



# Exploring the Work-Family Guilt-Conflict Relation: the Role of Time Allocation and Access to Flexibility

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## Abstract

Work-family guilt is an under-explored topic in work-family research that requires further investigation, especially considering its antecedent is exclusively focused on work-family conflict and its negative impacts on individuals' wellbeing. This study aimed to investigate the relationship between time spent on work demands and family responsibilities and work-family conflict via work-family guilt. Simultaneously, this study explored the moderating effect of access to flexibility on the time-guilt relationship. This study was conducted in China due to its notable work-family dilemma, offering a great platform for conducting work-family research. The snowballing technique was adopted to recruit the participants. A total of 696 Chinese employees completed the online questionnaire, with 631 samples being used. Structural equation modelling analysis was performed in R studio to test the hypotheses. The results revealed a reversed conflict-guilt relationship, that work hours had a positive indirect effect on work-to-family conflict via work-to-family guilt, and access to flexibility moderated the relationship between work hours and work-to-family guilt. These findings contributed to a broadened understanding of work-family guilt and provided practical implications for establishing family-friendly policies. The limitations of this study and recommendations for future studies are discussed.

**Keywords** Work-family guilt · Work-family conflict · Access to flexibility · Work hours · Family time

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## Introduction

Recent work-family interface studies have started to pay close attention to the guilty feeling produced by an unachievable good work-family balance (Korabik, 2014). For example, parents may feel guilty when their work demands interfere with their childcare responsibility (work-to-family guilt) (Aarntzen et al., 2019), or employees may feel guilty when they show up late at work due to providing care for family members (family-to-work guilt) (Korabik et al., 2017).

Nevertheless, it seems that because work-family guilt is the sense of guilt generated from being a good employee conflicted with being a good family member and vice versa (Livingston & Judge, 2008), the studies of work-family guilt are always associated with the work-family conflict experience (inter-role conflict between work demands and family responsibilities; see Greenhaus & Beutell, 1985), in that work-family guilt is the emotional response to work-family conflict: work-to-family guilt is the outcome of work-to-family conflict (work demand interferes with family responsibility), and family-to-work guilt is the consequence of family-to-work conflict (family responsibility interferes with work demand) (e.g. Livingston & Judge, 2008; Morgan & King, 2012; Sousa et al., 2018).

In other words, among the insufficient study of work-family guilt (Korabik et al., 2017), the antecedent of work-family guilt is exclusively focused on work-family conflict; how other experiences might create a sense of guilt in the work-family interface is also unclear. This has also limited the practicality of the findings from work-family guilt studies, making it unclear how the feeling of guilt might be better managed by employees. For example, previous studies have argued that providing access to flexibility can offer employees more autonomy and control over their workplace and work schedules, which could help reduce the distress associated with balancing work demands and family responsibilities (e.g. Haar et al., 2009; Lu et al., 2008). However, to the best of our knowledge, no studies have investigated the influence of access to flexibility on the experience of work-family guilt.

Thus, we believe that more studies are necessary to shed light on the potential antecedents and consequences of work-family guilt in order to extend our understanding of this understudied emotion (Morgan & King, 2012), especially considering guilt as a negative emotion associated with various negative outcomes in the workplace, such as turnover intention (Korabik et al., 2017) and a decrease in job satisfaction (Zhang et al., 2019) and work performance (Morgan & King, 2012).

The purpose of this study is threefold. First, drawing on the scarcity theory (Marks, 1977) and the definition of work-family guilt, we examine the relationships between time allocation in work demands and family responsibilities and work-family guilt. Second, based on the concept of work-family conflict (Greenhaus & Beutell, 1985) and guilt as a negative emotion (Baumeister et al., 1994), we explore whether the sense of work-family guilt creates work-family conflict. Lastly, we investigate whether access to flexibility moderates the relationship between time allocation in work demands and family responsibilities and work-family guilt.

We chose to conduct this study in China as the work-family dilemma in China provides a great platform for work-family research, especially concerning

work-family guilt studies. This arises due to the heavy workload and long working hours issues in China (Zhang et al., 2019), which might create and/or exacerbate the guilty feeling of being unable to balance work and family lives; in addition, the conflict between work and family values in China, on one hand, emphasises that hard work should be honoured (Zhang et al., 2009) but, on the other hand, highly values the importance of family and the need to fulfil the family obligation (Zhang et al., 2020), might result in the Chinese employees being more susceptible to a sense of work-family guilt. This is evident in Korabik et al. (2017)'s study, which found that the level of work-family guilt in China was more intense than in the countries of the individualistic West, thus making China an ideal platform to investigate the work-family guilt issue.

### **The Relationships Between Time Allocation in Work Demands and Family Responsibilities and Work-Family Guilt**

According to scarcity theory (Marks, 1977), time is a limited personal resource; therefore, spending time in one role may consequently affect the time available for another role. Following the scarcity approach (Marks, 1977), work-family guilt can be understood as the guilt generated from involvement in one domain affecting participation in the other domain (Korabik et al., 2017). It is possible that the imbalance of time allocation between work demands and family responsibilities might create or increase a sense of guilt. For example, employees who are required to work additional hours may result in decreased time available for their family, impacting their involvement in familial obligations, and creating a sense of work-to-family guilt. However, despite this possibility, only two recent studies have explored the relationship between work-family guilt and work time, and both found that work hours are related to the sense of guilt to some extent; specifically, Gomez-Ortiz and Roldan-Barrios (2021) found that work hours are positively correlated with work-to-family guilt, and Aarntzen et al. (2019) conducted an interview and diary study and found that employed mothers often thought about lessening their work hours when feeling a sense of work-family guilt. Hence, based on the scarcity theory and Gomez-Ortiz and Roldan-Barrios (2021)'s findings, the present study hypothesises that:

*Hypothesis 1: Time allocation between work demands and family responsibilities is related to work-family guilt in that work hours are positively related to work-to-family guilt (H1a), whereas time spent on family responsibility is positively related to family-to-work guilt (H2a).*

## The Relationship Between Work-Family Guilt and Work-Family Conflict

Previous conflict-guilt studies are exclusively focused on the direction from work-family conflict to work-family guilt due to the definition of a sense of guilt in the work-family interface (e.g. the negative emotion caused by being a good worker conflicting with being a good family member) (Korabik et al., 2017). However, this relationship may be reversed when considering the concepts of work-family conflict.

According to Greenhaus and Beutell (1985), work-family conflict is an inter-role conflict that comes in three forms: time-based, behaviour-based, and strain-based conflict. Time-based conflict can be defined as the imbalance of time allocation between work and family roles; behaviour-based conflict is the behaviour pattern in one role that is inappropriate/unexpected in another role; and strain-based conflict can be categorised as the mental and emotional strain created in one role affecting the employee's ability to fulfil the other role's demands (e.g. Frone et al., 1992; Priyadharshini & Wesley, 2014). In addition, it is believed that each form of these conflicts has its corresponding unique antecedents; for example, spending more time in the work domain might create/increase time-based work-to-family conflict, and work distress might lead to strain-based work-to-family conflict (Frone et al., 1997).

Following the definition of strain-based work-family conflict (Priyadharshini & Wesley, 2014), a sense of guilt can be viewed as a negative emotion and emotional distress (Baumeister et al., 1994), and the emotional exhaustion perspective posits that managing negative emotions, such as guilt, can lead to burnout in individuals due to emotional exhaustion, which in turn impacts their capacity to meet the demands of other roles (e.g. Zhang et al., 2019; Zheng et al., 2021). Thus, the sense of guilt may act as the strain-based antecedent of work-family conflict. Nevertheless, no previous studies have investigated this reversed predictive relation between work-family guilt and work-family conflict to our knowledge. Thus, the present study explores this reversed predictive relation and hypothesises that:

*Hypothesis 2: The sense of guilt as emotional distress creates work-family conflict. Work-to-family guilt is positively related to work-to-family conflict (H2a), whereas family-to-work guilt is positively related to family-to-work conflict (H3a).*

In addition, Greenhaus and Beutell (1985) claimed that the time-related antecedent of work-family conflict has an indirect effect on work-family conflict via the strain-based antecedent of work-family conflict. This is believed due to the negative impact of overworking on individuals' distress levels. For example, previous studies (e.g. Chen et al., 2023; Frone et al., 1997; Kikuchi et al., 2020) have found that working long hours or spending too much time on caregiving may burn out individuals, thereby increasing their distress levels and leading to strain-based work-family conflict. Therefore, following this perspective, the present study further hypothesises that:

*Hypothesis 3: Time allocation in work demands and family responsibilities has indirect effects on work-family conflict via work-family guilt in*

*that work hours have a positive indirect effect on work-to-family conflict via increased work-to-family guilt (H3a), whereas time spent on family responsibilities has a positive indirect effect on family-to-work conflict via increased family-to-work guilt (H3b).*

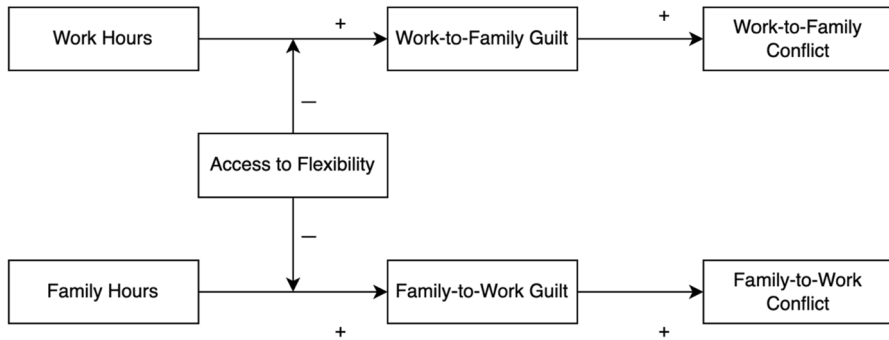
## **The Moderating Effect of Access to Flexibility on the Relationship Between Time Allocation in Work Demands and Family Responsibilities and Work-Family Guilt**

A meta-analytic study conducted by Michel et al. (2011) concluded that previous work-family research generally believed that work flexibility as one type of family-friendly policy might ease the burden of the employees regarding work-family balance because such policy might potentially decrease the role pressure by lowering the probability of the occurrence of time-based conflict (Hammer et al., 1997). There is ample evidence supporting the effectiveness of access to flexibility in managing the work-family interface. For example, Carlson et al. (2010) found that access to flexibility has a positive impact on the work-family interface by promoting work-family enrichment and minimising work-family conflict; Lu et al. (2008) found that access to flexibility, as one form of work resources, might help decrease the negative effect from work/family-related stressors as well as improve employees' wellbeing because the employees perceive it as the organisation cares about their family-related strains (e.g. having to leave work early to pick up children from school).

We are unaware of previous studies that have examined the moderating effect of flexibility on the relation between work-family guilt and time allocation to work/family. However, previous studies (e.g. Hochwarter et al., 2007; Valcour, 2007) suggested that access to flexibility gave employees more time control, the ability to adjust their work schedules, and the possibility to allocate time and energy to other important aspects of their lives, such as family. As a result, access to flexibility makes employees less likely to feel work-induced guilt (Hochwarter et al., 2007). Thus, based on the aforementioned beneficial impact of access to flexibility on work-family balance, the current study hypothesises:

*Hypothesis 4: Access to flexibility moderates the relationships between time allocation in work demands and family responsibilities and work-family guilt in that the effect of work hours on work-to-family guilt becomes weaker when access to flexibility is available (H4a), whereas the effect of time spent on family responsibility on family-to-work guilt becomes weaker when access to flexibility is available (H4b).*

In general, Figure 1 summarises the hypothesised relationships between time allocation in work demands and family responsibilities, work-family guilt, work-family conflict, and access to flexibility in this study.



**Fig. 1** The proposed model of this study

## Method

### Participants and Procedure

A snowballing technique was used in this study. After receiving ethics approval from the host institution's ethics committee, the researchers posted the recruitment letters with the participants' criteria (i.e. over 18 years old; Chinese nationality, grown up and live in China; have a job; have a family, such as spouse, partner, children, relatives, or/have parents) and the link to the survey on popular social media in China (i.e. WeChat, QQ, Weibo).

The link would direct the participant to the information sheet to give them more details about this study. A link to the online questionnaires was provided at the end of the information sheet. A debriefing form was provided after completing the online questionnaire. To capture the general working population in China, participants were not restricted to a single or specific industry/profession.

In general, a total of 696 Chinese employees participated in this study voluntarily; after deleting missing data and unrealistic answers (e.g. spending 25 hours a day on childcare responsibility), 631 samples remained. Among the 631 participants, 323 were males, whereas 308 were females, with a mean age of 33.95 years old ( $SD = 9.24$ ) ranging from 18 to 74 years old. Moreover, all participants, on average, worked 39.97 hours per week ( $SD = 16.43$ ), spent 1.14 hours per day on eldercare ( $SD = 5.78$ ), and 36.21 minutes on domestic chores; in addition, the 394 parent participants in this study reported that on average they spent 2.09 hours per day on childcare responsibility.

### Measures

The original English scales were translated into Chinese by the research and back-translated by professional translators who speak both Chinese and English.

**Work-Family Guilt** We adopted the work-family guilt scale from Morgan and King (2012). This scale has a total of 10 items ranging from 1 (strongly disagree) to 5 (strongly agree), where 5 items measured work-to-family guilt, and 5 items measured family-to-work guilt. Sample questions for measuring work-to-family guilt are “I feel guilty when the amount of time my job takes up makes it difficult to fulfil family responsibilities” and “I feel guilty when the things I want to do at home do not get done because of the demands my job puts on me”. Sample questions for measuring family-to-work guilt are “I feel guilty when family-related strain interferes with my ability to perform job-related duties” and “I feel guilty when I have to put off doing things at work because of demands on my time at home”. The Cronbach’s alpha of this measure was .90 for work-to-family guilt and .90 for family-to-work guilt.

**Work-Family Conflict** Matthews et al. (2010)’s work-family conflict scale was used in this study. This scale contains 6 items ranging from 1 (strongly disagree) to 5 (strongly agree). This scale has three items that measured work-to-family conflict, whereas 3 items measured family-to-work conflict. A simple item for work-to-family conflict is “I have to miss family activities due to the amount of time I must spend on work responsibilities”. A simple item for family-to-work conflict is “because I am often stressed from family responsibilities, I have a hard time concentrating on my work”. The Cronbach’s alpha of this scale was .75 for work-to-family conflict and .68 for family-to-work conflict.

**Access to Flexibility** Adopted from Lai et al. (2020), two questions regarding access to flexibility (“Do you have access to flexible work schedules, such as changes in starting and quitting times or choices about shifts?”) and flexible work schedules (“Do you have access to flexible places, such as being able to work from home or at a different worksite in the organisation?”) were asked. The answer was dummy coded. Yes, coded 1 and No, 0. The higher the score indicates the greater the access to flexibility. The Cronbach’s  $\alpha$  for this scale was .66.

**Work Hours** We followed the method used by Chen et al. (2023) to ask the participants to write down how many hours they worked per week.

**Family Hours** We followed the method used by Chen et al. (2023). Family hours were represented by the sum of the time spent on parenting, doing housework, and taking care of elderly parents. Participants were asked to write down how many hours they spent on eldercare and childcare per day, and how many minutes they spent on domestic chores per day, respectively.

## Data Availability

The datasets generated and/or analysed during the current study are available from the corresponding authors upon reasonable request.

## Statistical Analyses

We used Lavaan (R package) in the R studio (Rosseel, 2012) for confirmatory factor analysis (CFA) and structural equation modelling analysis (SEM). The results showed that both the measurement and proposed models were identified. In addition, it is recommended that at least two fit indices be used to evaluate the model fit (Byrne, 2016). Thus, we used the comparative fit index (CFI), chi-square divided by the degrees of freedom ratio ( $\Delta \chi^2 / \Delta df$ ), and root mean square error of approximation (RMSEA) for model evaluation. For CFI, a value greater than .90 is considered a well-fitting model; for the  $\Delta \chi^2 / \Delta df$ , a ratio that is between 1 and 5 indicates a good-fitting model; and for RMSEA, a value less than .05 indicates a good fit, between .05 and .08 indicates a reasonable fit (Byrne, 2016). We used standardised path estimates to evaluate the effect size. A standardised path estimates around .1 is considered a small effect size, between .3 and .5 is considered a medium effect size, and above .5 is considered a large effect size (Pentti, 2022). The alpha level was set at .05 by default in Lavaan.

## Results

The mean, standard deviation, and correlation of the variables are displayed in Table 1.

Table 2 summarises the results of the CFA and overall model fit index. As shown in Table 2, the measurement model fits the data well (CFI = .97;  $\Delta \chi^2 / \Delta df = 2.5$ ; RMSEA = .05), whereas the proposed model is a reasonable fit (CFI = .90;  $\Delta \chi^2 / \Delta df = 3.6$ ; RMSEA = .07). In addition, among the 5 constructs and 18 items (exclusive time spent on work demands and family responsibilities, i.e. construct 1, access to flexibility; construct 2, work-to-family conflict; construct 3, family-to-work conflict; construct 4, work-to-family guilt; construct 5, family-to-work guilt), all factor loadings were significant at  $P < .001$  and ranged from .51 to .87. Thus, no factors must be removed (Brown & Moore, 2012).

**Table 1** Mean, descriptive statistics, and correlations ( $N = 631$ ).

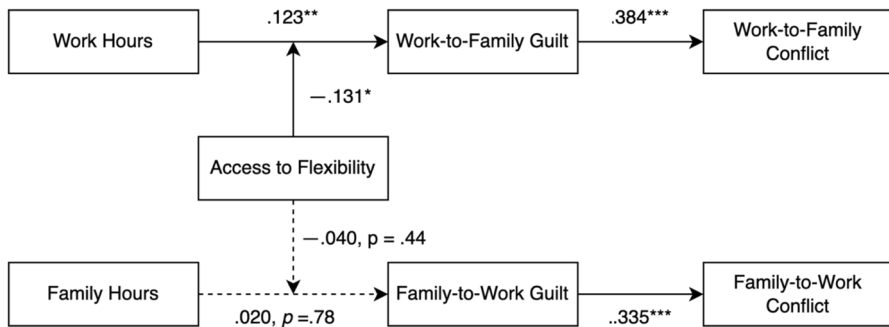
	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7
1. Work-to-Family Conflict	9.36	2.68	-						
Family-to-Work Conflict	7.79	2.45	.487**	-					
Work-to-Family Guilt	15.9	4.62	.332**	.216**	-				
Family-to-Work Guilt	13.8	4.43	.209**	.280**	.577**	-			
Access to Flexibility	2.78	.83	-.142**	-.019	-.103**	.005	-		
Work hours	39.97	16.43	.188**	.024	.115**	.078*	-.133**	-	
Family hours	3.83	6.72	-.021	.104**	-.063	.014	.025	-.008	-

\*  $P < .05$ , \*\*  $P < .01$



**Table 2** Goodness-of-fit ( $N = 631$ )

	Baseline model			User model				$\chi^2/df$	
	AIC	BIC	$\chi^2$	$\Delta\chi^2$	$\Delta df$	$P$	CFI		RMSEA
Structural model	26489.715	26694.292	5594.588	153	.000	.000	0.966	0.048	2.473
Proposed model	34979.696	35202.061	5793.061	231	.000	.000	0.904	0.065	3.643



**Fig. 2** The final model of this study. Note. Broken lines represent non-significant paths. \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$

**Table 3** Summary of the parameter estimates

Path relations	Standardised estimates
Work hours → Work-to-family guilt	.123**
Family hours → Family-to-work guilt	.020
Work-to-family guilt → Work-to-family conflict	.384***
Family-to-work guilt → Family-to-work conflict	.335***
Access to flexibility on Work hours → Work-to-family guilt	-.131*
Access to flexibility on Family hours → Family-to-work guilt	-.040

→ represents the path direction. \*  $P < .05$ . \*\*  $P < .01$ . \*\*\*  $P < .001$

Figure 2 presents the final model with the standardised parameter estimates and significance levels. In addition, the standardised parameter estimates with significance levels are summarised in Table 3.

H1 is partially supported; the results revealed that only work hours predicted work-to-family guilt ( $\beta = .123, p < .01$ ) (H1a), and the standardised path estimates ( $\beta = .123$ ) indicated work hours had a small effect size on work-to-family guilt. Moreover, H2 is supported; work-to-family guilt and family-to-work guilt predicted work-to-family conflict ( $\beta = .384, p < .01$ ) and family-to-work conflict ( $\beta = .335, p < .01$ ), in that both work-to-family and family-to-work guilt had a medium effect size on work-to-family and family-to-work conflict, respectively. Furthermore, H3 is partially supported; the results indicated that only work hours have an indirect effect on work-to-family conflict via work-to-family guilt; thus, H3a is supported, but H3b is not supported. Lastly, H4 is partially supported, the results indicated that access to flexibility only moderated the relationship between work hours and work-to-family guilt; the negative estimate ( $-.131$ ) indicated a small effect size and that the moderating effect of access to flexibility on work hours and work-to-family conflict indicated that the strength of this time-guilt

relation became weaker when access to flexibility is available; thus, H4a is supported, but H4b is not supported.

## Discussion

The purpose of this study was threefold. The first was to investigate the predictive effect of work/family time on work-family guilt. Consistent with Gomez-Ortiz and Roldan-Barrios (2021)'s findings, this study found that work hours positively predicted work-to-family guilt, suggesting that working longer hours cause employees to feel guilty about their work demands impacts their availability on fulfilling family responsibilities. However, spending time on family responsibilities did not predict family-to-work guilt. This suggests that employees would not feel like they are wronging the organization when spending time on family duties. We believe that this non-significant relationship might be due to the strong influence of family collectivism orientation in China. For example, previous studies found that individuals in China often rank their family and the need to fulfil family obligations as the most important things during their lifespan due to the influence of family collectivism orientation (e.g. Lu, 2007; Zhang et al., 2019). Such belief is so significant that Chinese employees believe that work is a tool for increasing family wealth instead of one way to achieve self-worth (e.g. Chen & Cheng, 2023; Zhang et al., 2019), and when Chinese employees experience work-family dilemmas, they tend to sacrifice their work, such as passing on job offers only to better fulfil caregiving responsibility (Zhang et al., 2020). Hence, such family collectivist orientation might dilute the negative impact of time spent on the family on individuals' wellbeing outcomes, such as family-to-work guilt, because it is believed as fulfilling family obligations (e.g. Zhang et al., 2019).

Secondly, the results supported the reversed conflict-guilt relation; the sense of guilt felt in one domain would create/exacerbate the conflict experience. However, only work-to-family guilt was found to mediate the relationship between work hours and work-to-family conflict. Again, this might be due to the same reason discussed above; the family collectivism orientation might make the participants not feel family-to-work guilt when spending time on family responsibilities, due to the importance of fulfilling family obligations.

Lastly, the results indicated that access to flexibility moderated the relationship between work hours and work-to-family guilt but not family hours and family-to-work guilt. In addition, this study found that the strength of the relationship between work hours and work-to-family guilt would weaken when access to flexibility is available; this finding is consistent with the previous workplace flexibility research that found access to flexibility can help employees manage work-family interface better and to achieve work-family balance (e.g. Carlson et al., 2010; Lai et al., 2020; Michel et al., 2011).

In addition, the reason why access to flexibility had no moderating effect on the time-guilt relation in the family domain might be due to the construct of access to flexibility in the work-family interface. Previous studies argued that because access to flexibility is a work-related benefit, its effect on family-related factors is not

straightforward but via work-related factors; for example, access to flexibility helps to minimise the time-based work-to-family conflict, and because of the reciprocal nature of work-family conflict, the decreased work-to-family conflict then eases the family-to-work conflict; however, since this argument regarding the structure of access to flexibility in the work-family interface is based on the findings from work-family conflict studies (e.g. Anderson et al., 2002; Carlson et al., 2010), more studies are needed to investigate the effect of access to flexibility on the sense of work-family guilt.

## Implications

As one of the first studies to investigate/explore the relationships between time allocation in work demands and family responsibilities and work-family guilt, the effect of work-family guilt on work-family conflict, and the moderating effect of access to flexibility on the time-guilt relations, the present study enriched the field of work-family guilt study by shedding light on the different antecedent (work hours) of work-family guilt aside from work-family conflict, discovered the positive effect of work-family guilt on work-family conflict, and demonstrated the negative moderating effect of access to flexibility on the relationship between work hours and work-to-family guilt. In addition, the findings regarding the mediating effect of work-to-family guilt on the relationship between work hours and work-to-family conflict substantiated that work-family guilt might also act as the mediator connecting the work-family interface (i.e. work-to-family guilt as a mediator connecting the work-related antecedent [work hours] and outcome [work-to-family conflict]), providing a different perspective other than the work-family conflict/enrichment as the mediators that connect work-family interface for the future work-family researchers.

Moreover, this study's findings are beneficial for establishing family-friendly policies to help employees better manage their work-family issues. The findings regarding the moderating effect of access to flexibility on work hours and work-to-family guilt indicated that giving more time control (e.g. working from home) to the employees can help them better cope with the sense of work-to-family guilt arising from long working hours. In addition, it might be worth carrying out a 4-day working week trial, especially given that technologies have enabled and created a "24/7" work culture; doing so may help the employees better manage their time between work demands and family responsibilities (e.g. Anna et al., 2021; Secunda, 2019), hence may help ease the sense of work-to-family guilt, and consequently decrease the conflict experience.

## Limitations and Future Research

This study has limitations. First, structural equation models support causal inference (Przybyla et al., 2018), and investigating the effect of the moderation component (access to flexibility) on the time-guilt relationships has improved the causality of the observed relationships in the model (Hayes, 2018); however, this study is still a cross-sectional study that might be less advanced in testing causal relationships.

Hence, further experimentation or longitudinal research is recommended. Second is the sampling issue. The data of this study is collected through an online questionnaire; this might increase the self-selection bias because some people are more likely to complete an online questionnaire, and online questionnaires can only reach employees that have access to the internet (e.g. Andrade, 2020; De Man et al., 2021). Third, the present study did not control for the potential confounding variables that might influence the results, such as gender, which has been found that might relate to both work-family conflict and guilt (e.g. Korabik, 2014). This might have introduced bias or alternative explanations for how time allocation between work demands and family responsibilities led to the feeling of work-family guilt and the generalisability of the results. Thus, future research is recommended to replicate this study while incorporating appropriate methods to control confounding variables. This allows for a more rigorous examination of the research question and strengthens the overall body of knowledge.

Fourth, though China is apt for the work-family interface study (Tang et al., 2014), Chinese cultural background (family collectivism orientation) has affected the findings of this study to some extent; thus, the findings of this study might only reflect the work-family guilt in China or other Eastern collectivist countries (e.g. Japan) since these countries share similar work/family values (Phuong-Mai et al., 2005). Thus, cross-cultural studies are recommended to explore cultural influences on work-family guilt/conflict experiences. Fifth, all measures used in this study were originally developed in English-speaking sample; their psychometric validation on Chinese sample is unknown. Thus, a further study to investigate the psychometric validity of these measures is recommended.

Moreover, more studies that use different factors as the predictor/outcome of work-family guilt are recommended, considering guilt is an understudied emotion that has a negative impact on the workplace (e.g. work performance) (Morgan & King, 2012), the field of work-family guilt is still in its infancy (Korabik et al., 2017), and that previous work-family interface studies are exclusively focused on the work-family conflict/enrichment perspective. Last, it may be worthwhile exploring the potential bidirectional and reciprocal nature of work-family guilt, as work-family conflict and work-family guilt share similar directional dimensions (work-to-family and family-to-work) and are both mediators in connecting the work-family interface; doing so may help to improve the accuracy of the findings and the construct of work-family guilt.

## Conclusion

This study has extended insight into the potential antecedents of work-family guilt as apart from work-family conflict, the positive relation from work-family guilt to work-family conflict, and the moderating effect of access to flexibility on the relationships between time allocation in work demands and family responsibilities and work-family guilt. Beyond that, we found that work-family guilt might also act as the mediator connecting the work-family interface. We hope that this study encourages more future studies to investigate the different antecedents/consequences of

work-family guilt, instead of focusing on guilt being the negative emotional outcome of work-family conflict, to provide a different angle/perspective for future work-family interface studies (e.g. work-family interface model that builds on work-family guilt).

**Author Contribution** Conceptualisation: SC. Data curation: SC. Formal analysis and investigation: SC. Methodology: SC, M-IC. Project administration: M-IC. Resources: SC, M-IC; Software: SC. Supervision: M-IC. Validation: M-IC. Visualisation: M-IC. Writing—original draft: SC. Writing—review and editing: M-IC.

**Data Availability** The datasets generated and/or analysed during the current study are available from the corresponding authors upon reasonable request.

## Declarations

**Ethical Approval and Consent to Participate** This study was approved by De Montfort University, the Faculty of Health and Life Sciences Research Ethics Committee. Due to the anonymity of the online questionnaire, no consent form is needed; nevertheless, one question regarding the willingness to participate in this study was asked before completing the online questionnaire, and the participants must choose “yes” to continue. In addition, participants consent to participate in the present study by submitting the completed questionnaire.

**Consent for Publication** The authors affirm that participants of this study are aware that data will be presented in aggregate format within the study. The results may be published or presented at workshops/conferences. If this is the case, the results will be presented in aggregate format and participants’ responses will not be identifiable to you personally.

**Competing Interests** The authors declare no competing interests.

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