Fundamental Research 3 (2023) 997-1004

Contents lists available at ScienceDirect



Fundamental Research

journal homepage: http://www.keaipublishing.com/en/journals/fundamental-research/

Article

Spillover and crossover from work overload to spouse-rated work-to-family conflict: The moderating role of cross-role trait consistency



Yunhui Huang^a, Yina Mao^{a,*}, Yujie Zhan^b

^a School of Business, Nanjing University, Nanjing 210093, Jiangsu, China
^b Lazaridis School of Business and Economics, Wilfrid Laurier University, 75 University Avenue West, Waterloo, ON N2L 3C5, Canada

ARTICLE INFO

Article history: Received 15 December 2021 Received in revised form 19 October 2022 Accepted 21 February 2023 Available online 9 April 2023

Keywords: Cross-role trait consistency Work overload Job burnout Work-to-family conflict Negative spillover and crossover

ABSTRACT

While most previous research in social psychology shows benefits of individuals' consistency in personality across different social roles, the current study brings the concept of cross-role trait consistency to the context of management and examines its dark side. Data from 197 couples showed that an employee's work overload was positively associated with his/her spouse's perception of how much the employee's work interfered with family life. This relationship was mediated by the employee's job burnout. More importantly, this mediating relationship was moderated by the employee's cross-role trait consistency. These findings indicate that work overload may affect spouses' perception of employees' work-to-family conflict through job burnout, with the transmission of burnout on work-to-family conflict stronger among employees high in cross-role trait consistency. Thus, cross-role trait consistency appears to strengthen negative spillover and crossover from work to family. Theoretical and practical implications are discussed.

1. Introduction

Work-family conflict (WFC) is an important work outcome that denotes how much participation in the work role makes participation in the family role more difficult [1,2]. WFC derives from three workrelated sources of conflict: time, strain, and behavior [3]. It represents poor work-family balance stemming from competing demands between work and family roles [4,5]. A number of studies have suggested that WFC increases psychological stress, hurts individuals' mental health [6], and reduces employees' life satisfaction [7]. Efforts have been devoted to investigating the antecedents of WFC and the underlying processes.

Although it is well documented that situational variables (e.g., work overload) predict WFC [8], the possible influence of personality has received increasing attention in the last two decades. Such personality traits as internal locus of control, affectivity, and the "big five" have been identified (e.g., a review by Michel et al. [2]) as important predictive factors for WFC. Because WFC originates in employees' lacking sufficient resources to meet the requirements of multiple roles, the work-home resources model is important to understanding WFC. The model suggests that certain personality traits (e.g., optimism) are key resources that facilitate the selection, alteration, and implementation of other resources [9]. Therefore, including dispositional variables along with situational ones may be beneficial not only for a comprehensive understanding of the predictors of WFC, but also in identifying key resources to explain why some people are better at using other resources in stressful situations [10].

Because WFC arises from the incompatibility of normative standards between family roles and work roles [11], personality factors closely related to different role expectations should naturally be important and thus deserve scholarly attention. However, previous research exploring the role of personality in WFC typically considers dispositional variables to be stable across time and contexts, and thus role-irrelevant [12]. In other words, personality has long been considered irrelevant to role expectations [13]. Although the notion that individuals' disposition is not necessarily consistent across different occasions is not new, only recently have more researchers accepted this idea and considered the tendency to be consistent as itself a part of personality [14–16]. The concept of cross-role trait consistency is thus drawing more and more attention [17].

Cross-role trait consistency–defined as the tendency to display similar dispositions across different social roles [18,19]–is a relatively stable trait within a person [14,15,20]. Different from traditional personality research, which focuses on personality content, cross-role trait consistency focuses on personality structure. Reflecting how individuals deal

* Corresponding author. *E-mail address:* yinamao@nju.edu.cn (Y. Mao).

https://doi.org/10.1016/j.fmre.2023.02.027

^{2667-3258/© 2023} The Authors. Publishing Services by Elsevier B.V. on behalf of KeAi Communications Co. Ltd. This is an open access article under the CC BY-NC-ND license (http://creativecommons.org/licenses/by-nc-nd/4.0/)

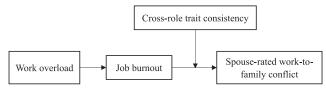


Fig. 1. Hypothesized model.

with disparate expectations across social roles [21], it is likely to play an important role in explaining how individuals respond to stressors related to work-home interface [9,22]. However, although it appears to contribute to adjustment and psychological well-being because it leads individuals to spend fewer resources on modifying themselves to fit the environment [18,19,23], its effect in the organizational context is not well understood.

Due to the academic and practical importance of WFC [6] and the potential relevance of cross-role trait consistency, the present study brings this construct to the organizational domain with the aim of better understanding spillover and crossover of stressors in the work-family context [24,25]. Specifically, we examine whether cross-role trait consistency aggravates the transmission of work overload to WFC. Because spouses are some of the most important family members [26], especially in China due to its family-based philosophical tradition of Confucianism (Aryee, Field, & Luk, 1999), we asked spouses to rate employees' WFC. Using the job demands-resources model [27] and work-home resources model [9], we propose that work overload results in job burnout in the workplace, which in turn increases spousal perception of employees' WFC. More importantly, this mediating effect through burnout would be stronger in individuals high in cross-role trait consistency (see Fig. 1).

With this moderated mediation model, our potential contribution is three-fold. First, our research extends understanding of the effects of cross-role trait consistency. Contrary to previous research's overemphasis on its positive effect on well-being [18,19,23], the current research examines its moderating role in the organizational context and highlights its dark side-that is, increasing some negative effects in the work to family context. Thus, our research underlines the double-edged sword effect of cross-role trait consistency. Second, previous personality research in the work-family context focuses primarily on personality content. Our research highlights the importance of personality structure, which has been mostly ignored in previous management research. Applying cross-role trait consistency to work-family interface deepens our understanding of how the individual tendency to deal with disparate expectations across social roles could have an impact on employees' work-family consequences in response to work stressors. Third, this research follows the call of Huffman et al. [1] for research in work-family interface to move from the individual level to the marital dyad. By asking employees' spouses to rate WFC, our approach contributes to understanding work-family spillover and crossover. While spillover refers to transmission within the focal employee but across different domains (e.g., the work and the family domains), crossover refers to transmission across individuals (e.g., from employee to their spouse) [28,29]. Therefore, this study offers a more complete picture of employees' work-family interface.

2. Theory and hypotheses

2.1. Cross-role trait consistency in work and family interface

Cross-role trait consistency is a dispositional difference that reflects how much a person's numerous social identities are integrated into a unitary self rather than being differentiated from one another [18,19]. Individuals low in cross-role trait consistency would show different personalities according to different roles or different situations [30]. Although early psychologists studying personality considered withinindividual personality to be stable across different social contexts, considerable evidence indicates that individuals can actively react to contexts [31,32], suggesting that behaviors in any particular context are not always predictable. A more recent perspective is that within person variance of personality is a predictable characteristic. That is, the extent to which individuals show flexibility and are responsive to different roles or situations (i.e., low cross-role trait consistency) is itself stable [14,15].

Conceptually, cross-role trait consistency is distinguishable from both work-home integration/segmentation and consistency of selfconcept. Work-home integration reflects individuals' tendency to remove temporal and physical boundaries between their work and nonwork roles [33]. Employees with high work-home integration conduct activities relevant to one role when they are physically involved in another role [34,35], whereas employees with high work-home segmentation keep work and home domains segmented cognitively, physically, or behaviorally [36,37]. Thus, work-home integration/ segmentation may serve as a work-life coping strategy that could be influenced by both personal preference and organizational support (e.g., telecommuting). Consistency of self-concept between work and nonwork roles (e.g., ref. [38]) describes a condition at a certain time and could alter dramatically when an employee changes jobs. In sum, as a personality trait, cross-role trait consistency has unique conceptual connotations that distinguish it from similar constructs.

Earlier research on cross-role trait consistency in personality and social psychology has focused mainly on its positive influences on individual adjustment and well-being [18,19,23]. Presumably, those with low cross-role trait consistency would bear a cost in resources and energy from having to adjust to their different role requirements [39]; as a result, their ability to maintain physical and psychological health could be diminished. Cross-role trait consistency has, in fact, been positively associated with psychological well-being for both young and older adults [40] in terms of self-esteem; and negatively related to depression, loneliness, and dissociation [41]. However, whether it plays a role in workfamily interface is less clear. Taking the perspective that cross-role trait consistency is closely tied to role expectations [17], we believe that it may play a role in the process that job stressors transmit to the family and cause WFC.

2.2. Spouse-rated WFC

Different from most previous research that focuses on self-reported WFC, the current study measures the spouse's perception of the focal employee's WFC. We take this approach for several reasons. First, a spouse is able to provide a valid and fair assessment of an employee's WFC, especially from the employee's affective state after work. Previous research confirms that spouses can validly assess their partners' qualities or experiences [42], such as the transmission of stress from work to the family domain [43] and WFC [44]. Second, spousal perceptions may influence an employee's work [45], as the spouse's attitudes toward the employee's job may affect the employee. For example, a spouse's perceptions of the employee's WFC, beyond the effect of the employee's own sense of WFC, could shape the employee's job satisfaction [44] as well as the employee's organizational commitment [45].

Third and most important, an employee's spouse is one of the family members most influenced by the focal employees' WFC [26], and a spouse's perception of the focal employee's WFC may also affect the spouse's own family and work life as a result of an interpersonal crossover process [25]. Huffman et al. [1] suggest that researchers move beyond the individual level and pay more attention to spousal perceptions of WFC, a focus which could increase understanding of the crossover effect from employee to spouse [28,29]. For example, a spouse's perception of the employee's WFC is likely to influence the spouse's own well-being and the marital relationship [46]. A spouse who feels that the employee transmits stress related to coworker incivility from work to family [43] or that the employee cannot manage the work-family boundary well [47] might have low marital satisfaction.

2.3. Work overload, spouse-rated WFC, and the mediating role of job burnout

Job stressors are considered powerful triggers of WFC [48], and work overload has been found to be one of the most important job stressors [49]. Work overload describes situations in which employees feel that too many responsibilities or activities are expected from them in light of the time available, their abilities, and other constraints [50]. Effects of work overload can be transmitted from work domains to non-work domains, thereby increasing WFC [2,8,51]. This transmission occurs in several ways. First, individuals have limited time and energy to divide among various roles [52]. Due to the zero-sum nature of time, heavy devotion to the work role reduces time spent with family, resulting in time-based WFC. Stress in the workplace also leads to exhaustion and negative emotions which can carry over to family life through spillover [34], leading to strain-based WFC. Finally, work overload is associated with maladjustment across roles [53], leading individuals to adopt behaviors that solve problems at work but not in the family, thus increasing behavior-based WFC.

However, whether and how work overload affects spouse-rated WFC by a crossover process is unknown. Work-family border theory [54] suggests that individuals negotiate and manage the spheres of work, family, and the borders between them, and employees are bordercrossers who make daily transitions between work and family. In this light, employees are "carriers" of the work overload that may impact spouses' perceived WFC of employees. In other words, a crossover effect on spousal perception of WFC could occur through a spillover effect from work within the focal employee. We propose that it is employees' job burnout that mediates the relationship between work overload and spouse-rated WFC of employees.

Job burnout is a psychological syndrome that involves a prolonged response to chronic stressors in the workplace [55]. According to the job demands-resources model of burnout, high job demands may exhaust employees' mental and physical resources, leading to health problems and burnout [27]. An employee who has too much work in too little time with too few resources may feel overloaded [49], a perception consistently related to a high level of job burnout [53,56]. It is possible that such employees would then carry the job burnout to the family [54], in turn influencing the spouse's perception of the employee's WFC through direct empathetic transmission and intra-couple interaction, that is, a crossover effect.

On the one hand, a spouse may recognize and understand the employee's thoughts and feelings [57], and share them by placing himself or herself psychologically in that person's circumstances [58]. A high level of job burnout symptoms might make it easy for the spouse to recognize the negative impacts of work overload on family life in the form of *time-based, strain-based,* or *behavior-based* WFC. On the other hand, as marital partners frequently discuss work-related matters, employees have many opportunities to express their attitudes about their jobs to their spouse [59], and employees suffering from job burnout are more likely to complain how stressors at work prevent them from devoting time to family and showing adaptive behaviors in family. Therefore, by either of these means of transmission, employees' work overload could lead to job burnout that influences spouse-rated WFC.

Hypothesis 1. The positive relationship between the employee's work overload and the spouse's perception of the employee's WFC is mediated by the employee's job burnout.

2.4. The moderating role of cross-role trait consistency

Another purpose of the current study is to investigate the influence of personality on WFC. We propose that low cross-role consistency, as a personality trait, could be treated as a key resource that individuals rely on to attenuate the negative transmission of stress between work and home. To elaborate, WFC usually reflects a process in which demands in one domain (e.g., work) deplete resources that could be used in another domain (e.g., family); therefore, better resource conservation and management would help reduce the negative transmission [60]. In their work on the work-home resources model, ten Brummelhuis and Bakker (2012) categorize resources along the source of the resources (i.e., contextual resources located outside the self and in social contexts versus personal resources proximate to the self) and the extent to which resources are transient. Among personal and durable resources, key resources are a special subtype comprising stable personality traits (e.g., optimism and self-esteem) that facilitate the selection, alteration, and implementation of other resources in stressful circumstances [61,62]. Adopting this view, we investigate low cross-role consistency as a key resource for coping with job burnout. The idea of key resources may help explain why some employees are better than others in dealing with work stressors and can buffer the transmission to their family of negative job outcomes.

As pointed out by Mischel and Shoda [63], individuals differ in their encodings and expectancies of situations as well as their self-regulatory plans. Individuals low in cross-role consistency may be able to actively adjust themselves in order to meet disparate expectations across social roles [21], reflecting mentally different personalities in different social roles. That is, if individuals psychologically compartmentalize who they are in different roles (i.e., low cross-role trait consistency), their feelings, attitudes, and behavioral representations in one role are less likely to influence those in other roles. When switching between work and family roles, people with low cross-role consistency are more prone to interpret situations differently and activate goals accordingly [17]. This pattern of active response to the environment may facilitate the processes of gaining, allocating, and implementing contextual resources. In contrast, individuals high in cross-role trait consistency perceive themselves as a coherent person across different roles [23] and thus might consider their resources to be the same across different roles. As a result, they are unlikely to make use of the contextual resources outlined by ten Brummelhuis and Bakker (2012), such as allocating time between home and work, planning leisure time, and obtaining social support from both coworkers and family members.

Therefore, when employees with a low level of cross-role consistency return home from work, instead of playing the role of an employee, they can adjust and assume the different role of husband or wife, and they are less likely to bring job burnout, the state of lacking resources [27], to the family. The association between job burnout and spouse-rated WFC would be attenuated. Low cross-role consistency is therefore likely to result in a buffering effect on the crossover from job burnout to the employees' WFC. We propose:

Hypothesis 2. Cross-role trait consistency moderates the effect of job burnout on the spouse's perception of the employee's WFC. When cross-role trait consistency is high, the effect of job burnout will be stronger than when it is low.

Because low cross-role consistency functions as a key resource that individuals rely on to attenuate the negative transmission between work and home, we further argue that low cross-role consistency helps individuals to deal with stressful and aversive circumstances generated by work overload; therefore, it results in weaker transmission of job burnout from work to family. Taken together, we hypothesize a moderated mediating model: **Hypothesis 3.** Cross-role trait consistency moderates the mediating effect of job burnout between work overload and the spouse's perception of the employee's WFC. When cross-role trait consistency is high, this mediating effect will be stronger than when it is low.

3. Method

3.1. Sample description

Participants were recruited from Beijing in North China, and Shenzhen in South China, by a human resource manager (i.e., the data collector in the current study) through professional connections using a snowball technique. This technique was adopted since the theme of work-family interface is not limited to particular companies. Rather, it is a relatively general issue that occurs in most organizations. The target participants were married couples in which at least one person had a full-time job. Through face-to-face communication or phone calls, the data collector invited participants who had a full-time job (i.e., the employees) to voluntarily participate in the survey. The employees were asked to complete the main survey (i.e., Survey A), while their spouse would complete a shorter survey (i.e., Survey B) independently. A unique ID was assigned to each couple to match survey responses after the data collection. In the face-to-face situation, Survey A, enclosed in an envelope, was handed to the employee directly by the collector, and Survey B, enclosed in a separate envelope, was delivered to the spouse by either the employee or the researcher. Participants returned the surveys to the collector upon completion. When the invitation was by phone, electronic versions of the surveys were emailed to the employee and the spouse separately. Participants emailed the surveys back upon completion. All surveys were in Chinese. A translation-back translation procedure was followed to translate English-based measures into Chinese [64].

A total of 269 pairs of surveys were distributed, with 220 in paperand-pencil form and 49 in electronic form. One hundred ninety-seven pairs of surveys were returned, yielding a response rate of 73.2%. Of this final sample of employees, 60.9% were females and 39.1% were males. Of the employees, 4.1% had completed high school or less; 71.1% held a college or university degree; 22.3% held a master's degree; and 2.5% held a doctoral degree. Concerning employment, 77.2% worked in government, state-owned enterprises, or public institutions; 20.3% worked in private enterprises; and 2.5% worked in foreign-capital enterprises or the army. On average, they had spent 8.87 years (SD = 6.27 years) in their current organization. Of the final sample of spouses, 6.6% had completed high school or less; 68.0% held a college or university degree; 21.8% held a master's degree; and 3.6% held a doctoral degree. Most of them (95.9%) had a full-time job. In addition, 70.1% of the couples had one or more children.

3.2. Measures

Employees self-reported their work overload, job burnout, and crossrole trait consistency. Their spouses evaluated employees' WFC.

Work overload. Work overload was assessed with a five-item scale from Peterson [49]. A sample item is "My work load is too heavy" (1 = strongly disagree, 7 = strongly agree; α = 0.87).

Job burnout. Job burnout was assessed using the Chinese version [65] of the 16-item Maslach Burnout Inventory-General Survey MBI-GS [66,67], which includes adaptations and revisions of the original. The MBI-GS has three dimensions: exhaustion, cynicism, and inefficacy. Because research has found that exhaustion and cynicism have complex relationships with inefficacy [55], these two dimensions are the most frequently used measure in burnout research e.g., [68,69]. Thus, in the present study, the 9 items for exhaustion and cynicism were used. Sample items included, respectively, "I feel emotionally drained from my

work" and "I have become less enthusiastic about my work" (1 = never, 7 = every day; $\alpha = 0.89$).

Cross-role trait consistency. To obtain an index of the participant's cross-role trait consistency level, 10 personality traits from the short version of the Big Five Inventory [70] were used. Participants rated themselves on the 10 personality traits five times. Each time, personality traits were randomly paired with a specific interaction partner (i.e., same-gender friends, parents, romantic partners, workmates, and strangers). For instance, one item read "When I interact with my parents, I tend to be lazy." A 7-point scale (1 = strongly disagree, 7 = strongly agree) was used. Following previous research, these five social roles were used because they are important and common roles that individuals are likely to play in their daily life, and cross-role trait consistency measures personality structure that is contextually free and unlikely to be influenced by special social roles adopted in the measure (Fleeson, 2001, 2007; Noftle & Fleeson, 2010).

A personal index of cross-role trait consistency was obtained by adopting a method developed by Block [19] and used in a study by Donahue et al. [18]. As noted, in the present study, each person provided 50 personality ratings. After converting each participant's 50 ratings into a 10×5 matrix (10 traits in five different social roles), a factor analysis was conducted for each personal matrix. If a person viewed him- or herself consistently across all social contexts (e.g., lazy in all situations), the first principal-components factor obtained from this within-subject factor analysis accounted for a large (rather than small) percentage of the person's self-view variance across situations. Conversely, when a person viewed him- or herself very differently across social situations or social roles (e.g., talkative when with X but not when with Y), the first factor accounted for only a small amount of the variance in the self-rating matrix. On the basis of this statistical logic, the percentage of variance accounted for by the first factor was used as the index of cross-role trait consistency [23].

WFC. WFC was assessed with a nine-item scale developed by Carlson et al. [71] which measures time-, strain-, and behavior-based conflict. The scale was adapted to fit the spouse-rated format. Sample items included "The time he/she must devote to his/her job keeps him/her from participating equally in household responsibilities and activities" (time-based conflict); "When he/she gets home from work, he/she is often too frazzled to participate in family activities/responsibilities" (strain-based conflict); and "The problem-solving behaviors he/she uses in his/her job are not effective in solving problems at home" (behavior-based conflict) (1 = strongly disagree, 7 = strongly agree; $\alpha = 0.87$).

Control variables. It has been suggested that family and respondent characteristics have potential influence on spouses' perception of WFC (Pedersen & Minnotte, 2012). Therefore, we included commonly used control variables to control for their direct effect on WFC in our analysis (e.g., Ferguson, 2012; Zhou et al., 2019). Specifically, we controlled employee age, gender (1 = male; 2 = female), education (1 = junior high school or below; 2 = high school; 3 = associate degree or bachelor; 4 = master; 5 = PhD), organizational tenure, company nature (four types: state-owned company, private-owned company, military enterprise, and foreign investment company; yielding three dummy variables), spouse age, education (1 = junior high school or below; 2 = highschool; 3 = associate degree or bachelor; 4 = master; 5 = PhD), holding a job or not (1 = yes; 2 = no), and having a child/children or not (0 = no; 1 = yes). In addition, to rule out a possible method effect, the data collection technique was also controlled in the analysis, using dummy variables (0 = electronic; 1 = paper-and-pencil).

4. Results

Before testing the hypotheses, we conducted confirmatory factor analysis (CFA) with Lisrel to ensure that our data fit the theoreti-

Table 1
Means, standard deviations, and correlations.

<i>,</i>	·																
Variables	Mean(M)	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Employee age	34.74	6.34															
2. Employee gender	1.61	0.49	-0.09														
3. Employee education	3.23	0.58	0.06	-0.06													
4. Company tenure	8.87	6.27	0.62**	-0.11	-0.18^{*}												
5. Company_dummy1	0.23	0.42	-0.16^{*}	-0.13	-0.15^{*}	-0.36**											
Company_dummy2	0.80	0.40	0.16*	0.14	0.20**	0.37**	-0.93**										
Company_dummy3	0.98	0.14	0.01	-0.04	-0.13	0.08	-0.27**	-0.07									
8. Spouse age	35.11	5.93	0.82**	0.22**	-0.03	0.57**	-0.23**	0.22**	0.06								
9. Spouse education	3.21	0.66	-0.05	0.06	0.51**	-0.21**	-0.14	0.10	0.05	-0.03							
10. Spouse having a job	1.04	0.20	0.07	-0.15^{*}	-0.13	0.12	0.07	-0.09	0.03	0.04	-0.07						
11. Having child/children	0.70	0.46	0.45**	0.01	-0.18^{*}	0.45**	-0.09	0.05	0.14	0.49**	-0.09	0.08					
12. Data collection method	0.80	0.40	0.09	-0.06	0.20**	-0.13	0.18*	-0.16^{*}	-0.07	0.03	0.20**	0.04	-0.14				
13. Work overload	3.97	1.18	0.17^{*}	-0.08	-0.01	0.17^{*}	-0.09	0.06	0.12	0.18^{*}	-0.06	0.07	0.10	-0.05			
14. Burnout	3.22	1.13	-0.02	0.02	-0.10	0.08	-0.18^{*}	0.14*	0.10	0.04	-0.11	0.10	-0.07	-0.01	0.30**		
15. Cross-role trait consistency	53.63	12.50	0.10	0.02	0.18^{*}	0.05	-0.08	0.12	-0.07	0.03	0.08	-0.05	0.07	-0.03	0.06	-0.18^{*}	
16. Spouse-rated WFC	3.71	1.06	-0.06	-0.08	-0.12	-0.02	0.05	-0.07	0.04	-0.05	-0.13	0.11	0.11	-0.03	0.23**	0.27**	-0.07

Notes: n = 197; * p < 0.05. ** p < 0.01.

cal factor structure well. The three latent variables (i.e., work overload, burnout, and WFC) were included in the CFA. Because cross-role trait consistency is not a latent variable, it was not included. Overall, the model fit was evaluated using various fit indices, including root-mean-square error of approximation (RMSEA), incremental fit index (IFI), comparative fit index (CFI), and Tucker-Lewis index (TLI). The requirements of a reasonable model fit are met if RMSEA falls below 0.08 [72], and IFI, CFI, and TLI remain above 0.90 [73,74,75]. The results showed that the three-factor model achieved an acceptable model fit with χ^2 (220) = 506.88, RMSEA = 0.078, CFI = 0.94, IFI = 0.94, and TLI = 0.93. We then loaded all the items on a single factor and performed Harmon's one-factor test. The results showed a poor model fit, with χ^2 (230) = 1848.64, RMSEA = 0.23, CFI = 0.66, IFI = 0.66, and TLI = 0.62, indicating that the three-factor model should be accepted, as participants could distinguish these constructs well.

Table 1 presents descriptive statistics and correlations for the variables in the model. As Table 1 illustrates, work overload was positively related to job burnout (r = 0.30, p = 0.000) and WFC (r = 0.23, p = 0.001). In addition, job burnout was negatively related to cross-role trait consistency (r = -0.18, p = 0.013) and positively related to WFC (r = 0.27, p = 0.000).

In order to test the moderated mediation hypothesis, we used MPLUS with bootstrapping-based 5000 resamples. In this model, we treated work overload as the independent variable, job burnout as the mediator, WFC as the dependent variable, and cross-role trait consistency as the second-stage moderator. The results showed that the mediation

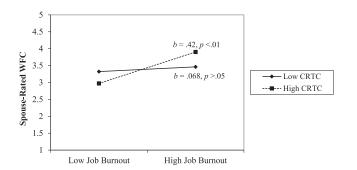


Fig. 2. Interaction effect of job burnout and cross-role trait consistency on spouse-rated work-to-family conflict.

Notes: WFC = work-to-family conflict; CRTC = cross-role trait consistency.

Table 2
MPLUS results of the second-stage moderated mediation model.

	Work Overloa	/FC	
Moderator: CRTC	b	LLCI	ULCI
Overall Mediation	0.25	0.061	0.52
High CRTC (+1 SD)	0.30	0.069	0.62
Low CRTC (+1 SD)	0.21	0.052	0.42
Difference	0.091	0.013	0.20

Notes: CRTC = cross-role trait consistency; 95% interval.

effect was significant (b = 0.25, s.e.= 0.12, 95% CI = 0.061 to 0.52), supporting Hypothesis 1.

When testing the interactional effect in Hypothesis 2, both job burnout and cross-role trait consistency were mean-centered before multiplying them to generate an interaction term (Aiken & West, 1991). The MPLUS results showed that the interactional effect of job burnout and cross-role trait consistency on spouse-rated WFC was significant (b = 0.014, s.e.= 0.0048, 95% CI = 0.0046 to 0.024), with the overall model fit of adjusted $R^2 = 0.11$, $\Delta R^2 = 0.039$, ΔF (1, 182) = 8.58, p < 0.01. Specifically, when cross-role trait consistency is high, denoting a lack of key resources, the relationship between job burnout and spouse-rated WFC is significant (b = 0.42, s.e.= 0.087, 95% CI = 0.25 to 0.59), while this relationship is not significant when it is low (b = 0.068, s.e.= 0.093, 95% CI = -0.12 to 0.25). A simple slope test suggested by Dawson (2014) revealed the similar pattern. Thus, Hypothesis 2, concerning the second-stage moderating effect, was supported. This moderation pattern is depicted in Fig. 2.

Moreover, the strength of this mediation relationship was subject to the magnitude of the moderator (i.e., cross-role trait consistency), supporting Hypothesis 3 that argues for a contingent mediation effect on cross-role trait consistency. Specifically, when cross-role trait consistency was low, the mediation effect was significant (b = 0.21, s.e.= 0.09, 95% CI = 0.052 to 0.42), and when cross-role trait consistency was high, the mediation effect was significant and higher (b = 0.30, s.e.= 0.14, 95% CI = 0.069 to 0.62). The difference in this mediation effect between high and low levels of cross-role trait consistency was significant as well (b = 0.091, s.e.= 0.05, 95% CI = 0.013 to 0.20). Table 2 displays the MPLUS results of this second-stage moderated mediation model.

Taken together, these results suggest that job burnout mediated the relationship between work overload and WFC, confirming Hypothesis 1. In addition, the moderating effect of cross-role trait consistency on the

relationship between job burnout and spouse's perception of WFC was also confirmed, supporting Hypothesis 2. Furthermore, the mediating effect was stronger among those who were high in cross-role trait consistency than those who were low in cross-role trait consistency. Thus, Hypothesis 3 was also confirmed.

5. Discussion

With an employee-spouse dyadic sample, our research suggests that an employee's work overload can be transmitted to family life and lead to higher spouse-rated WFC; moreover, the transmission is mediated by the employee's job burnout. More importantly, the employee's cross-role trait consistency strengthens this negative spillover and crossover effect. Specifically, this negative transmission is stronger in those individuals high, rather than low, in cross-role trait consistency.

5.1. Theoretical contributions

These findings contribute to the extant literature in the following three ways. First, the present research brings the concept of cross-role trait consistency to the organizational domain. On the one hand, as shown in Table 1, cross-role trait consistency is negatively related to job burnout, thus suggesting that cross-role trait consistency is positively related to individual adjustment at the workplace. This finding is consistent with previous research showing that crossrole trait consistency facilitates an individual's adjustment and psychological well-being [18,19,23]. On the other hand, cross-role trait consistency can be detrimental to cross-role interface. That is, crossrole trait consistency strengthens the negative spillover and crossover from work overload to spouse-rated WFC through job burnout. Our study is the first to provide evidence that cross-role trait consistency could have negative impacts. It therefore contributes to more comprehensive understanding of this concept and its effects on individuals' well-being.

Related to the above point, the present research suggests that crossrole trait consistency may be an important supplement in understanding the key mechanisms of boundary theories in the work-family context [24,25]. Previous research has found that personality traits could directly influence WFC. For example, a meta-analysis conducted by Michel et al. [2] confirms that external locus of control or negative affect/neuroticism is positively related to conflicts between work and family. The work-home resources model further suggests that some personality traits such as self-esteem and optimism could be key resources in managing resources and thus reduce the negative transmission between work and home [9]. Our results suggest that low cross-role trait consistency could also moderate the process by which job stressors lead to WFC and should be identified as a type of key resource in handling work-family conflict.

Moreover, although boundary theories tend to consider role integration as a key construct that might strengthen the spillover between work and family [24,54], role integration seems more likely to be influenced by both personality (i.e., cross-role trait consistency) and specific contexts. On the one hand, cross-role trait consistency measures an individual's general tendency to maintain traits across different social roles and therefore could function as an antecedent of role integration. On the other hand, role integration could change when individuals change their jobs or family structures. Therefore, unlike cross-role trait consistency, role integration should not be considered a stable individual characteristic. Future research might examine the effects of contexts and cross-role trait consistency on role integration.

Third, the present study contributes to understanding of both spillover and crossover processes from employees' work overload to spouse-rated employee WFC. We believe that by echoing the call of Huffman et al. [1] for research to move from the individual level to a marital dyad perspective, our study using spouse-rated WFC enriches the current literature that has mostly emphasized employees' own perceptions of WFC. Such a shift could facilitate a more comprehensive understanding of the influence of work stressors on employees' work-family interface. While previous research has emphasized the importance of understanding WFC from the perspective of spouses [1,26], little is known about how negative effects of job stressors could be transmitted from one member to other members within one family [59,76]. Because spouses are less likely to observe the employees' job stressors directly, they may generate perceptions of the employees' WFC through their interaction with the employees. Further, this interaction process is likely to be mediated by the employees' job attitudes and feelings (i.e., job burnout) rather than being directly affected by the employees' job stressors (i.e., work overload).

5.2. Practical implications

The present findings have implications for employee recruitment and management practices based on job characteristics. As we found, the job stressors of employees who are high in cross-role trait consistency are more likely to be transmitted to their family life. Thus, when a job is likely to be stressful, recruiting individuals low in cross-role trait consistency might help to maintain the employee's work-family balance. For instance, behavioral anchored rating scales (BARS) could be developed to assess individuals' tendencies in cross-role domains. Alternatively, companies could provide training programs to raise sensitivity toward others' welfare. Managers could be trained to be more aware of the negative impact of work overload on employees. In addition, to alleviate employees' workload, businesses could implement office automation, AI-aided work mode, upgraded hardware, and so on. In sum, to provide a healthy organizational environment and help employee to better maintain work-family balance, it might be important to pay attention to employees' overall well-being both on and off the iob.

5.3. Limitations and future research directions

The present research has several limitations. First, it focused only on work-to-family spillover. However, work-family difficulties are bidirectional, including both WFC and family-to-work conflict [71]. Crossrole trait consistency might also strengthen the spillover from family to work. Future research might examine the role that cross-role trait consistency plays on family-to-work spillover. Second, the present research examined only negative work-to-family spillover. Previous research has posited that factors strengthening negative work-to-family transmission could have a similar effect on positive work-to-family transmission [34,35], suggesting that cross-role trait consistency might also strengthen positive work-family transmission. Third, we used a snowball technique to collect data in the current study. Although workfamily interface is a relatively general issue, company background might make a difference. Future research could explore whether or not organizational factors matter. Fourth, cross-role trait consistency may have implications for understanding the influence of telecommuting, such as in the context of COVID-19. Since the physical and psychological boundaries between work and home blur with telecommuting [77], it is probable that individuals have to switch work and family roles more frequently than when working away from home. We speculate that individuals with low cross-role consistency may adapt better to the frequent contextual changes than their counterparts. This topic would be an interesting and meaningful research direction. Finally, employees' experiences with WFC may be contingent on culture. Gender asymmetry has been found in dual-career couples in China [7]. Societies

Y. Huang, Y. Mao and Y. Zhan

with collectivistic culture and similar family structures might be able to observe this pattern as well. Future research might explore these possibilities.

Declaration of competing interest

The authors declare that they have no conflicts of interest in this work.

Acknowledgments

We thank the National Natural Science Foundation of China (72172059, 71872083, and 71832006) for supporting this project.

References

- A.H. Huffman, R.A. Matthews, L.H. Irving, Family fairness and cohesion in marital dyads: mediating processes between work–family conflict and couple psychological distress, J. Occup. Organ. Psychol. 90 (2017) 95–116.
- [2] J.S. Michel, L.M. Kotrba, J.K. Mitchelson, et al., Antecedents of work-family conflict: a meta-analytic review, J. Organ. Behav. 32 (2011) 689–725.
- [3] J.H. Greenhaus, N.J. Beutell, Sources of conflict between work and family roles, Acad. Manage. Rev. 10 (1985) 76–88.
- [4] S. Braun, C. Peus, Crossover of work-life balance perceptions: does authentic leadership matter? J Bus. Ethics 149 (2018) 875–893.
- [5] T. Oshio, A. Inoue, A. Tsutsumi, Does work-to-family conflict really matter for health? Cross-sectional, prospective cohort and fixed-effects analyses, Soc. Sci. Med. 175 (2017) 36–42.
- [6] T.D. Allen, D.E. Herst, C.S. Bruck, et al., Consequences associated with work-to-family conflict: a review and agenda for future research, J. Occup. Health Psychol. 5 (2000) 278–308.
- [7] M. Zhang, S. Foley, B. Yang, Work-family conflict among Chinese married couples: testing spillover and crossover effects, Int. J. Hum. Resour. Man. 24 (2013) 3213–3231.
- [8] K. Byron, A meta-analytic review of work-family conflict and its antecedents, J. Vocat. Behav. 67 (2005) 169–198.
- [9] L.L. Ten Brummelhuis, A.B. Bakker, A resource perspective on the work-home interface: the work-home resources model, Am. Psychol. 67 (2012) 545– 556.
- [10] H. Pluut, R. Ilies, R. Su, et al., How social stressors at work influence marital behaviors at home: an interpersonal model of work–family spillover, J. Occup. Health Psychol. 27 (2022) 74–88.
- [11] J. Ladge, L. Little, When expectations become reality: work-family image management and identity adaptation, Acad. Manage. Rev. 44 (2019) 126–149.
- [12] J.H. Wayne, N. Musisca, W. Fleeson, Considering the role of personality in the work–family experience: relationships of the big five to work–family conflict and facilitation, J. Vocat. Behav. 64 (2004) 108–130.
- [13] R.R. McCrae, P.T. Costa Jr, The stability of personality: observations and evaluations, Curr. Dir. Psychol. Sci. 3 (1994) 173–175.
- [14] W. Fleeson, Situation-based contingencies underlying trait-content manifestation in behavior, J. Pers. 75 (2007) 825–862.
- [15] W. Fleeson, Toward a structure- and process-integrated view of personality: traits as density distribution of states, J. Pers. Soc. Psychol. 80 (2001) 1011–1027.
- [16] E.E. Noftle, W. Fleeson, Intraindividual variability in adult personality development, in: K.H.M. Diehl, M.J. Sliwinski (Eds.), Handbook of Intraindividual Variability Across the Life Span, Routledge, New York, 2015, pp. 176–197.
- [17] W. Fleeson, E. Jayawickreme, Whole trait theory, J. Res. Pers. 56 (2015) 82– 92.
- [18] E.M. Donahue, R.W. Robins, B.W. Roberts, et al., The divided self: concurrent and longitudinal effects of psychological adjustment and social roles on self-concept differentiation, J. Pers. Soc. Psychol. 64 (1993) 834–846.
- [19] J. Block, Ego identity, role variability, and adjustment, J. Consult. Psychol. 25 (1961) 392–397.
- [20] E.E. Noftle, W. Fleeson, Age differences in big five behavior averages and variabilities across the adult life span: moving beyond retrospective, global summary accounts of personality, Psychol. Aging 25 (2010) 95.
- [21] M.W. Kraus, S. Chen, D. Keltner, The power to be me: power elevates self-concept consistency and authenticity, J. Exp. Soc. Psychol. 47 (2011) 974–980.
- [22] J.H. Greenhaus, G.N. Powell, When work and family are allies: a theory of workfamily enrichment, Acad. Manage. Rev. 31 (2006) 72–92.
- [23] E.M. Suh, Culture, identity consistency, and subjective well-being, J. Pers. Soc. Psychol. 83 (2002) 1378–1391.
- [24] B.E. Ashforth, G.E. Kreiner, M. Fugate, All in a day's work: boundaries and micro role transitions, Acad. Manage. Rev. 25 (2000) 472–491.
- [25] M. Westman, D. Etzion, Crossover of stress, strain, and resources for one spouse to another, J. Organ. Behav. 16 (1995) 169–181.
- [26] G.A. Adams, L.A. King, D.W. King, Relationships of job and family involvement, family social support, and work–family conflict with job and life satisfaction, J. Appl. Psychol. 81 (1996) 411–420.
- [27] E. Demerouti, A.B. Bakker, F. Nachreiner, et al., The job demands-resources model of burnout, J. Appl. Psychol. 86 (2001) 499–512.

- [28] L.B. Hammer, E. Allen, T.D. Grigsby, Work-family conflict in dual-earner couples: within-individual and crossover effects of work and family, J. Vocat. Behav. 50 (1997) 185–203.
- [29] A. Zhou, Z. Yang, H.K. Kwan, et al., Work-family spillover and crossover effects of authentic leadership in China, Asia. Pac. J. Hum. Resou. 57 (2019) 299–321.
- [30] B.M. Baird, K. Le, R.E. Lucas, On the nature of intraindividual personality variability: reliability, validity, and associations with well-being, J. Pers. Soc. Psychol. 90 (2006) 512–527.
- [31] G.W. Allport, Personality: A psychological Interpretation, Holt Oxford, England, 1937.
- [32] W. Mischel, Y. Shoda, Reconciling processing dynamics and personality dispositions, Annu. Rev. Psychol. 49 (1998) 229–258.
- [33] J. Liu, H.K. Kwan, C. Lee, et al., Work-to-family spillover effects of workplace ostracism: the role of work-home segmentation preferences, Hum. Resour. Manage. 52 (2013) 75–93.
- [34] G.N. Powell, J.H. Greenhaus, Sex, gender, and the work-to-family interface: exploring negative and positive interdependencies, Acad. Manage. J. 53 (2010) 513– 534.
- [35] R. Ilies, K.S. Wilson, D.T. Wagner, The spillover of daily job satisfaction onto employees' family lives: the facilitating role of work-family integration, Acad. Manage. J. 52 (2009) 87–102.
- [36] G.E. Kreiner, Consequences of work-home segmentation or integration: a person-environment fit perspective, J. Organ. Behav. 27 (2006) 485–507.
- [37] Y. Liao, Z. Yang, M. Wang, et al., Work-family effects of LMX: the moderating role of work-home segmentation preferences, Leadersh. Q. 27 (2016) 671– 683.
- [38] A.M. Garczynski, J.S. Waldrop, E.A. Rupprecht, et al., Differentiation between work and nonwork self-aspects as a predictor of presenteeism and engagement: cross-cultural differences, J. Occup. Health Psychol. 18 (2013) 417–429.
- [39] A.H. Maslow, Toward a Psychology of being, Van Nostrand, Princeton, New Jersey, 1968.
- [40] M. Diehl, C.T. Hastings, J.M. Stanton, Self-concept differentiation across the adult life span, Psychol. Aging 16 (2001) 643–654.
- [41] C.J. Lutz, S.R. Ross, Elaboration versus fragmentation: distinguishing between self-complexity and self-concept differentiation, J. Soc. Clin. Psychol. 22 (2003) 537–559.
- [42] D.A. Kenny, L.K. Acitelli, Accuracy and bias in the perception of the partner in a close relationship, J. Pers. Soc. Psychol. 80 (2001) 439–448.
- [43] M. Ferguson, You cannot leave it at the office: spillover and crossover of coworker incivility, J. Organ. Behav. 33 (2012) 571–588.
- [44] D.E. Pedersen, K.L. Minnotte, Self-and spouse-reported work-family conflict and dual-earners' job satisfaction, Marriage Fam. Rev. 48 (2012) 272–292.
- [45] J.H. Wayne, W.J. Casper, R.A. Matthews, et al., Family-supportive organization perceptions and organizational commitment: the mediating role of work-family conflict and enrichment and partner attitudes, J. Appl. Psychol. 98 (2013) 606– 622.
- [46] A.B. Bakker, A. Shimazu, E. Demerouti, et al., Work engagement versus workaholism: a test of the spillover-crossover model, J. Manage. Psychol. 29 (2013) 63– 80.
- [47] M. Ferguson, D. Carlson, K.M. Kacmar, Flexing work boundaries: the spillover and crossover of workplace support, Pers. Psychol. 68 (2014) 581– 614.
- [48] J.H. Greenhaus, R. Singh, Mentoring and the work-family interface, in: B.R. Ragins, K.E. Kram (Eds.), Handbook of Mentoring At work: Theory, research, and Practice, Sage, Thousand Oaks, CA, 2007, pp. 519–544.
- [49] M.F. Peterson, Role conflict, ambiguity, and overload: a 21-nation study, Acad. Manage. J. 38 (1995) 429–452.
- [50] J.R. Rizzo, R.J. House, S.I. Lirtzman, Role conflict and ambiguity in complex organizations, Adm. Sci. Q. 15 (1970) 150–163.
- [51] C.K. Fu, M.A. Shaffer, The tug of work and family: direct and indirect domain-specific determinants of work-family conflict, Personnel Rev. 30 (2001) 502– 522.
- [52] S.R. Marks, Multiple roles and role strain: some notes on human energy, time and commitment, Am. Sociol. Rev. 42 (1977) 921–936.
- [53] C. Maslach, W.B. Schaufeli, M.P. Leiter, Job burnout, Annu. Rev. Psychol. 52 (2001) 397–422.
- [54] S.C. Clark, Work/family border theory: a new theory of work/family balance, Hum. Relat. 53 (2000) 747–770.
- [55] C. Maslach, Job burnout new directions in research and intervention, Curr. Dir. Psychol. Sci. 12 (2003) 189–192.
- [56] W. Schaufeli, D. Enzmann, The Burnout Companion to Study and practice: A critical Analysis, CRC press, London, UK, 1998.
- [57] R.W. Levenson, A.M. Ruef, Empathy: a physiological substrate, J. Pers. Soc. Psychol. 63 (1992) 234–246.
- [58] D. Riley, J. Eckenrode, Social ties: subgroup differences in costs and benefits, J. Pers. Soc. Psychol. 51 (1986) 770–778.
- [59] M. Westman, Crossover of stress and strain in the work-family context, in: F. Jones, R.J. Burke, M. Westman (Eds.), Work-life balance: A psychological Perspective, Psychology Press, New York, NY, 2006, pp. 163– 184.
- [60] S.E. Hobfoll, Social and psychological resources and adaptation, Rev. General Psychol. 6 (2002) 307–324.
- [61] P.L. Hardré, Beyond two decades of motivation: a review of the research and practice in instructional design and human performance technology, Hum. Resour. Dev. Rev. 2 (2003) 54–81.

Y. Huang, Y. Mao and Y. Zhan

- [62] M.F. Scheier, C.S. Carver, Effects of optimism on psychological and physical well-being: theoretical overview and empirical update, Cognit. Ther. Res. 16 (1992) 201–228.
- [63] W. Mischel, Y. Shoda, A cognitive-affective system theory of personality: reconceptualizing situations, dispositions, dynamics, and invariance in personality structure, Psychol. Rev. 102 (1995) 246–268s.
- [64] R.W. Brislin, Back-translation for cross-cultural research, J. Cross. Cult. Psychol. 1 (1970) 185–216.
- [65] C. Li, K. Shi, The influence of distributive justice and procedural justice on job burnout, Acta Psychologica Sinica 35 (2003) 677–684.
- [66] C. Maslach, S.E. Jackson, M. Leiter (Eds.), Maslach Burnout Inventory-General Survey, Consulting Psychologists Press., Palo Alto, CA, 1996.
- [67] N. Schutte, S. Toppinen, R. Kalimo, et al., The factorial validity of the Maslach Burnout Inventory-General Survey (MBI-GS) across occupational groups and nations, J. Occup. Organ. Psychol. 73 (2000) 53–66.
- [68] L. Jiang, T.M. Probst, The rich get richer and the poor get poorer: country-and state-level income inequality moderates the job insecurity-burnout relationship, J. Appl. Psychol. 102 (2017) 672–681.
- [69] M.P. Leiter, H.K.S. Laschinger, A. Day, et al., The impact of civility interventions on employee social behavior, distress, and attitudes, J. Appl. Psychol. 96 (2011) 1258–1274.
- [70] B. Rammstedt, O.P. John, Measuring personality in one minute or less: a 10-item short version of the Big Five Inventory in English and German, J. Res. Pers. 41 (2007) 203–212.
- [71] D.S. Carlson, K.M. Kacmar, L.J. Williams, Construction and initial validation of a multidimensional measure of work-family conflict, J. Vocat. Behav. 56 (2000) 249–276.
- [72] M.W. Browne, R. Cudeck, Alternative ways of assessing model fit, in: K.A. Bollen, J.S. Long (Eds.), Testing Structural Equation Models, SAGE, New York: NY, 1993, p. 136.
- [73] L.R. Tucker, C. Lewis, A reliability coefficient for maximum likelihood factor analysis, Psychometrika 38 (1973) 1–10.
 [74] P.M. Bentler, D.G. Bonett, Significance tests and goodness of fit in the analysis of
- [74] P.M. Bentler, D.G. Bonett, Significance tests and goodness of fit in the analysis of covariance structures, Psychol. Bull. 88 (1980) 588–606.
- [75] D.S. Byrne, Complexity Theory and the Social sciences: An introduction, Psychology Press, 1998.
- [76] M. Westman, Stress and strain crossover, Hum. Relat. 54 (2001) 717– 751.
- [77] T.D. Allen, T.D. Golden, K.M. Shockley, How effective is telecommuting? Assessing the status of our scientific findings, Psychol. Sci. Publ. Int. 16 (2015) 40–68.



Fundamental Research 3 (2023) 997–1004

Yunhui Huang is a professor in School of Business at Nanjing University. She received the Ph.D. degree in psychology from Peking University. Her research interests include cultural differences and consumer psychology. Her work appeared in journals such as Personality and Social Psychology Bulletin, Journal of Consumer Research, Information Systems Research, Journal of Consumer Psychology, Information & Management, Journal of Retailing, International Journal of Research in Marketing, and in the proceedings of conferences such as Association for Consumer Research Conference.



Yina Mao (BRID: 03117.00.61221) is currently a professor at Department of Human Resource Management, School of Business, Nanjing University. She received her Ph.D. from the Chinese University of Hong Kong. Her research interests include workplace ostracism, dirty work, emotions, and leadership. She has published research papers in the Journal of Occupational and Organizational Psychology, Journal of Vocational Behavior, Journal of Career Development and so on. She has been granted as the primary investigator of two NSFC projects.



Yujie (Jessie) Zhan, Ph.D., is an associate professor of organizational behavior/human resource management in the *Lazaridis School of Business and Economics* at Wilfrid Laurier University. She holds a PhD in industrial-organizational psychology from the University of Maryland. Her research primarily focuses on work stress and employee psychological wellbeing, age in the workplace and retirement, customer-service employee interaction, emotions and emotion regulation in the workplace, and work-nonwork interface. Her research has been published in journals such as Journal of Applied Psychology, Academy of Management Journal, Personnel Psychology, and Journal of Organizational Psychology. She currently serves as the associate editor at Work, Aging and Retirement and Man-

agement and Organization Review.