



# The impact of work-family conflict on product preferences: The role of self-control

Jun Xiao<sup>a,b</sup>, Yanping Gong<sup>a</sup>, Jian Li<sup>c,\*,1</sup>, Sohail Ahmad Javeed<sup>b,\*,1</sup>, Yao Peng<sup>d</sup>

<sup>a</sup> School of Business, Central South University, Changsha, 410083, China

<sup>b</sup> School of Management, Hunan City University, Yiyang, 413000, China

<sup>c</sup> School of Business, Anhui University, Hefei, 230601, China

<sup>d</sup> CITIC Bank Credit Card Centre, Shenzhen, 518000, China

## ARTICLE INFO

### Keywords:

Work-family conflict

Self-control

Hedonic products

Utilitarian products

Frugality

The strength model of self-control

## ABSTRACT

Despite the high incidence of work-family conflict, there has been a lack of research that investigates its impact on employee behavior, particularly concerning their consumption behavior, which has received inadequate attention. The present study draws on the strength model of self-control and investigates the influence of individuals' work-family conflict on their preferences for hedonic and utilitarian products via self-control, with frugality acting as a moderator of this relationship. This study gathered data from 502 full-time employees with families in China. Results from the moderated mediating model analysis conducted using the SPSS-PROCESS macro revealed that work-family conflict was positively associated with a preference for hedonic products and negatively associated with a preference for utilitarian products. Self-control was found to mediate the relationship between work-family conflict and product preferences, with a weaker mediating effect observed for individuals with higher levels of frugality in the case of utilitarian products. The findings of this study contribute to the literature on work-family conflict and have implications for organizations and merchants in understanding and addressing the impact of work-family conflict on employee consumption behavior. Specifically, this study provides insight into how organizations can better manage work-family conflict and how merchants can make more informed marketing decisions for hedonic and utilitarian products.

## 1. Introduction

The rapid economic growth in China has brought about positive changes in the lives of employees and their families [1]. However, the high levels of work demands can potentially give rise to work-family conflict, which is a perceived stress stemming from conflicting demands of work and family roles [2,3]. Work-family conflict has some negative consequences for organizations, such as lower organizational commitment, lower performance, and higher turnover intention [4,5]. It is also associated with employee problems, such as low work/family satisfaction and physical and psychological problems [6,7].

Work-family conflict is a significant stressor that can impact various aspects of an individual's life [6–10], including their

\* Corresponding author.

\*\* Corresponding author.

E-mail addresses: [Lijian91@ahu.edu.com](mailto:Lijian91@ahu.edu.com) (J. Li), [sohailahmaduaf@yahoo.com](mailto:sohailahmaduaf@yahoo.com) (S.A. Javeed).

<sup>1</sup> Jian Li and Sohail Ahmad Javeed have contributed equally to this work.

<https://doi.org/10.1016/j.heliyon.2023.e18347>

Received 6 December 2022; Received in revised form 10 July 2023; Accepted 13 July 2023

Available online 18 July 2023

2405-8440/© 2023 Published by Elsevier Ltd.

This is an open access article under the CC BY-NC-ND license

(<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

consumption behavior. Prior research has found that work-family conflict is associated with consumer behaviors such as alcohol use [8], materialism [9], and unhealthy eating [10]. Previous research has focused on the effects of work-family conflict on undesirable consumer tendencies [8–10]. However, few studies have been conducted on how work-family conflict affects consumers' daily purchase preferences specifically, which limited our understanding of the impact of work-family conflict on underlying consumer psychology and behavior.

Despite the importance of this topic, the role of work-family conflict in shaping routine consumer decisions and purchasing habits remains unexplored. To address this gap in the literature, this study aims to investigate the potential impact of consumers' work-family conflict on their preferences for hedonic and utilitarian products by drawing on the strength model of self-control. It is important to note that consumer behavior is primarily based on two considerations, hedonic and utilitarian factors, which are essential and commonly faced purchase decisions. Hedonic product preferences are primitively motivated by pleasure, enjoyment, or fun, whereas utilitarian product preferences are primitively driven by functionality and usefulness [11]. Investigating the potential impact of work-family conflict on consumer preferences for hedonic and utilitarian products can provide insights into how individuals cope with the stress and demands of work and family life. Understanding this relationship is important for businesses to develop appropriate marketing strategies that target individuals who are struggling to balance work and family responsibilities.

The strength model suggests that self-control is a limited resource that individuals use to resist psychological pressure [12]. When the resource of self-control uses up, subsequent acts of self-control are more difficult in the short term [13]. Employees who experience the depletion effects of work-family conflict may be more inclined to prefer hedonic products that provide immediate satisfaction over utilitarian products that offer long-term benefits. Frugality is a key cultural value in China that emphasizes the wise use of resources and the avoidance of waste [14]. As a virtue that promotes restraint and moderation [14], frugality may help individuals preserve their limited self-control resources in the face of work-family conflict and play a role in regulating consumption behavior by encouraging individuals to prioritize long-term benefits over immediate gratification. Therefore, examining the moderating effect of frugality on the relationship between work-family conflict and preferences for hedonic and utilitarian products may provide a more comprehensive understanding of the potential mechanisms underlying these relationships.

This study aims to propose and test a new conceptual model for understanding the relationship between work-family conflict and product preferences. In this proposed model, self-control is considered a mediation mechanism in the relationship between work-family conflict and product preferences, while frugality may compensate for the mediating effect of self-control. This study was conducted in mainland China on a sample of participants who had jobs and were also taking on parenting responsibilities.

This study extends previous studies by exploring the after-effects of work-family conflict on the consumption domain, and a moderate mediation model provides a test of the strength model of self-control. Understanding how employees respond to work-family conflict when making purchasing decisions can help promote healthy lifestyles by assisting employees with greater work-family conflict to understand their expenses and shop wisely. This research can also benefit researchers and practitioners in understanding the impact of work-family conflict on employees and their consumption behavior.

The paper is structured as follows: Section 2 presents the theoretical background, develops the conceptual model, and outlines the underlying assumptions. Section 3 details the research design, data collection, and analysis methods. Section 4 discusses the research findings, the theoretical and managerial contributions, limitations, and research perspectives.

## 2. Theoretical background and hypotheses

### 2.1. The strength model of self-control

Self-control is a crucial aspect of understanding the nature and function of the self, which involves changing inherent or habitual behavior, thinking, and attention patterns [12]. It requires individuals to suppress or overcome their desires and needs to achieve long-term goals [13]. Understanding self-control has a wide range of applications in human behavior. Successful self-control can lead to many adaptive outcomes, such as physical and mental health, success in school and the workplace, and good interpersonal relationships [15]. However, many behaviors are directly or indirectly rooted in the failure of self-control, such as alcohol and drug abuse, overeating, excessive consumption, unintended pregnancy, smoking, crime, and violent behaviors [16,17].

As a new explanation for self-control, the strength model of self-control holds that self-control resources are limited and are expended in the exercise of self-control [12,13]. Exercising self-control requires a period of rest before recovery, just like muscular fatigue requires rest. Moreover, all self-control operations are based on the same resources. An effort to exert self-control in one area reduces the available resources in another. The state of diminished self-control is termed ego depletion [18].

Much of the evidence for the failure of self-control conforms to the concept of depletion of self-control resources [18]. As self-control resources are depleted, people switch to more rewarding activities in the short run, even if this is contrary to their long-term outcomes or preferences [19]. For example, dieters with depleted self-control resources are prone to eating too much and picking foods that are satisfying at the time but undermine long-term weight loss goals [20]. In a situation of work-family conflict, the depletion state may make it difficult to refrain from spending that requires self-control reserves. The lack of self-control may be apparent not only in spending patterns but also in behaviors that provide immediate gratification.

### 2.2. Work-family conflict and product preferences

Work-family conflict is defined as "a type of inter-role conflict in which pressures from both the work and family domains are incompatible in some way" [21] (p.250-251). Work-family conflict stems from a source of stress at work and family life interface, a

situation that many people encounter regularly [9,10,22]. Chronic stress refers to ongoing and persistent conditions in the social environment that lead to difficulties in the performance of an individual in their social roles [23]. The inter-role conflict is known as a “chronic strain” [24], because of its ongoing negative impact on the individual and others in both domains. The construct of work-family conflict is widely studied in the area of organizational behavior, and is typically operationalized through a multidimensional measure. Its measure consists of six dimensions of conflict, including two directions of conflict: work interference with family and family interference with work, and also includes three forms of conflict: time-based conflict, strain-based conflict, and behavior-based conflict. Time-based conflict refers to a situation in which time devoted to one role, such as work, makes it difficult to fulfill obligations in the other role, such as family. Strain-based conflict occurs when the stress or strain experienced in one role interferes with performance in the other role. Behavior-based conflict involves situations where behaviors, attitudes, or emotions required by one role are incompatible with the other role [21].

Stress is important in predicting consumption behaviors [24,25]. Previous studies showed that stress is a vital antecedent of unhealthy diet consumption [10,26]. People experiencing chronic stress tend to choose unhealthy high-fat foods (e.g., M&Ms) instead of healthy low-fat foods (e.g., grapes) [26]. Coping with chronic stress, increased glucocorticoids are associated with chronically stimulated eating behaviors, and in particular, chronic stress leads to a preference for high-calorie “palatable” food by interacting with central reward pathways [26]. Stressed individuals are likely to purchase products that help them reduce self-awareness of stressful situations and events [27]. This behavioral pattern is consistent with the premises of escape theory, which focuses on how stress affects consumption activities [27]. Other studies have shown that some undesirable or excessive consumer behaviors such as shoplifting, materialism and over-spending, are possible consequences of coping with stress [9,27,28]. The avoidance coping behaviors can be effective in reducing stress and enhancing a person’s sense of control while providing temporary relief, and as a result, a person’s conditioned response to stressful situations will likely be strengthened over time [25].

As an important source of chronic stress, we predict that work-family conflict would influence people’s product preferences. In marketing research, the preferences for hedonic and utilitarian products are widely used for distinguishing different purchase motivations [29,30,31]. Hedonic products provide emotional and sensory experiences characterized by aesthetic or sensory pleasure [32, 33]. Utilitarian products are those that elicit a cognitive response. These products are instrumental and fulfill functions or practical tasks [32]. Yet little is known about how product preferences vary by work-family conflict.

The tension-reduction theory of human motivation states that people are motivated to reduce tension in an effort to maintain internal balance and return to homeostasis [31,33]. Consumers are more likely to associate hedonic products with excitement and escapism [30]. Hedonic products appeal to consumers mainly through their emotions and feelings [32,31]. This consumption incentive to obtain relief from stress and negative emotions, and shopping as a special way of treating yourself, is labeled “gratification shopping” of hedonic consumption [31]. When experiencing work-family conflict, shopping could be seen as a pick-me-up and a lift, though this type of consumption just diverts attention away from a problem [24]. Because the value of self-gratification, escapism, and therapeutic experience of hedonic products and the positive effect they bring can serve as a driving factor, we propose that consumers with more work-family conflict tend to buy hedonic products.

**Hypothesis 1a.** work-family conflict is positively associated with hedonic product preference.

By contrast, the consumption of utilitarian products is intended to fulfill a practical or functional purpose [32]. When engaging in utilitarian consumption, consumers tend to focus on accomplishing the shopping task [30]. Utilitarian products appeal to consumers mainly through their minds and logic [32]. They are connected with necessity rather than sensation and have little effect on consumers’ positive emotions. We assert that people experiencing high work-family conflict are unlikely to choose utilitarian products.

**Hypothesis 1b.** work-family conflict is negatively associated with utilitarian product preference.

### 2.3. Mediating effect of self-control

To cope with the demands of multiple roles, people experiencing work-family conflict may spend more effort and energy than those who do not. Sustained effort can drain self-control resources, leading to burnout and exhaustion [13]. Confronting stressful situations requires self-control, diminishing the resources available for subsequent demands on self-control, even if the stressful situation has ended [34].

Work-family conflict typically depletes self-control resources in three distinct ways [2]. First, individuals are often required to make deliberate choices between their work and family roles, which involves prioritizing one role over the other and fulfilling associated responsibilities [21]. This decision-making process itself requires considerable self-control resources. Second, prioritizing one role over the other often entails sacrificing or postponing responsibilities and benefits associated with the other role, which necessitates even more self-control to refrain from or delay desired behaviors. Third, work-family conflict often leads to the experience of negative emotions, which require regulation of emotional and psychological states through self-control [5]. Thus, it can be concluded that work-family conflict has a detrimental effect on self-control.

When there is a depletion of self-control resources, subsequent self-control tasks cannot be performed effectively [13]. Participants who engaged in a first self-control activity, such as controlling their emotional responses, engaging in mild physical activity, suppressing thoughts, or resisting temptations, exhibited signs of self-control depletion during a second self-control task, resulting in lower performance, increased impulsivity, and a greater likelihood of giving up compared to the control group [35].

How would the depletion of self-control resources resulting from work-family conflict impact consumers’ subsequent product preferences? Self-control behavior is aimed at maximizing long-term interests [16]. When individuals exert self-control to suppress or delay immediate purchase desires, they need to use self-control resources. However, insufficient self-control resources result in

individuals resorting to desired or habitual behavior [13]. Studies have shown that work-family conflict reduces the amount of time individuals allocate to activities requiring more self-control resources, such as complex tasks or those with delayed rewards, while increasing the time spent on activities that provide more immediate rewards or minimize cognitive demands [2].

Consumers who experience self-control depletion are more likely to give in to the temptation of impulsive purchases and less likely to change their behavior to achieve long-term goals [16]. Impulsive shopping usually involves a primitive hedonic factor [36], and impulsive buyers exhibit greater emotional and hedonistic tendencies [37]. When self-control resources are depleted, individuals may find it challenging to resist “want” products and may make more indulgent purchases; attempting to exercise self-control under such circumstances further depletes resources [18].

The concept of a “cool” cognitive system and a “hot” emotional system that work together simultaneously is useful for understanding the cognitive process involved in consumer decision-making [38]. The “cold” cognitive system enables individuals to make decisions based on rational cognition (i.e., rational decision-making mode), while the “hot” emotional system enables individuals to make decisions based on inner emotional impulses (i.e., emotional decision-making mode). When the cold cognitive system is dominant, consumers are more likely to suppress impulsive enjoyment and pursue long-term goals. When the hot system is dominant, consumers tend to prefer short-term instant gratification.

Hedonic products are driven by “want”, an affective preference, while utilitarian products are influenced by “should”, a cognitive or reasoned preference [39]. Consumers’ self-control resources can affect whether they make rational or emotional decisions [39]. Individuals with low self-control tend to make emotional decisions and prefer products that satisfy their inner emotions and desires. Based on these arguments, we propose the meditation effect hypothesis:

**Hypothesis 2a.** Self-control will mediate the relationship between work-family conflict and the preference for hedonic products.

The depletion of self-control resources resulting from work-family conflict makes consumers more likely to make consumption choices based on desire in subsequent activities [16]. At the same time, when depleted, consumers are less motivated to carefully consider which products to purchase that are more practical and valuable in the long run because cognitive processing further depletes resources [18]. In contrast, utilitarian products are typically purchased for their long-term value and interest. Individuals with low self-control are unlikely to adjust their behavior to match their long-term goals [16] or purchase products that have long-term value. Conversely, individuals with high self-control may place greater emphasis on performance or functional features, such as buying a reliable, durable car with high resale value [16]. Relevant research has shown that participants with high self-control are more likely to consume “virtue products” that emphasize current benefits rather than future benefits [40]. Consumers with limited self-control resources may encounter challenges when using cognitive decision-making styles that require cognitive resources and may demonstrate lower preference for utilitarian products that offer functional benefits. Based on these arguments, we propose the meditation effect hypothesis:

**Hypothesis 2b.** Self-control will mediate the association between work-family conflict and preference for utilitarian products.

## 2.4. Frugality and its moderating effect

### 2.4.1. Frugality

Frugality has drawn a great deal of attention from scholars and practitioners in consumer psychology and behavior [22,41]. Previous research has contributed to our understanding of frugality as a stable individual feature, characterized by self-discipline in purchasing and using goods and services, as well as a cautious and controlled spending pattern (42, p.88). Recent research suggests that social pressures and cultural contexts can also have an impact on the extent to which individuals engage in such restraint and resourcefulness. In the COVID-19 era, given the reality or possibility of declining resources, an increasing number of individuals may adopt new strategies for stricter restraint in long-term goals and more efficient access to goods and services (24, 58).

In the Chinese cultural context, frugality is a multidimensional construct that involves four factors: price-comparison shopping (like comparing prices, brands, and quality in multiple stores when purchasing a product), making ends meet (e.g., creating a spending plan based on income), making the best use of things (e.g., using products until they are almost unusable before replacing them), and saving (e.g., setting aside a portion of income for future needs) [14].

The value of frugality has been found to be significantly associated with more restrained consumption patterns in both Western countries [42,43] and the Chinese cultural context [14]. The practice of frugality enables them to overcome materialism and excessive consumption [22]. Moreover, previous research has indicated that frugality is moderately positively correlated with self-control [15, 44]. Frugality may have a role in shaping purchase preferences that are influenced by self-control.

### 2.4.2. Moderating effect of frugality

Frugality refers to a conscious decision by individuals to limit their spending on non-essential goods and services, with a focus on saving money and resources. When consumers lack self-control, they may make hedonic purchasing choices. However, frugality can compensate for this tendency. Exerting self-control and engaging in deliberate decision-making is costly in the context of ego depletion [13]. However, self-control resources can be preserved with regularity and habits, which do not require many conscious decisions [45]. The act of being frugal can be seen as a manifestation of self-control in lifestyle.

Work-family conflict can lead to stress and reduce employees’ self-control, which in turn may affect their purchase decisions. However, frugality may help compensate for the negative effects of work-family conflict on self-control and mitigate its impact on purchase decisions. Specifically, individuals who value frugality tend to exhibit higher levels of self-discipline and are less likely to engage in compulsive and impulsive consumption [22,42]. Therefore, it is possible that when employees are more frugal, the negative

effects of work-family conflict on self-control and subsequent hedonic product preference may be weakened. Overall, the value of frugality may play a protective role in mitigating the effects of work-family conflict on consumer behavior.

**Hypothesis 3a.** Frugality helps to moderate the mediation effect of self-control in the association amid work-family conflict and the preference for hedonic products.

Frugality is a paradoxical personality trait, as frugal consumers have been found to both consume less and postpone material gratification compared to non-frugal consumers [41], while also increasing hoarding during discount sales [42]. These findings suggest that frugal consumers do not always adhere to a strict “save but don’t spend” policy but instead tend to use resources carefully, including money. Furthermore, previous research has shown that individuals who activate a sense of financial constraint tend to place more emphasis on the permanence of utility when making purchases, preferring durable tangible goods over experiential products [46]. Recent research has suggested that frugal consumers use the distinction between necessities and luxuries as a simple rule to help control spending [47]. These frugal consumers delay material gratification, perhaps waiting for appropriate pricing or choosing to buy what they need rather than what they want.

This suggests when self-control is depleted due to work-family conflict, individuals who hold frugal values may exhibit a greater preference for utilitarian products. As such, we propose that the mediating effect of self-control on the relationship between work-family conflict and utilitarian product preference is weakened for frugal consumers. In specific, frugality will moderate the second part of the mediated pathway: the association between self-control and purchase decisions in the context of work-family conflict. Fig. 1 presents the conceptual model illustrating the key variables and relationships discussed in this study.

**Hypothesis 3b.** Frugality helps to moderate the mediation effect of self-control in the association amid work-family conflict and the preference for utilitarian products.

### 3. Materials and methods

#### 3.1. Participants and procedure

Self-report questionnaires were used to test the hypotheses of this study, which is a widely applied method in social and market research which has various advantages such as ease of administration and large sample sizes [4]. In order to ensure a representative sample, we conducted a voluntary and anonymous survey in four middle schools located in different regions of China during September and December 2021. The survey questionnaires were randomly distributed to passersby through intercepts, and convenience sampling was determined as the most appropriate method for collecting a representative sample under specific population conditions [48]. As the study focuses on work-family conflict, all participants were either mothers or fathers with one or more children and full-time jobs during the study, and those who did not meet these criteria were excluded. A total of 627 full-time employees were surveyed, and 502 useful responses were returned, yielding an 80.06% response rate. The questionnaire included measurements of work-family conflict, self-control, product preferences, and frugality, as well as demographic information, and was accompanied by a letter outlining the survey’s purpose, voluntary participation, and confidentiality assurance. Table 1 shows the respondent’s profile.

#### 3.2. Measures

All variables were measured on a multi-item scale and referenced to prior studies. Since all our participants were Chinese, the original English-language scales were translated by a forward-backward technique following a double-blind translation procedure [49]. Disagreements were discussed and decided by professional translators during the back translation process.

##### 3.2.1. Work-family conflict

Work-family conflict was assessed with an eighteen-item scale by Carlson, Kacmar and Williams [21], which consists of six dimensions, including two directions (work interference with family and family interference with work) and three forms (time, strain, and behavior) [21]. An example item of work interference with family is “The time I must devote to my job keeps me from participating equally in household responsibilities and activities.” An example item of family interference with work is “Due to stress at home, I am often preoccupied with family matters at work.” Each of the items was rated on a five-point Likert scale from 1 (never) to 5 (always). The higher the score for a work-family conflict item, the more serious it is. Responses across all items were averaged to create the work-family conflict score, with Cronbach’s alpha of 0.90.

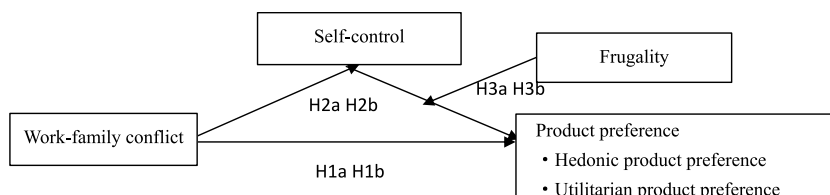


Fig. 1. Conceptual model.

**Table 1**  
Participants' demographic information.

	N	%
<b>Gender</b>		
Male	244	48.6
Female	258	51.4
<b>Age</b>		
30–39	204	40.6
40–49	276	55.0
50–60	22	4.4
<b>Level of education</b>		
High School	271	54.0
College degree	115	22.9
Bachelor Degree	104	20.7
Master Degree or above	12	2.4
<b>Annual household income</b>		
50000 or Below	98	19.5
50000–100000	186	37.1
100000–150000	119	23.7
150000–250000	68	13.5
250000 or above	31	6.2
<b>Types of Enterprise</b>		
State-Owned Enterprises	65	12.9
Private Enterprises	134	26.7
Foreign Enterprises	5	1.0
Public Institutions	114	22.7
Others	184	36.7
<b>Job Positions</b>		
Senior Manager	39	7.8
Middle Manager	97	19.3
Front-Line Manager	85	16.9
General Employee	281	56

### 3.2.2. Self-control

In this study, we used a 13-item scale by Tangney, Baumeister and Boone's Brief Self-Control Scale (BSCS) [15], which contains eight reversed items (Tangney et al., 2004). For example, "I am good at resisting temptation." and "I have a hard time breaking bad habits." for a reversed item. An item with a factor loading  $<0.50$  ("I wish I had more self-discipline") was removed [50]. As a result, self-control items were reduced from 13 to 12. Each item was rated on a Likert scale of 1 (not at all) to 5 (very much) on a five-point scale. The average of all items scores created an overall score by reverse-coding seven reversed items, with higher scores indicating greater self-control. In this study, Cronbach's alpha for this measure was 0.91.

### 3.2.3. Frugality

Frugality was measured with a 12-item scale from the Chinese version of Wu and Wang [14]. This scale is composed of four dimensions: price-comparison shopping, living within your means, making the best use of things, and saving. An example item is "When buying a product, I compare the price, brand, and quality." Each item is scored on a 5-point Likert scale from 1 (completely untrue) to 5 (completely true). The average of all item scores is the total score, with higher scores representing more frugality. Cronbach's alpha was 0.85.

### 3.2.4. Product preferences

Product preferences were measured by the 3-item hedonic product preference and the 3-item utilitarian product preference of Wut and Chow [51]. The items are: "I enjoy buying hedonic products/utilitarian products", "Hedonic/Utilitarian products are useful for me", and "It is valuable for me to buy hedonic/utilitarian products". Responses were given on a 5-point scale, from 1 (totally disagree) to 5 (totally agree). Cronbach's alpha for the hedonic product preference subscale was 0.91, and for the utilitarian product preference subscale was 0.95.

## 3.3. Analytical approach

In this study, we utilized SPSS 25.0 and Mplus 7.0 to process and analyze the collected data. Confirmatory factor analysis was performed by M-plus, while SPSS was used for descriptive statistics, correlation analysis, and regression analysis. Multiple regression was utilized to test hypotheses 1a and 1b. Given the complexity of our research question and data analysis needs, SPSS-PROCESS is a more widely used tool and more appropriate method than PLS-SEM approaches, especially in analyzing moderation and mediation effects, which are critical for testing the moderated mediation effect in our study. The SPSS PROCESS macro by Hayes [52] was employed to test the moderated mediating model. Specifically, we used PROCESS model 4 to examine the mediating effect of self-control (Hypothesis 2a and 2b) and model 14 to test the moderated mediation effect in which the second link of the mediation pathway was moderated (Hypothesis 3a and 3b). Finally, with 5000 bootstrap iterations, 95% confidence intervals were generated

with bias correction for simple effects.

### 3.4. Results

#### 3.4.1. Descriptive statistics

We used Fisher’s z-test to assess gender differences in mean levels of work-family conflict, self-control, frugality, hedonic product preference and utilitarian product preference, Fisher’s z-test results show that women are significantly more frugal than men ( $z = -1.97, p < 0.05$ ). ANOVA tests were conducted to test for age, education level and annual income differences in work-family conflict, self-control, frugality, hedonic product preference and utilitarian product preference. ANOVA analysis showed that frugality and hedonic product preference differed significantly by education level, and frugality differed significantly by annual income group.

Further, Pearson correlations were used to assess the correlations between the study’s five continuous focal variables. Table 2 shows the descriptive statistics and the results of the correlations analysis. Work-family conflict was positively related to preference for hedonic products ( $r = 0.16, p < 0.01$ ), and negatively related to preference for utilitarian products ( $r = -0.12, p < 0.01$ ), preliminarily supporting Hypothesis 1a and 1b. Meanwhile, work-family conflict negatively related to self-control ( $r = -0.22, p < 0.01$ ), self-control negatively related to preference for hedonic products ( $r = -0.24, p < 0.01$ ), and positively related to preference for utilitarian products ( $r = 0.20, p < 0.01$ ). The results preliminarily support Hypothesis 2a and 2b.

#### 3.4.2. Common method bias

Since survey questionnaires can contribute to the common method bias effect, we adopted Harman’s single-factor test which is a widely used method to examine the common method bias [53]. If the interpretation rate for only one factor or the first factor is above 40%, it indicates a serious common method bias. In our study, we performed an exploratory factor analysis of all the items on the work-family conflict, self-control, frugality and product preferences questionnaires together to detect artificial covariation. The analysis revealed that eleven factors emerged, and the interpretation rate for the first factor was 18.4%, indicating that the common method bias in this study was not serious.

#### 3.4.3. Confirmatory factor analysis

As a way to check the validity of self-report questionnaires, the present study uses confirmatory factor analysis (Malhotra et al., 2006). The goodness-of-fit indices for the one-factor model were:  $\chi^2/df = 9.90, RMSEA = 0.13, SRMR = 0.15, CFI = 0.28, TLI = 0.24$ . The thirteen-factor model (6 dimensions of work-family conflict, 2 dimensions of product preferences, self-control and 4 dimensions of frugality) goodness-of-fit indices were  $\chi^2/df = 2.41, RMSEA = 0.05, SRMR = 0.05, CFI = 0.89, TLI = 0.88$ . Compared to the one-factor model, the thirteen-factor model had better goodness-of-fit, further suggesting that there was not a serious problem of common method bias.

Convergent validity was tested based on the standardized factor loadings, the average variance extracted (AVE), and composite reliability (CR) [50]. AVE and CR should be greater than 0.50 and 0.70, respectively, according to Hair et al. [50] for establishing convergent validity. The standardized factor loadings of all items were greater than 0.50. In this study, the AVE of each construct is larger than 0.50 (see Table 3). Together, these three indicators provided support for the convergent validity of the measures. Additionally, discriminant validity was tested based on the criterion that the square root of the AVE was greater than the corresponding inter-construct correlations, indicating good discriminant validity for variables [54] (see Table 2).

#### 3.4.4. Hypothesis testing

H1a and H1b tested that whether work-family conflict was positively related to hedonic preference and negatively related to utilitarian preference. As shown in Table 4, the multiple linear regression results showed, that after controlling participants’ gender, age, education level, and annual income, work-family conflict significantly positively predicted preference for hedonic products (Eq. 1,  $B = 0.22, p < 0.001$ ), and significantly negatively predicted preference for utilitarian products (Eq. 4,  $B = -0.17, p < 0.01$ ). These results provided support for H1a and H1b.

H2a and H2b posited that the effect of work-family conflict on the preference for the two types of products would be mediated by self-control. According to the multiple linear regression results in Table 4, work-family conflict negatively predicted self-control (Eq. 2 & Eq. 5,  $B = -0.17, p < 0.001$ ). The last two equations in Table 4 indicated that when self-control was included in the equation, the relationship between self-control and preference for hedonic products was significant (Eq. 3,  $B = -0.41, p < 0.001$ ). Similarly, the relationship between self-control and preference for utilitarian products was significant (Eq. 6,  $B = 0.24, p < 0.01$ ). The mediating

**Table 2**  
Variable correlations and the square root of AVE.

Variable	M	SD	1	2	3	4	5
1. Work-family conflict	2.59	0.73	<b>0.75</b>				
2. Self-control	3.51	0.59	-0.22**	<b>0.72</b>			
3. Frugality	4.01	0.59	-0.06	0.22**	<b>0.75</b>		
4. Hedonic product preference	2.54	1.05	0.16**	-0.24**	-0.01	<b>0.88</b>	
5. Utilitarian product preference	3.74	1.04	-0.12**	0.20**	0.18**	0.19**	<b>0.93</b>

Note. N = 502; \*\*p < 0.01. The diagonal values in bold are the square root of AVE. M = Mean, SD = Standard deviation.

**Table 3**  
Results of confirmatory factor analysis for measurement.

Construct	Dimensions	Standardized Factor Loading	Cronbach's $\alpha$	AVE	CR
Work-family conflict	Time-based work interference with family	0.51	0.90	0.56	0.92
	Time-based family interference with work	0.69			
	Strain-based work interference with family	0.83			
	Strain-based family interference with work	0.68			
	Behavior-based work interference with family	0.83			
	Behavior-based family interference with work	0.80			
Self-control (SC)	SC1	0.76	0.92	0.52	0.97
	SC2	0.75			
	SC3	0.70			
	SC4	0.67			
	SC6	0.72			
	SC7	0.70			
	SC8	0.74			
	SC9	0.60			
	SC10	0.69			
	SC11	0.77			
	SC12	0.69			
	SC13	0.75			
	Frugality	Price-comparison shopping			
Making ends meet		0.94			
Making the best use of things		0.41			
Saving		0.79			
Hedonic product preference (HPP)	HPP1	0.85	0.91	0.77	0.91
	HPP2	0.95			
	HPP3	0.83			
Utilitarian product preference (UPP)	UPP1	0.92	0.95	0.87	0.95
	UPP2	0.97			
	UPP3	0.91			

Note. AVE = Average variance extracted, CR= Composite reliability.

**Table 4**  
Regression results for mediation effect and moderated mediation effect.

Predictor	Equation 1 (Hedonic product preference)		Equation 2 (Self-control)		Equation 3 (Hedonic product preference)		Equation 4 (Utilitarian product preference)		Equation 5 (Self-control)		Equation 6 (Utilitarian product preference)	
	B	SE	B	SE	B	SE	B	SE	B	SE	B	SE
Age	0.01	0.01	-0.01	0.01	-0.01	0.01	0.01	0.01	-0.01	0.01	0.01	0.01
Gender	-0.09	0.10	0.02	0.06	-0.10	0.10	0.03	0.10	0.02	0.05	-0.01	0.09
Education level	0.12*	0.06	-0.01	0.03	-0.12	0.05	0.07	0.06	-0.01	0.03	0.07	0.05
Annual income	0.04	0.04	0.01	0.02	0.05	0.04	0.02	0.04	0.01	0.02	0.04	0.04
Work-family conflict	0.22***	0.04	-0.17***	0.04	0.16*	0.06	-0.17**	0.06	-0.17***	0.04	-0.11	0.06
Self-control					-0.41***	0.08					0.24**	0.08
Frugality					0.12	0.08					0.29***	0.08
Self-control $\times$ Frugality					0.06	0.12					0.33**	0.12
R <sup>2</sup>	0.04		0.05		0.09		0.02		0.05		0.09	
F	4.31***		5.50***		6.07***		2.03		5.50***		5.86***	

Note. N = 502; \*p < 0.05, \*\*p < 0.01, \*\*\*p < 0.001. SE = Standard error. Estimated using OLS.

effect of self-control in the association between work-family conflict and preference was significant both in the prediction of preference for hedonic products (effect = 0.07, 95% CI = [0.03, 0.11]) and preference for utilitarian products (effect = -0.06, 95% CI = [-0.10, -0.02]). These results supported H2a and H2b, and the ratio of the mediating effect to the total effect was 29% for hedonic products and 33% for utilitarian products. Additionally, we conducted a Sobel test for the mediating role of self-control and the results showed that the Sobel Test value for work-family conflict on hedonic product preferences was 3.17 (p = 0.0015) and the Sobel Test value for work-family conflict on utilitarian product preferences was -2.96 (p = 0.003) This suggests that self-control plays a partially mediating role in the relationship between work-family conflict and product preference, and thus H2a and H2b were validated.

H3a and H3b posited that the mediating effect of self-control in the relationship between work-family conflict and product preferences would be moderated by frugality. Specifically, the indirect effect of work-family conflict on preference for both hedonic and utilitarian products via self-control will be weaker for people with higher frugality. We tested moderation in the last segment of the mediation pathway, namely the association between self-control and product preference. As indicated in Table 4, the interaction between self-control and frugality positively and significantly predicted the preference for utilitarian products (Eq. 6, B = 0.33, p < 0.01), but did not significantly predict the preference for hedonic products (Eq. 3, B = 0.06, p > 0.05). Regression results of the



moderated mediation model for the relationship between work-family conflict and hedonic product preferences can be seen in Fig. 2. Regression results of the moderated mediation model for the relationship between work-family conflict and utilitarian product preferences can be seen in Fig. 3.

Furthermore, a simple slope analysis was conducted to interpret this interaction. Simple slopes tests showed that the interaction between self-control and frugality was significant in predicting preference for utilitarian products when consumers are more frugal ( $B_{\text{simple}} = 0.43$ , 95% CI = [0.24, 0.63]), but was not significant when consumers are less frugal ( $B_{\text{simple}} = 0.04$ , 95% CI = [-0.18, 0.27]). Fig. 4 illustrates this moderation effect. The simple mediating effect of self-control was significant when consumers are more frugal (effect = -0.07, 95% CI = [-0.13, -0.04]), but it was not significant when consumers are less frugal (effect = -0.01, 95% CI = [-0.05, 0.03]). The index of moderated mediation was significant (index = -0.06, 95% CI = [-0.10, -0.20]). Taken together, the result failed to support Hypothesis 3a, and Hypothesis 3b was supported.

#### 4. Discussion

The results of this study showed that work-family conflict positively predicted the preference for hedonic products and negatively predicted the preference for utilitarian products. Further, self-control mediated the relationship between work-family conflict and product preferences. Furthermore, frugality helps to moderate the mediation effect of self-control in the association between work-family conflict and the preference for utilitarian products. Specifically, frugality weakened the mediation effect of self-control in the relationship between work-family conflict and preference for utilitarian products. However, frugality did not moderate the association between self-control and hedonic product preference.

##### 4.1. Theoretical contributions

The research makes important theoretical contributions. Firstly, the current study expanded our understanding of the consequences of work-family conflict by exploring the impact of work-family conflict on product preferences. Work-family conflict has also been studied extensively in organizational behavioral and psychological research [7]. Previous studies indicated that the influence of work-family conflict might spill over into people’s consumer behaviors, such as materialism [9] and purchasing unhealthy food [10]. This study is the first to examine the relationship between work-family conflict and product preferences, showing that people with a high level of work-family conflict prefer hedonic over utilitarian products. Furthermore, our study contributes to understanding consumers’ product preferences by identifying a significant antecedent variable, namely stress in response to work-family conflict. Previous researchers suggested that stress may be a key explanatory factor in consumption-related behavior. This study answers the call for research on the relationship between stress and consumer behavior [24,27].

Secondly, this study complements and expands the prior literature on self-control, by examining the mediation effects between work-family conflict and both hedonic and utilitarian product preferences. Self-control is a promising concept for marketing research, and self-control failure may be a critical contributor to consumer purchase behavior [13], such as unhealthy food choices [10,20] and impulsive purchasing [16]. Work-family conflict and strain are often explained by the conservation of resources theory, which holds that individuals have limited resources in the work and family domains [55,56]. However, this theory does not explain how resource scarcity will affect subsequent consumption behavior. This study provides support for viewing work-family conflict from the perspective of self-control, which is consistent with the findings of recent studies [2,57]. The strength model of self-control depicts self-control as a global resource that is limited that becomes depleted after use [54]. The identification of the mediation effect of self-control could help us better understand how work-family conflict impacts product preferences and also provides evidence in support of the strength model of self-control.

Lastly, the present study offers insight into the impact of frugality as an individual difference associated with consumer preferences and documents an important boundary condition of the strength model’s ability to explain self-control in the field of consumer behavior. We investigated whether frugality can influence the relationship between work-family conflict and product preferences. According to our results, when people are more frugal, the relationship between self-control and utility products is strengthened; however, frugality does not moderate the relationship between self-control and hedonic products. This is an interesting and unexpected finding. Frugality acts like self-control and plays a positive promoting role in terms of selecting utilitarian products. However,

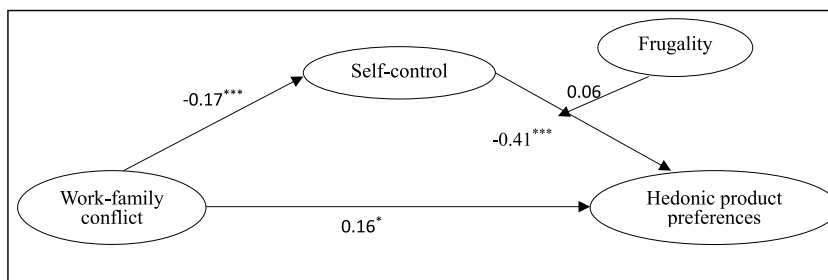
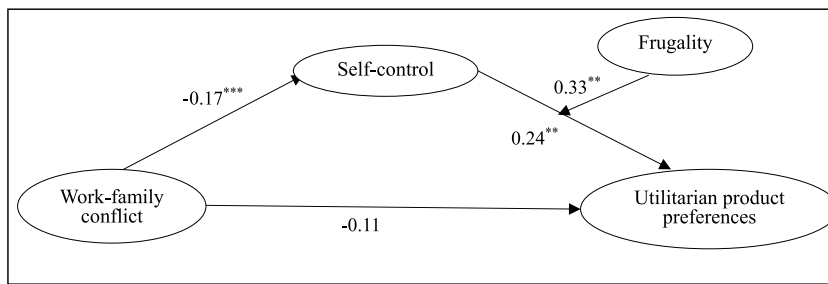
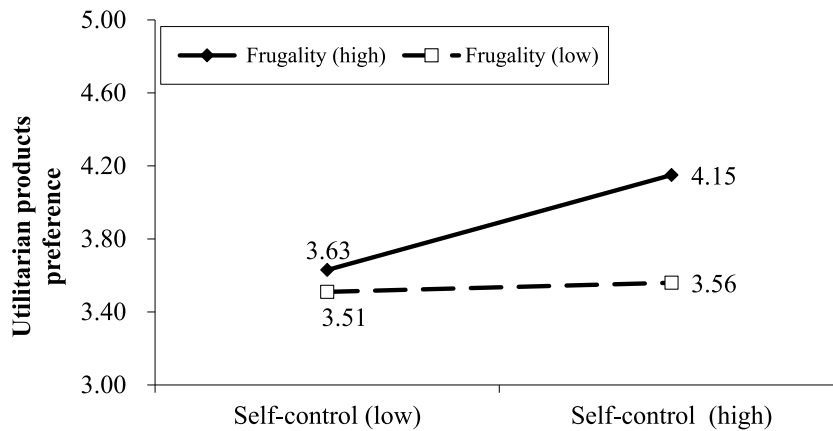


Fig. 2. Regression results of the moderated mediation model for the relationship between work-family conflict and hedonic product preferences. Note. \*p < 0.05, \*\*\*p < 0.001.



**Fig. 3.** Regression results of the moderated mediation model for the relationship between work-family conflict and utilitarian product preferences. Note. \*\*p < 0.01, \*\*\*p < 0.001.



**Fig. 4.** Moderating effects of frugality on the association between self-control and utilitarian product preference.

frugal people with low self-control don't give up the desire for hedonic products. There is a possibility that frugal consumers are insensitive to hedonic products. Recent research has shown that frugal consumers are more sensitive to discounts on functional or utilitarian goods and services, and less sensitive to discounts on symbolic or hedonistic goods [58]. Previous findings support that frugality is distinct from both price consciousness and value consciousness [41,59]. The study confirms that frugal people possess a unique and interesting character.

**4.2. Practical implications**

The present research has important practical implications for both organizations and governments in understanding the consequences of work-family conflict. The current study found that work-family conflict is a potential factor in product preferences and self-control mediated this relationship. Higher work-family conflict employees are more likely to have fewer resources for self-control, and they have a low ability to resist temptation. In particular, there may be impulsive decisions to purchase hedonic products that might be regretted later on [13]. This process of undermining self-control is worth organizations' attention, as it makes employees less satisfied with their work and life, besides potentially causing people to spend more money [60]. Based on these findings, organizations and government departments are advised to minimize employees' work-family conflict by defining policies and measures designed to prevent their consumption consequences.

Furthermore, the study suggests that marketers can use the level of work-family conflict of the target customers to make informed product positioning decisions. They can design advertising strategies that combine hedonic products with the theme of pleasure and relaxation for high work-family conflict customers, and stress utilitarian benefits for low work-family conflict customers [31]. For customers with high work-family conflict, for example, due to dual careers, having children, and working in high-demand industries, marketers can strive to link the product to hedonic value by stressing the pleasurable emotions that their products can elicit. Similarly, for customers with high work-family balance, marketers can stress utilitarian benefits (e.g., being safe and reliable) [32]. In addition, in the current study frugality reduced the role of self-control in mediating between work-family conflict and utilitarian product preferences, while it did not play a significant role in predicting hedonic product preferences. This suggests that frugality does not discourage consumers with high work-family conflict from purchasing hedonic products, and retailers could appeal to frugal consumers by spreading good feelings about hedonic products. For consumers with less work-family conflict, retailers could attract frugal consumers by highlighting the functional features of their products.

The results also contribute to consumers' well-being by enabling them to live healthier and more successful lives. Consumers could

benefit from understanding situational factors that influence the motivation for hedonic consumption and be encouraged to choose practical products to avoid financial problems [60]. The study suggests that strengthening self-control can reduce the potential undesirable consequences of work-family conflict. Psychological intervention and regular exercise can improve self-control behavior, and inducing a state of positive emotion (e.g., humor) can counteract the effects of negative emotions and stress related to work-family conflict [13]. Targeted efforts to increase self-control behavior, such as making a purchase plan or exercising, might also have a positive effect on the pursuit of hedonism in consumption [61].

#### 4.3. Limitations and future directions

This study has several limitations that require further investigation. First, as the study was conducted with Chinese participants, it is essential to verify whether the results can be generalized to other cultural contexts. Although work-family conflict is a common social problem [7], influenced by traditional Chinese culture, Chinese employees' attitudes towards work and family life are different from those in other cultural backgrounds, as well as a sense of frugality [14]. Future researchers are encouraged to study more diverse samples. Secondly, the cross-sectional design of this study using a questionnaire survey may be subject to limitations such as potential common method bias, social desirability bias, and the inability to establish causality. To address these limitations, future research should consider using other research methods, such as longitudinal studies and experimental designs, to replicate these findings. Additionally, the sample selection process in this study was inherently non-probabilistic, which may limit the generalizability of the results.

The results of this study have implications for future family research, particularly in testing the relationship between the work and family interface and consumer purchase choices. Self-control is a key psychological resource [13] and it is receiving more and more attention in research on the work and family interface [57]. It is also important to better understand how to retain or even enhance self-control resources in the work and family domains to reduce negative spillover effects on other domains.

Second, our research framework does not differentiate higher dimensions of work-family conflict, including the time, pressure, and behavioral aspects [21]. These processes may have different effects on consumer psychology and behavior, and this possibility can inform the direction of future research.

Third, our study of work-family relations only focused on work-family conflict and did not consider the positive role of the work-family interface. Role resources (e.g., job resources, family support) in work and non-work domains could promote each other [22]. These mutual effects may be conducive to increasing an individual's self-control resources, resulting in a consumption preference reversal that can be investigated in the future.

Last, it focused solely on examining consumers' perceptions of generalized hedonic and utilitarian products, without addressing specific products. As such, the findings may not be generalizable to all product categories or specific products. In addition, there may be potential differences in how consumers perceive and evaluate different types of products, which were not explored in this study. Therefore, future research could benefit from examining these potential differences and further exploring the nuances of consumers' perceptions of specific products.

## 5. Conclusions

In summary, this study relies on the strength model of self-control to examine the relationship between work-family conflict and workers' product preferences. The findings show that there is a significant relationship between work-family conflict and product preferences, and self-control plays a mediating role in this process. In addition, frugality tendencies will increase the mediating effect of self-control in the relationship between work-family conflict and utilitarian products, but it did not moderate the mediation effect of self-control in the relationship between work-family conflict and hedonic products. These conclusions are consistent with the stress perspective that dominates research on work-family conflict [2,62]. The present study provides the first empirical evidence of a link between work-family conflict and product preferences. It highlights the spillover effects of work-family conflict on areas other than work and family and can be the basis for further research on the relationship between work-family interface and consumption.

### Funding statement

This work was supported by grants from the National Natural Science Foundation of China (Grant/Award Number: 72072185), Anhui Provincial Social Philosophy and Social Science Planning Youth Project (Grant/Award Number: AHSKQ2022D062) and Hunan Provincial Social Science Achievement Appraisal Committee Project, China (Grant No. XSP21YBZ080).

### Author contribution statement

Jun Xiao: conceived and designed the experiments, performed the experiment, analysed and interpreted the data and wrote the paper, Yanping Gong: conceived and designed the experiments, performed the experiment, Jian Li: conceived and designed the experiments, analysed and interpreted the data and wrote the paper, Sohail Ahmad Javeed: analysed and interpreted the data, and contributed reagents, materials, analysis tools or data, Yao Peng: performed the experiment, and analysed and interpreted the data.

## Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

## Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.heliyon.2023.e18347>.

## References

- [1] X. Wang, L. Zhang, X. Wu, M. Zhao, Work-family conflict, enrichment, and adolescent academic adjustment in dual-earner family, *Front. Psychol.* 12 (2021), 712954, <https://doi.org/10.3389/fpsyg.2021.712954>.
- [2] P.C. Dahm, T.M. Glomb, C.F. Manchester, S. Leroy, Work-family conflict and self-discrepant time allocation at work, *J. Appl. Psychol.* 100 (3) (2015) 767–792, <https://doi.org/10.1037/a0038542>.
- [3] M.S. Nemţeanu, V. Dinu, D.C. Dabija, Job insecurity, job instability and job satisfaction in the context of COVID-19 pandemic, *J. Competitiveness* 13 (2) (2021) 65–82, <https://doi.org/10.7441/joc.2021.02.04>.
- [4] Y.T. Tu, J. Sulistiawan, D. Ekowati, H. Rizaldy, Work-family conflict and salespeople deviant behavior: the mediating role of job stress, *Heliyon* 8 (10) (2022), e10881, <https://doi.org/10.1016/j.heliyon.2022.e10881>.
- [5] T.D. Allen, K.A. French, S. Dumani, K.M. Shockley, A cross-national meta-analytic examination of predictors and outcomes associated with work-family conflict, *J. Appl. Psychol.* 105 (6) (2020) 539–576, <https://doi.org/10.1037/apl0000442>.
- [6] M. Zhang, K. Zhao, K. Korabik, Does work-to-family guilt mediate the relationship between work-to-family conflict and job satisfaction? Testing the moderating roles of segmentation preference and family collectivism orientation, *J. Vocat. Behav.* 115 (2019), 103321, <https://doi.org/10.1016/j.jvb.2019.103321>.
- [7] T.D. Allen, D.E. Herst, C.S. Bruck, M. Sutton, Consequences associated with work-to-family conflict: a review and agenda for future research, *J. Occup. Health Psychol.* 5 (2) (2000) 278–308, <https://doi.org/10.1037//1076-8998.5.2.278>.
- [8] J.M. Wolff, K.M. Rospenda, J.A. Richman, L. Liu, L.A. Milner, Work-family conflict and alcohol use: examination of a moderated mediation model, *J. Addict. Dis.* 32 (1) (2013) 85–98, <https://doi.org/10.1080/10550887.2012.759856>.
- [9] Y. Gong, X. Tang, J. Xie, L. Zhang, Exploring the nexus between work-to-family conflict, material rewards parenting and adolescent materialism: evidence from Chinese dual-career families, *J. Bus. Ethics* 176 (3) (2020) 593–607, <https://doi.org/10.1007/s10551-020-04681-4>.
- [10] M. Shukri, F. Jones, M. Conner, Relationship between work-family conflict and unhealthy eating: does eating style matter? *Appetite* 123 (2018) 225–232, <https://doi.org/10.1016/j.appet.2017.12.027>.
- [11] L. Rydell, P. Suler, Underlying values that motivate behavioral intentions and purchase decisions: lessons from the covid-19 pandemic, *Anal. Metaphys.* 20 (0) (2021) 116, <https://doi.org/10.22381/am2020218>.
- [12] R.F. Baumeister, K.D. Vohs, D.M. Tice, The strength model of self-control, *Curr. Dir. Psychol. Sci.* 16 (6) (2007) 351–355, <https://doi.org/10.1111/j.1467-8721.2007.00534.x>.
- [13] R.F. Baumeister, Ego depletion and self-control failure: an energy model of the self's executive function, *Self Ident.* 1 (2) (2002) 129–136, <https://doi.org/10.1080/152988602317319302>.
- [14] R. Wu, C. Wang, The study of the effects of sunk cost, thrift value and controlled motivation on active consumption behavior, *Nankai Business Review* 15 (5) (2012) 114–128+151, <https://doi.org/10.3969/j.issn.1008-3448.2012.05.013>.
- [15] J.P. Tangney, R.F. Baumeister, A.L. Boone, High self-control predicts good adjustment, less pathology, better grades, and interpersonal success, *J. Pers.* 72 (2) (2004) 271–324, <https://doi.org/10.1111/j.0022-3506.2004.00263.x>.
- [16] R.F. Baumeister, Yielding to temptation: self-control failure, impulsive purchasing, and consumer behavior, *J. Consum. Res.* 28 (4) (2002) 670–676, <https://doi.org/10.1086/338209>.
- [17] K.D. Vohs, T.F. Heatherton, Self-regulatory failure: a resource-depletion approach, *Psychol. Sci.* 11 (3) (2000) 249–254, <https://doi.org/10.1111/1467-9280.00250>.
- [18] M.S. Hagger, C. Wood, C. Stiff, N.L. Chatzisarantis, Ego depletion and the strength model of self-control: a meta-analysis, *Psychol. Bull.* 136 (4) (2010) 495–525, <https://doi.org/10.1037/a0019486>.
- [19] B.J. Schmeichel, M. Inzlicht, *Incidental and integral effects of emotions on self-control*, in: M.D. Robinson, E. Watkins, E. Harmon-Jones (Eds.), *Handbook of Cognition and Emotion*, The Guilford Press, 2013, pp. 272–290.
- [20] C.M. Pearson, T.B. Mason, L. Cao, A.B. Goldschmidt, J.M. Lavender, R.D. Crosby, S.J. Crow, S.G. Engel, S.A. Wonderlich, C.B. Peterson, A test of a state-based, self-control theory of binge eating in adults with obesity, *Eat. Disord.* 26 (1) (2018) 26–38, <https://doi.org/10.1080/10640266.2018.1418358>.
- [21] 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 (2) (2000) 249–276, <https://doi.org/10.1006/jvbe.1999.1713>.
- [22] S. Jagannathan, A. Bawa, R. Rai, Narrative worlds of frugal consumers: unmasking romanticized spirituality to reveal responsabilization and de-politicization, *J. Bus. Ethics* 161 (1) (2018) 149–168, <https://doi.org/10.1007/s10551-018-3931-1>.
- [23] B. Wheaton, Life Transitions, role histories, and mental health, *Am. Socio. Rev.* 55 (2) (1990) 209–223, <https://doi.org/10.2307/2095627>.
- [24] A. Mathur, G.P. Moschis, E. Lee, Consumer stress-handling strategies: theory and research findings, *J. Consum. Behav.* 5 (3) (2006) 193–203, <https://doi.org/10.1002/cb.171>.
- [25] A. Duhachek, Coping: a multidimensional, hierarchical framework of responses to stressful consumption episodes, *J. Consum. Res.* 32 (1) (2005) 41–53, <https://doi.org/10.1086/426612>.
- [26] D.A. Zellner, S. Loaiza, Z. Gonzalez, J. Pita, J. Morales, D. Pecora, A. Wolf, Food selection changes under stress, *Physiol. Behav.* 87 (4) (2006) 789–793, <https://doi.org/10.1016/j.physbeh.2006.01.014>.
- [27] G.P. Moschis, Stress and consumer behavior, *J. Acad. Market. Sci.* 35 (3) (2007) 430–444, <https://doi.org/10.1007/s11747-007-0035-3>.
- [28] Y. Gong, C. Chen, X. Tang, J. Xiao, The relationship between work-to-family conflict and conspicuous consumption: an identity theory perspective, *Psychol. Res. Behav. Manag.* 16 (2023) 39–56, <https://doi.org/10.2147/PRBM.S388190>.
- [29] I. Barbopoulos, L.-O. Johansson, A multi-dimensional approach to consumer motivation: exploring economic, hedonic, and normative consumption goals, *J. Consum. Market.* 33 (1) (2016) 75–84, <https://doi.org/10.1108/jcm-08-2014-1091>.
- [30] B.J. Babin, W.R. Darden, M. Griffin, Work and/or fun: measuring hedonic and utilitarian shopping value, *J. Consum. Res.* 20 (4) (1994) 644–656, <https://doi.org/10.1086/209376>.
- [31] M.J. Arnold, K.E. Reynolds, Hedonic shopping motivations, *J. Retailing* 79 (2) (2003) 77–95, [https://doi.org/10.1016/s0022-4359\(03\)00007-1](https://doi.org/10.1016/s0022-4359(03)00007-1).
- [32] K.E. Voss, E.R. Spangenberg, B. Grohmann, Measuring the hedonic and utilitarian dimensions of consumer attitude, *J. Market. Res.* 40 (3) (2003) 310–320, <https://doi.org/10.1509/jmkr.40.3.310.19238>.
- [33] S. Freud, *New Introductory Lectures on Psycho-Analysis*, W.W. Norton, New York, 1933.

- [34] S. Cohen, After effects of stress on human performance and social behavior: a review of research and theory, *Psychol. Bull.* 88 (1) (1980) 82–108, <https://doi.org/10.1037//0033-2909.88.1.82>.
- [35] M. Muraven, D.M. Tice, R.F. Baumeister, Self-control as a limited resource: regulatory depletion patterns, *J. Pers. Soc. Psychol.* 74 (3) (1998) 774–789, <https://doi.org/10.1037/0022-3514.74.3.774>.
- [36] W. Hofmann, M. Friese, R.W. Wiers, Impulsive versus reflective influences on health behavior: a theoretical framework and empirical review, *Health Psychol. Rev.* 2 (2) (2008) 111–137, <https://doi.org/10.1080/17437190802617668>.
- [37] D.K. Dey, A. Srivastava, Impulse buying intentions of young consumers from a hedonic shopping perspective, *J. Indian Bus. Res.* 9 (4) (2017) 266–282, <https://doi.org/10.1108/jibr-02-2017-0018>.
- [38] J. Metcalfe, W. Mischel, A hot/cool-system analysis of delay of gratification: dynamics of willpower, *Psychol. Rev.* 106 (1) (1999) 3–19, <https://doi.org/10.1037/0033-295x.106.1.3>.
- [39] B. Shiv, A. Fedorikhin, Heart and mind in conflict: the interplay of affect and cognition in consumer decision making, *J. Consum. Res.* 26 (3) (1999) 278–292, <https://doi.org/10.1086/209563>.
- [40] D. Ein-Gar, J. Goldenberg, L. Sagiv, The role of consumer self-control in the consumption of virtue products, *Int. J. Res. Market.* 29 (2) (2012) 123–133, <https://doi.org/10.1016/j.ijresmar.2011.08.003>.
- [41] John L. Lastovicka, Lance A. Bettencourt, Renée S. Hughner, Ronald J. Kuntze, Lifestyle of the tight and frugal: theory and measurement, *J. Consum. Res.* 26 (1) (1999) 85–98, <https://doi.org/10.1086/209552>.
- [42] A. Shoham, Y. Gavish, S. Akron, Hoarding and frugality tendencies and their impact on consumer behaviors, *J. Int. Consum. Market.* 29 (4) (2017) 208–222, <https://doi.org/10.1080/08961530.2017.1310646>.
- [43] S.I. Rick, C.E. Cryder, G. Loewenstein, Tightwads and spendthrifts, *J. Consum. Res.* 34 (6) (2008) 767–782, <https://doi.org/10.1086/523285>.
- [44] R.E. Goldsmith, L. Reinecke Flynn, R.A. Clark, The etiology of the frugal consumer, *J. Retailing Consum. Serv.* 21 (2) (2014) 175–184, <https://doi.org/10.1016/j.jretconser.2013.11.005>.
- [45] T.F. Heatherton, R.F. Baumeister, Binge eating as escape from self-awareness, *Psychol. Bull. (Arch. Am. Art)* 110 (1) (1991) 86–108, <https://doi.org/10.1037/0033-2909.110.1.86>.
- [46] S.M. Tully, H.E. Hershfield, T. Meyvis, Seeking lasting enjoyment with limited money: financial constraints increase preference for material goods over experiences, *J. Consum. Res.* 42 (1) (2015) 59–75, <https://doi.org/10.1093/jcr/ucv007>.
- [47] B. Gatersleben, N. Murtagh, M. Cherry, M. Watkins, Moral, wasteful, frugal, or thrifty? identifying consumer identities to understand and manage pro-environmental behavior, *Environ. Behav.* 51 (1) (2017) 24–49, <https://doi.org/10.1177/0013916517733782>.
- [48] J. Jager, D.L. Putnick, M.H. Bornstein, II, More than just convenient: the scientific merits of homogeneous convenience samples, *Monogr. Soc. Res. Child Dev.* 82 (2) (2017) 13–30, <https://doi.org/10.1111/mono.12296>.
- [49] R.T. Green, P.D. White, Methodological considerations in cross-national consumer research, *J. Int. Bus. Stud.* 7 (2) (1976) 81–87, <https://doi.org/10.1057/palgrave.jibs.8490703>.
- [50] J.F. Hair, W.C. Black, B.J. Babin, R.E. Anderson, *Multivariate Data Analysis: a Global Perspective*, Prentice Hall, Upper Saddle River, NJ, 2010.
- [51] T.M. Wut, T.J. Chou, Do family members agree on family purchase decision? - an empirical study among families in Hong Kong, *Int. J. Consum. Stud.* 37 (3) (2013) 344–350, <https://doi.org/10.1111/j.1470-6431.2012.01129.x>.
- [52] A.F. Hayes, *Introduction to Mediation, Moderation, and Conditional Process Analysis: a Regression-Based Approach*, Guilford publications, 2018.
- [53] P.M. Podsako, S.B. Mackenzie, J.Y. Lee, N.P. Podsako, Common method biases in behavioral research: a critical review of the literature and recommended remedies, *J. Appl. Psychol.* 88 (5) (2003) 879–903, <https://doi.org/10.1037/0021-9010.88.5.879>.
- [54] C. Fornell, D.F. Larcker, Evaluating structural equation models with unobservable variables and measurement error, *J. Market. Res.* (1981) 39–50, <https://doi.org/10.1177/002224378101800312>.
- [55] S.E. Hobfoll, V. Tirone, L. Holmgreen, J. Gerhart, Conservation of Resources Theory Applied to Major Stress, *Stress: Concepts, Cognition, Emotion, and Behavior*, Academic Press, 2016, pp. 65–71, <https://doi.org/10.1016/b978-0-12-800951-2.00007-8>.
- [56] M.-S. Nemțeanu, V. Dinu, R.-A. Pop, D.-C. Dabija, Predicting job satisfaction and work engagement behavior in the covid-19 pandemic: a conservation of resources theory approach, *e+m ekonomia a management* 25 (2) (2022) 23–40, <https://doi.org/10.15240/tul/001/2022-2-002>.
- [57] M.E. Clinton, N. Conway, J. Sturges, R. Hewett, Self-control during daily work activities and work-to-nonwork conflict, *J. Vocat. Behav.* 118 (2020), <https://doi.org/10.1016/j.jvb.2020.103410>.
- [58] S. Kapitan, S. Mittal, J.M. Sundie, D.J. Beal, What a great deal...need that! Updating need drives frugal consumers' responses to deep discounts, *J. Bus. Res.* 134 (2021) 467–479, <https://doi.org/10.1016/j.jbusres.2021.05.053>.
- [59] G. Bansal, F.M. Zahedi, *Trading Trust for Discount Does Frugality Moderate the Impact of Privacy and Security*, *AMCIS 2010 Proceedings*, 2010 [aisel.aisnet.org/amcis2010/417](https://aisel.aisnet.org/amcis2010/417).
- [60] M. Fenton-O'Creivy, A. Furnham, Money attitudes, personality and chronic impulse buying, *Appl. Psychol.* 69 (4) (2019) 1557–1572, <https://doi.org/10.1111/apps.12215>.
- [61] D.M. Tice, R.F. Baumeister, D. Shmueli, M. Muraven, Restoring the self: positive affect helps improve self-regulation following ego depletion, *J. Exp. Soc. Psychol.* 43 (3) (2007) 379–384, <https://doi.org/10.1016/j.jesp.2006.05.007>.
- [62] R.G. Netemeyer, J.G. Maxham, C. Pullig, Conflicts in the work-family interface: links to job stress, customer service employee performance, and customer purchase intent, *J. Market.* 69 (2) (2018) 130–143, <https://doi.org/10.1509/jmkg.69.2.130.60758>.