

# The Relationship Between Work Engagement and Work-Family Enrichment: A Systematic Review and Meta-Analysis

Tadas Vadvilavičius and Aurelija Stelmokienė

Department of Psychology, Vytautas Magnus University, Kaunas, Lithuania

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## Abstract

The aim of this study is to systematically summarize and analyze the relationship between work engagement and work-family enrichment. The study focuses on two aspects: the empirical direction of the relationship and the examination of mediators and moderators. A systematic literature review procedure was applied to search and review articles in four databases. Forty-six studies were included. The systematic literature review revealed that work engagement is more often considered as a predictor of work-family enrichment, rather than *vice versa*. However, only a few studies analyzed and found evidence of a bidirectional relationship. Additionally, only 11 studies examined the constructs that mediate or moderate the relationship. To provide a summary of the results, a random effects model was employed for meta-analytical investigation. The meta-analytic results revealed a moderate positive relationship between work engagement and work-family enrichment, as well as between work engagement and family-work enrichment. Furthermore, the results indicated that age, gender, and the region where the study was conducted did not moderate these relationships. These findings suggest that human resource specialists should consider investing more in promoting work-family enrichment, which in turn could increase employees' work engagement and *vice versa*, given the reciprocal nature of the relationship. It is important to note that the main limitation of this review is the use of only general scores of work engagement and work-family enrichment.

*Keywords:* work-family enrichment, family-work enrichment, work engagement, systematic literature review, meta-analysis


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## Introduction

People are hedonists – they seek to gain pleasure and to minimize any negative experience in life, family, and work (Taquet et al., 2016). In the past decade, the

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Tadas Vadvilavičius  <https://orcid.org/0000-0002-1920-1959>

Aurelija Stelmokienė  <https://orcid.org/0000-0001-9574-9310>

✉ Tadas Vadvilavičius, Department of Psychology, Vytautas Magnus University, Jonavos st. 66–331, LT44191, Kaunas, Lithuania. E-mail: [tadas.vadvilavicius@vdu.lt](mailto:tadas.vadvilavicius@vdu.lt)

possibilities of balancing work and family and achieving self-realization at work have become major priorities in choosing a career. People who are satisfied with their family and work are generally happier in life, and have better physical and psychological health, etc. (Mauno et al., 2015; McNall et al., 2010). However, researchers still lack clear explanations of how different life domains interact, for instance, how are work–family enrichment (WFE<sup>1</sup>; a positive outcome of work-to-family interaction) and work engagement (WE; a positive attitude towards the job) linked to each other.

WFE (or FEW, family-work enrichment) refers to the process when resources from one domain, i.e., home, help to improve performance in another domain, i.e., work (Greenhaus & Powell, 2006) and *vice versa*. According to Greenhaus and Powell (2006), WFE occurs in two paths: instrumental and affective. The instrumental path describes the way employees' resources, for example, time management skills, extra vacation days, or flexible schedule at a job, are being transferred (directly or indirectly) to other life domains (i.e., home) to address demands in that domain (Carlson et al., 2006; Greenhaus & Powell, 2006). Meanwhile, the affective pathway describes how positive mood in one domain, for example in a family, is being transferred (directly or indirectly) to another domain to help deal with demands there (Carlson et al., 2006; Greenhaus & Powell, 2006). In empirical studies, researchers measure three dimensions of WFE: capital (psychosocial resources such as self-efficacy); affect (positive mood or attitude); and development (ability to gain and develop new skills, knowledge) (Carlson et al., 2006). Studies have shown that WFE is related to lower burnout and higher job satisfaction, organizational commitment, life/work/family satisfaction, and productivity (Babic et al., 2020; Koekemoer et al., 2020; Mauno et al., 2015; McNall et al., 2010; Zhang et al., 2018).

In the meantime, WE refers to a positive, fulfilling, and work-related state of mind that is characterized by vigor, dedication, and absorption (Schaufeli et al., 2002). Vigor is described as a high energy at work and investment in actual work, along with a high persistence when facing difficulties; dedication is described as commitment to work, enthusiasm, and pride towards work; and finally, absorption is described as a high focus, concentration at work, associated with difficulties detaching from work (Schaufeli & Salanova, 2014). Studies have shown that WE is related to higher employees' performance, organizational commitment, and lower turnover intentions, absenteeism (Bakker & Leiter, 2010; Borst et al., 2020; Mazzetti et al., 2021; Neuber et al., 2022; Qing & Zhou, 2017).

WE and WFE are perceived as important topics in the human resources field. the relationship between WE and WFE has gained researchers' attention some time ago, but it is important to better understand which construct – WFE or WE – is a

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<sup>1</sup> WFE will be used as a general term to describe work–family enrichment and family–work enrichment unless stated otherwise.

predictor, which is an outcome or maybe the relationship is bidirectional, as suggested by other researchers (e.g., Hakanen et al., 2011). Different studies confirm that the relationship between WE and WFE is still unclear due to dispersed/ambiguous results.

With reference to social-psychological model of WE (Bakker, 2022), different actors from different domains (e.g., leaders, followers, and family members) exchange resources and facilitate each other's work and family engagement. Conservation of Resources theory (COR; Hobfoll, 1989) describes that people seek to gain and retain resources (Talukder, 2019). A higher level of resources or resource gains, based on COR, are related to better problem-solving and resilience, and a low level or loss of resources is related to stress and anxiety (Hobfoll, 1989; Marais et al., 2014). People are believed to transfer resources from one domain to another because it helps to gain additional resources and improve psychological well-being (Carlson et al., 2015; Marais et al., 2014; Siu et al., 2015). These newly generated resources can be easily transferred to other life domains, enriching the system. Meanwhile, the *spillover* mechanism suggests that certain aspects (especially high levels of resources, like positive emotions) from one life domain (e.g., family) spill over to another domain (e.g., work) (Liu & Cheung, 2015; Presti et al., 2020; Vieira et al., 2016; Westman et al., 2004). Spillover mechanism can be both positive, e.g., helping to be a better employee, and negative, e.g., when it hinders the performance of family tasks (Cho & Tay, 2016; Dunn & O'Brien, 2013). It can also affect other people in the social system, e.g., family members and/or co-workers (Carlson et al., 2015, 2019; Hammer et al., 2005; Sprung & Jex, 2017; Westman et al., 2004). In this case, however, spillover mechanism suggests how positive experience at work or at home can affect the functioning in other social systems. Theoretical considerations may suggest that a higher work engagement can increase the level of resources that people tend to transfer (or spill over) to the family; higher family performance (related to additional resources from work) can increase both domestic resources and family engagement, which can lead to the transfer of resources from home to work, creating a loop of resources transfer.

The aim of this systematic literature review and meta-analysis is to contribute to the scientific literature by systematically examining and synthesizing empirical evidence of the relationship between WFE/FWE and WE and providing recommendations for future research and practitioners. Furthermore, Pigott (2012) stated that during a meta-analysis, researchers should conduct a moderator analysis to reduce the chances of discovering bogus findings or to better understand the relationship between analyzed constructs. The search for moderators and mediators was also carried out in systematic literature review.

## WE and WFE/FWE: A Systematic Review

### Methods

Three databases were used for systematic review: EBSCO Academic Ultimate (EBSCO), ScienceDirect, and Web of Science (2023 March). Based on the similar practice of the authors in the topic and the goal of this systematic review, the key terms were identified and used, combining them: *work–family enrichment* OR *family–work enrichment* OR *work–to–family enrichment* OR *family–to–work enrichment* OR *work–family facilitation* OR *family–work facilitation* AND *work engagement* OR *job engagement*. Additionally, Google Scholar database was used to search for grey literature. Haddaway et al. (2015) recommended checking only the first 200-300 results in Google Scholar for the search of grey literature, so the first 200 were checked. English and Lithuanian articles published in peer-reviewed journals were searched. Figure 1 illustrates the flow diagram to identify the relevant studies.

The search was not limited by the date of publication, sample size, population, research design, or geographical collation of study. The initial results revealed 412 articles. Exclusion criteria were as follow: duplicates, articles not in English or Lithuanian, conference/seminars abstracts/editor`s note, secondary articles (meta-analyses and systematic reviews), qualitative studies, articles not analyzing direct relationship between WE and WFE/FWE. However, articles that presented the analysis of relationship between WFE and WE factors/components (not between whole constructs) were included. In all, 44 papers were left. Data was extracted manually. Additionally, based on the experience of other researchers (e.g., Brown & Clark, 2017) reference lists from 44 selected articles have also been scanned to look for articles that may be relevant. When scanning the titles in the reference lists, 10 potential articles were found. After scanning abstracts, two extra relevant studies were selected to be included in the final data set. In all, 46 studies were selected for final analysis.

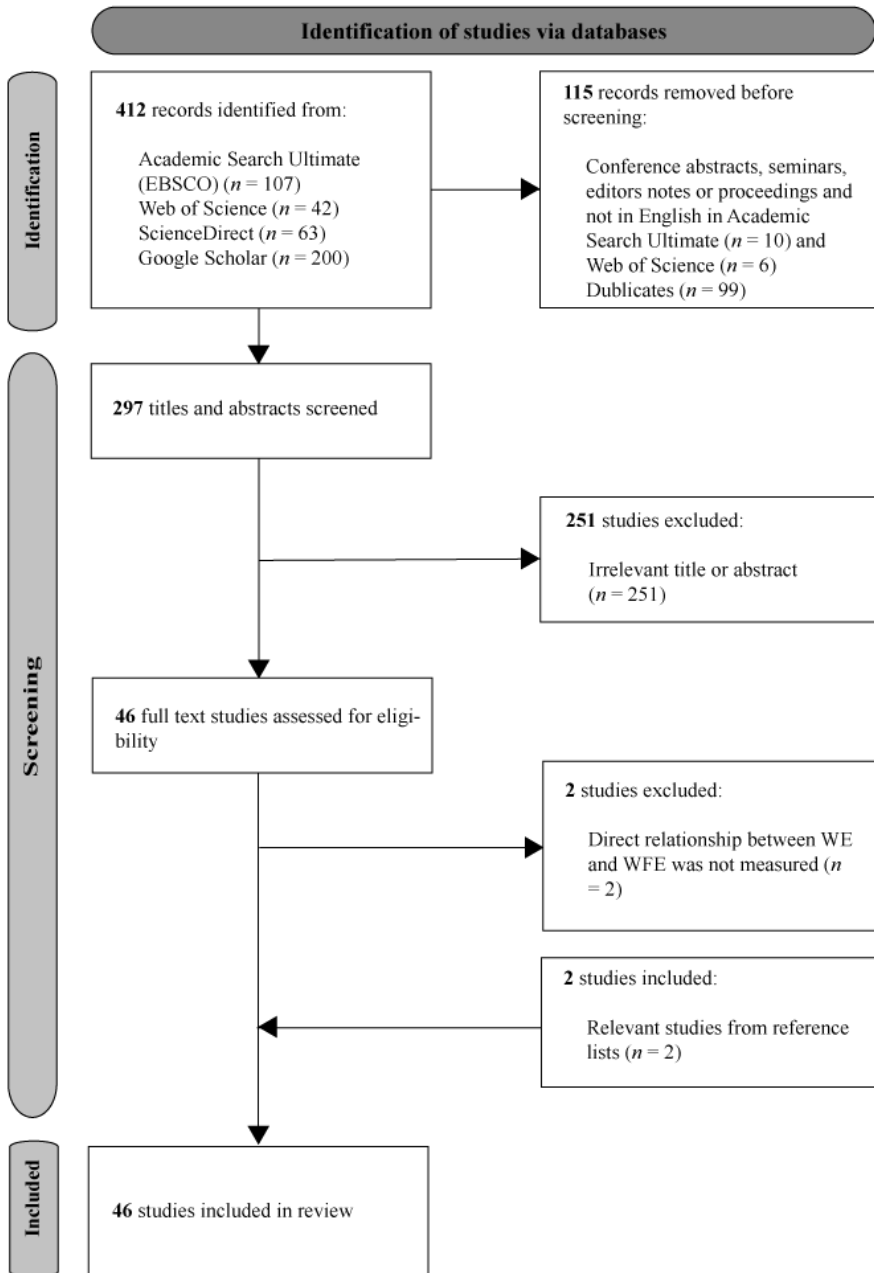
### Results

#### *Characteristics of Studies*

In total, data from 46 studies with 18855 respondents (from 49 to 1632 participants in a study; see Appendix) were analyzed. Information about authors, publication years, region of study origin, sample size, research design, instrumentation, relationship between WE and WFE/FWE (general scores and factors), and mediators/moderators tested are presented in the Appendix. Studies were published between 2006 and 2022, out of which the majority ( $n = 21$ ) were published between 2014 and 2018, following COVID-19 - post-COVID-19 period from 2019 to 2022 ( $n = 16$ ). Publication years may suggest the importance of the topic in the last 10 years.

**Figure 1**

*Identification of Studies Flow Diagram*



Nine studies reported almost an equal female to male ratio (45-55% of each gender in a study), 18 reported having more female participants (one even reported having 100% female participants), 17 reported having more male participants, one study used two samples combined of sub-sample of equal female to male ratio and sub-sample having more female participants, and one study did not report gender of the participants. Most studies, included in a systematic literature review, were conducted in the Asia-Pacific region ( $n = 21$ ), followed by 20 in Western countries (the USA and Europe), and five in Africa. In nine out of 20 studies conducted in Western countries, more male respondents participated, six reported having more female participants, four had equal ratios of male and female, and one did not report the ratio. Seven out of 21 studies conducted in the Asia-Pacific region, reported having more male participants, nine reported having more female participants, four had equal ratios of male and female, and one research reported two subgroups in which one had more female participants and one was equal by gender. Meanwhile, three out of five studies conducted in Africa reported having more female participants, one reported higher number of male participants and one had equal female to male ratio. Finally, 28 studies reported the average age of participants, while others reported the age range or had no information about the age. The average age of participants ranged from 20.9 to 52.6.

In three studies, daily diary study research design was used, 13 studies used longitudinal (two or three waves) surveys, and the majority ( $n = 30$ ) were cross-sectional studies. Nine out of 13 longitudinal studies were used to assess WE and WFE (or FWE) on different time measures. All studies included self-reported measurements. Work-family enrichment scale developed by Carlson et al. (2006) was the most often used ( $n = 17$ ) to measure WFE/FWE, four studies used the shorter form of previously presented scale (by Kacmar et al., 2014), three studies used The MACE WFE instrument (De Klerk et al., 2013), five studies used Grzywacz & Marks (2000) Work-family or Family-work facilitation scale, four studies used Work-family positive spillover scale (Hanson et al., 2006), four studies used Geurts et al. (2005) Work-family and Family-work facilitation scale, three studies used Hansez et al. (2006) Work-home interaction Nijmegen survey, and six studies reported using other scales for measuring WFE/FWE. Meanwhile, 40 studies reported using a specific form or subscale of Utrecht work-engagement scale (Schaufeli & Bakker, 2001, 2003; Schaufeli et al., 2001, 2006), two studies reported the use of Positive Occupational state inventory (Barbier et al., 2012), and four studies reported the use of other scales to measure WE.

### ***Relationship Between WE and WFE***

A systematic review of the relationship between WE and WFE revealed that in 14 studies, WE was considered to be a predictor of WFE, four studies presented WE as a predictor of both WFE and FWE. Meanwhile, in 10 studies, WFE was considered to be a predictor of WE, in five studies FWE was a predictor of WE and

in eight studies, WFE and FWE were both predictors of WE. In four studies (all were longitudinal), mixed relationships were presented, and one study did not specify the nature of the relationship, however the empirical data of relationship (correlation coefficient) was presented. Finally, three studies revealed a bidirectional relationship between WE and WFE.

A systematic literature review revealed that 38 out of 46 studies reported the relationship between general WE and WFE scores, five studies reported the relationship between general WFE score and WE factors (vigor, dedication, and/or absorption), two studies presented a correlation matrix between all WE and WFE factors, and one study reported the relationship between factors of WFE and general WE score. The results showed that the relationship (based on correlation coefficients) between general WE–WFE scores was positive and ranged from .16 to .68. Meanwhile, the relationship between WE–FWE ranged from .17 to .47, and one study reported statistically non-significant results. The relationship between WFE (FWE) and different WE factors ranged from .18 to .52 (vigor), from .27 to .50 (dedication), and from .19 to .26 (absorption; one relationship in this group was statistically non-significant).

Only 11 studies performed a mediation or moderation analysis. One study reported a model where family engagement could be perceived as a mediator between WE and WFE, however, empirical analysis was not presented (Saleem et al., 2022). The literature review revealed that job autonomy, competence, relatedness, and support (Haar et al., 2018), home joviality and home anger (Clark et al., 2014) mediated the relationship between WE–FWE (FWE–WE). Meanwhile, positive and negative work-reflection (Daniel & Sonnentag, 2014; Kim & Beehr, 2022), work role resource gain (Chen & Powell, 2012), positive affect at work/home (Culbertson et al., 2012; Daniel & Sonnentag, 2014)), self-assurance and work anxiety (Clark et al., 2014), perceptions of remaining opportunities for occupational future (Henry & Desmette, 2018), and subjective career success (Koekemoer et al., 2020) mediated the relationship between WE–WFE (WFE–WE). Finally, literature review revealed that talking about good things that happened at work (Culbertson et al., 2012) and gender of respondents and control over boundary permeability (Straub et al., 2017) moderated the relationship between WFE–WE (WE–WFE) and self-efficacy (Gopalan et al., 2022) moderated the relationship between WE and FWE.

## WE and WFE/FWE: Meta-Analytical Investigation

### Methods

Meta-analysis was performed to solidify the results of the systematic review. The purpose of meta-analysis is to combine and analyze the results from multiple independent studies on a particular topic to draw more robust and generalizable conclusions than those possible from individual studies alone (Çoğaltay & Karadağ, 2015). Combining statistical data from individual studies presented in systematic review provides greater statistical power to detect true effects, mainly when individual studies may have limited sample sizes and limited statistical precision.

Meta-analysis was conducted with all studies that reported sample size and at least one correlation coefficient between WE and WFE/FWE. Data was gathered manually from the systematic literature review. Only the scores of the relationship between general WE and WFE/FWE scores were used. Data was coded in SPSS file. All articles were added into SPSS file, which included id, sample size, direction of the relationship, correlation coefficients between general scores of WE and WFE/FWE, mean age, female proportion (%), and region where the study was conducted. Data from longitudinal surveys' different time measures was included in analysis separately: one analysis was performed using only effect sizes from T1 and second analysis was performed using effect sizes from T2. The decision was based on high intercorrelation between the data and high homogeneity because of the same sample. This decision was applied to two studies that provided two effect sizes from T1 and T2: Siu and Ng (2021) and Babic, Stinglhamber, Bertrand, and Hansez (2019).

The heterogeneity test was calculated to test for the variability in effect sizes across studies. Only mean age, female proportion, and region of the study were tested as moderators. Studies that reported only age range were not included into moderation analysis. A random-effects model was used because it cannot be assumed that all studies are from a single population. Pearson correlation scores were transformed to Fisher's  $z$  scores for combining correlation coefficients from different studies and later transformed back to Pearson's  $r$  (Fisher, 1921). In all, 33 studies reported the relationship between WE and WFE, 16 reported the relationship between WE and FWE, and 10 reported both.

Meta-analysis was performed using *metafor* (Viechtbauer, 2010) and *robumeta* (Fisher et al., 2023) packages for  $R$  (R Core Team, 2023). Heterogeneity between studies was assessed using  $Q$  and  $I^2$  statistics. A significant  $Q$  score indicates the heterogeneity between effects, whereas  $I^2$  indicates the percentage of between effect variance that is not the sampling error. A higher  $I^2$  statistic represents higher heterogeneity. The funnel plot and Egger's test were used to test publication bias. The level of statistical significance was set at  $p < .05$  (two-sided). See Quintana (2015) for more about the statistical procedure applied in this study.



## Results

In total, 31 effect sizes ( $n = 10452$ ) were gathered to test the relationship between WE and WFE, and 15 effect sizes ( $n = 4565$ ) to test the relationship between WE and FWE (see Table 1). The effect size after combining correlation coefficients reveals the strength and direction of the relationship between WE and WFE/FWE. There were no differences between using effect sizes from T1 or T2 from longitudinal studies of Siu and Ng (2021) and Babic, Stinglhamber, Bertrand, and Hansez (2019). Further analysis was performed using only data from T1.

**Table 1**

*Effect-Size Summary Statistics for Relationship Between WE and WFE/FWE*

Relationship	No. of effects	Total sample size	Combined correlation coefficient (95% CI)		Heterogeneity test	$I^2$ (%; 95% CI)
			Unstandardized	Standardized		
WE–WFE	31	10452	.42 <sup>a</sup> [.35, .49]	.40 [.34, .45]	$Q(31) = 314.15$ , $p < .001$	91.16 [85.88, 95.12]
WE–FWE	15	4565	.34 <sup>b</sup> [.29, .40]	.33 [.28, .38]	$Q(14) = 54.98$ , $p < .001$	71.80 [45.87, 88.49]

*Note.* Weights are from random effects analysis.

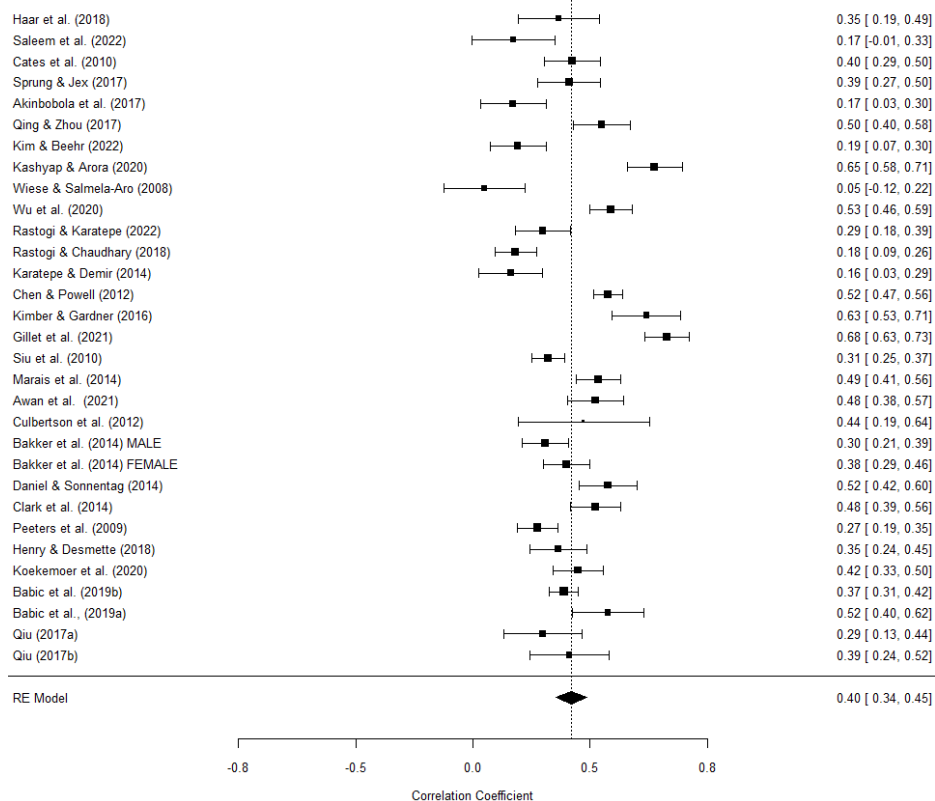
<sup>a</sup> Analyses using data with effect size from measures T2 from study Babic et al. (2017) provided combined correlation coefficients for WE–WFE .39 (95% CI [.34, .45]).

<sup>b</sup> Analyses using data with effect size from measures T2 from study Siu & Ng (2021) provided combined correlation coefficients for WE–FWE .33 (95% CI [.28, .38]).

The combined overall correlation coefficient revealed a moderate positive relationship between WE and WFE, and WE and FWE. Heterogeneity was significant ( $Q$  is significant.) and high ( $I^2$  range from 71.80 to 91.16%). The application of a random-effects model has been verified by this. Forest plots for each estimate are presented in Figures 2–3. Each study is represented by a point estimate, which is bounded by a 95% CI, while the biggest square represents the study with the highest contribution to the summary effect size.

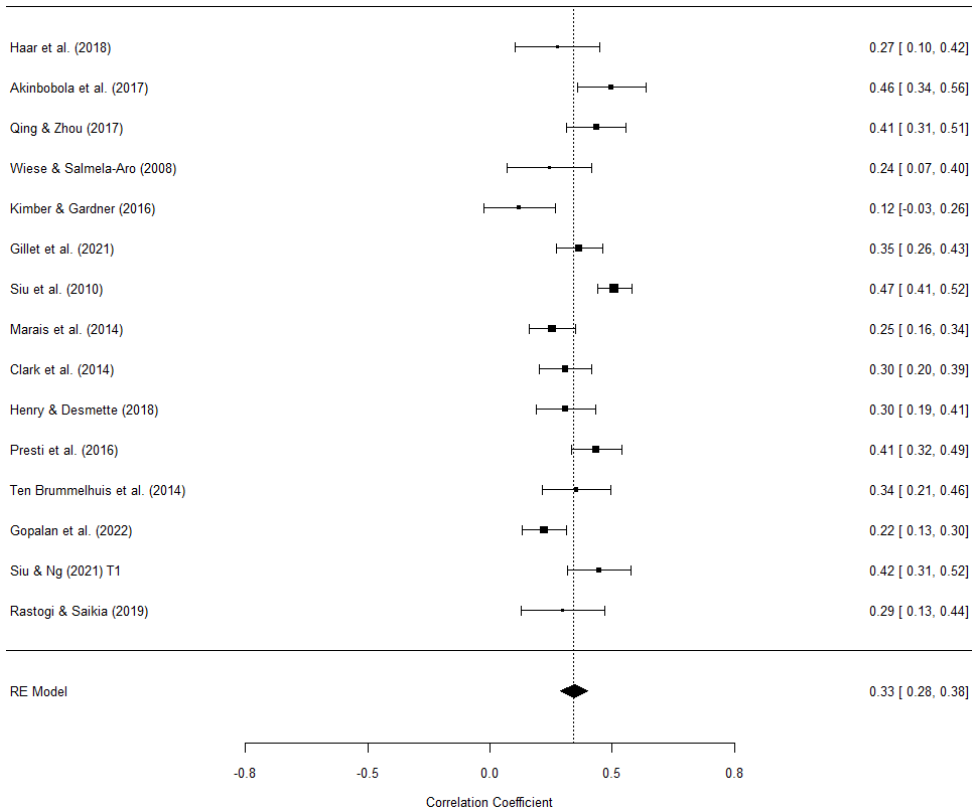
## Figure 2

### Forest Plot for Relationship Between WE and WFE



**Figure 3**

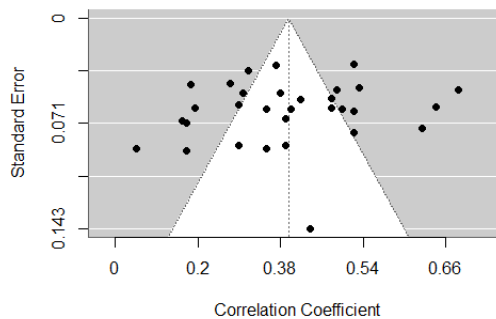
*Forest Plot for Relationship Between WE and FWE*

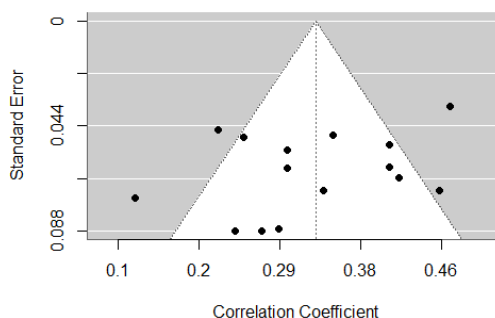


Visual inspection of funnel plots revealed that studies were scattered symmetrically (see Figure 4-5) and suggested no publication bias. Additionally, Egger's test confirmed these results (for WE–WFE  $p = .40$ ; for WE–FWE  $p = .23$ ).

**Figure 4**

*Funnel Plot for Relationship Between WE and WFE*



**Figure 5***Funnel Plot for Relationship Between WE and FWE*

Finally, moderation analysis was performed to test the moderating effect of gender, age, and region in which study was conducted (see Table 2).

**Table 2***Moderation Analysis with Three Moderators - Age, Gender, and Region*

Relationship	Moderator	Moderation effect	Test of moderators	$I^2$ (%)
WE–WFE	Age	.01, $p > .05$	$Q(3) = 1.23, p = .75$	92.61%
	Gender	-.04, $p > .05$		
	Region	.04, $p > .05$		
WE–FEW	Age	-.02, $p < .05$	$Q(3) = 5.06, p = .17$	62.35%
	Gender	-.13, $p > .05$		
	Region	-.08, $p > .05$		

*Note.* Gender was coded as female % in the sample; region: 1 – Western, 2 – Africa, 3 – Asian-Pacific

Analysis indicated that age, gender, and region of origin did not moderate the relationship between WE–WFE, while only gender and region did not moderate the relationship between WE–FEW. Estimate of -.02 suggested that on average, increase of age would decrease the effect size by .02 units, suggesting that for older individuals relationship between WE – FWE is weaker compared to younger individuals.

## Discussion

A systematic literature review and meta-analysis were used to analyze the relationship between WE and FWE, as well as to identify constructs that mediate or moderate this relationship. Initially, a systematic literature review was conducted using four databases, resulting in the identification of 46 relevant articles. The review

suggested a positive interrelation between WFE (or FWE) and WE, with WFE (and/or FWE) more frequently considered as a predictor of WE. Furthermore, only 11 articles explored the mediation or moderation effects on this relationship. Finally, employing a meta-analytical procedure, a moderate positive linear relationship was discovered between WE and both WFE and FWE.

The more common sample in the studies was female dominated ( $n = 18$ ); however, the composition with higher male ratio was not rare, too ( $n = 17$ ). Additionally, nine studies recruited an almost equal number of males and females. Gender analysis in different regions revealed similar numbers of female-dominated and male-dominated samples in Western and Asian-Pacific countries, as it was expected. Participants' gender is an important factor in work-family literature due to the societal perception that women are primarily responsible for household duties and family care (e.g., Cerrato & Cifre, 2018). Furthermore, studies report that women experience higher levels of work-family interference compared to men (Cerrato & Cifre, 2018; Zurlo et al., 2020). Unfortunately, only one study (Straub et al., 2017) examined the effect of gender on the relationship between WE and WFE, and only one study analyzed the relationship in both male and female samples (Bakker et al., 2014). Finally, the meta-analysis revealed that gender did not moderate the relationship between WE and WFE. Future studies should pay more attention to the possible gender differences when analyzing WFE and the relationship between WE and WFE.

Although more studies were conducted in Asian-Pacific countries ( $n = 21$ ) compared to Western countries ( $n = 20$ ), the difference in numbers is non-significantly higher. However, the number of studies conducted in Africa was significantly lower ( $n = 5$ ). The analysis also revealed a lack of cross-cultural studies. Therefore, it is encouraged to conduct (cross-) cultural studies to assess the impact of national culture on work-family interaction, such as the influence of the tightness-looseness dimension (which measures the overall strength of social norms and tolerance of deviance, as developed by Gelfand et al., 2006) or other factors (see Ollo-López & Goñi-Legaz, 2017). Moreover, future analyses should pay more attention to different world regions, considering that this study combined Asian and Pacific countries into one group. Meta-analysis was used to examine the moderation effect of the region of study origin, revealing that this factor did not moderate the relationship between WE and WFE. Meanwhile, meta-analysis indicated that age moderates the relationship between WE and WFE or WE and FWE, suggesting a stronger relationship for younger individuals. However, the moderation effect was very low (.02). The wide range of the mean age of participants suggests that study findings can be generalized to a wider population of employees. However, it is still recommended for future studies to pay closer attention to the age effect on work-family interaction (e.g., Yuan et al., 2022) and the relationship between WFE/FWE and WE. Besides, considering that society is aging, knowledge about elderly samples becomes even more relevant.

The systematic review revealed that the cross-sectional research design was the most used approach ( $n = 30$ ) to assess the relationship between WE and WFE. However, 13 studies employed a longitudinal research design, which could be considered as more valuable for explaining changes or developments that occurred within the study subjects over time or understanding reciprocal relationships between WE and WFE. In longitudinal studies, the scores of WE or WFE were often used to predict outcomes at different time points (Babic et al., 2019b; Clark et al., 2014; Daniel & Sonnentag, 2014; Hakanen et al., 2011; Hakanen & Peeters, 2015; Karatepe & Demir, 2014; Kim & Beehr, 2022; Siu & Ng, 2021; ten Brummelhuis et al., 2014; Timms et al., 2015), while few studies measured WE and WFE (or FWE) using only one-time measures (Bakker et al., 2014; Qing & Zhou, 2017; Siu et al., 2010). Researchers are encouraged to employ longitudinal research designs to understand the dynamics of WFE and WE better. The analyzed research papers can serve as good examples of how to conduct this type of research. Additionally, ten Brummelhuis et al. (2014) conducted the only study testing longitudinal crossover effects, where the leader's WFE was used to predict followers' WE. Researchers are encouraged to explore the crossover effect in organizational settings, which could provide better insights into how leaders' characteristics are related to followers' WE and/or WFE (e.g., Bakker, 2022), as previous studies have already confirmed crossover effects among family members (e.g., Carlson et al., 2019; Liu et al., 2016; van Stenbergen et al., 2014).

Additionally, three studies (Culbertson et al., 2012; Haar et al., 2018; Sanz-Vargel et al., 2010) employed daily diary method. Diary studies are argued to be useful for collecting data when analyzing constructs that change rapidly, such as motivation, attitudes, and behavior, in or close to real time (Lischetzke, 2014). This approach is particularly beneficial considering that both WE and WFE are related to employees' emotions, which tend to change quickly. The nature of WE and WFE suggests that diary studies can be valuable for understanding the relationship between WFE and WE better. As stated by Clark et al. (2014), the main principle of the WFE and WE relationship is based on the idea that engaged employees experience more positive emotions (e.g., happiness, joviality) that transfer into other life domains, such as home and family. Liu et al. (2016) emphasize that positive emotions can help individuals build physical, intellectual, psychological, and social resources that benefit themselves and other members of the social system they are in. According to the Broaden-and-Build theory (Bakker & Leiter, 2010; Fredrickson, 2001; Tang et al., 2016), positive emotions/moods broaden one's awareness and cognitive flexibility, creativity, attention, and efficiency, thereby enhancing the ability to perceive a wider range of possibilities. Additionally, Greenhaus and Powell (2006) propose an enrichment path known as the affective path, where positive emotions are transferred from one domain to another through a mechanism called spillover. Considering the Work-family enrichment theory (Greenhaus & Powell, 2006), Broaden-and-build theory (Fredrickson, 2001), and the spillover mechanism, it would be appropriate to assume that positive emotions/mood serve as important

personal resources that link WE and WFE together (Culbertson et al., 2012; Daniel & Sonnentag, 2014; Edwards & Rothbard, 2000; Rastogi & Chaudhary, 2018). However, further studies are needed to examine the relationship between different dimensions/components of WE and WFE, rather than solely relying on general scores as is mostly done, with particular emphasis on the affective dimension of WFE.

The results revealed that in 14 studies, WE was considered as an antecedent of WFE, while only 10 studies suggested the contrary. Additionally, four studies presented WE as an antecedent of both WFE and FWE. These findings suggest that work, and attributes related to work such as WE, are more often presented in studies as having a greater impact on family affairs compared to the influence of family on work. According to the COR theory, individuals seek to acquire and maintain necessary resources, and the loss of resources has a negative psychological impact (Cho & Chen, 2018; Hobfoll, 1989; Lingard et al., 2010; Marais et al., 2014; Moazami-Goodarzi et al., 2015; Talukder, 2019; ten Brummelhuis & Bakker, 2012; van Steenbergen et al., 2014). WE can be considered as a positive attitude towards one's job, generating various resources such as positive emotions, skills, and new behaviors that can be transferred. Meanwhile, WFE describes how resources are transferred from work to home, suggesting that WE initiates the relationship by "igniting" the mechanism of resource transfer.

Meanwhile, 10 papers presented WFE, five studies presented FWE, and eight papers presented both WFE and FWE as predictors of WE, suggesting that WE is an outcome of WFE/FWE. As authors have stated, individuals are more willing to engage in work after experiencing WFE due to a positive attitude towards work, which in turn helps them to be better family members (Koekemoer et al., 2020; Qing & Zhou, 2017; Timms et al., 2015). The COR theory also supports the idea of reciprocal effects between resources (Hobfoll, 1989). For example, work-related positive emotions (associated with higher WE) may lead to better relationships with significant others at home (higher WFE), which can then further enhance WE (Babic, Stinglhamber, Bertrand, & Hansez, 2019; Cates et al., 2010; Hakanen et al., 2011; Hakanen & Peeters, 2015; Henry & Desmette, 2018; Karatepe & Demir, 2014). In general, individuals are motivated to transfer resources from one domain to another because this transfer helps to improve psychological functioning and acquire additional resources (Carlson et al., 2015; Lingard et al., 2010; Liu et al., 2016; Marais et al., 2014; ten Brummelhuis & Bakker, 2012). It could be suggested that the reciprocal relationship between WFE/FWE and WE, as presented by Babic, Stinglhamber, Bertrand, and Hansez (2019), Hakanen et al. (2011), and Hakanen & Peeters (2015), provides a better understanding of the nature of this relationship. However, only three studies confirmed this reciprocal relationship.

In general, the systematic review revealed that the relationship between WE and WFE or FWE was positive and ranged from weak to medium, as indicated by correlation coefficients. The meta-analysis further confirmed a moderate positive relationship between WE and both WFE and FWE. Most of the studies presented the

relationship between the general scores of WFE (or FWE) and WE. Only a few studies (Babic et al., 2020; Carvalho & Chambel, 2018; Hakanen et al., 2011; Hakanen & Peeters, 2015; Klerk et al., 2015; Mostert et al., 2006; Straub et al., 2017; Timms et al., 2015) examined the relationship between the separate components of WFE (or FWE) and/or WE. However, considering that both WFE and WE are multidimensional constructs, future research is encouraged to conduct more in-depth factorial analyses. The main limitation of the meta-analysis is the use of general scores for WE and WFE, which restricts the ability to identify the relationship between specific factors and may lead to less informative findings.

The systematic literature review revealed that only 11 studies analyzed the mediation/moderation effects on the relationship between WE and WFE or FWE. Firstly, it was found that more work resources such as job autonomy, competence, relatedness, and support (Haar et al., 2018) and home-related emotions such as home joviality and home anger (Clark et al., 2014) mediated the relationship between WE and FWE. Secondly, positive (Daniel & Sonnentag, 2014; Kim & Beehr, 2022) and negative work-reflection (Kim & Beehr, 2022), work role resource gain (Chen & Powell, 2012), positive affect at work/home (Culbertson et al., 2012; Daniel & Sonnentag, 2014), self-assurance (Clark et al., 2014), work anxiety (Clark et al., 2014), perceptions of remaining opportunities for occupational future (Henry & Desmette, 2018), and subjective career success (Koekemoer et al., 2020) mediated the relationship between WE and WFE. Finally, the analysis revealed that talking about positive things that happened at work (the higher the propensity to talk about positive work events, the stronger the relationship; Culbertson et al., 2012), the gender and control over boundary permeability of respondents (under conditions of low control over boundary permeability the relationship was stronger for men than for women; Straub et al., 2017) moderated the relationship between WE and WFE, only self-efficacy moderated the relationship between WE and FWE (the higher the self-efficacy, the stronger the relationship; Gopalan et al., 2022). Overall, these findings confirmed the previous suggestions regarding the importance of positive emotions or experiences as resources in the relationship between WE and WFE. Researchers are recommended to consider positive emotions and positive work reflection as key components between WE and WFE. Furthermore, researchers are encouraged to test additional constructs as potential mediators/moderators that may affect the WE-WFE relationship and to validate previous findings.

This systematic literature review suggests a few practical implications and prospects for future research. Organizations that aim to enhance the well-being of their employees should invest more in promoting WE and work-family balance, as this can contribute to increased WE (Sanz-Vergel & Rodríguez-Muñoz, 2013). However, it is important to recognize the potential negative aspects of WE in the context of work-family interaction. As found by Halbesleben et al. (2011), WE can also be positively related to work-family conflict through increased organizational citizenship behavior. Highly engaged employees may be more motivated to assist their colleagues and take on additional tasks, which can create interference between



work and private/family life. Therefore, while interventions focused on enhancing WE can be beneficial, practitioners should also be aware of the potential negative consequences. Future research should explore these complexities further and examine strategies and interventions that not only promote positive aspects of WFE and WE but also mitigate the potential negative effects. Understanding the balance between fostering employee engagement and managing work-family dynamics is crucial for organizations to create a supportive and healthy work environment.

Finally, it is important to emphasize the bias of any systematic review. Articles published only with statistically significant results were found and included in the analysis that could affect the results presented in this study. Any grey literature, unpublished studies, or non-English/non-Lithuanian publications were not included, and this could affect the final results of meta-analysis. Also, future studies should pay more attention to FWE as it was explored less.

## **Conclusions**

The relationship between WE and WFE still lacks clear understanding. This systematic literature review, confirmed by meta-analysis, revealed that there was a positive relationship between WE and WFE, and WE and FWE. However, the directionality of the relationship is still related to ambiguous results. Review also suggested that higher level of resources, especially positive emotions/mood, was one of the main factors linking WE and WFE together. This finding is consistent with the Broaden-and-build theory, as well as the Work-family enrichment theory and the spillover mechanism. Nevertheless, further studies are needed to gain better understanding of the relationship between different components of WE and WFE, as well as to explain the reciprocal relationship, and to test more constructs as mediators/moderators.

## **Availability of Data**

The data that support the findings of this study are openly available in Open Science Framework at <https://osf.io/u7e3q>

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Note. \* = Studies that were included into systematic literature review and meta-analysis

## **Odnos između radnoga angažmana i radno-obiteljskoga obogaćivanja: sustavni pregled i metaanaliza**

### Sažetak

Cilj je ovoga istraživanja dati sustavan pregled i analizu odnosa radnoga angažmana i poslovno-obiteljskoga obogaćivanja. Rad se fokusira na dva aspekta: empirijski smjer odnosa te ispitivanje medijatora i moderatora toga odnosa. Primijenjen je postupak sustavnoga pregleda literature da bi se pretražili radovi u četirima bazama podataka. U analizu je uključeno četrdeset i šest studija. Sustavan pregled literature pokazao je da se radni angažman češće smatra prediktorom poslovno-obiteljskoga obogaćivanja nego obrnuto. Međutim, samo je nekoliko istraživanja analiziralo i pronašlo dokaze o dvosmjernome odnosu. Dodatno, samo je 11 istraživanja ispitivalo konstrukte koji posreduju u tome odnosu ili ga moderiraju. Da bi se rezultati saželi, za metaanalitičko je istraživanje korišten model slučajnih učinaka. Rezultati metaanalize ukazuju na umjerenu pozitivnu povezanost radnoga angažmana i poslovno-obiteljskoga obogaćivanja, kao i radnoga angažmana i obiteljsko-poslovnoga obogaćivanja. Nadalje, rezultati su pokazali da dob, spol i regija u kojoj je istraživanje provedeno nisu moderirali te odnose. Ti nalazi upućuju na to da bi stručnjaci za ljudske resurse trebali razmisliti o većemu ulaganju u promicanje poslovno-obiteljskoga obogaćivanja, što bi zauzvrat moglo povećati radni angažman zaposlenika, i obrnuto, s obzirom na recipročnu prirodu odnosa. Važno je napomenuti da je glavno ograničenje ovoga pregleda literature korištenje samo općih rezultata na skalama radnoga angažmana i poslovno-obiteljskoga obogaćivanja.

*Ključne riječi:* poslovno-obiteljsko obogaćivanje, obiteljsko-poslovno obogaćivanje, radni angažman, sustavan pregled literature, metaanaliza

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Author(s)	Sample; country	Research design; instruments	Relationship direction <sup>a</sup>	Main results	Mediator/Moderator
Carvalho & Chabel (2018)	175 (89% male); Portugal	Cross-sectional study; WFE scale (Carlson et al., 2006); 6-item Utrecht WE scale (Schaufeli et al., 2006)	WFE → WE	WFE → WE Vigor: $r = .45$ WFE → WE Dedication: $r = .48$ $\beta$ (WFE → WE) = .40	None
Cates et al. (2010)	268 (26% male); USA	Cross-sectional study; Work–family positive spillover scale (Hanson et al., 2006); Job engagement scale (Rich, 2006)	WE → WFE	$r = .40$ ; $\beta = .35$	None
Chen & Powell (2012)	1052 (50% male); mean age = 31.0; China	Cross-sectional study; Work–family positive spillover scale (Hanson et al., 2006)	WE → WFE	$r = .52$ ; $\beta = .58$	Work role resource gain mediated the relationship between WE and WFE.
Clark et al. (2014)	340 (37% male); mean age = 46.0 ( $SD = 10.4$ ); USA	Longitudinal (2-wave survey; used to predict scores from different time measures); WFE and FWE scales (Grzywacz & Marks, 2000); 9-item Utrecht WE scale (Schaufeli et al., 2006)	WE → WFE WE → FWE	$r = .48$ ; $\beta = .24$ $r = .30$ ; $\beta = .01$ (ns)	Self-assurance and work anxiety mediated the relationship between WE and WFE. Home joviality and home anger mediated the relationship between WE and FWE.
Culbertson et al. (2012)	52 (38% male); mean age = 43.2 ( $SD = 12.0$ ); USA	Daily diary study; Work–family facilitation scale (Wayne et al., 2004); 9-item Utrecht WE scale (Schaufeli et al., 2006)	WE → WFE	$r = .44$ ; $\gamma = .19$	Talking about good things that happened at work moderates the relationship between WE and WFE. Positive affect at work/home mediated the relationship between WE and WFE.
Daniel & Sonnentag (2014)	256 (49% male); mean age = 43.6 ( $SD = 12.2$ ); Germany	Longitudinal (2-wave survey; used to predict scores from different time measures); Work–life enrichment (Fisher et al., 2009); 9-item Utrecht WE scale (Schaufeli et al., 2006)	WE → WFE <sup>1</sup>	$r = .52$ ; -	Positive affect and positive work reflection mediated the relationship between WE and WFE.

Author(s)	Sample; country	Research design; instruments	Relationship direction <sup>a</sup>	Main results	Mediation/Moderator
Ebrahimi (2021)	107 (60% male); Iran	Cross-sectional study; WFE and FWE scales (Carlson et al., 2006); Job involvement scale (Kunango, 1982)	WFE → WE FWE → WE	-; $\beta = .88$ -; $\beta = .25$	None
Gillet et al. (2021)	432 (45% male); mean age = 40.0 ( $SD = 10.4$ ); UK and USA	Cross-sectional study; Short WFE and FWE scales (Kacmar et al., 2014); 3-item Utrecht WE scale (Schaufeli et al., 2019)	WFE → WE FWE → WE	$r = .68$ ; $\beta = .63$ $r = .35$ ; $\beta = .06$ (ns)	None
Gopalan et al. (2022)	478 (37% male); mean age = 32; India	Cross-sectional study; Short FWE scale (Kacmar et al., 2014); 9-item WE scale (Rothbard, 2001)	FWE → WE	$r = .22$ ; $\beta = .63$	Self-efficacy moderated the relationship between FWE and WE.
Haar et al. (2018)	131 (56% male); mean age = 39.8 ( $SD = 12.1$ ); New Zealand	Daily diary study; WFE and FWE scales (Carlson et al., 2006); 9-item Utrecht WE scale (Schaufeli et al., 2001)	FWE → WE WE → WFE	$r = .27$ ; $\beta = .27$ $r = .35$ ; $\beta = .41$	Job autonomy, competence, and relatedness, and support mediated the relationship between FWE and WE.
Hakanen et al. (2011)	1632 (28% male); mean age = 44.9 ( $SD = 8.6$ ); Finland	Longitudinal (2-wave survey; used to predict scores from different time measures); WFE scale (Grzywacz & Marks, 2000); 17-item Utrecht WE scale (Schaufeli et al., 2006)	WFE → WE WE → WFE	Respectively T1/T2: WFE → WE Vigor: $r = .18$ /.32; $\beta = .35$ /.18 WFE → WE Dedication: $r = .27$ /.39; $\beta = .17$ /.16 WFE → WE Absorption: $r = .27$ /.30; $\beta = .21$ /.12 WE (T1) predicting WFE (T2) $-\beta = .14$ /.14 (respectively for women and men) WFE (T1) predicting WE (T2) $-\beta = .06$ /.05 (respectively for women and men)	None

Author(s)	Sample; country	Research design; instruments	Relationship direction <sup>a</sup>	Main results	Mediation/Moderator
Hakanen & Peeters (2015)	1580; mean age = 44.41 ( <i>SD</i> = 7.9); Finland	Longitudinal (3-wave survey; used to predict scores from different time measures); Work-family enrichment (Grzywacz & Marks, 2000); 17-item Utrecht WE scale (Schaufeli et al., 2006)	WE → WE WE → WFE	Respectively T1/T2/T3: WFE → WE Vigor: $r = .22/.29/.29$ ; WFE → WE Dedication: $r = .27/.32/.33$ ; WFE → WE Absorption: $r = .19/.25/.26$ WE (T1) predicting WFE (T2) $-\beta = .10$ WE (T2) predicting WFE(T3) $-\beta = .07$ WFE (T1) predicting WE(T2) $-\beta = .05$ WFE (T2) predicting WE(T3) $-\beta = .06$	None
Henry & Desmette (2018)	263 (30% male); mean age = 47.0 ( <i>SD</i> = 9.2); Belgium	Cross-sectional study; Work-family and Family-work facilitation scales (Geurts et al., 2005); 9-item Utrecht WE scale (Schaufeli et al., 2006)	WFE → WE FWE → WE	$r = .35$ ; $\gamma = .19$ $r = .30$ ; -	Perceptions of remaining opportunities for occupational future mediated the relationship between WFE and WE.
Karatepe & Demir (2014)	211 (63% male); Turkey	Longitudinal (2-wave survey; used to predict scores from different time measures); Work-family facilitation and Family-work facilitation scales (Grzywacz & Marks, 2000); 9-item Utrecht WE scale (Schaufeli et al., 2006)	WE → WFE WE → FWE	$r = .16$ ; $\beta = .20$ $r = .17$ ; $\beta = .18$	None
Kashyap & Arora (2020)	280 (62% male); mean age = 33; India	Cross-sectional study; WFE scale (Carlson et al., 2006)	WE → WFE	$r = .65$ ; $\beta = .22$	None
Kim & Beehr (2022)	274 (54% male); mean age = 40.08 ( <i>SD</i> = 10.9); USA	Longitudinal (3-wave survey; used to predict scores from different time measures); Work-family positive spillover scale (Hanson et al., 2006); 9-item Utrecht WE scale (Schaufeli et al., 2006)	WE → WFE	$r = .19$ ; $\beta = .03$ (ns)	Positive and negative work-reflection mediated the relationship between WE and WFE.

Author(s)	Sample; country	Research design; instruments	Relationship direction <sup>a</sup>	Main results	Mediator/Moderator
Kimber & Gardner (2016)	182 (2% male); New Zealand	Cross-sectional study; WFE and FWE scales (Carlson et al., 2006) 9-item Utrecht WE scale (Schaufeli et al., 2006)	WFE → WE FWE → WE	$r = .63$ ; $\beta = .57$ $r = .12$ (ns); $\beta = .09$ (ns)	None
Klerk et al. (2015)	627 (33% male); South Africa	Cross-sectional study; The MACE WFE instrument (De Klerk et al., 2013); 8-item Utrecht WE scale (Schaufeli et al., 2002)	WFE → WE	WFE Perspectives → WE Vigor: $r = .30$ ; $\beta = .02$ (ns) WFE Perspectives → WE Dedication: $r = .40$ ; $\beta = .13$ WFE Affect → WE Vigor: $r = .39$ ; $\beta = .19$ WFE Affect → WE Dedication: $r = .48$ ; $\beta = .26$ WFE Time management → WE Vigor: $r = .29$ ; $\beta = .03$ (ns) WFE Time management → WE Dedication: $r = .30$ ; $\beta = -.02$ (ns) WFE Socio-capital → WE Vigor: $r = .26$ ; $\beta = -.04$ (ns) WFE Socio-capital → WE Dedication: $r = .27$ ; $\beta = -.09$ (ns) $r = .42$ ; $\beta = .27$	None
Koekemoer et al. (2020)	334 (49% male); South Africa	Cross-sectional study; The MACE WFE instrument (De Klerk et al., 2013); 9-item Utrecht WE scale (Schaufeli et al., 2002)	WFE → WE		Subjective career success mediated the relationship between WFE and WE.
Li et al. (2022)	446 (13% male); China	Cross-sectional study; WFE scale (Carlson et al., 2006); 9-item Utrecht WE scale (Schaufeli et al., 2006)	WFE → WE	-; $\beta = 0.59$	None
Marais et al. (2014)	420 (0% male); South Africa	Cross-sectional study; The MACE WFE instrument (De Klerk et al., 2013); 11-item Utrecht WE scale (Schaufeli et al., 2002)	WE → WFE WE → FWE	$r = .49$ ; $\beta = .54^d$ $r = .25$ ; $\beta = .44$	None



Author(s)	Sample; country	Research design; instruments	Relationship direction <sup>a</sup>	Main results	Mediation/Moderator
Mostert (2006)	468 (58% male); mean age = 37.0 ( <i>SD</i> = 7.13); South Africa	Cross-sectional study; Work-home interaction-Nijmegen (Geurts et al., 2005); 9-item Utrecht WE scale (Schaufeli & Bakker, 2001)	WFE → WE	WFE → WE Vigor $r = .52$ WFE → WE Dedication $r = .50$ $\beta$ (WFE – WE) = .45	None
Peeters et al. (2009)	516 (70% male); The Netherlands	Cross-sectional study; WFE scale (Grzywacz & Marks, 2000); 6-item Utrecht WE scale (Schaufeli et al., 2006)	WFE → WE	$r = .27$ ; $\beta = .22$	None
Presti et al. (2016)	370 (83% male); mean age = 41.6 ( <i>SD</i> = 7.0); Italy	Cross-sectional study; FWE scale (Carlson et al., 2006); 9-item Utrecht WE scale (Schaufeli et al., 2002)	FWE → WE	$r = .41$ ; $\beta = .28$	None
Qing & Zhou (2017)	268 (60% male); mean age = 35.0 ( <i>SD</i> = 6.3); China	Longitudinal (2-wave survey); WFE and FWE scales (Carlson et al., 2006); 9-item Utrecht WE scale (Schaufeli et al., 2002)	WFE → WE FWE → WE	$r = .50$ ; $\beta = .44$ $r = .41$ ; $\beta = .14$	None
Qiu (2017a)	138 (47% male); China	Cross-sectional study; WFE scale (Tang et al., 2007); 6-item WE scale (Schaufeli et al., 2006)	WE → WFE	$r = .29$ ; $\beta = .38$	None
Qiu (2017b)	138 (47% male); China	Cross-sectional study; WFE scale (Grzywacz & Bass, 2003); 4-item WE scale (Schaufeli et al., 2006)	WE → WFE	$r = .39$ ; $\beta = .29$	None
Rastogi & Chaudhary (2018)	496 (67% male); India	Cross-sectional study; WFE scale (Carlson et al., 2006); 17-item Utrecht WE scale (Schaufeli et al., 2006)	WE → WFE	$r = .18$ ; $\beta = .55$	None
Rastogi & Saikia (2019)	133 (2% male); India	Cross-sectional study; Short FWE scale (Kaemar et al., 2014); 9-item WE scale (Schaufeli et al., 2002)	FWE → WE	$r = .29$ ; $\beta = .28$	None
Rastogi & Karatepe (2022)	290 (67% male); India	Cross-sectional study; Short WFE scale (Kaemar et al., 2014); 17-item Utrecht WE scale (Schaufeli et al., 2006)	WE → WFE	$r = .29$ ; $\beta = .24$	None
Saleem et al. (2022)	126 (42% male); mean age = 32.8 ( <i>SD</i> = 5.6); Pakistan	Cross-sectional study; WFE scale (Carlson et al., 2006); 9-item Utrecht WE scale (Schaufeli & Bakker, 2003)	WFE → WE	$r = .17$ (ns); -	Family engagement (not tested, but presented in model).

Author(s)	Sample; country	Research design; instruments	Relationship direction <sup>a</sup>	Main results	Mediator/Moderator
Sanz-Vangel et al. (2010)	49 (39% male); mean age = 31.98 ( <i>SD</i> = 5.6); USA	Daily diary study; Work-family facilitation scale (Geurts et al., 2005); Vigor and exhaustion subscale from Utrecht WE scale (Schaufeli et al., 2002)	Not specified	WE → WE Vigor: $r = .31$ ; - WE → WE Exhaustion: $r = -.10$ (ns)	None
Siu & Ng (2021)	233 (36% male); China	Longitudinal (2-wave survey; used to predict scores from different time measures); FEW scale (Carlson et al., 2006); 9-item WE scale (Schaufeli et al., 2006)	FWE → WE	Respectively T1/T2: $r = .42/.37$ ; FWE (T1) predicting WE (T2) $-\beta = .19$	None
Siu et al. (2010)	786 (13% male); mean age = 25.0, ( <i>SD</i> = 6.0); China	Longitudinal (2-wave survey); WE and FWE scales (Carlson et al., 2006); 17-item Utrecht WE scale (Schaufeli & Bakker, 2010)	WE → WFE WE → FWE	$r = .31$ ; $\beta = .22$ $r = .47$ ; $\beta = .22$	None
Sprung & Jex (2017)	217 <sup>b</sup> (100% male); mean age = 52.6 ( <i>SD</i> = 11.68); USA	Cross-sectional study; WFE scale (Carlson et al., 2006); 9-item Utrecht WE scale (Schaufeli et al., 2006)	WE → WFE	$r = .39$ ; -	None
Straub et al. (2017)	424 (67% male); mean age = 39.7; Germany	Cross-sectional study; Work-family positive spillover scale (Hanson et al., 2006); 17-item Utrecht WE scale (Schaufeli et al., 2002)	WE → WFE	WE → Positive spillover affective $r = -.01$ (ns); - WE → Positive spillover instrumental $r = .18$ ; $\beta = .40$	Gender and control over boundary permeability moderated the relationship between WE and WFE.
ten Brummelhuis et al. (2014)	199 leaders (53% male) and 456 followers (34% male); New Zealand	Longitudinal (2-wave survey; used to predict scores from different time measures); FWE scale (Carlson et al., 2006); 17-item Utrecht WE scale (Schaufeli et al., 2001)	FWE (leaders) → WE (followers)	Leaders: $r = .34$ ; $\beta = .09$ ; leaders FWE on followers WE: $r = .11$ ; $\beta = -.01$ (ns)	Leader WE mediated the relationship between leader FWE and follower WE.

Author(s)	Sample; country	Research design; instruments	Relationship direction <sup>a</sup>	Main results	Mediation/Moderator
Timms et al. (2015)	470 (23% male); mean age = 44.7 ( <i>SD</i> = 9.2); Australia	Longitudinal (2-wave survey; used to predict scores from different time measures); WFE and FWE scales (Carlson et al., 2006); 9-item Utrecht WE scale (Schaufeli & Bakker, 2003)	WFE → WE FWE → WE	<p>Respectively T1/T2:                      WFE Affect → WE Vigor:  <math>r = .54/.55</math>; <math>\beta = .35/.18</math>                      WFE Affect → WE Dedication:  <math>r = .50/.51</math>;  <math>\beta = .17/.16</math>                      WFE Affect → WE                      Absorption: <math>r = .36/.38</math>;  <math>\beta = .21/.12</math>                      WFE Capital → WE Vigor:  <math>r = .50/.56</math>; <math>\beta = .27/-.04</math> (ns)                      WFE Capital → WE                      Dedication: <math>r = .55/.59</math>;  <math>\beta = .39/.01</math> (ns)                      WFE Capital → WE                      Absorption: <math>r = .35/.47</math>;  <math>\beta = .19/.05</math> (ns)                      WFE Development → WE                      Vigor: <math>r = .28/.41</math>; <math>\beta = .03</math>                      (ns)/.06 (ns)                      WFE Development → WE                      Dedication: <math>r = .34/.44</math>;  <math>\beta = .04</math> (ns)/.07 (ns)                      WFE Development → WE                      Absorption: <math>r = .22/.35</math>;  <math>\beta = .00</math> (ns)/.05 (ns)                      FWE Affect → WE Vigor:  <math>r = .13/.27</math>; <math>\beta = -.03</math> (ns)/.07 (ns)                      FWE Affect → WE Dedication:  <math>r = .14/.20</math>;  <math>\beta = -.04</math> (ns)/-.02 (ns)                      FWE Affect → WE                      Absorption: <math>r = .01</math> (ns)/.16;  <math>\beta = -.15/.01</math> (ns)                      FWE Development → WE                      Vigor: <math>r = .17/.30</math>;  <math>\beta = -.03</math> (ns)/-.01 (ns)</p>	None

Author(s)	Sample; country	Research design; instruments	Relationship direction <sup>a</sup>	Main results	Mediation/Moderator
Wiese & Salmela-Aro (2008)	131 (47% male); mean age 43.52 ( <i>SD</i> = 11.1); Germany	Cross-sectional study; Work-to-family goal facilitation and family-to-work goal facilitation scales (developed by authors) 9-item Utrecht WE scale (Schaufeli et al., 2006)	WFE → WE FWE → WE	FWE Development → WE Dedication: $r = .21/.33$ ; $\beta = .04$ (ns)/-.03 (ns) FWE Development → WE Absorption: $r = .16/.27$ ; $\beta = .12/-.05$ (ns) FWE Efficiency → WE Vigor: $r = .22/.31$ ; $\beta = .08$ (ns)/.02 (ns) FWE Efficiency → WE Dedication: $r = .25/.30$ ; $\beta = .07$ (ns)/.05 (ns) FWE Efficiency → WE Absorption: $r = .17/.24$ ; $\beta = .05$ (ns)/.06 (ns) $r = .05$ (ns); $\beta = -.06$ (ns) $r = .24$ ; $\beta = .31$	None
Wu et al. (2020)	459 (30% male); mean age = 37.07; Taiwan	Cross-sectional study; WFE scale (Carlson et al., 2006); 9-item Utrecht WE scale (Schaufeli et al., 2006)	WE → WFE	$r = .53$ ; $\beta = .52$	None

Note.  $r$  = Pearson coefficient;  $\beta$  = standardized beta coefficient;  $B$  = unstandardized beta coefficient;  $\gamma$  = gamma coefficient.

<sup>a</sup> Relationship direction (from WE to WFE or from WFE to WE) was decided based on given models, hypothesis or presented results by the authors.

<sup>b</sup> The sample in the study was 217 couples, however, only results of husbands were extracted, because relationship between WE–WFE in female samples was not presented.

<sup>c</sup> Given statistics represents the results of the same time-measure (e.g., T1–T1, T2–T2).

<sup>d</sup> Although article presented Pearson correlation coefficients between WE and WFE factors, table presents only scores of general relationship between WE and WFE, because paper presents regression coefficients only for general relationship of WE and WFE.

<sup>e</sup> Although research was longitudinal, WE and WFE were measured only one time.

<sup>f</sup> Researchers analyzed broader construct – work-life enrichment.