research Directions

Although this research includes multisource data (employee/self and coworker ratings), all of the data assessing the new constructs of WPC, PWC, FPC, and PFC include single-source or employee self-reports. We attempted to resolve some concerns regarding common method bias in one of these studies by collecting these measures with two different surveys separated in time (in the sample used for Phases 3 and 4), one at home and a second survey 1 week later at work. However, other work–family conflict studies (e.g., Grandey, Cordeiro, & Crouter, 2005; Ilies et al., 2007) have utilized significant other ratings of WFC. Thus, future research should include significant other, roommate, friend, and coworker ratings of the focal employees' WPC, PWC, FPC, and PFC, in addition to self-ratings of conflict. This would allow one to test agreement between focal employees' ratings of interrole conflict and others' assessments of the employees' conflict.

Some of the relationships tested herein utilize cross-sectional data. For example, Phase 5 collected data at one point in time; therefore, causal inferences cannot be reliably drawn from our findings. Thus, we recommend future studies measure the new forms of interrole conflict and related variables at multiple points in time in order to test the causality of these

relationships. An additional limitation of this work includes the possibility that the coworker ratings of performance were biased. This is due to the fact that we asked the focal participant to identify which coworker would respond to this research (i.e., participants presumably chose a coworker who they had a good relationship with, which may lead to more favorable responses even though we assured the coworkers of the confidential nature of the study).

A final limitation includes the possible blurring or overlap in family and personal activities (e.g., running or going to the gym with your significant other). Even though we attempted to carefully define various activities for participants in our surveys, future research should examine how individuals integrate and segment their personal and family roles. In the work and family spheres, research has noted conditions, such as working at home, that promote more integration between work and family (Desrochers, Hilton, & Larwood, 2005). Likely, there are also contextual factors that contribute to the integration of one's work and personal domains, such as having numerous friends at work, as well as the integration of one's family and personal domains as discussed. The implications of these variables should be examined along with individuals' preferences for integrating the personal domain with work and family.

Finally, future research should consider investigating a number of the work and family mechanisms outlined by Edwards and Rothbard (2000) across the work, family, and personal roles. For instance, future research should examine spillover to and from the personal domain, resources in the personal domain (to examine actual resource drain, which was discussed earlier), and compensation. Compensation may be particularly relevant for the personal role considering that this mechanism occurs when an individual increases involvement or seeks rewards in a domain due to dissatisfaction with another domain (Edwards & Rothbard, 2000). An individual may compensate between his or her work, family, or personal roles, meaning decrease involvement in the unsatisfying role (e.g., family) and increase involvement in another role (e.g., personal). We assume that decreasing involvement or participation in a role will in turn inhibit role performance in that role (e.g., in the family), and interrole conflict will result from such compensation decisions (e.g., in this case PFC is expected to be experienced as a result of compensation). Testing such relationships would be a fruitful avenue for future research.

Conclusion

In conclusion, there is growing recognition in the scholarly literature that employees not only participate in work and family activities but that individuals also engage in personal interests outside of these two domains.

However, work and family roles have dominated interrole conflict research given the focus on work–family conflict. Therefore, this research expands the forms of conflict to include an additional life domain and develops and validates a comprehensive set of interrole conflict scales pertaining to this personal role. By doing so, these studies offer an important foundation for future research concerning work–personal and family–personal conflicts.

REFERENCES

Allen TD, Herst DEL, Bruck CS, Sutton M. (2000). Consequences associated with work-to-family conflict: A review and agenda for future research. *Journal of Occupational Health Psychology*, *2*, 278–308. doi:10.1037/1076-8998.5.2.278

Aryee S, Luk V. (1996). Balancing two major parts of adult life experience: Work and family identity among dual-earner couples. *Human Relations*, *49*, 465–487. doi:10.1177/001872679604900404

Barnett RC, Hyde JS. (2001). Women, men, work, and family. *American Psychologist*, *56*, 781–796. doi:10.1037/0003-066X.56.10.781

Bentler PM. (1990). Comparative fit indexes in structural models. *Psychological Bulletin*, *107*, 238–246. doi:10.1037/0033-2909.107.2.238

Bentler PM, Bonett DG. (1980). Significance tests and goodness of fit in the analysis of covariance structures. *Psychological Bulletin*, *88*, 588–606. doi:10.1037/0033-2909.88.3.588

Bhave DP, Kramer A, Glomb TM. (2010). Work-family conflict and work groups: Social information processing, support, and demographic dissimilarity. *Journal of Applied Psychology*, *95*, 145–158. doi:10.1037/a0017885

Blau GJ. (1985). A multiple study investigation of the dimensionality of job involvement. *Journal of Vocational Behavior*, *27*, 19–36. doi:10.1016/0001-8791(85)90050-8

Boroff R. (2011, March 30). An employer's guide to success: Employees first, customers second [Web log message]. Retrieved from http://www.hr.com/en/app/blog/2011/03/an-employer%E2%80%99s-guide-to-success-employees-first-cus_glww04sq.html

Boswell WR, Olsen-Buchanan JB. (2007). The use of communication technologies after hours: The role of work attitudes and work-life conflict. *Journal of Management*, *33*, 592–610. doi:10.1177/0149206307302552

Brayfield AH, Roth HF. (1951). An index of job satisfaction. *Journal of Applied Psychology*, *35*, 307–311. doi:10.1037/0021-9010.87.3.530

Browne MW, Cudeck R. (1993). Alternative ways of assessing model fit. In Bollen KA, Long JS (Eds.), *Testing structural equation models* (pp.136–162). Newbury Park, CA: Sage.

Burden DS. (1986). Single parents and the work setting: The impact of multiple job and homelife responsibilities. *Family Relations*, *35*, 37–43. doi:10.2307/584280

Burke RJ, Weir T, DuWors RE. (1980). Work demands on administrators and spouse well-being. *Human Relations*, *33*, 253–278. doi:10.1177/001872678003300404

Butler AB. (2007). Job characteristics and college performance and attitudes: A model of work-school conflict and facilitation. *Journal of Applied Psychology*, *92*, 500–510. doi:10.1037/0021-9010.92.2.500

Byron K. (2005). A meta-analytic review of work-family conflict and its antecedents. *Journal of Vocational Behavior*, *67*, 169–198. doi:10.1016/j.jvb.2004.08.009

Campbell DT, Fiske DW. (1959). Convergent and discriminant validation by the multitrait-multimethod matrix. *Psychological Bulletin*, *56*, 81-105. doi:10.1037/h0046016

Carlson DS, Frone MR. (2003). Relation of behavioral and psychological involvement to a new four-factor conceptualization of work-family interference. *Journal of Business and Psychology*, *17*, 515–535. doi:10.1023/A:1023404302295

Carroll AB. (1991). The pyramid of corporate social responsibility: Toward the moral management of organizational stakeholders. *Business Horizons*, *34*, 39-48. doi:10.1016/0007-6813(91)90005-G

Casper WJ, Eby LT, Bordeaux C, Lockwood A, Lambert D. (2007). A review of research methods in IO/OB work-family research. *Journal of Applied Psychology*, *92*, 28–43. doi:10.1037/0021-9010.92.1.28

Casper WJ, Weltman D, Kwesiga E. (2007). Beyond family-friendly: The construct and measurement of singles-friendly work culture. *Journal of Vocational Behavior*, *70*, 478–501. doi:10.1016/j.jvb.2007.01.001

Cheung GW, Rensvold RB. (2002). Evaluating goodness-of-fit indexes for testing measurement invariance. *Structural Equation Modeling*, *9*, 233–255. doi:10.1207/S15328007SEM0902_5

Cohen J. (1988). *Statistical power analysis for the behavioral sciences*. Hillsdale, NJ: Erlbaum.

Cronbach LJ, Meehl PC. (1955). Construct validity in psychological tests. *Psychological Bulletin*, *52*, 281-302. doi:10.1037/h0040957

DeBord K, Canu RG, Kerpelman J. (2000). Understanding work-family fit for single parents moving from welfare to work. *Social Work*, *45*, 313–324. doi:10.1093/sw/45.4.313

Deci EL, Ryan RM. (1991). A motivational approach to self: Integration in personality. In Dienstbier R (Ed.), *Nebraska symposium on motivation: Perspectives on motivation* (Vol. 38, pp. 237–288). Lincoln, NE: University of Nebraska Press.

Deci EL, Ryan RM. (2007). Basic psychological needs scales. Retrieved from http://www.psych.rochester.edu/SDT

Desrochers S, Hilton JM, Larwood L. (2005). Preliminary validation of the work-family integration-blurring scale. *Journal of Family Issues*, *26*, 442–466. doi:10.1177/0192513X04272438

Diener E, Emoons RA, Larsen RJ, Griffin S. (1985). The satisfaction with life scale. *Journal of Personality Assessment*, *49*, 71–75. doi:10.1207/s15327752jpa4901_13

Diener E, Suh EM, Lucas RE, Smith HL. (1999). Subjective well-being: Three decades of progress. *Psychological Bulletin*, *125*, 276–302. doi:10.1037/0033-2909.125.2.276

Dierdorff EC, Ellington JK. (2008). It's the nature of the work: Examining behavior-based sources of work-family conflict across occupations. *Journal of Applied Psychology*, *93*, 883–892. doi:10.1037/0021-9010.93.4.883

Eby LT, Casper WJ, Lockwood A, Bordeaux C, Brinley A. (2005). Work and family research in IO/OB: Content analysis and review of the literature (1980–2002). *Journal of Vocational Behavior*, *66*, 124–197. doi:10.1016/j.jvb.2003.11.003

Eby LT, Maher CP, Butts MM. (2010). The intersection of work and family life: The role of Affect. *Annual Review of Psychology*, *61*, 599–622. doi:10.1146/annurev.psych.093008.100422

Edwards JR, Rothbard NP. (2000). Mechanisms linking work and family: Clarifying the relationship between work and family constructs. *Academy of Management Review*, *25*, 178–199. doi:10.5465/AMR.2000.2791609

Eid M, Diener E. (2004). Global judgments of subjective well-being: Situational variability and long-term stability. *Social Indicators Research*, *65*, 245–277. doi:10.1023/B:SOCI.0000003801.89195.bc

Ferris DL, Brown DJ, Berry JW, Lian H. (2008). The development and validation of the workplace ostracism scale. *Journal of Applied Psychology*, *93*, 1348–1366. doi:10.1037/a0012743

Fisher GG, Bulger CA, Smith CS. (2009). Beyond work and family: A measure of work/nonwork interference and enhancement. *Journal of Occupational Health Psychology*, *14*, 441–456. doi:10.1037/a0016737

Ford MT, Heinen BA, Langkamer KL. (2007). Work and family satisfaction and conflict: A meta-analysis of cross-domain relations. *Journal of Applied Psychology*, *92*, 57–80. doi:10.1037/0021-9010.92.1.57

Frone MR. (2000). Work-family conflict and employee psychiatric disorders: The national comorbidity survey. *Journal of Applied Psychology*, *85*, 888–895. doi:10.1037/0021-9010.85.6.888

Frone MR, Russell M, Cooper ML. (1992). Antecedents and outcomes of work-family conflict: Testing a model of the work-family interface. *Journal of Applied Psychology*, *77*, 65–78. doi:10.1037/0021-9010.77.1.65

Frone MR, Yardley JK, Markel KS. (1997). Developing and testing an integrative model of the work-family interface. *Journal of Vocational Behavior*, *50*, 145–167. doi:10.1006/jvbe.1996.1577

Golden TD, Veiga JF, Simsek Z. (2006). Telecommuting's differential impact on work-family conflict: Is there no place like home? *Journal of Applied Psychology*, *91*, 1340–1350. doi:10.1037/0021-9010.91.6.1340

Grandey AA, Cordeiro BL, Crouter AC. (2005). A longitudinal and multi-source test of the work-family conflict and job satisfaction relationship. *Journal of Occupational and Organizational Psychology*, *78*, 305–323. doi:10.1348/096317905X26769

Grandey AA, Cropanzano R. (1999). The conservation of resources model applied to work-family conflict and strain. *Journal of Vocational Behavior*, *54*, 350–370. doi:10.1006/jvbe.1998.1666

Greenhaus JH, Allen TD. (2011). Work-family balance: A review and extension of the literature. In Quick JC, Tetrick LE (Eds.), *Handbook of occupational health psychology* (2nd ed., pp 165–183). Washington, DC: American Psychological Association.

Greenhaus JH, Beutell NJ. (1985). Sources of conflict between work and family roles. *Academy of Management Review*, *10*, 76–88. doi:10.5465/AMR.1985.4277352

Hayton JC, Allen DG, Scarpello V. (2004). Factor retention decisions in exploratory factor analysis: A tutorial on parallel analysis. *Organizational Research Methods*, *7*, 191–205. doi:10.1177/1094428104263675

Hinkin TR. (1998). A brief tutorial on the development of measures for use in survey questionnaires. *Organizational Research Methods*, *1*, 104–121. doi:10.1177/109442819800100106

Hollon SD, Kendall PC. (1980). Cognitive self-statements in depression: Development of an automatic thought questionnaire. *Cognitive Therapy and Research*, *4*, 383–395. doi:10.1007/BF01178214

Holzbach RL. (1978). Rater bias in performance ratings: Superior, self-, and peer ratings. *Journal of Applied Psychology*, *63*, 579–588. doi:10.1037/0021-9010.63.5.579

Huffman AH, Satoris SY, Payne SC, Castro CA. (2008). The importance of construct breadth when examining interrole conflict. *Educational and Psychological Measurement*, *68*, 515–530. doi:10.1177/0013164407308472

Ilies R, Dimotakis N, De Pater IE. (2010) Psychological and physiological reactions to high workloads: Implications for well-being. PERSONNEL PSYCHOLOGY, *63*, 407–436. doi:10.1111/j.1744-6570.2010.01175.x

Ilies R, Schwind KM, Wagner DT, Johnson MD, Derue DS, Ilgen DR. (2007). When can employees have a family life? The effects of daily workload and affect on

work-family conflict and social behaviors at home. *Journal of Applied Psychology*, *92*, 1368–1379. doi:10.1037/0021-9010.92.5.1368

Joreskog K, Sorbom D. (1996). *LISREL 8: User's reference guide*. Chicago, IL: Scientific Software International.

Judge TA, Ilies R, Scott BA. (2006). Work-family conflict and emotions: Effects at work and at home. PERSONNEL PSYCHOLOGY, *59*, 779–814. doi:10.1111/j.1744-6570.2006.00054.x

Kahn RL, Wolfe DM, Quinn RP, Snoek JD, Rosenthal RA. (1964). *Organizational stress: Studies in role conflict and ambiguity*. New York, NY: Wiley.

Kanungo RN. (1982). Measurement of job and work involvement. *Journal of Applied Psychology*, *67*, 341–349. doi:10.1037/0021-9010.67.3.341

Kopelman RE, Greenhaus JH, Connolly TF. (1983). A model of work, family, and inter-role conflict: A construct validation study. *Organizational Behavior and Human Performance*, *32*, 198–215. doi:10.1016/0030-5073(83)90147-2

Kossek EE, Ozeki C. (1998). Work-family conflict, policies, and the job-life satisfaction relationship: A review and directions for organizational behavior-human resources research. *Journal of Applied Psychology*, *83*, 139–149. doi:10.1037/0021-9010.83.2.139

Lee K, Allen NJ. (2002). Organizational citizenship behavior and workplace deviance: The role of affect and cognitions. *Journal of Applied Psychology*, *87*, 131–142. doi:10.1037/0021-9010.87.1.131

Lobel SA. (1991). Allocation of investment in work and family roles: Alternative theories and implications for research. *Academy of Management Review*, *16*, 507–521. doi:10.5465/AMR.1991.4279467

Mannell RC, Kleiber DA. (1997). *A social psychology of leisure*. State College, PA: Venture.

Markel KA, Frone MR. (1998). Job characteristics, work-school conflict, and school outcomes among adolescents: Testing a structural model. *Journal of Applied Psychology*, *83*, 277–287. doi:10.1037/0021-9010.83.2.277

Maslach C. (2003). Job burnout: New directions in research and intervention. *Current Directions in Psychological Science*, *12*, 189–192. doi:10.1111/1467-8721.01258

Maslach C, Jackson SE. (1981). The measurement of experienced burnout. *Journal of Occupational Behavior*, *2*, 99–113. doi:10.1002/job.4030020205

Maslach C, Schaufeli WB, Leiter MP. (2001). Job burnout. *Annual Review of Psychology*, *52*, 397–422. doi:10.1146/annurev.psych.52.1.397

Mathews TJ, Hamilton BE. (2009). *Delayed childbearing: More women are having their first child later in life*. NCHS data brief, no 21. Hyattsville, MD: National Center for Health Statistics.

McWilliams A, Siegel D. (2001). Corporate social responsibility: A theory of the firm perspective. *Academy of Management Review*, *26*, 117–127. doi:10.5465/AMR.2001.4011987

Mesmer-Magnus JR, Viswesvaran C. (2005). Convergence between measures of work-to-family and family-to-work conflict: A meta-analytic examination. *Journal of Vocational Behavior*, *67*, 215–232. doi:10.1016/j.jvb.2004.05.004

Milyavskaya M, Gingras I, Mageau GA, Koestner R, Gagnon H, Fang J, Boiche J. (2009). Balance across contexts: Importance of balanced need satisfaction across various life domains. *Personality and Social Psychology Bulletin*, *35*, 1031–1045. doi:10.1177/0146167209337036

Morgeson FP, Humphrey SE. (2006). The work design questionnaire (WDQ): Developing and validating a comprehensive measure for assessing job design and the nature of work. *Journal of Applied Psychology*, *91*, 1321–1339. doi:10.1037/0021-9010.91.6.1321

Namaguchi KM, Bianchi SM. (2004). Exercise time: Gender differences in the effects of marriage, parenthood, and employment. *Journal of Marriage and Family*, *66*, 413–430. doi:10.1111/j.1741-3737.2004.00029.x

Near JP, Rice RW, Hunt RG. (1980). The relationship between work and nonwork domains: A review of empirical research. *Academy of Management Review*, *5*, 415–429. doi:10.5465/AMR.1980.4288868

Netemeyer RG, Boles JS, McMurrian R. (1996). Development and validation of work-family conflict and family-work conflict scales. *Journal of Applied Psychology*, *81*, 400–410. doi:10.1037/0021-9010.81.4.400

Norton R. (1983). Measuring marital quality: A critical look at the dependent variable. *Journal of Marriage and Family*, *45*, 141–151. doi:10.2307/351302

Nunnally JC. (1978). *Psychometric theory*. New York, NY: McGraw-Hill.

O'Driscoll MP, Ilgen DR, Hildreth K. (1992). Time devoted to job and off-job activities, interrole conflict, and affective experiences. *Journal of Applied Psychology*, *77*, 272–279. doi:10.1037/0021-9010.77.3.272

Parker VA, Hall DT. (1992). Conclusion: Expanding the domain of family and work issues. In Zedeck S (Ed.), *Work, families and organizations*. San Francisco, CA: Jossey Bass.

Pennebaker JW. (1982). *The psychology of physical symptoms*. New York, NY: Springer-Verlag.

Quick JD, Henley AB, Quick JC. (2004) The balancing act—At work and at home. *Organizational Dynamics*, *33*, 426–438. doi:10.1016/j.orgdyn.2004.09.008

Rice RW, Frone MR, McFarlin DB. (1992). Work-nonwork conflict and the perceived quality of life. *Journal of Organizational Behavior*, *13*, 155–168. doi:10.1002/job.4030130205

Rice RW, Near JP, Hunt RG. (1979). Unique variance in job and life satisfaction associated with work-related and extra-workplace variables. *Human Relations*, *32*, 605–623. doi:10.1177/001872677903200706

Rodell JB. (2013). Finding meaning through volunteering: Why do employees volunteer and what does it mean for their jobs? *Academy of Management Journal*, *56*, 1274–1294. doi:10.5465/amj.2012.0611

Rothbard NP, Edwards JR. (2003). Investment in work and family roles: A test of identity and utilitarian motives. PERSONNEL PSYCHOLOGY, *56*, 699–730. doi: 10.1111/j.1744-6570.2003.tb00755.x

Ryan RM, Deci EL. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, *55*, 68–78. doi:10.1037/0003-066X.55.1.68

Schermelleh-Engel K, Moosbrugger H, Muller H. (2003). Evaluating the fit of structural equation models: Tests of significance and descriptive goodness-of-fit measures. *Methods of Psychological Research Online*, *8*, 23–74.

Shockley KM, Allen TD. (2007). When flexibility helps: Another look at the availability of flexible work arrangements and work-family conflict. *Journal of Vocational Behavior*, *71*, 479–493. doi:10.1016/j.jvb.2007.08.006

Shockley KM, Singla N. (2011). Reconsidering work-family interactions and satisfaction: A meta-analysis. *Journal of Management*, *37*, 861–886. doi:10.1177/0149206310394864

Siegel PA, Post C, Brockner J, Fishman AY, Garden C. (2005). The moderating influence of procedural fairness on the relationship between work-life conflict and organizational commitment. *Journal of Applied Psychology*, *90*, 13–24. doi:10.1037/0021-9010.90.1.13

Sin HP, Nahrgang JD, Morgeson FP. (2009). Understanding why they don't see eye to eye: An examination of leader-member exchange (LMX) agreement. *Journal of Applied Psychology*, *94*, 1048–1057. doi:10.1037/a0014827

Sonnentag S. (2001). Work, recovery activities, and individual well-being. A diary study. *Journal of Occupational Health Psychology*, *6*, 196–210. doi:10.1037/1076-8998.6.3.196

Sonnentag S. (2003). Recovery, work engagement, and proactive behavior. A new look at the interface between nonwork and work. *Journal of Applied Psychology*, *88*, 518–528. doi:10.1037/0021-9010.88.3.518

Stanger M. (2013, February 11). *18 of the best perks at top employers*. Retrieved from http://www.businessinsider.com/companies-with-awesome-perks-payscale-2013-1?op=1

Steiner ID. (1970). Perceived freedom. In Berkowitz L (Ed.), *Advances in experimental social psychology* (Vol. *5*, pp. 187–248). New York, NY: Academic Press.

Stewart SM, Bing MN, Davison K, Woehr DJ, McIntyre MD. (2009). In the eyes of the beholder: A non-self-report measure of workplace deviance. *Journal of Applied Psychology*, *94*, 207–213. doi:10.1037/a0012605

Stryker S. (1968). Identity salience and role performance: The relevance of symbolic interaction theory for family research. *Journal of Marriage and the Family*, *30*, 558–564. doi:10.2307/349494

Sumanth JJ, Cable DM. (2011). Status and organizational entry: How organizational and individual status affect justice perceptions of hiring systems. PERSONNEL PSYCHOLOGY, *64*, 963–1000. doi:10.1111/j.1744-6570.2011.01233.x

Super DE. (1980). A life-span, life-space approach to career development. *Journal of Vocational Behavior*, *16*, 282–298. doi:10.1016/0001-8791(80)90056-1

ten Brummelhuis LL, Bakker AB, Euwema MC. (2010). Is family-to-work interference related to co-workers' work outcomes? *Journal of Vocational Behavior*, *77*, 461–469. doi:10.1016/j.jvb.2010.06.001

Warner MA, Hausdorf PA. (2009). The positive interaction of work and family roles: Using need theory to further understand the work-family interface. *Journal of Managerial Psychology*, *24*, 372–385. doi:10.1108/02683940910952732

Watson D, Clark LA. (1994). *The PANAS-X: Manual for the Positive and Negative Affect Schedule—Expanded form*. Iowa City: University of Iowa.

Watson D, Clark LA, McIntyre CW, Hamaker S. (1992). Affect, personality, and social activity. *Journal of Personality and Social Psychology*, *63*, 1011–1025. doi: 10.1037/0022-3514.63.6.1011

Weiner B. (2000). Intrapersonal and interpersonal theories of motivation from an attributional perspective. *Educational Psychology Review*, *12*, 1–14. doi: 1040-726X/00/0300-0001

Williams KJ, Alliger GM. (1994). Role stressors, mood spillover, and perceptions of work-family conflict in employed parents. *Academy of Management Journal*, *37*, 837–868. doi:10.2307/256602

Williams KJ, Suls J, Alliger GM, Learner SM, Wan CK. (1991). Multiple role juggling and daily mood states in working mothers: An experience sampling study. *Journal of Applied Psychology*, *76*, 664–674. doi:10.1037/0021-9010.76.5.664

APPENDIX

Construct Definitions

Work-to-personal conflict. Work-to-personal conflict occurs when responsibilities and activities related to your work interfere with your personal activities/interests. Work includes only those responsibilities that you are paid to complete for your job. Personal activities/interests include things that you do for yourself and other people outside of your family (other than your significant other, children, and/or relatives). Examples of personal activities/interests include working on a hobby, spending time with friends, volunteering, religious activities, and working out.

Personal-to-work conflict. Personal-to-work conflict occurs when your personal activities and interests interfere with you being able to complete your work responsibilities and activities. Please refer to the previous definition for the meaning of personal activities/interests and work.

Family-to-personal conflict[7]. Family-to-personal conflict occurs when responsibilities and activities related to your family interfere with your personal activities/interests. Family includes persons related by biological ties or adoption (e.g., children, parents, relatives) or through marriage/social custom (e.g., spouse, significant other) in addition to responsibilities at home such as cleaning the house or paying the bills. Personal activities/interests include things that you do for yourself and other people outside of your family (other than your significant other, children, and/or relatives). Examples of personal activities/interests include working on a hobby, spending time with friends, volunteering, religious activities, and working out.

Personal-to-family conflict. Personal-to-family conflict occurs when your personal activities and interests interfere with you being able to complete your family responsibilities and activities. Please refer to the previous definition for the meaning of personal activities/interests and family.

[7]Between Phase 4 and Phase 5 of the research, we made a change to the definition of family to be more inclusive and also include parents and relatives.