

# Excess and Defect: How Job-Family Responsibilities Congruence Effect the Employee Procrastination Behavior

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**Purpose:** Prior work suggests that responsibility is negatively associated with employee procrastination behavior. Based on the conservation of resources (COR) theory, we suggest this view is oversimplified and propose that procrastination can be induced when employees have congruent job and family responsibilities via the mediating effect of emotional exhaustion.

**Methods:** This is a quantitative study of the configurational approach. Survey data were collected from 323 employees at two stages in southern Chinese internet enterprises in September 2020. A randomized cluster sample was used and an anonymous self-assessment questionnaire was distributed to all selected respondents (employees). Samples involved different departments, and the procrastination phenomenon is more significant among them. SPSS20.2 and MPLUS 8.3 software and Response Surface Analysis Strategy were used to test the hypotheses.

**Results:** The data analysis results indicated that: a) employee procrastination behavior is higher when employees' job responsibility and family responsibility are congruent than the incongruent configurations. b) Procrastination is lower when job-family dyads are congruent at high levels of responsibility compared the low levels. c) Procrastination decreases as employees' job and family responsibilities become more discrepant (ie, incongruent); employees with low job-high family responsibilities procrastinate more than those with high job-low family responsibilities. d) Additionally, employee-experienced emotional exhaustion mediates the relationship in four configurations between job-family responsibilities congruence and procrastination behavior.

**Conclusion:** Drawing on the conservation of resources theory, we proposed a model clarifying how varying combinations of job and family responsibilities affect employee procrastination behavior. The results showed that there are significant differences in the impact of different job-family responsibility combinations on employee procrastination behavior. Employee procrastination behavior is higher when employees' job-family responsibility are congruent than the incongruent configurations. Additionally, employee-experienced emotional exhaustion mediates the relationship in four configurations between job-family responsibilities congruence and procrastination behavior.

**Keywords:** job-family responsibilities congruence, emotional exhaustion, employee procrastination behavior, conservation of resources theory, configurational approach

## Introduction

Procrastination is the willingness of individuals to postpone necessary and important agendas despite realizing that the negative consequences of delay will outweigh the positive moves and lead to negative consequences.<sup>1,2</sup> Procrastination from the workplace significantly affects business performance.<sup>3</sup> Task avoidance, task requirements, and the degree of reasonableness of work resources are all associated with employee procrastination behavior.<sup>4,5</sup> Meanwhile, responsibility as a personal trait is considered to be an important factor in understanding employee procrastination. For example, employees with a low sense of responsibility typically engage in procrastination.<sup>5,6</sup>

The aforementioned presentation suggests that responsibility can be an effective inhibition of employee procrastination.<sup>7</sup> The occurrence of responsible behavior, however, is associated with the emotional state of the

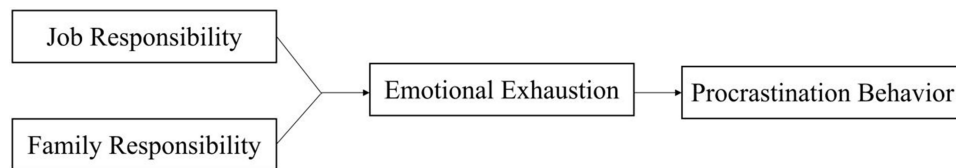
individual. Lack of interest and desire may lead employees to postpone work responsibility.<sup>8</sup> Employees who actively avoid job responsibility also result in cyberloafing, further producing procrastination.<sup>9</sup> Negative attitudes, fatalism, on the other hand, directly lead to procrastination.<sup>10</sup> It is clear that positive emotional states facilitate individuals to fulfill their responsibility and inhibit procrastination, while negative emotions promote procrastination. However, studies have not focused on the multiple sources of responsibilities of individuals. Studies found that the co-existence of multiple role responsibilities, such as job and family responsibilities, causes significant emotional stress for individuals,<sup>11,12</sup> leading to work-family conflicts.<sup>13</sup> Whether the overlapping of dual job and family responsibilities is still effective in curbing employees' procrastination in this context needs to be further explored.

Based on the conservation of resources (COR) theory, this paper argues that varying combinations of job and family responsibilities can result in different levels of employee procrastination behavior. COR theory describes the stress as a dynamic process of resource loss and resource gain.<sup>14</sup> Emotional exhaustion is chosen to represent the resource depletion. According to COR theory, individuals experiencing excessive stress can produce resource depletion and induce work-family conflicts.<sup>15</sup> Individuals tend to conserve as many important resources as possible for their own needs.<sup>12,16,17</sup> Employees are simultaneously responsible for both job and family and need to devote lots of emotional resources for the mission completion. Emotional exhaustion experienced by employees can undermine work performance.<sup>18,19</sup> It is expected that in some situations of dual responsibilities combinations, employees may procrastinate to reduce the investment on emotional resources for depletion-stop and protection purposes. To explore this question, the configurational approach is applied to employee procrastination behavior. We make four hypotheses measuring the trends among varying configurations of the different levels of job-family responsibilities. As mentioned above, the initial hypothesis is congruent (ie, high job-high family, low job-low family) in contrast to incongruent (ie, high job-low family, low job-high family) job-family responsibilities are associated with higher levels of procrastination via employee-experienced emotional exhaustion. According to the level of employees' job responsibilities and family responsibilities, we have identified the following four different matching scenarios as shown in Figure 1: high-high; low-low; high-low; low-high.

The main contributions of this research are as follows: First, the different responsibilities of multiple work-life roles are distinguished. This study found that responsibility implies more than one type of personality trait in the organizational contexts. Employees have dual sources of responsibility in job-family situations. Second, we discuss the effects of different types of responsibilities configurations on employee procrastination behavior. Unlike previous research on responsibility traits that inhibit procrastination, this study found that employees' job responsibility and family responsibility orientations have a complex influence on employee procrastination behavior. The dual job-family responsibilities

		Family Responsibilities	
		Low Family Responsibilities	High Family Responsibilities
Job Responsibilities	Low Job Responsibilities	LL congruence in Job-family Responsibilities	LH incongruence in Job-family Responsibilities
	High Job Responsibilities	HL incongruence in Job-family Responsibilities	HH congruence in Job-family Responsibilities

**Figure 1** The four different scenarios of (in) congruence in job-family responsibilities.



**Figure 2** Conceptual model.

orientation leads to an “Excess and Defect” effect that promotes procrastination behavior and the level of procrastination is higher in the congruent configurations than in the incongruent cases. Third, the influencing mechanism of job-family responsibilities on employee procrastination behavior is explored through the mediating role of emotional exhaustion in the perspective of COR theory. The dual job-family responsibilities orientation increases individuals’ emotional exhaustion, which leads to members’ feeling that emotional resources are being depleted. As a result, individuals seek psychological balance through procrastination for resource conservation. Figure 2 shows the research model.

## Theoretical Background and Hypothesis Development

### Responsibilities

Responsibilities refer to the process by which an individual does his or her duty to others by practicing certain norm-compliant behaviors, including fulfilling obligations and other requirements. And responsibilities reflect an individual’s perception of the duties corresponding to his or her social role.<sup>20</sup> The higher the employees’ sense of job responsibility, the more confident they are in their abilities and the more likely to set high goals and overcome difficulties at work in a positive way.<sup>21</sup> High-responsibility employees have more notable motivation and self-efficacy, a stronger sense of conscientiousness, and more persistence in the face of challenges and setbacks at work. They usually obey the duty to do the right things and care about the well-being of others.<sup>22</sup> Hardworking, reliable, with strong self-discipline are the characteristics of high-responsibility employees.<sup>23</sup> In contrast, employees with low-responsibility lack confidence in their abilities and are more inclined to give up on difficult tasks.<sup>21</sup> These characteristics lead to less self-disciplined and the sense of responsibility, and eventually cause procrastination.<sup>7</sup> In daily life, family responsibility is treated as a common role experience in human society.<sup>24</sup> Individuals demand to fulfill their various role responsibilities to achieve career success and family happiness between job and family roles.<sup>11</sup> Family and job responsibilities often interact with each other and may cause conflicts in time use,<sup>25,26</sup> or may have positive effects from job-family or family-job experience border-crossing effects.<sup>27</sup> However, in the current time of widespread global overload, the overlap of dual job and family responsibilities has become common, and individuals have a sense of multi-role responsibilities. Rare attention has been paid to the relationship between multi-role responsibilities and job performance in previous studies, and some scholars have explored the existence of a negative correlation between responsibility and employee procrastination behavior,<sup>6,28</sup> And it is worthwhile to further identify what configurations possibilities exist between dual responsibilities and procrastination when the source of employee responsibility is no longer singular. It is worthwhile to further figure out the configurations between dual responsibilities and employee procrastination behavior.

### Responsibilities Configurations, Emotional Exhaustion, Employee Procrastination Behavior

Four job-family responsibilities configurations are focused on this study, high job-low family (HL), low job-high family (LH), high job-high family (HH), low job-low family (LL). It is expected that these configurations of job-family responsibilities will result in different emotional states as well as their subsequent performance in work. Specifically, we expect that each combination will cause individuals to experience varying degrees of dual responsibilities perception, with emotional exhaustion occurring in some of these situations. Emotional exhaustion is a psychological manifestation of stress that is part of job burnout, which often occurs when emotional and psychological resources are exhausted. Emotional exhaustion as defined in this study refers to the feeling of being emotionally overextended due to work,<sup>29</sup> which leads to higher turnover rates and lower performance levels.<sup>30</sup> COR theory suggests that individuals are motivated

to protect their emotional resources from damage.<sup>31</sup> Under the simultaneous effects of dual responsibilities, employees may reconsider their work tasks, emerge with different emotional tendencies based on the above,<sup>32,33</sup> such as anxiety,<sup>34</sup> and consider novel ways of doing things.<sup>35,36</sup>

The act of delaying the scheduled completion of a plan is defined as employee procrastination behavior which combines to prolonging, postponing, or delaying the progress of tasks in organizations.<sup>7,37</sup> Time is the scarce resource in contemporary organizations, and members who are able to spend their time effectively tend to contribute more to the organization. Conversely, employees who frequently fail to complete their work on time receive lower ratings. Several studies have shown that procrastination is closely related to individuals' mental health problems,<sup>38</sup> and individuals anticipate that their short-term resource inputs will not bring new resource returns, they seek to conserve or minimize the depletion of resources. When individuals are faced with various overlapping role responsibilities, they need to devote plenty of emotional and psychological resources to ameliorate role conflict.<sup>7,39</sup> Employees may tend to procrastinate for the purpose of preserving emotional resources to reduce the input and depletion of current emotional resources.<sup>16,17</sup>

## Responsibilities Congruence

Responsibility is defined as one of the personal characteristics, such as conscientiousness.<sup>20,40</sup> It has been found that individuals with significant procrastination behaviors are more lacking in responsibility,<sup>28</sup> and they are not sufficiently motivated to cope with work tasks and therefore a range of negative attitudes and behaviors are performed in work, such as reduced efforts and perfunctory work.<sup>41</sup> Therefore, LL responsibilities dyadic configurations can lead to procrastination. However, HH responsibilities dyadic configurations may also lead to procrastination. Responsibility is not only a personality trait, but is also considered as a factor related to work behavior.<sup>18</sup> Earlier studies have tested that responsibility is positively correlated with workplace performance, and that employees with a sense of responsibility are significantly more likely to improve career achievement and job performance.<sup>42,43</sup> As society continues to evolve, individuals are often required to fulfill responsibilities in multiple role contexts, including job and family. Previous researches concerned with the fact that the needs from both work and family may cause complex and difficult to coordinate conflicts,<sup>13</sup> which makes the roles of job and family harder.<sup>44</sup> In other words, in the dual-role situation, employees with both HH responsibilities may not be able to handle both due to limited time and space, even may instead turn conflicts of responsibilities. Some studies have found that work-family conflicts may lead to delays in task duration and distractions. These behaviors are likely to cause individuals to miss the best time to finish their work.<sup>45-47</sup>

In contrast, in both HL responsibilities and low LH responsibilities combinations, employees' sense of responsibility is either mainly in the job or mainly in the family, and when there is a clear tendency of responsibility, employees do not bear two-way role pressure, so the characteristics of employee procrastination behavior are not as significant as in the previous two configurations (HH and LL responsibilities). In summary, the following hypothesis are proposed.

**Hypothesis 1:** Employee procrastination behavior increases when job-family responsibilities are congruent of responsibilities than incongruent.

It is suggested that congruent combinations should lead to more employee procrastination behavior than the other. Both of the above are related to procrastination. However, a key difference between the two configurations with congruent responsibilities, is the attitude of conscientiousness. Individuals with HH responsibilities may face conflicts between work and family in terms of time and space.<sup>49</sup> Despite employees' desire to balance job and family, the inability to play both roles can prevent one of the tasks from being completed as scheduled, resulting in some passive procrastination at work.<sup>39,45</sup> However, for the other situation LL responsibilities, individuals who lack both job and family responsibilities tend to maintain as much as possible the various resources they already have without being depleted,<sup>50</sup> and thus individuals are likely to perform active procrastination based on the purpose of resource preservation or even adopt avoidance strategies to respond negatively to tasks,<sup>51</sup> further separation occurs.<sup>52</sup> Procrastination has been distinguished as "observed procrastination" and "voluntary procrastination",<sup>53</sup> whereas in our study, procrastination in employees with HH responsibilities is more passive, while LL responsibilities may be in a state of active procrastination.

Active procrastination caused by LL responsibilities is more evident than passive procrastination that occurs to some extent among employees with HH responsibilities. Therefore, the following hypothesis is proposed.

Hypothesis 2: LL responsibilities configurations are associated with higher employee procrastination behavior compared to HH responsibilities configurations.

## Responsibilities Incongruence

In incongruent situations, it is also necessary to distinguish between “high-low” and “low-high” configurations. As the economy and society continue to change, the conflicts of time and place between job-family responsibilities become more obvious. When employees remain in a state of HL responsibilities, a strong sense of job responsibility comes from the personalities of self-consciousness that makes them more focused on their job. They typically put more effort and energy into their work, and they are more likely to be competent at the tasks assigned by leaders, which in turn results in more positive interactions.<sup>54</sup> In addition, studies have been conducted to conceptually explain that people with a conscience have a high level of self-coordination and are more likely to be motivated to pursue their goals.<sup>55</sup> In conclusion, these studies suggest that high job responsibility is a positive psychological state for work and can promote positive job performance. Correspondingly, for employees with LH responsibilities, they are more likely to prioritize completing household tasks, and higher family responsibility and collectivist tendencies are also motivators to actively complete work tasks,<sup>56</sup> and employee procrastination behavior is somewhat reduced. Thus, in the incongruent two configurations (HL and LH responsibilities), responsibilities are expressed as a kind of positive psychological resource. The more incongruent job and family responsibilities are, the fewer procrastination employees have.

However, compared with these two incongruent configurations, employees will choose between job and family responsibilities to spend their time and energy on the area which is absolutely more critical to them. Individuals with a high sense of responsibility are more resilient, enthusiastic, and committed to their work,<sup>57</sup> and such employees prioritize their job duties to ensure that tasks are completed in a timely manner, thereby reducing procrastination. In turn, for employees with LH responsibilities, they are more inclined to prioritize family needs when faced with work-family conflicts. For example, employees inevitably have to raise children, take care of elderly or non-independent members in the family.<sup>58,59</sup> Time demands caused by household chores and social issues such as single-parent families and divorce make people to take more family responsibilities.<sup>48</sup> Employees may experience some degree of procrastination on work tasks due to the inability to balance their job and family. As a result, procrastination is significantly reduced in employees with a high level of job responsibility.

Hypothesis 3: Employee procrastination behavior decreases as job and family responsibilities become more discrepant (ie, incongruent). Employees with LH responsibilities procrastinate more than those with HL responsibilities.

## The Mediating Role of Emotional Exhaustion

From the view of COR theory, high-responsibilities awareness individuals may face timeout in duties in order to balance job and family. In the process of procrastination generation, employees with high-responsibilities on both the job and family side experience the stress of resource depletion in the conflicts of their roles. However, excessive job stress is highly likely to bring about emotional exhaustion, leaving mental and emotional resources in a state of fatigue.<sup>60,61</sup> Therefore, it is expected that in HH configurations, congruence makes individuals more likely to feel physically and mentally drained, causing emotional exhaustion which can lead to employee procrastination behavior.

LL responsibilities dyadic configuration may also be related to the individual's sense of emotional exhaustion. It has been found that individuals with significant procrastination behavior are more lacking in responsibility.<sup>28</sup> According to COR theory, individuals with a low perception of responsibility experience a sense of emotional resource depletion in the process of completing tasks. They are often reluctant to take on more job responsibilities, but have to finish their work tasks.<sup>62</sup> If this feeling of depletion is not compensated, individuals will have insufficient emotional resources to complete the task effectively and will develop a range of negative work attitudes and behaviors, such as burnout and perfunctory work, to maintain their emotional resources. Several empirical studies have tested the above negative effects of emotional



depletion and have also demonstrated that individuals with low levels of responsibility show procrastination in feeling the disappearance of emotional resources.<sup>41</sup> It is further argued that in LL responsibilities, congruence increases emotional exhaustion, which leads to employee procrastination behavior.

In contrast, in incongruent configurations, employees' responsibility is either primarily in job or primarily in family, and employees' responsibility shows a clear tendency to choose one or the other. At this point, although employees are not under dual role pressure at the same time, the act of focusing attention primarily on one area can also lead to the failure to complete the affairs of the other party in a timely manner,<sup>48,49</sup> generating a certain amount of anxiety in the process.<sup>27,60</sup> HL responsibilities or LH responsibilities were originally considered a positive psychological resource, but when job and family cannot be coordinated, employees also need to face the stress of not having the affairs of one of the two handled in a timely manner. In such cases, individuals also experience some degree of emotional exhaustion and a small amount of employee procrastination behavior occurs as a result.

H4. Emotional exhaustion mediates the job-family congruence/incongruence effect of employee procrastination behavior.

## Method

### Data Collection and Sample Description

In September 2020, survey data were collected from 323 employees at two stages from 3 internet enterprises in southern China. Internet enterprise is a kind of ideal sample for the study because the competition is more intense in the industry, each company has a higher intensity workload and the staff procrastination phenomenon is more significant. A randomized cluster sample was used to select qualified departments from those companies, and an anonymous self-assessment questionnaire was distributed to all selected respondents (employees). Researchers got in touch with the HR executives of each of the three companies in advance and created electronic questionnaires through Questionnaire Star, which were sent by the HR executives to the companies' WeChat groups for data collection. Attention checks were used in all 2 rounds of the survey in order to ensure that respondents paid attention to all items in the questionnaire. The inclusion criteria for respondents included: first, being regular staff and working in these companies; second, having no cognitive impairment and being able to understand the questions on the questionnaire; and third, voluntarily participating in our survey and following the principle of informed consent.

To avoid Common Methods Bias, the sample data were collected from employees in two periods. At Time T1, questionnaires were distributed to 387 employees to evaluate their own job responsibility and family responsibility as well as the level of their supervisors' family supportive behavior. 365 responses from employees were received. Two weeks later, those 365 respondents have been invited at the second time T2 to report their emotional exhaustion and their procrastination behavior. 341 of 365 respondents responded. After the data collection, the data was filtered and the problematic numbers (eg, questionnaires with incomplete responses) were removed. The valid sample included 323 employees from four organizations, with a final response rate of 83.5%.

Of these 323 employees, 56.97% were female; 80.19% had a bachelor's degree or higher; 75.23% were aged under 35, the average age was 31.460 years ( $SD = 9.58$ ); the length of working years was mainly distributed within 1–10 years (75.23% of the total). The sample ratio of married to single (including a small sample of divorced) is 5:4. Additionally, in the Chinese scenario, employee's family pressure mainly comes from taking care of parents or raising children. The proportion of these samples with or without children is about 4:6. Among them, employees who need to take care of the elderly due to health or other reasons account for 64% of the children's sample and 38% of the childless sample.

### Analytical Strategies

The questionnaire method and response surface analysis strategy is used to evaluate the effect of employees' job-family responsibilities (in)congruence on employee procrastination behavior (Hypotheses 1, 2 and 3). The mediating role of emotional exhaustion is also measured in the study (Hypotheses 4). SPSS20.2 and MPLUS 8.3 software were used to test the hypotheses. SPSS20.2 was used for descriptive statistics and correlation analysis, and MPLUS 8.3 for validation factor analysis to test the structural and discriminant validity of the variables. For hypotheses 1, 2, and 3, polynomial

regression and response surface analysis were used to provide more accurate results than traditional moderated regression analysis and analysis of variance.<sup>63</sup> The model equation of this method is as follows:

$$Z_{ij} = \text{Control variable} + b_0 + b_1(\text{JR}) + b_2(\text{FR}) + b_3(\text{JR}^2) + b_4(\text{JR} \times \text{FR}) + b_5(\text{FR}^2)$$

Specifically, employee procrastination behavior was regressed on the control variables and five polynomial terms as the dependent variable: employees' job responsibility (JR), employees' family responsibility (FR), employees' job responsibility squared (JR<sup>2</sup>), employees' job responsibility times their family responsibility (JR × FR), and employees' family responsibility squared (FR<sup>2</sup>). Before computing the second-order terms, we centered JR and FR on the pooled grand mean to minimize multicollinearity and facilitate interpretation of the results.<sup>64</sup> Next, the effect of responsibilities congruence on employee procrastination behavior was tested, the slope (b1 + b2) was used to check hypotheses 1, 2 in the cross-section corresponding to the congruence line (JR = FR). In the cross-section corresponding to the inconsistency line (JR = -FR), the slope (b1 - b2) was used to examine hypothesis 3.

When testing hypotheses 4, since the responsibilities (in)congruence consists of 5 polynomials, the first half of the path coefficients in the intermediate effect are 5. The first half of the path coefficient in the intermediation effect is actually the result of the joint action of 5 polynomials on active execution. In order to analyze this relationship more accurately, Edwards and Cable's suggestion was adopted to first generate a Block Variable for employee job responsibility and family responsibility, and use it for subsequent mediating effects analysis.<sup>65</sup> This was done by multiplying the original values of each of the five polynomials by the corresponding regression coefficients and summing them. After that, a bootstrapping method was used to estimate the 95% confidence interval for the bias correction of the effect values to test the mediating effects.

## Measures

Both job responsibility and family responsibility were measured by the Job-Family Multi-Role Responsibilities Scale,<sup>66</sup> which added Chinese elements based on the prior studies.<sup>11,67</sup> For job responsibility (6 items), a sample item was: "Take on significant responsibility for your work and achieve a high level of accomplishment" (Cronbach's  $\alpha = 0.86$ ). For family responsibility (4 items), a sample item was: "Performing daily household chores such as cooking, laundry, house and yard cleaning, etc." (Cronbach's  $\alpha = 0.81$ ).

Emotional exhaustion is defined as an important dimension of job burnout,<sup>30</sup> several scholars have developed scales based on the study of job burnout,<sup>68</sup> of which the emotional exhaustion subscale contains 5 items. One of the sample item was: "Work makes me feel physically and mentally exhausted" (Cronbach's  $\alpha = 0.81$ ).

Employee procrastination behavior was measured using a scale with 11 items.<sup>53</sup> A sample item was: "I delay making decisions until it's too late" (Cronbach's  $\alpha = 0.93$ ). The scales used in this study showed high reliability and validity in both China and West. The translation and backtranslation procedure was followed to accurately translate all Chinese and English measurement tools into each other.<sup>69</sup>

Control variables. Considering some demographic variables may have impacts on the theoretical model, the research controlled for demographic variables that may have influenced the results,<sup>65</sup> which included gender, age, education, and tenure.

## Results

### Preliminary Analyses

#### Common Method Bias Test

The research process was based on both anonymous responses and standardized question-response procedures throughout. To control for common method bias, this study adopted a multi-source. However, since all data were filled in by the employees themselves, this may lead to subjective perceived differences between variables. Therefore, it is necessary to test for possible methodological bias. Following the recommendations of the research,<sup>70</sup> The single-factor test of Harman revealed four factors with eigenvalues more than one, which is in accordance with the number of variables measured in this study. The results of the Harman's single-factor test showed that the first factor analyzed by the unrotated exploratory

factor analysis was 38.64%, which did not exceed the 40% criterion. None of the above factors explained most of the variation. Therefore, no common method bias is evident in the study data.

### Confirmatory Factor Analysis

A confirmatory factor analysis was conducted to test the discriminant validity of four employee self-reported variables. That is, job responsibility, family responsibility, emotional exhaustion, and employee procrastination behavior. As can be seen from Table 1, the  $\chi^2$  for any of the other models increased significantly compared to the four-factor model. (RMSEA/SRMR < 0.08, CFI/TLI > 0.90), and the four-factor model is significantly better in terms of other fit indices,<sup>71,72</sup> thus the four variables are distinct and they represent four different constructs.

### Descriptive Statistics and Correlation Analysis

Table 2 provides the means, standard deviations, coefficient alphas, and interrelationships of the study variables. It is shown in Table 2, Job responsibility was significantly negatively associated with emotional exhaustion ( $r = -0.37$ ,  $p < 0.01$ ) and employee procrastination behavior ( $r = -0.39$ ,  $p < 0.01$ ). Family responsibility was significantly and negatively linked to emotional exhaustion ( $r = -0.30$ ,  $p < 0.01$ ) and employee procrastination behavior ( $r = -0.22$ ,  $p < 0.01$ ). Emotional exhaustion was significantly and positively correlated with employee procrastination behavior ( $r = 0.52$ ,  $p < 0.01$ ).

### Hypothesis Tests

The research hypotheses were tested based on the aforementioned analysis strategy (see Table 3 for results). The three second-order polynomial terms ( $JR^2$ ,  $JR \times FR$ , and  $FR^2$ ) were jointly significant ( $\Delta R^2 = 0.03$ ,  $p < 0.05$ ), indicating that it is proper to assess the joint effects of job and family responsibilities on employee procrastination behavior (EPB). H1 predicts that employee procrastination behavior is higher when employees' job responsibility and family responsibility are congruent than the incongruent configurations. The test results of H1 are shown in Table 4:  $a_4$  is significant and negative ( $a_4 = -0.45$ ,  $p < 0.01$ ). In order to further support the congruence effect, 95% confidence intervals (CIs) for  $p_21$

**Table 1** Confirmatory Factor Analysis Results

Model	$\chi^2$	df	$\chi^2/df$	CFI	TLI	RMSEA	SRMR
Four-factor model	817.58	293	2.79	0.92	0.91	0.07	0.04
Three-factor model	1428.59	296	4.83	0.82	0.80	0.11	0.08
Two-factor model	2356.59	298	7.91	0.67	0.64	0.15	0.11
One-factor model	3318.87	299	11.10	0.52	0.48	0.18	0.15

**Notes:** The four-factor model includes JR, FR, EE, and EPB. The three-factor model includes JR + FR, EE, and EPB. The two-factor model includes JR + FR, and EE + EPB. The one-factor model includes JR + FR+EE+EPB.

**Abbreviations:** JR, job responsibility; FR, family responsibility; EE, emotional exhaustion; EPB, employee procrastination behavior.

**Table 2** Means, Standard Deviations and Correlations for the Variables

Variable	Mean	SD	1	2	3	4	5	6	7	8
1.Age	31.54	9.45								
2.Gender	1.57	0.50	0.04							
3.Education	5.00	3.11	-0.25**	0.04						
4.Tenure	5.00	2.57	0.82**	0.03	-0.24**					
5.JR	3.93	0.69	0.11	-0.01	-0.12*	0.11*	<b>0.86</b>			
6.FR	4.05	0.82	0.08	-0.02	-0.10	0.08	0.39**	<b>0.81</b>		
7.EE	2.82	1.10	-0.39**	0.02	0.28**	-0.41**	-0.37**	-0.30**	<b>0.81</b>	
8.EPB	2.83	0.92	-0.29**	0.04	0.08	-0.31**	-0.39**	-0.22**	0.52**	<b>0.93</b>

**Notes:** Sample size= 323. The Square root of AVE on the diagonal. Reliability coefficients appear on the diagonal in bold; \*\* $p < 0.01$ , \* $p < 0.05$ .

**Abbreviations:** JR, job responsibility; FR, family responsibility; EE, emotional exhaustion; EPB, employee procrastination behavior.



**Table 3** Polynomial Regressions of EPB on Responsibilities (in)congruence

Variable	Statistic	Model 1	Model 2	Model3
Constant		3.43***	3.48***	3.64***
Gender		-0.01	-0.01	-0.01
Age		0.09	0.08	0.05
Education		-0.01	-0.04	-0.05
Tenure		-0.19*	-0.15*	-0.13*
JR	b1		-0.49***	-0.46***
FR	b2		-0.08	-0.15*
JR <sup>2</sup>	b3			-0.23**
JR×FR	b4			0.22**
FR <sup>2</sup>	b5			-0.07
RR <sup>2</sup>		0.10	0.23	0.26
ΔR <sup>2</sup>		0.10***	0.13***	0.03*

**Note:** \*\*\*p < 0.001, \*\*p < 0.01, \*p < 0.05.

**Abbreviations:** JR, job responsibility; FR, family responsibility; EPB, employee procrastination behavior.

**Table 4** Response Surface Coefficient Test

Estimated Parameters	Statistic	EPB
Congruence line (JR=FR)		
Slope	a1 (= b1+b2)	-0.41***
Curvature	a2 (=b3+b4+b5)	-0.10
Incongruence line (JR = -FR)		
Slope	a3 (= b1-b2)	-0.25*
Curvature	a4 (= b3-b4+b5)	-0.45**

**Note:** \*\*\*p < 0.001, \*\*p < 0.01, \*p < 0.05.

**Abbreviations:** JR, job responsibility; FR, family responsibility; EPB, employee procrastination behavior.

**Table 5** Supplemental Analysis Results from Tests of Indirect Effect of Responsibilities on EPB

Variable	Responsibilities (Block Variable) to EE	EE to EPB	Indirect Effect of Responsibilities (Block Variable) to EPB
	“α” Path	“β” Path	“αβ”
Unstandardized Results	0.57***	0.35***	0.20***
Bias-Corrected Bootstrapped CI for Indirect Effect			[0.14, 0.27]

**Notes:** Sample size=323. Bootstrap n= 10,000; \*\*\*p < 0.001.

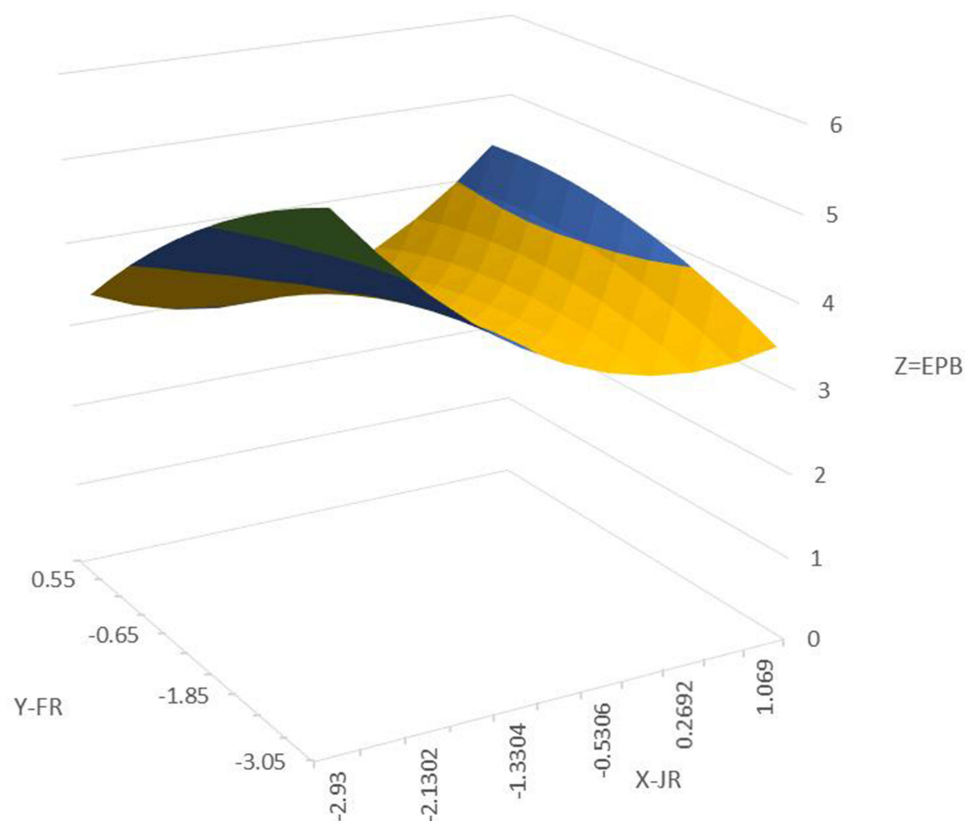
**Abbreviations:** EE, emotional exhaustion; EPB, employee procrastination behavior.

and p20 were constructed using the Monte Carlo method (10,000 replicates).<sup>73</sup> The significance of the intercept (p20) and slope (p21) of the second principal axis equation was tested based on the interval estimation method.<sup>66</sup> The slope of the second principal axis (p21) is  $-0.472$  as the 95% CI based on Monte Carlo simulations (10,000 replications) includes  $-1.0 [-1.26, -0.11]$ , and the intercept (p20) is  $-4.43$ , as the 95% bias-corrected bootstrap CI included 0  $[-307.96, 1.56]$ . It indicates that the second principal axis does not deviate significantly from the congruence line. Together, these findings support Hypothesis 1.

H2 argues that employees' procrastination behavior is higher when their job-family responsibilities are aligned at low levels than when they are at high levels. Table 4 shows that  $a_1$  is remarkable and negative ( $a_1 = -0.41$ ,  $p < 0.001$ ). Upon further examination of the response surface in Figure 3, we found that the EPB in the posterior corner ( $JR = FR = 1.5$ ) is lower than in the anterior corner ( $JR = FR = -1.5$ ). Therefore, H2 was verified.

In order to test hypothesis 3 (job-oriented employees outperform family-oriented employees) asymmetric effect, this study intends to test whether the slope ( $b_1$ - $b_2$ ) and curvature of the inconsistency line ( $JR = -FR$ ) are significant. As shown in Table 4, the slope of the response surface along the inconsistency line ( $JR = -FR$ ) is significantly negative ( $a_3 = -0.25$ ,  $p < 0.05$ ). As expected earlier, the lateral transfer quantity (LSQ) is indeed negative  $-0.28$  (95% CI  $[-1.27, -0.02]$ ), which indicates a shift toward the region where FR is larger than JR, and therefore, there should be a marginal decrease in EPB when employees' job responsibility is higher than family responsibility. From the response surface in Figure 3, it can be seen that the EPB in the left corner ( $JR = -1.5$  and  $FR = 1.5$ ) is higher than that in the right corner ( $JR = 1.5$  and  $FR = -1.5$ ). Therefore, H3 is verified.

Regarding the mediating effect, a block variable approach was used to test the mediation hypotheses 4. Block variables can capture in a better way to the direct and indirect effects of congruent and incongruent levels of job and family responsibilities.<sup>66</sup> More importantly, the use of block variables does not change the coefficients and total explanatory rates of the other variables in the equation.<sup>74</sup> This was done by multiplying the raw data with the regression coefficients estimated by Equation (1). Combining the five polynomial regression terms (see Equation 1), we first created



**Figure 3** (In)congruence effect of job-family responsibilities on EPB.

**Table 6** Results of mediating effect test

Variables	First Half Path Coefficient	Second Half Path Coefficient	Mediation Effect	Conditional Indirect Effect (95% Bootstrapped CI)
High JR & High FR on EPB via EE	−3.09***	0.33***	−1.02	[−1.43, −0.70]
Low JR & Low FR on EPB via EE	−0.62***	0.33***	−0.20	[−0.29, −0.14]
High JR & Low FR on EPB via EE	−2.27***	0.33***	−0.75	[−1.11, −0.49]
Low JR & High FR on EPB via EE	−1.44***	0.33***	−0.47	[−0.75, −0.27]

**Notes:** Conditional indirect effects were established by checking the 95% confidence interval (CI) for the deviation of the indirect effects corrected by using 1000 bootstrap samples for the conditional values of JR and FR (ie, high value = 5, low value = 1); \*\*\* $p < 0.001$ .

**Abbreviations:** JR, job responsibility; FR, family responsibility; EE, emotional exhaustion; EPB, employee procrastination behavior.

a block variable (ie, a weighted linear composite). It is achieved by multiplying the original data with the regression coefficients evaluated by equation (1). In combination with the five polynomial regression terms (Equation 1), a block variable is first created (ie, a weighted linear combination). Then the mediating effects were tested, as displayed in Table 5. The mediating effect of the dual responsibilities block variable on EPB through emotional exhaustion was 0.20, 95% CI = [0.14, 0.27], excluding 0. This indicates a significant mediating effect, ie, hypothesis 4 was tested. indicates that the mediating effect was significant, ie, hypothesis 4 was tested.

In addition, to further explain the mediating role of emotional exhaustion (Hypothesis 4), drawing on the prior research,<sup>75</sup> the effect of the combination of employee job responsibility and family responsibility on EPB through emotional exhaustion was also analyzed as follows: the values of X (job responsibility) in the polynomial were 1 (low) or 5 (high), and the values of Y (family responsibility) were 1 (low) or 5 (high), respectively, for the different combinations discussed. The results are shown in Table 6: the largest mediating effect of emotional exhaustion was found for employee behaviors with HH responsibilities (mediating effect = −1.02, 95% CI = [−1.43, −0.70]). This was followed by the case of HL responsibilities (mediated effect = −0.75, 95% CI = [−1.11, −0.49]), LH responsibilities (mediated effect = −0.47, 95% CI = [−0.75, −0.27]), and LL responsibilities (mediated effect = −0.20, 95% CI = [−0.29, −0.14]). In conclusion, hypothesis H4 was supported.

## Discussion

### Theoretical Contributions

First, the different responsibilities of multiple work-life roles are distinguished. This study broadens the antecedents of procrastination by exploring the effects of different configurations between job and family responsibilities on employee procrastination behavior from a dual-system perspective. Responsibility has been studied as a positive personal trait that influences individual performance.<sup>7</sup> However, this study found that responsibility implies more than one type of personality trait in the organizational contexts. Multiple social roles have different sources of responsibilities, this study relates to situations in which employees have both job and family responsibilities, which broadens the antecedent study of procrastination. The study divides them into four job-family combinations of responsibilities (congruent and incongruent) to further explore the impact of different situations on procrastination. The aforementioned presentation suggests that responsibility can be an effective inhibition of employee procrastination.<sup>7,38</sup> Through the empirical process, it is found that procrastination was highest when job-family responsibilities were in congruence (HH responsibilities and LL responsibilities). This finding demonstrates that responsibility is the multiple and integrated personal experienced, and that in situations where job-family needs to be balanced, different responsibility needs from various roles may also constitute contradictions that cause stress to individuals and lead to procrastination. Thus, this study verifies that

responsibility cannot be viewed simply as a personal trait that can positively contribute to employee work performance, and can produce negative behaviors of procrastination in the presence of dual job-family responsibilities in congruence.

Second, this study enriches the understanding of employee procrastination behavior. Current procrastination research discussing employee procrastination behavior is scarce and mainly focuses on a single antecedent variable for the organization and the individual.<sup>53,76</sup> In this study, the effect of different types of configurations of job-family responsibilities on employee procrastination behavior was discussed, taking into account the complex situation of multi-role responsibilities faced by individuals in modern society.<sup>28</sup> And it was found that there was also an “Excess and Defect” of the combination of responsibilities. Although a certain degree of responsibility is beneficial for individuals to reduce procrastination, for example, employees with low job-low family responsibility procrastinate the most. In contrast, individuals with high job responsibility work harder and rarely procrastinate in the combination of high job-low family responsibility, while for employees with low job-high family responsibility, a strong sense of family tendency is also a reason for them to complete their work tasks quickly. These are illustrations for how higher responsibility orientations are associated with lower procrastination. However, it is also found that the high job-high responsibility combination presents a role overload problem, when employees are even unable to complete both tasks in a timely manner due to conflicts between work and family, thus also leading to procrastination. Overall, the level of procrastination in the congruent situation is higher than in the incongruent cases, which is called “Excess and Defect”.

Furthermore, the study introduced emotional exhaustion as a mediating variable between dual job-family responsibilities and procrastination based on COR theory. Recently, more and more scholars have begun to focus on the effects of various types of resources on work efficiency, and COR theory has thus been gradually applied to research in this area.<sup>12–14</sup> In this study, the dual job-family responsibilities orientation increases individuals’ emotional exhaustion, which leads to members’ feeling that emotional resources are being depleted and brings about stressful experiences. As a result, individuals seek psychological balance through procrastination for the purpose of resource conservation. The depletion of emotional resources decreases the speed and accuracy of task completion, and this is why the individual appears to procrastinate. While revealing the mechanism of the role of dual job-family responsibilities and procrastination, this study broadens the application of resource conservation theory to the research area of procrastination.

## Practical Implications

The findings of this paper may provide value for improvement in the daily management of companies. First, although a certain degree of individual responsibility may bring benefits to the organization, there are common work-family conflicts that cause procrastination as responsible employees are unable to juggle the dual responsibilities, resulting in the “Excess and Defect” phenomenon. Managers should be conscious of the work-family conflicts that come with having multiple roles of responsibility, understanding the various types of responsibilities employees have, and adopting a more flexible work schedule to help employees balance job and family responsibilities.

Second, the reasons for procrastination may be diverse. Employees with low job-family responsibilities lack self-awareness themselves. In contrast, employees with high orientation toward both job-family responsibilities tend to procrastinate passively because they cannot balance both. Therefore, organizations should focus on the reasons for procrastination and assess the efficiency of employees based on the different characteristics of procrastination. In particular, managers should pay attention to the personality traits of employees, motivate employees caught in passive procrastination, and give them sufficient autonomy.

Third, this paper finds that the dual job-family responsibilities orientation increases individuals’ emotional exhaustion and leads to stressful experiences. Employers should differentiate the sources of these stressors to help reduce their emotional exhaustion. Individual’s perception of dual responsibilities increases his or her level of emotional exhaustion, which in turn leads to procrastination. Therefore, how to alleviate employees’ emotional stress is an urgent issue. Employers or organizers can provide support through humanistic care to alleviate emotional exhaustion by setting reasonable workloads, etc., so as to avoid employees’ procrastination behavior.

## Limitations and Future Research

The following limitations were noted in this study. First, although digital questionnaires were used to survey employees from 3 internet enterprises for 2 times, this ensured the stability of the same data source. However, these data are from the same type of companies in southern China and have not been tested across a wider range of industries and geographic areas. It is suggested that a broader range of industries and regions should be covered in the data collection. Second, although this study found the difference between the two configurations in the congruent situation, ie, employee procrastination behavior in HH responsibilities may occur passively due to the individual's inability to complete different tasks at work and home simultaneously, whereas employee procrastination behavior in LL responsibilities is active procrastination by the individual for lack of emotional resources. However, the study did not examine the distinction between active and passive situations in the actual measurement. The further research should try to more separate procrastination into active and passive situations for measurement and explore the boundaries and causes of procrastination. Third, this study did not consider moderating variables, and the boundary conditions for the posterior effect of the job-family responsibilities combinations can be further discussed in the future.

## Conclusion

Drawing on the Conservation of resources theory, we proposed a model clarifying how varying combinations of job and family responsibilities affect employee procrastination behavior. The results showed that there are significant differences in the impact of different job-family responsibility combinations on employee procrastination behavior. Employee procrastination behavior is higher when employees' job-family responsibility are congruent than the incongruent configurations. Additionally, employee-experienced emotional exhaustion mediates the relationship in four configurations between job-family responsibilities congruence and procrastination behavior.

## Data Sharing Statement

The datasets used and analyzed in the current study are available from the corresponding author upon reasonable request.

## Ethical Statement

The study complied with the Declaration of Helsinki and followed its ethical codes for individuals, samples and data collection involved in each research procedure. Before the initiation of this study, we have presented the study topic to the Ethics Committee of the School of Business Administration of South China University of Technology and submitted a proposal stating the purpose of the study, sample, data sources, and details of the written informed consent for respondents. All of the above documents were approved by this committee. Prior to the questionnaire, the researchers have asked the respondents to read the written informed consent carefully, introduced the purpose of the study to the respondents and explained that the data would be used for research only and that all information about the respondents would be kept confidential. All respondents were informed and volunteered to complete the questionnaire. We uploaded the contents of this written informed consent provided to respondents in both English and Chinese in the [Supplementary File](#).

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## Disclosure

There is no conflict of interest related to this work.

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