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## Work–Family Enrichment and Work-Family Boundaries: A Scoping Review

**Abstract:** The aim of this study is to systematically summarize and analyze the relationship between work-family enrichment and work-family boundaries. A scoping review procedure was applied to search and review articles in four databases. 31 papers (36 studies) were included. The results revealed that, more often, work-family enrichment and work-family boundaries are not related statistically significantly. However, work-family boundaries act as both a moderator and/or mediator in the relationship between work-family enrichment and other variables. Recommendations for future research and practice are discussed.

**Keywords:** *work-family enrichment; work-family boundaries; work-family integration; work-family segmentation; scoping review*

### INTRODUCTION

Being simultaneously successful at work and at home seems like a dream. Both researchers and practitioners emphasize that the inability to manage work and family is a big burden among working adults that can lead to various negative outcomes. The inability to deal with responsibilities at work and in the family, usually referred to as a work-family conflict, is associated with bigger health problems among employees, lower family and job satisfaction, less productivity, and more (see Amstad et al., 2011). Work-family conflict occurs when demands from one domain (e.g., work) drain resources out from the other domain (e.g., family) and a person feels stressed, anxious, and dissatisfied with the situation (Carlson et al., 2000). However, active participation in work and family life altogether can be enriching.

Work-family enrichment refers to a process during which participation in one life domain (e.g., work) can help to gain resources that are transferred to another domain (e.g., family) and increase the quality of life in it (Greenhaus & Powell, 2006; ten Brummelhuis & Bakker, 2012). In other words, work-family enrichment describes

how participation in different social roles can be beneficial for other social roles by transferring various resources from one to another. For example, participating in family life can provide social support (as a resource) that can be used at work to deal with work-related stress (demands at work). As well as work-family conflict, work-family enrichment is bidirectional, meaning that work can positively affect family (work-to-family relationship), and family can positively affect work (family-to-work relationship)<sup>1</sup>. Finally, in the field of work-family interaction, various terms such as work-family spillover, work-family enhancement, and work-family facilitation are used (Crain et al., 2013). Studies have shown that all the mentioned terms define different but related concepts; however, in this paper, the general term work-family enrichment will be used, as being the most popular and often used as an umbrella term (Crain et al., 2013; Lapiere et al., 2016; McNall et al., 2010).

Studies have revealed that higher work-family enrichment is associated with greater work engagement, stronger organizational commitment, greater life satisfaction, better health of employees, and more (McNall et al., 2010). According to Carlson et al. (2006), work-family



enrichment is a multidimensional construct consisting of three dimensions: development, affect, and capital. The development dimension refers to resource transfer such as skills, knowledge, behaviors, and perspective; affect dimension refers to a positive emotional state or attitudes gained at work/home that are transferred, and capital refers to the promotion of personal resources such as self-esteem, confidence, and security (Carlson et al., 2006). Empirical studies have found that one of the key factors for work–family enrichment to occur is a higher level of resources, e.g., autonomy, social support from a leader or colleagues, or developmental opportunities (Greenhaus & Powell, 2006; Lapierre et al., 2017). However, even with the highest levels of contextual resources, a person can choose not to transfer them from one life domain to another, or there might be some boundaries that may interfere. As a cross-sectional study by Vadvilavičius & Stelmokienė (2024a) has revealed, there is a direct and indirect relationship between work resources and the fulfillment of family demands. As the authors discuss, work resources can affect family demands directly and indirectly, meaning that a person and various psychological factors, like personality traits, values, boundaries, can affect the work–family enrichment process.

The role boundary refers to both psychological and physical limits people may use to divide and separate different life domains, e.g., work and family. It is suggested that people, following their own cognitive rules (or boundaries), separate or link together social systems, separate out, or allow the transfer of resources (Ashforth et al., 2000; Carlson et al., 2016; Junker et al., 2020). Ashforth et al. (2000) have stated that cognitive boundaries help people to manage and control the separation or linkages of different social systems (e.g., work and family). Two types of boundary preferences are discussed in the literature, segmentation and integration. Segmentation is the deliberate separation of work and family and the control over when and how these domains interact; integration is the blurring and loss of boundaries between work and family (Carlson et al., 2016; Daniel & Sonnentag, 2016). As Liu and Cheung (2015) have discussed, people who prefer work and family segmentation separate work and family into two distinctive domains. Meanwhile, people who prefer work and family integration mix these two domains via more flexible and permeable boundaries. However, it is important to highlight the terminological confusion in the field of work–family boundaries (see Cobb et al., 2022). This scoping review focuses on various types of boundaries, not just one, and also reviews the existing literature on boundary characteristics. Furthermore, different types of boundary characteristics are measured using various scales, items, or questionnaires, which may cause methodological confusion. This study will also briefly review existing scales for measuring work–family boundaries.

People may use various boundary management strategies, such as physical strategies (e.g., always going to work although online work is legal) or psychological strategies (e.g., avoiding thinking about family while at

work (Carlson et al., 2016; Daniel & Sonnentag, 2016; Rantanen et al., 2013). In general, the management of role boundaries refers to constant control of the transfer of resources from work to family (and vice versa) (Rantanen et al., 2013; Spieler et al., 2018). It can be suggested that everyone has these inner rules and uses various strategies to manage work and family (see Carlson et al., 2016; Kossek et al., 2023).

Studies have revealed that higher work and family integration can lead to both higher work–family conflict and higher work–family enrichment (i.e., Junker et al., 2020). It can be discussed that a higher level of integration can lead to a higher level of transfer of resources that describe the work–family enrichment process. On the meantime, the same high level of integration may lead to a higher level of transferring demands that may interfere and result in greater work–family conflict. In other words, integration of work and family may result in both negative and positive ways due to open borders for resources and demands to move. In the interim, while higher work and family segmentation may lead to less interference between work and family, it will reduce the transfer of resources from one life domain to another as well. Therefore, work–family enrichment may be achieved harder.

Analysis of role boundaries in the context of work–family interaction is important due to the lack of a theoretical explanation of work–family enrichment mechanism. Existing theories (e.g., Greenhaus & Powell, 2006, ten Brummelhuis & Bakker, 2012) focuses more on contextual factors (demands and resources) and provide a little evidence of the psychological mechanism of how enrichment occurs inside a human mind. Although theories suggest that people transfer resources from one domain to another, they barely emphasize what motivates people to do so, how do people deal with obstacles when transferring resources, etc. For example, Vadvilavičius & Stelmokienė (2024b) in their meta-analysis revealed that family-specific self-efficacy is an important predictor of work–family enrichment; however much more is unknown. It can be argued that the analysis of work–family boundaries will help to better understand the psychological mechanism of work–family enrichment. In general, it seems that although work–family boundaries are an important topic in the work–family literature, the results of this phenomenon are scattered and the nature of the relationship between work–family enrichment and work–family boundaries is still unclear.

Existing empirical evidence suggests that the variables are related, however, because of complexity of the work–home boundaries, does not clearly suggest the direction of the relationship. Clark (2000) discusses that people themselves choose to create boundaries and cross them, which may directly relate to work–family interaction. The main research question is “*What is the nature of the relationship between work–family enrichment and work–family boundaries?*”. The aim of this scoping review is to contribute to the scientific literature by examining empirical evidence on the relationship between work–family enrichment and work–family boundaries. The main

reasons to apply scoping review procedure for the main aim “are to map the extent, range, and nature of the literature, as well as to determine possible gaps in the literature on a topic” (p. 565, Mak & Thomas, 2022). This scoping review will contribute to the existing scientific literature by summarizing evidence about work-family boundaries and the revelation of how work-family enrichment and work-family boundaries are usually related. However, it is important to note that this review is limited by the lack of theoretical explanations of how work-family enrichment and boundaries are related. The results of this review may also be used for further theory development. Recommendations for future studies and practice will also be discussed.

## METHOD

Three databases were used for systematic review: EBSCO Academic Ultimate (EBSCO), ScienceDirect, and Web of Science (2024 April). Additionally, Google Scholar database was used to search for grey literature. Haddaway et al. (2015) recommends checking only the first results in Google Scholar for the search for grey literature, so the first 100 were checked, believed the first will be the most relevant. Articles information was extracted and saved in .ris file for Mendeley Reference Manager (v. 2.107.0).

Based on the similar practice of the authors in the topic and the goal of this scoping review, the key terms were identified and used, combining them: „*Work-Family Enrichment*“ OR „*Work-Family Facilitation*“ OR „*Work-Family Positive Spillover*“ OR „*Family-Work Enrichment*“ OR „*Family-Work Facilitation*“ OR „*Family-Work Positive Spillover*“ AND „*Work-Family Boundaries*“ OR „*Boundaries*“ OR „*Boundaries Management*“ OR „*Integration/Segmentation Preference*“ OR „*Permeability*“ OR „*Integration/Segmentation Enactment*“. The search procedure was applied for specific requirements of databases (e.g., ScienceDirect allowed to include only eight keywords per search). Initial search results are provided in The Open Science Framework (OSF) network (see Supplementary material).

The initial results revealed 338 papers. The search was not limited by the date of publication, sample size, population, research design, geographical collation of study, source of publishing (book, magazine), but only peer-reviewed papers were included. Inclusion criteria were: 1) a direct relationship between work-family enrichment and work-family boundaries presented; 2) paper written in English or Lithuanian language; 3) primary data presented. Exclusion criteria were as follow: duplicates, articles not in English or Lithuanian, secondary articles (meta-analysis, systematic reviews, literature reviews), articles not analyzing direct relationship between work-family enrichment and work-family boundaries. Figure 1 illustrates the flow diagram to identify the relevant studies.

At the beginning, titles and abstracts were analyzed. If a paper was included after screening title and abstract,

full text analysis was performed. Analysis was performed by the first author. To control possible bias and mistakes, removal of duplicates and exclusion of papers was performed two times with a break of one week. Four errors were made: one study was interpreted as suitable study for full-text analysis, although it was not; three studies were not included although they were suitable (based on titles and abstracts). Two papers (one working paper and one doctoral dissertation) were not available to reach and read a full text. After screening titles and abstracts, 40 papers were left. Full-text analysis revealed that 31 papers were acceptable, while nine papers did not measure the direct relationship between analyzed variables. Data was extracted manually.

Additionally, reference lists from 31 selected papers have also been scanned to look for articles that may be relevant. When scanning the titles in the reference lists, no potential articles were found, despite already included ones.

## RESULTS

### Characteristics of Studies

In total, data from 31 papers (presenting 36 studies) with 11 643 respondents (mean number of participants – 323.416; the number of participants range from 12 to 1139 participants in a study; see Table 1) were analyzed. Table 1 presents information about authors, publication years, country of study origin, sample size, research design, measures, relationship between work-family enrichment (general scores and dimensions) and work-family boundaries. Papers were published between 2007 and 2023, from whom majority ( $n = 14$ ) were published between 2015 and 2018, following period from 2019 to 2023 ( $n = 13$ ), and period from 2007 to 2012 ( $n = 4$ ). 27 papers were published in peer-reviewed journals, two – doctoral dissertations, one – master thesis, and one – working paper.

Nine studies reported almost an equal female to male ratio (45-55% of each gender in a study), 17 reported having more female participants (one even reported having 100% female participants), eight reported having more male participants, and two studies did not report gender of the participants. 14 studies included into scoping review were conducted in North America, followed by 11 studies conducted in Asia, ten in Europe, and one study conducted in Australia. However, no study included in the analysis was performed in Africa. 25 studies reported the mean age of participants which ranged from an average age of 29.5 to 48.1 years. 11 studies did not report mean age or presented only the ranges of participant’s age.

The most popular research design applied in the analyzed studies was cross-sectional research ( $n = 28$  papers), followed by seven longitudinal studies, and one qualitative study. Only three studies applied a person-centered approach to determine different people profiles (Kashive et al., 2021; Moazami-Goodarzi et al., 2015; Padhi & Pattnaik, 2016). All quantitative studies included self-reported measurements. To measure work-family

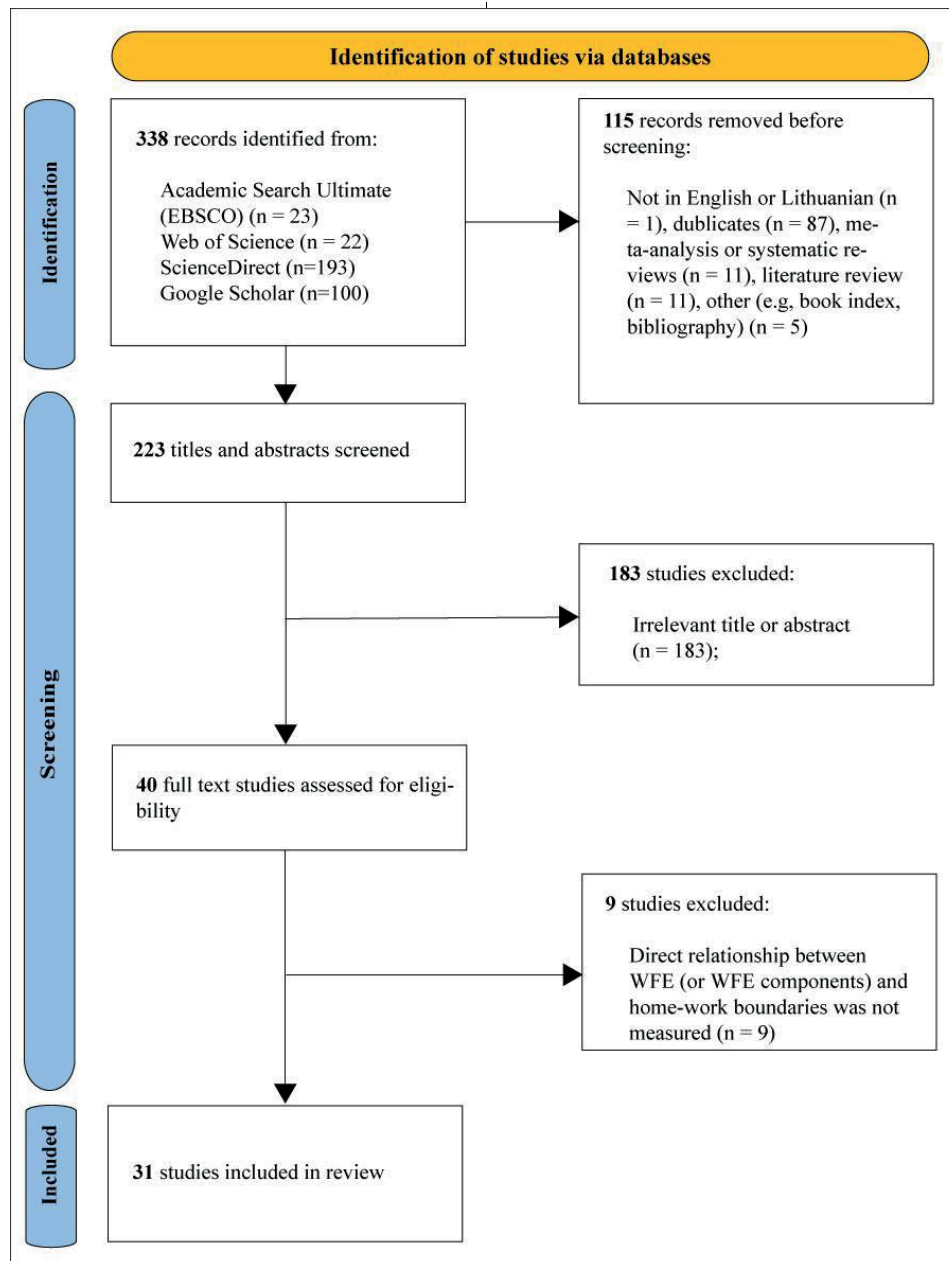


Figure 1. Flow chart

boundaries researchers used different instruments: Work-family segmentation preferences scale (Kreiner, 2001, 2006) was used 12 times; Boundary flexibility scale (Matthews & Barnes-Farrell, 2004, 2010) was used five times and revised scale was used once (Matthews et al., 2010), Boundary management strategy scale (Kossek et al., 2006) was used twice, Boundary management scale or its items (Kossek et al., 2012) was used three times, Border permeability and flexibility scale or its items (Clark, 2002) was used four times, Work–nonwork boundary strength scale (Hecht & Allen, 2009) was used three times, while other measures ( $n = 8$ ) were used only once (see Table 1). To measure work-family enrichment researchers used Work-family enrichment scale (Carlson et al., 2006) the most often ( $n = 15$ ) while the shorter version of this scale (Kacmar et al., 2014) was used twice. Other measures were Work-family spillover scale (Grzywacz

& Marks (2000);  $n = 2$ ), Positive work-family spillover scale (Hanson et al., 2006;  $n = 8$ ), Work/nonwork interference and enhancement scale (Fisher et al., 2009; Fisher, 2001;  $n = 3$ ), Work-family facilitation scale (Wayne et al., 2004;  $n = 1$ ), and Work-family enrichment scale (Wiese et al., 2010;  $n = 1$ ). For qualitative study in-depth interview was used. A short summary of instruments is provided in a Supplementary material.

### Work-family boundaries among studies

Work-family boundaries have been characterized in various ways among analyzed studies (see a Supplementary material). Most of the papers analyzed work-home flexibility ( $n = 25$ ), followed by segmentation ( $n = 16$ ). However, it has been noticed that researchers analyzed boundaries at different domains (e.g., work-flexibility vs. home-flexibility).

Table 1. Summary of identified studies

Author(s)	Paper type	Country	Sample	Research design	Measures	Main results
Argin (2019)	Master thesis	Turkey	384; 60% women; mean age = 35.6 (SD = 8.6)	Cross-sectional	Work-family segmentation preferences scale (Kreiner, 2006)	Segmentation preferences ( <i>higher score pointed out higher motivation to limit permeability</i> ) – WFE: $r = -.10$ (ns) Segmentation preferences – FWE: $r = .03$ (ns)
					Work-family spillover scale (Grzywacz & Marks, 2000)	Segmentation supplies ( <i>higher score pointed out higher perceived flexible working conditions</i> ) – WFE: $r = .08$ (ns) Segmentation supplies – FWE: $r = -.05$ (ns)
						Segmentation supplies moderated the relationship between work-family enrichment and extraversion: the relationship between work-family enrichment and extraversion was stronger among people with a higher segmentation supplies.
Bulger et al. (2007)	Peer-reviewed paper	USA	332 workers; 59% women; mean age = 44.3 (SD = 11.5)	Cross-sectional	Boundary flexibility scale (Matthews & Barnes-Farrell, 2004)	Work flexibility–ability ( <i>higher score pointed out higher perceived ability to flex the boundaries</i> ) – WPE: $r = .24$ / $\beta = .21$ (WPE dependent variable) Work flexibility–ability – PWE: $r = .13$ / $\beta = -.02$ (ns) (PWE dependent variable)
					Work/nonwork interference and enhancement scale (Fisher, 2001)	Work flexibility–willingness ( <i>higher score pointed out higher inner motivation to flex the boundaries</i> ) – WPE: $r = .04$ (ns) / $\beta = -.08$ (ns) Work flexibility–willingness – PWE: $r = .21$ / $\beta = .16$
						Work permeability – WPE: $r = .07$ (ns) / $\beta = -.01$ (ns) Work permeability – PWE: $r = .17$ / $\beta = .08$ (ns)
						Personal life flexibility–ability – WPE: $r = .09$ (ns) / $\beta = -.01$ (ns) Personal life flexibility–ability – PWE: $r = .12$ / $\beta = .08$ (ns)
						Personal life flexibility–willingness – WPE: $r = .21$ / $\beta = .21$ Personal life flexibility–willingness – PWE: $r = .05$ (ns) / $\beta = .04$ (ns)
						Personal life permeability – WPE: $r = .11$ / $\beta = .03$ (ns) Personal life permeability – PWE: $r = -.01$ (ns) / $\beta = -.06$ (ns)
Chen et al. (2009)	Peer-reviewed paper	USA	528; mean age = 37	Cross-sectional	Work-family segmentation preferences scale (Kreiner, 2006)	Segmentation preferences – WFE affective positive spillover: $r = .01$ (ns) Segmentation preferences – WFE instrumental positive spillover: $r = -.20$ / $\beta = -.24$ (ns)
						Segmentation supplies – WFE affective positive spillover: $r = -.11$ / $\beta = -.15$

Author(s)	Paper type	Country	Sample	Research design	Measures	Main results
Choi et al. (2018)	Peer-reviewed paper	South Korea	195 navy members; 96% women; mean age = 34.8 (SD = 8.53)	Cross-sectional	Positive work-home spillover (Hanson et al., 2006) Boundary management strategy scale (Kossek et al., 2006) Work-family enrichment scale (Carlson et al., 2006)	Segmentation supplies – WFE instrumental positive spillover: $r = .07$ (ns) / $\beta = .12$ Boundary management strategy (higher score represents higher integration) – WFE: $r = .45$ The boundary management strategy moderated the relation between calling and work-family enrichment: the relationship between calling and work-family enrichment was stronger among people who use separation strategy.
Daniel & Sonnentag (2016)	Peer-reviewed paper	Germany	222; 33% women; mean age = 42.4 (SD = 6.16)	Cross-sectional	The Boundary Management Scale (Kreiner, 2001) Work-family enrichment scale (Carlson et al., 2006)	Permeability preferences (higher score pointed out higher integration of work into the family domain) – WFE (dependent variable): $r = .27$ / $\beta = .18$ Permeability preferences – WFE-developmental: $\beta = .12$ ( $p < .10$ ) Permeability preferences – WFE-affective: $\beta = .23$ Permeability preferences – WFE-capital: $\beta = .13$ Permeability supplies (higher score pointed out higher perceived level workplace allowance to an employee integrate work into the family domain) – WFE: $r = .08$ (ns) / $\beta = -.05$ (ns) Permeability supplies – WFE-developmental: $\beta = -.04$ (ns) Permeability supplies – WFE-affective: $\beta = .13$ Permeability supplies – WFE-capital: $\beta = .03$ (ns) Flexibility preferences (higher score pointed out higher flexibility in carrying out work matters at home and vice versa) – WFE: $r = -.04$ (ns) / $\beta = -.08$ (ns) Flexibility preferences – WFE-developmental: $r = -.10$ (ns) Flexibility preferences – WFE-affective: $r = -.03$ (ns) Flexibility preferences – WFE-capital: $r = -.06$ (ns) Flexibility supplies (higher score pointed out higher perceived flexibility of the employer regarding workplace environment) – WFE: $r = .32$ / $\beta = .29$ Flexibility supplies – WFE-developmental: $\beta = .30$ Flexibility supplies – WFE-affective: $\beta = .20$ Flexibility supplies – WFE-capital: $\beta = .26$

Author(s)	Paper type	Country	Sample	Research design	Measures	Main results
Hyland & Protas (2016)	Peer-reviewed paper	USA	362; 45% women; mean age = 48.1 (SD = 10.1)	Cross-sectional	Flexibility and permeability items adapted from Clark (2002)  Positive work-home spillover (Hanson et al., 2006)	Work-family enrichment mediated the relationship between permeability preferences (dependent variable) and job satisfaction (independent variable), and flexibility supplies (dependent variable) and job satisfaction (dependent variable).  Work permeability ( <i>higher score pointed out higher integration of work into the family domain</i> ) – FWE affective (dependent variable): $r = -.02$ (ns) / $\beta = -.09$ (ns) Work permeability – WFE affective (dependent variable): $r = -.04$ (ns) Work permeability – WFE: $r = -.03$ (ns) Work permeability – FWE instrumental: $r = -.01$ (ns) / $\beta = -.10$ (ns)  Work flexibility ( <i>higher score pointed out smaller flexibility in carrying out work matters at home and vice versa</i> ) – WFE affective: $r = .04$ (ns) / $\beta = .10$ (ns) Work flexibility – FWE affective: $r = .05$ (ns) Work flexibility – WFEe instrumental: $r = .13$ / $\beta = .12$ (ns) Work flexibility – FWE instrumental: $r = .10$ (ns)  Home permeability – WFE affective: $r = .00$ (ns) Home permeability – FWEaffective: $r = .02$ (ns) / $\beta = -.03$ (ns) Home permeability – WFE instrumental: $r = .10$ (ns) Home permeability – FWE instrumental: $r = .11$ / $\beta = .08$ (ns)  Home flexibility – WFE affective: $r = .06$ (ns) Home flexibility – FWE affective: $r = .06$ (ns) / $\beta = .04$ (ns) Home flexibility – WFE instrumental: $r = .11$ Home flexibility – FWE instrumental: $r = .16$ / $\beta = .19$
Jensen (2023)	Doctoral dissertation	USA	Sample 1: 73; 86% women;  Sample 2: 80; 69% women	Longitudinal	Work-family segmentation preferences scale (Kreiner, 2006)  Work-family enrichment scale (Carlson et al., 2006)	<b>Sample 1:</b> Segmentation norms – WFE: $r = .51$ Segmentation norms – FWE: $r = .24$  Segmentation preferences – WFE: $r = -.28$ Segmentation preferences – FWE: $r = .13$ (ns)  Segmentation preferences moderated the relationship between segmentation norms and work-family enrichment: the relationship between segmentation norms and work-family enrichment was stronger among people having a higher segmentation preferences.

Author(s)	Paper type	Country	Sample	Research design	Measures	Main results
Kalliath et al. (2022)	Peer-reviewed paper	Australia	504; 79% women; mean age = 46 (SD = 9.6)	Cross-sectional	Work-family segmentation preferences scale (Kreiner, 2006)  Work-family enrichment scale (Carlson et al., 2006)	<p>Job demands moderated the relationship between segmentation norms and work-family enrichment: the relationship between segmentation norms and work-family enrichment was stronger among people having a higher job demands.</p> <p><b>Sample 2:</b> Segmentation norms – WFE: <math>r = .27</math> Segmentation norms – FWE: <math>r = .12</math> (ns)</p> <p>Segmentation preferences – WFE: <math>r = .19</math> (ns) Segmentation preferences – FWE: <math>r = .29</math></p> <p>Job demands moderated the relationship between segmentation norms and work-family enrichment and family-work enrichment: the relationship between segmentation norms and work-family enrichment / family-work enrichment was stronger among people having a lower job demands.</p> <p>Job craft moderated the relationship between segmentation norms and family-work enrichment: the relationship between segmentation norms and family-work enrichment was stronger among people having a higher job craft.</p>
Kashive et al. (2021)	Peer-reviewed paper	India	186; 47% women;	Cross-sectional	Boundary management tactics items adapted from Carlson et al. (2015)  Positive work-home spillover (Hanson et al., 2006)	<p>“Boundary-fit Fusion lovers*” and have the highest levels for boundary management tactics and positive family-work spillover.</p> <p>* – “Cluster3 has characteristics with high BC (M= 4.27), high family identity (M= 4.42) and work identity (M = 4.38) and low technostress as individual preferences but have high environmental influencers like job control (M= 4.11), supervisor support (M= 3.94) and organization policies (M= 4.12)” (p. 1789)</p>

Author(s)	Paper type	Country	Sample	Research design	Measures	Main results
Kempen et al. (2016)	Peer-reviewed paper	Germany	199 expatriates from 57 countries; 47% women;	Cross-sectional	Boundary flexibility scale (Matthews and Barnes-Farrell, 2010) Border permeability and flexibility (Clark, 2002) Short version of Work-family enrichment scale (Kacmar et al., 2014)	Work flexibility ability – WPE: $r = .12$ (ns) / $\beta = -.14$ (ns) (WPE dependent variable) Work flexibility ability – PWE: $r = .13$ (ns) / $\beta = -.03$ (ns) Work flexibility willingness – WPE: $r = .11$ (ns) / $\beta = .16$ (ns) Work flexibility willingness – PWE: $r = .09$ (ns) / $\beta = .07$ (ns) Work permeability ( <i>higher score pointed out higher integration</i> ) – WPE: $r = .05$ (ns) / $\beta = .12$ (ns) Work permeability – PWE: $r = .06$ (ns) / $\beta = .04$ (ns) Private life flexibility ability – WPE: $r = .23$ / $\beta = .36$ Private life flexibility ability – PWE: $r = -.04$ (ns) / $\beta = .07$ (ns) Private life flexibility willingness – WPE: $r = .04$ (ns) / $\beta = -.03$ (ns) Private life flexibility willingness – PWE: $r = -.03$ (ns) / $\beta = -.03$ (ns) Private life permeability – WPE: $r = -.03$ (ns) / $\beta = -.06$ (ns) Private life permeability – PWE: $r = .04$ (ns) / $\beta = .07$ (ns)
Kim & Heras (2012)	Proceeding	Spain	12 (Six working couples); 50% women; mean age – 39.6	Qualitative study	In-depth interview	Among four topics, 4th topic „ <i>Conditions for transfer of resources (instrumental path)</i> ” that describes boundary management preferences (work and family domains); “Most individuals are not pure integrators or segmentors but rather tend to be positioned on one side or the other of the continuum. Our data shows that there can be incongruence between cognition (what they think is/should be) and behavior (what they do) regarding the boundaries. Based on how individuals manage their work and family life, we identified more integrators (75%) than segmentors (25%). However, among the integrators, 33% experienced cognitive dissonance, meaning that they would rather separate their private and professional lives” (p. 9) “Boundary management preference facilitates the enrichment process in both conscious and unconscious ways. For instance, some integrators are aware of the benefits and intentionally channel them while other integrators apply the resources without thinking about it because it is “natural” to do so.” (p. 9) “For the two segmentors with mid scores, we found that despite their views of separate spheres and their facility to “disconnect” and “switch modes”, they were also driven by strong intrinsic and prosocial motives to enrich and, furthermore, had previous enrichment experience. Likewise, we examined the integrator with low score and found that the person did experience substantial

Author(s)	Paper type	Country	Sample	Research design	Measures	Main results
Kim (2015)	Doctoral dissertation	USA	308; 28% women; mean age = 44;	Longitudinal	Work-family segmentation preferences scale (Kreiner, 2006)  Work-nonwork boundary strength scale (Hecht & Allen, 2009)	enrichment (via the instrumental path), indicating that the respondent was unaware of the enriching behaviors. In general, our findings are in line with research that shows integrating strategies increase positive spillover (Hecht and Allen, 2009; Iles, et al., 2009) and segmenting strategies decrease it (Powell and Greenhaus, 2010).” (p. 9-10).  Segmentation preference at work (T1) – Work-to-home affective positive spillover (T2): $r = -.01$ (ns) Segmentation preference at work (T1) – Work-to-home instrumental positive spillover(T2): $r = .16$ Segmentation preference at work (T1) – Home-to-work affective positive spillover(T2): $r = .03$ (ns) Segmentation preference at work (T1) – Home-to-work instrumental positive spillover(T2): $r = .10$ (ns)  Positive work-home spillover (Hanson et al., 2006) Segmentation preference at home (T1) – Work-to-home affective positive spillover(T2): $r = -.09$ (ns) Segmentation preference at home (T1) – Work-to-home instrumental positive spillover(T2): $r = -.20$ Segmentation preference at home (T1) – Home-to-work affective positive spillover(T2): $r = -.08$ (ns) Segmentation preference at home (T1) – Home-to-work instrumental positive spillover(T2): $r = -.08$ (ns)  Work boundary permeability (T2) – Work-to-home affective positive spillover (T2): $r = -.03$ (ns) Work boundary permeability (T2) – Work-to-home instrumental positive spillover (T2): $r = .03$ (ns) Work boundary permeability (T2) – Home-to-work affective positive spillover (T2): $r = .02$ (ns) / $\beta = -.01$ (ns) Work boundary permeability (T2) – Home-to-work instrumental positive spillover (T2): $r = -.01$ (ns) / $\beta = .03$ (ns)  Home boundary permeability (T2) – Work-to-home affective positive spillover (T2): $r = .10$ (ns) / $\beta = .08$ (ns) Home boundary permeability (T2) – Work-to-home instrumental positive spillover (T2): $r = .19$ / $\beta = .00$ (ns) Home boundary permeability (T2) – Home-to-work affective positive spillover (T2): $r = .03$ (ns) Home boundary permeability (T2) – Home-to-work instrumental positive spillover (T2): $r = .11$

Author(s)	Paper type	Country	Sample	Research design	Measures	Main results
Kim & Holsbe (2017)	Peer-reviewed paper	USA	308; 28% women; mean age – 44.	Longitudinal	Work-family segmentation preferences scale (Kreiner, 2006) Work-nonwork boundary strength scale (Hecht & Allen, 2009) Positive work-home spillover (Hanson et al., 2006)	Segmentation preference at work (T1) – FWE affective positive spillover (T2): $r = .03$ (ns) Segmentation preference at work (T1) – FWE instrumental positive spillover (T2): $r = .10$ (ns) Work boundary permeability (T2) – FWE affective positive spillover (T2): $r = .02$ (ns) / $\beta = .02$ (ns) Work boundary permeability (T2) – FWE instrumental positive spillover (T2): $r = -.01$ (ns) / $\beta = -.06$ (ns)
Kossek et al. (2012)	Peer-reviewed paper	USA	Sample 1: 278 managers; 58% women; mean age – 44.1 (SD = 7.88); Sample 2: 313 managers; 37% women; mean age 45 (SD = 7.58)	Cross-sectional	Work-family Integration Boundary control (developed by authors) Nonwork interrupting work behaviors (developed by authors) Work interrupting nonwork behaviors (developed by authors) Positive work-home spillover (Hanson et al., 2006)	Boundary control ( <i>higher score pointed out higher perceived control over boundaries</i> ) – FWE: $r = .04$ (ns) / $r = .03$ (ns) (respectively Sample 1 and Sample 2) Work-family integration ( <i>higher score pointed out higher integration</i> ) – FWE: $r = .17$ / $r = .05$ (ns) Nonwork interrupting work behaviors – FWE: $r = .12$ / $r = .08$ (ns) Work interrupting nonwork behaviors – FWE: $r = .06$ (ns) / $r = .14$
Kubicek & Teament (2016)	Peer-reviewed paper	Austria	Study 1: 208; 55% women; mean age – 36.47 (SD = 11.73) Study 2:	Cross-sectional	Study 1: Work-family segmentation preferences scale (Kreiner, 2006) Work-family enrichment scale (Carlson et al., 2006)	Study 1: Work-family segmentation – WFE development: $r = .04$ (ns) Work-family segmentation – WFE affect: $r = .06$ (ns) Segmentation preference moderated the relationship between work-family enrichment affect and work intensification: the relationship between work-family enrichment affect and work intensification was only significant in the case of work-home integration.

Author(s)	Paper type	Country	Sample	Research design	Measures	Main results
Leduc et al. (2016)	Peer-reviewed paper	Canada	Sample 1: 117; 83% women; mean age – 40.3 (SD = 9.73) Sample 2: 293; 45% women; mean age – 30.8 (SD = 9.10)	Cross-sectional	<p>Study 2: Boundary management scale (Kossek et al., 2012)</p> <p>Work-home enrichment scale (Wiese et al., 2010)</p>	<p><b>Study 2:</b> Work-family segmentation (<i>higher score pointed out higher segmentation</i>)– WFE development: <math>r = -.11</math> (ns) Work-family segmentation – WFE affect: <math>r = .02</math> (ns)</p> <p>Segmentation preference moderated the relationship between work-family enrichment development and work intensification: the relationship between work-family enrichment development and work intensification was only significant in the case of work-home integration.</p> <p>Segmentation preference moderated the relationship between work-family enrichment affect and work intensification: the relationship between work-family enrichment affect and work intensification was only significant in the case of work-home segmentation.</p>
Leduce et al. (2016)	Peer-reviewed paper	Canada	Sample 1: 117; 83% women; mean age – 40.3 (SD = 9.73) Sample 2: 293; 45% women; mean age – 30.8 (SD = 9.10)	Cross-sectional	<p>Work-family segmentation preferences scale (Kreiner, 2006)</p> <p>Boundary management scale (only for Sample 2, Kossek et al., 2012)</p> <p>Work-family enrichment scale (Carlson et al., 2006)</p>	<p><b>Sample 1:</b> Segmentation preference at work – WFE: <math>r = -.20</math> / <math>\beta = -.23</math> Segmentation preference at work – FWE: <math>r = .02</math> (ns)</p> <p><b>Sample 2:</b> Segmentation preference at home – WFE: <math>r = .02</math> (ns) Segmentation preference at home – FWE: <math>r = -.17</math> (ns) / <math>\beta = -.19</math></p> <p>Work-family enrichment scale (Carlson et al., 2006)</p> <p><b>Sample 2:</b> Segmentation preference at work – WFE: <math>r = -.25</math> / <math>\beta = -.24</math> Segmentation preference at work – FWE: <math>r = -.01</math> (ns)</p> <p>Segmentation preference at home – WFE: <math>r = .17</math> / <math>\beta = .22</math> Segmentation preference at home – FWE: <math>r = -.01</math> (ns)</p> <p>Work-life integration – WFE: <math>r = .24</math> / <math>\beta = .12</math> Work-life integration – FWE: <math>r = .12</math> / <math>\beta = .13</math></p> <p>Life-work integration – WFE: <math>r = .08</math> (ns) Life-work integration – FWE: <math>r = .06</math> (ns)</p>

Author(s)	Paper type	Country	Sample	Research design	Measures	Main results
Liao et al. (2016)	Peer-reviewed paper	China	198; 46% women; mean age – 29.5 (SD = 5.69)	Cross-sectional	Work-family segmentation preferences scale (Kreiner, 2006) Work-family enrichment scale (Carlson et al., 2006)	Work-home segmentation preference – WFE: $r = -.11$ (ns) / $\beta = -.08$ (ns) Segmentation preference moderated the relationship between LMX and work-family enrichment: the relationship between LMX and work-family enrichment was stronger among people having a lower segmentation preference. Segmentation preference moderated the relationship between family performance and work-family enrichment: the relationship between family performance and work-family enrichment was stronger among people having a higher segmentation preference.
Ma & Vu (2023)	Peer-reviewed paper	Vietnam	314; 56% women; mean age – 30.9	Longitudinal	Work-family segmentation preferences scale (Kreiner, 2006) Work-family enrichment scale (Carlson et al., 2006)	Segmentation preferences – WFE: $r = -.09$ (ns) / $\beta = .10$ Segmentation preference moderated the relationship between work-family enrichment and job autonomy: the relationship between work-family enrichment and job autonomy was stronger among people having a lower segmentation preference.
McNall et al. (2015)	Peer-reviewed paper	USA	161; 78% women;	Longitudinal	Work-family segmentation preferences scale (Kreiner, 2006) Short version of Work-family enrichment scale (Kaemar et al., 2014)	Boundary preference towards segmentation – WFE: $r = -.44$ / $\beta = -.40$ Boundary preference towards segmentation – FWE: $r = -.21$ / $\beta = -.11$ (ns)
Moazami-Goodarzi et al. (2015)	Peer-reviewed paper	Finland	Sample 1: 1139 university employees; 68% women; mean age – 42.8 (SD = 10.5) Sample 1: 271 nurses; 90% women; mean age – 46.8 (SD = 10.2)	Cross-sectional	Domain flexibility scale (Mathews and Barnes-Farrell, 2010) Work-family enrichment scale (Carlson et al., 2006)	Work flexibility-ability – WFE: $r = .14$ / $r = .24$ (sample 1 and 2 respectively) Work Flexibility- willingness – WFE: $r = .05$ (ns) / $r = .22$ Family Flexibility-ability – WFE: $r = .16$ / $r = .17$ Family Flexibility-willingness – WFE: $r = .17$ / $r = .30$ “integrators profile experienced a significantly higher level of work-to-family enrichment (M = 4.68, SD = 1.23) than either those in the favoring family over work (M = 4.15, SD = 1.25), or segmentors profiles (M = 4.22, SD = 1.17)”. (p. 19; Sample 1)

Author(s)	Paper type	Country	Sample	Research design	Measures	Main results
Padhi & Pattnaik (2016)	Peer-reviewed paper	India	156; 42% women; mean age = 35 (SD = 6.56)	Cross-sectional	The Resource Priority Measure (Padhi, 2012; Padhi and Pattnaik, 2014)  Work-family enrichment scale (Carlson et al., 2006)	“segmentors profile reported a significantly lower level of work-to-family enrichment (M = 4.10, SD = 1.11) than those in the integrators (M = 4.95, SD = 1.00) (p. 19; Sample 2)  Integrators perceive greater overall work-family enrichment/family-work enrichment (and it’s dimensions and domains).
Paustian-Underdahl et al. (2016)	Peer-reviewed paper	USA	302 nurses; 87% women; mean age = 34.7 (SD = 7.11)	Longitudinal	Work-family segmentation preferences scale (Kreiner, 2006)  Work-family enrichment scale (Carlson et al., 2006)	Segmentation – FWE (T2): $r = .64 / \beta = .43$  Integrating boundary management moderated the relationship between family-work enrichment and family involvement: the relationship between work-family enrichment and family involvement was stronger among people having a higher integrating boundary management level.  Integrating boundary management moderated the relationship between family-work enrichment and promotability: the relationship between work-family enrichment and promotability was stronger among people having a lower integrating boundary management level.
Peng et al. (2022)	Peer-reviewed paper	China	504 preschool teachers; 97% women;	Cross-sectional	Boundary flexibility scale (Matthews and Barnes-Farrell, 2010)  Work-family spillover scale (Grzywacz & Marks, 2000)	Work boundary flexibility ( <i>higher score pointed out higher flexibility in carrying out work matters at home and vice versa</i> )– WFE: $r = .11$ Work boundary flexibility – FWE: $r = -.09$ (ns)  Home boundary flexibility – WFE: $r = .25$ home boundary flexibility – FWE: $r = .37$  Family boundary flexibility mediates the relationship between family support (dependent variable) and few (independent variable).
Premchandran & Priyadarshi (2018)	Peer-reviewed paper	India	508; 36% women; mean age = 35.5	Cross-sectional	Border permeability and flexibility scale (Clark, 2002)  Work-family enrichment scale (Carlson et al., 2006)	Family permeability – WFE: $r = .77 / \beta = .36$

Author(s)	Paper type	Country	Sample	Research design	Measures	Main results
Spieler et al. (2018)	Peer-reviewed paper	Germany	Study 2 <sup>a</sup> (only): 608; 63% women; mean age – 44.3 (SD = 11.2)	Diary study	Work–nonwork boundary strength scale (Hecht & Allen, 2009)  Boundary management strategy scale (Kossek et al., 2006)  Work/nonwork interference and enhancement scale (Fisher et al., 2009)	boundary strength at work – WPE: $r = .10$ (ns) (aggregated person-level analysis) / $r = .09$ (day-level variables) boundary strength at work – PWE: $r = .23$ / $r = .11$  boundary strength at home – WPE: $r = .17$ / $r = .11$ boundary strength at home – PWE: $r = .26$ / $r = .09$  Boundary strength at work mediated the relationship between age and personal life enhancement of work.  Boundary strength at work mediated the relationship between boundary management strategies (dependent variable) and personal life enhancement of work (independent variable).
Staub et al. (2019)	Peer-reviewed paper	Germany	424; 33% women; mean age – 39.7	Cross-sectional	Boundary management scale (Kossek et al., 2012)  Positive work-home spillover (Hanson et al., 2006)	Control over boundary permeability – WFE affective: $r = .13$ / $B = .08$  Control over boundary permeability – WFE instrumental: $r = .17$  Gender X Control over boundary permeability moderated the relationship between instrumental work-to-family positive spillover and work engagement: for females with a high Control over boundary permeability and men with a low Control over boundary permeability the relationship between instrumental work-to-family positive spillover and work engagement is stronger.
Sublett et al. (2021)	Peer-reviewed paper	USA	287; 55% women;	Cross-sectional	Value congruence with organization (Pan & Yeh, 2012) <sup>b</sup>  Value congruence with supervisor (Pan & Yeh, 2012)  Work-family enrichment scale (Carlson et al., 2006)	Value congruence with organization – WFE: $r = .37$ / $\beta = .37$ ;  Value congruence with supervisor – WFE: $r = .37$ / $\beta = .37$ ;  Perceived family-supportive supervisor behavior mediates the relationship between value congruence with supervisor (dependent variable) and work-family enrichment (independent variable).
Yang et al. (2022)	Peer-reviewed paper	China	257; 53% women;	Cross-sectional	Work connectivity behavior after-hours scale (Fenner & Renn, 2010)	Work connectivity behavior after-hours – WFE: $r = .21$ / $\beta = .16$

Author(s)	Paper type	Country	Sample	Research design	Measures	Main results
Yang et al. (2023)	Peer-reviewed paper	China	433; 42% women;	Cross-sectional	Work-family enrichment scale (Carlson et al., 2006) Family boundary flexibility (Matthews et al., 2010) Work-family facilitation scale (Wayne et al., 2004)	Work-family enrichment mediates the relationship between Work connectivity behavior after-hours and thriving at home and work. Family boundary flexibility – FWE: $r = -.13$ / $\beta = -.28$ Family-work enrichment partially mediates the effect of employees' family boundary flexibilities (dependent variable) on their work engagement (independent variable).
Yasir et al. (2019)	Peer-reviewed paper	Pakistan	651;	Cross-sectional	Boundary integration (Matthews et al., 2010) and items adapted from Clark (2002) Positive work-home spillover (Hanson et al., 2006) Work/nonwork interference and enhancement scale (Fisher et al., 2009)	Boundary integration ( <i>higher score pointed out higher integration</i> ) – WFE: $r = .29$ Boundary integration – FWE: $r = .35$ Family-work enrichment and work-family enrichment mediated the relationship between boundary integration (dependent variable) and life satisfaction (independent variable).
Zhang et al. (2021)	Peer-reviewed paper	China	359; 100% women	Cross-sectional	Boundary flexibility scale (Matthews & Barnes-Farrell, 2010) Work-family enrichment scale (Carlson et al., 2006)	Family flexibility-ability – FWE: $r = .17$ Family flexibility- permeability – FWE: $r = .05$ (ns) Boundary permeability moderated the relationship between family-work enrichment and female entrepreneurial performance: the relationship between family-work enrichment and female entrepreneurial performance was stronger among people having a lower boundary permeability.

*Note.* WFE – work-family enrichment; FWE – family-work enrichment; WPE – work-personal life enrichment; PWE – personal life – work enrichment. If author(s) provide a clear assumption about the directionality of the relationship between work-family enrichment and work-family boundaries, “dependent” variables is indicated. a – only study No 2 was analyzed, because study No 1 did not present the relationship between work-family enrichment and work-home boundaries; b – work-home boundaries were operationalized as fit between organization/supervisor and person, e.g., “My organization’s values regarding keeping work and home life separate (or together) provide a good fit with my value” (p. 12); term “WFE” was used as an umbrella term to define positive spillover, enhancement, and facilitation..

It can be discussed, that further theoretical development is needed to clearly define if work-family boundaries are domain specific, meaning that work and family boundaries coexist separately, or there are boundaries between work and family that are not domain specific. For example, Keiner (2006) Work-family segmentation scale originally was developed to measure segmentation preferences and supplies at work (e.g., “*I don’t like work issues creeping into my home life*”), however Kim (2015) measured segmentation both at work and home, while Argin (2019) calculated only for work. Meanwhile, Boundary flexibility scale (Matthews & Barnes-Farrell, 2004, 210) was originally developed to measure ability and willingness to deal with personal matters during working hours, however, Bulger et al. (2007) adapted the scale to measure both work and personal life flexibility, while Yang et al. (2023) measured only family boundary flexibility. In general, out of 36 studies, 21 studies measured only work or family boundaries, while 14 studies measured both work and family boundaries (not counting one qualitative study).

### Relationship between work-family enrichment and work-family boundaries

#### *Quantitative research findings*

In general, more studies focused on the relationship between work-family enrichment (WFE or positive spillover) and role boundaries’ characteristics ( $n = 88$  effect sizes found in total), while less attention was paid to the relationship between family-work enrichment (FWE or positive spillover) and family-work boundaries’ characteristics ( $n = 52$  found in total effect sizes). Surprisingly, our findings revealed 80 statistically insignificant results between work-family enrichment (or its dimensions) and different types of work-home boundaries’ characteristics (based on Pearson’s  $r$  correlation coefficients). In all, 41 statistically insignificant effect sizes were between family-work enrichment (and its dimensions) and boundaries and 39 statistically insignificant effect sizes between work-family enrichment (and its dimensions) and boundaries.

Statistically significant correlations were between  $-.28$  to  $.77$  (Pearson’s  $r$ ; totally – 66 significant effects) for the relationship between WFE/FWE and different types of work-family boundaries’ characteristics. Flexibility was measured the most often ( $n = 21$ ). Results showed that WFE/FWE was related to integration between  $.12$  to  $.45$ ; with flexibility-willingness between  $.17$  to  $.30$ ; with permeability between  $.11$  to  $.77$ ; with boundary control between  $.13$  to  $.17$ ; with boundary strength between  $.09$  to  $.26$ ; with work interference with home between  $.12$  to  $.21$ ; with flexibility-ability between  $.12$  to  $.24$ . However, there are mixed results for the relationship between WFE/FWE and segmentation that ranged from  $-.44$  to  $.64$ ; with segmentation preferences between  $-.28$  to  $.29$ ; with flexibility between  $-.13$  to  $.37$ . See a Supplementary material for more detailed results. Visual representations of the results can be found in supplementary materials.

A deeper analysis was performed to search for the reasons for mixed results. For the case of the relationship between segmentation and WFE/FWE – no methodological differences were found: in all studies more women participated, same scales were used, even cultural backgrounds were similar (USA and Australia). The research by McNall et al. (2015) had slightly lower sample size, however it should not result in a negative correlation. It can only be discussed about the sample composition and individual differences – McNall et al. (2015) conducted their study in a specific organization. It could be suggested that results represented the situation in that organization and not in the country.

When analyzing the effect sizes for the relationship between WFE and segmentation-preferences it was found that both negative and positive effect sizes from Kim (2015) study were due to the direction of segmentation-preferences (home or work). WFE was positively related to segmentation at work, while negatively related to segmentation-preferences at home. Meantime, Jensen (2023) conducted a study in a specific organization. Incongruent results between flexibility and FWE was found only in Yang et al. (2023) study. Yang et al. (2023) used flexibility scale by combining two separate scales into one, by calculating the differences between willingness and abilities which is uncommon strategy.

**Moderating role of work-family boundaries.** Nine studies (13 effect sizes) examined the role of work-family boundaries as a moderating variable between work-family enrichment and other variables. It was found that segmentation supplies moderated the relationship between extraversion and WFE (facilitation): the relationship between extraversion and WFE was stronger among people with a higher segmentation supply (Argin, 2019). Meanwhile, segmentation preferences moderated the relationship between segmentation norms and WFE: the relationship between segmentation norms and WFE was stronger among people having a higher segmentation preferences (Jensen, 2023), WFE-affect and work intensification: the relationship between WFE affect and work intensification was significant only in the case of work-home integration (Kubicek & Tement, 2016), the same story for WFE-development/WFE-affect and work intensification: the relationship between WFE development/affect and work intensification was significant only in the case of work-home integration (Kubicek & Tement, 2016). Taking into consideration WFE and leader-member exchange: the relationship between LMX and WFE was stronger among people having a lower segmentation preference (Liao et al., 2016), the same case for WFE and job autonomy: the relationship between work-family enrichment and job autonomy was stronger among people having a lower segmentation preference (Ma & Vu, 2023), however, contrary for WFE and family performance: the relationship between family performance and WFE was stronger among people having a higher segmentation preference (Liao et al., 2016). Control over boundary permeability (in interaction with gender) moderated the relationship between WFE and work engage-

ment: for females with a high Control over boundary permeability and men with a low Control over boundary permeability the relationship between instrumental work-to-family positive spillover and work engagement was stronger (Staub et al., 2019), besides, boundary permeability moderated the relationship between FWE and female entrepreneurial performance: the relationship between FWE and female entrepreneurial performance was stronger among people having a lower boundary permeability (Zhang et al., 2021). Finally, boundary management strategy moderated the relationship between calling and WFE: the relationship between calling and WFE was stronger among people who used separation strategy (Choi et al., 2018) and integrating boundary management moderated the relationship between FWE and family involvement: the relationship between family-work enrichment and family involvement was stronger among people having a higher integrating boundary management level, contrary than talking about promotability: the relationship between family-work enrichment and promotability was stronger among people having a lower integrating boundary management level (Paustian-Underdahl et al., 2016).

**Third variable – moderation.** Few studies revealed that there were variables that moderated the relationship between WFE (or FWE) and work-family boundaries, e.g. job demands moderated the relationship between WFE and segmentation norms: the relationship between segmentation norms and WFE was stronger among people having a higher job demands, a different story was for FWE and segmentation norms: the relationship between segmentation norms and FWE was stronger among people having a lower job demands (Jensen et al., 2023). Job craft moderated the relationship between segmentation norms and WFE: the relationship between segmentation norms and work-family enrichment was stronger among people having a higher job craft (Jensen et al., 2023).

**Mediating role of work-family boundaries.** Some studies confirmed that work-family boundaries could be as a mediator in the relationship between WFE/ FWE and other variables. Family boundary flexibility mediated the relationship between FWE and family support (Peng et al., 2022), boundary strength at work mediated the relationship between age and personal life-to-work enhancement, and boundary management strategies and personal life enhancement of work (Spieler et al., 2018).

**Third variable – mediation.** One study revealed that there were variables that mediated the relationship between WFE and work-family boundaries: perceived family-supportive supervisor behavior mediated the relationship between value congruence with supervisor and WFE (Sublett et al., 2021),

**Other compositions.** While testing the relationship between WFE/ FWE and work-family boundaries, researchers also discovered that: WFE and FWE mediated the relationship between work-home segmentation and job performance (Kalliath et al., 2022), WFE also mediated the relationship between Work connectivity behavior after-hours and thriving at home and work (Yang et al., 2022),

while FWE partially mediated the effect of employees' family boundary flexibilities on their work engagement (Yang et al., 2023). Besides, WFE and FWE mediated the relationship between boundary integration and life satisfaction (Yasir et al., 2019), while WFE mediated the relationship between permeability preferences and job satisfaction, and flexibility supplies and job satisfaction (Daniel & Sonnentag, 2016).

### *Qualitative research findings*

There was only one study that applied qualitative research design (Kim & Heras, 2012). Results revealed that people could not be perceived as only “integrators” and “segmentators”, but they tended to change their role and strategies. Additionally, incongruence between behavior and cognition could be found. Qualitative study also proposed a positive relationship between boundary management (integration) and WFE process while segmentation strategies seemed to decrease it (Kim & Heras, 2012).

## DISCUSSION

A scoping review was used to analyze the relationship between work-family enrichment and work-family boundaries. Initially, a scoping review was conducted using three science databases and Google Scholar, resulting in 31 relevant articles. The review focused on determining the nature of the relationship between work-family enrichment and work-family boundaries. The review suggested mixed and scattered results, as more than half of the correlation coefficients were not significant. However, analysis revealed that work-family boundaries were probably a third variable that affected the relationship between work-family enrichment and other variables.

Five of 31 presented two studies per paper. In total, 27 articles were published in peer-reviewed journals, two were doctoral dissertations, one master's thesis and one was published in a working paper. Although the quality of those articles could be discussed, the purpose of the scoping review was to map the extent, range, and nature of the literature. Considering the purpose of the review, no quality analysis was performed. Meanwhile, most of the articles were published between 2015 and 2018, closely followed by the period of 2019–2023, suggesting that the topic of relationships of work-family enrichment and boundaries of work-family became important only in the last decade. Researchers are encouraged to further analyze work-family boundaries in the context of work-family interaction.

Among the reviewed studies, most were conducted in North America ( $n = 14$ ), followed by 11 studies in Asia, ten in Europe, one in Australia and none in Africa. In other words, the overrepresentation of Western countries is notable. Countries such as western Europe and eastern Asia (China, Japan, South Korea), the United States, Canada, Australia, New Zealand, Singapore, and Israel are considered to be the center of global scientific communities where most of the science and science activity take place (Gomez et al., 2024). Other scoping reviews have

also revealed the dominating role of the United States (e.g., Belrhiti et al., 2018; Mukaihata et al., 2022). In general, it has been noticed that the most significant part of scientific literature is based on samples from WEIRD (Western, educated, industrialized, rich, and democratic) countries (see Otterbring & Falwarzny, 2024). The average national citation distortion analysis by Gomez et al. (2024) confirms that The United States are the most central country in the citation network over time (from 1980 to 2012), followed by Germany, the Netherlands, the United Kingdom and Japan. However, the rise of China over the last few decades is also observed. One of the reasons why some regions are underrepresented is that only a hand of journals from regions like Africa are indexed in global databases, meaning that they have lower chances of being reviewed by other scholars, especially in Western countries (Monroe-White & Woodson, 2016). It is discussed that overreliance on WEIRD countries hinder scientific progress *per se*, that is why, researchers are encouraged to conduct studies in underrepresented regions and countries, like Afrika, Latin America, middle East, etc.

The analysis also revealed a lack of cross-cultural studies. The results of the scoping review should be applied carefully in other cultures as it is not yet clear whether there are cultural differences. It could be proposed that in more individualistic countries people would be more willing to segregate work and family, as family time could have a negative effect on career development (e.g., Xu et al., 2018), while people living in more uncertain avoidant cultures also prefer higher segmentation of work and family (e.g., Ollo-López & Goñi-Legaz, 2017). Therefore, it is encouraged to conduct cross-cultural studies to assess the impact of national culture on work-family interaction and work-family boundaries.

The average number of participants per research was more than 300, suggesting an adequate number for quantitative analysis (in addition to 12 participants in the qualitative study). Although ~300 participants are an adequate number for a quantitative study that applies the variable-centered approach, a higher number of participants (>500, Nylund et al., 2007; Spurk et al., 2022) is recommended for studies that are willing to apply a person-centered approach and use procedures such as latent profile analysis. Only one study out of three that applied the person-centered approach met this criterion. A person-centered approach assumes that there are individual variations and allows researchers to determine possible subgroups in a sample that may help to understand the construct better (Howard & Hoffman, 2018; Meyer & Morin, 2016). Future studies are encouraged to gather a higher number of participants and apply a person-centered approach. On the other hand, it can be discussed that a sample size of around 300 participants is acceptable only for the statistical analysis using the variable-centered approach, however, this might not be acceptable for the generalization of results. Only one study gathered more than 1000 participants per study. Despite the discussed sample sizes, in general results can be used to determine the relationship between variables.

The mean age of the participants ranged from 29.5 to 48.1 years (based on 25 articles reporting the mean age), suggesting that most studies gathered slightly younger sample compared to possible mean age of people in the world, especially in western countries. It is important to consider that work-family interaction might be significant for all people of working age (from 18 to 60+ years). Although the family dynamics may be different for older employees: their kids are probably already living separately; however, older employees may deal with other kinds of family demands, e.g., taking care of sick spouses or grandchildren. Meanwhile, older employees may have more experience in managing both work and family, have clearer boundaries. Only a few articles revealed a significant weak relationship between age and work-family boundaries (e.g., Ma & Vu, 2023; Spieler et al., 2018; Zhang et al., 2021), however, a deeper analysis is required. Researchers are recommended to gather data from older employees in the context of work-family enrichment and work-family boundaries, considering aging society.

Most often, the reviewed studies had more female participants ( $n = 17$ ), followed by studies with similar numbers of male and female, and studies that collected data primarily from men. Gender is a significant factor in work-family studies because society often views women as the primary caregivers responsible for household tasks and family care (e.g., Cerrato & Cifre, 2018). However, only a few studies analyzed the role of gender in the context of work-family boundaries. For example, Daniel & Sonnentag (2016), Paustian-Underdahl et al. (2016) and Ma & Vu (2023) revealed that men used segmentation more often, while a study by Straub et al. (2019) revealed that women had higher permeability. It can only be speculated that because of gender roles in society, men and women tend to choose different boundary management strategies. This speculation can be based on few findings showing that women tend to experience higher work-family conflict when men tend to experience a higher family-work conflict (see, e.g., Wang et al., 2020). In other words, due to perceived gender roles, women may experience that their work has negative effect on family more often, while men tend to experience that family has a more negative effect on work life. One of the studies by Townsend et al. (2024) has revealed that women with fixed gender role mindset (thinking that men and women have different gender roles) experience greater work-family conflict than women who have a growth gender role mindset. However, many studies presented no significant results, so further analysis on gender differences is recommended.

The scoping review revealed that the cross-sectional research design was the most used approach to assess the relationship between work-family enrichment and work-family boundaries. Meanwhile, longitudinal studies were used, however, less often, while experimental data was not found. Although the most popular research design, the cross-sectional design is limited with the conclusions it could provide. Cross-sectional research design can propose information only about the linear relationship between variables, experiment can reveal the causality, while

longitudinal studies are often used for mediation analysis to present causal interference (see O’Laughlin et al., 2018). For further theoretical development of work–family boundaries, researchers are encouraged to conduct both longitudinal and experimental studies. For example, vignettes could be used as stimulation material to manipulate work–family boundaries (e.g., Atzmüller & Steiner, 2010; Steiner et al., 2016). Finally, only one qualitative study was reviewed. Nevertheless, qualitative studies are marginalized in the field of psychology (see, e.g., Povee & Roberts, 2014; Wertz, 2011), they still provide valuable information about day-to-day experience of people. For example, a study by Kim & Heras (2012) discovered that although some people might use the integration strategy in practice, they preferred to separate work and private life. The qualitative study provided this useful information and should encourage researchers to assess both existing and desired boundaries. Additionally, the same research revealed that people could change their strategies from integration to segmentation. Researchers are encouraged to look for antecedents for work–family boundaries and to understand how changes in boundary strategy are related to work–family enrichment.

Eleven different measures (besides different forms) were identified for the assessment of work–family boundaries. Different instruments allow one to measure different characteristics of work–family boundaries, i.e., segmentation, integration, flexibility, etc. Although the studies provided information on internal reliability and some form of validity for scales that measured work–family boundaries, further validation for the scales is needed, especially for the scales that were used less often. Cross-sectional studies, systematic reviews, and meta-analysis could be performed in the future to determine more psychometric characteristics (e.g., prognostic validity, discriminant validity) of work–family boundaries scales. Meanwhile, six scales for measuring work–family enrichment are also considered reliable and valid instruments. However, they were developed using different theoretical definitions of positive work–family interaction, for example choosing positive spillover, enhancement, enrichment, or facilitation terms (e.g., Masuda et al., 2012). The recommendation for researchers is to clearly define what kind of positive work–family interaction process they prefer to analyze. Also, researchers who are planning to summarize findings statistically (e.g., conduct a meta-analysis on the relationship between work–family positive interaction and work–family boundaries) are encouraged to test the effect of different measures on the analyzed relationship.

Flexibility was the most popular boundary characteristic measured in different studies, followed by segmentation. Flexibility refers to the temporal willingness to ‘relax’ or ‘tighten’ the boundaries to meet the demands on the work and home domains. In general, the results revealed that higher flexibility (including flexibility preferences, supplies, willingness, and permeability) was related to a higher work–family enrichment. As was supposed, people willing to open their boundaries were

able to transfer resources from one domain of life domain to another. However, a study (Yang et al., 2023) found that the relationship between flexibility and family–work enrichment was negative. Still, a deeper analysis revealed possible methodological differences in calculating the flexibility score, so results should be analyzed with caution.

Furthermore, segmentation was also a popular boundary characteristic measured in the context of work–family interaction. However, the analysis revealed mixed results. In general, results suggest that a higher segmentation was related to a higher work–family enrichment; however, the relationship was weak. Nevertheless, these results are unique because they suggest that when people tend to keep the work and family domains separate, people somehow experience higher enrichment. From the work–family enrichment theory (Greenhaus & Powell, 2006), it is known that enrichment occurs only then when resources are transferred from one domain to another. Based on theory, segmentation in general diminish the transfer of resources and work–family enrichment cannot occur. However, these results may indicate that segmentation also limits the transfer of demands from one domain to another. If demands are not transferred, then work–family conflict will not occur and potentially work–family enrichment will occur. In general results allows to conjecture, that a person can choose to keep work duties at work, but on the meantime transfer positive emotions from work to home, resulting in greater work–family enrichment and lower work–family conflict. Future studies could look into the trajectories of work–family conflict and work–family enrichment with different sets of segmentation.

Only McNall et al. (2015) found a negative relationship between segmentation and both work–family and family–work enrichment, meaning that a higher segmentation was related to a lower enrichment. These results suggest that when a person choose to keep work and family separate, the transfer of resources does not occur. However, McNall et al. (2015) conducted their study in a particular organization that would suggest that organizational cultural differences could play a significant role. It highlights the idea that researchers should consider organizational variables, e.g., organization culture, work–family policy, family supportive organizational systems when analyzing work–family boundaries and work–family interaction.

On the other hand, results are different with the relationship between segmentation–preferences and supplies and work–family enrichment: results suggested that a higher preference (and supplies) for keeping work and family separated was related to a lower work–family enrichment. These results would suggest that more permeable boundaries, or less strict rules that work and family should be separated, have a positive effect on work–family enrichment. Although there were mixed results, some methodological differences were found (research in a specific organization, direction of work boundaries, etc.). Compared to segmentation, segmentation prefer-

ences indicate personal preferences to act in a specific way and not only to have the rules on how to manage work and family. Also, it could be suggested that segmentation is related more with instrumental path of enrichment, while segmentation preferences also include affective path. However, it is still under discussion what kind of boundary characteristic might be the most important for the work-family enrichment to occur. For future studies, researchers could assess and compare the characteristics of different boundaries and test their relationship with different dimensions of enrichment. Also, more detailed theoretical development and analysis of the relationship between boundaries and work-family interaction are needed. On one hand, higher flexibility may have a positive effect for work-family enrichment to occur; however, it can also increase work-family conflict. Future studies are needed to assess the role of boundaries in both work-family conflict and enrichment.

Considering work-family boundaries and their measurement, further theoretical development is necessary to determine whether boundaries are domain-specific or not. Some researchers analyzed home or work specific boundaries (e.g., Hyland & Prottas, 2016) while others analyzed boundaries without domain specification (e.g., Kossek et al. (2012) analyzed boundary control). It can be discussed that boundaries can be asymmetrical, suggesting that boundaries can be more flexible from work to family or from family to work. The work/family border theory (Clark, 2000) describes that borders between work and family are like lines demarcations and separate life domains. However, these borders are created by the person itself and a person can choose to cross them. As a specific set of rules, a person can choose to allow crossing only in one direction while maintaining the board closed the other way around, like vein valves that do not allow the blood to go back. Also, a person may choose to separate or blend the life domain based on the strengths of the domain (Clark, 2000). The strength of the domain is associated with how influential the domain is to a person. In other words, does the domain allow us to integrate another domain or not. For example, organizational policies on work-family can allow an employee to work from home or not. Additionally, Clark (2000) emphasizes that there are border-keepers (one of the sources of strength) – people from the same domain who have influence on creating and maintaining borders. It is discussed that other people in our life domains can have an influence to have more strict rules about work and family management. For example, a supervisor may choose to allow a person to talk about personal matters at work and prohibit that; a spouse can agree to talk about work during family dinner or not. It allows us to speculate that boundaries are domain-specific, meaning that work and family may have its own boundary strength. However, as Kim & Heras (2012) argued, people might change the nature of boundaries. However, it is unknown whether people also change the boundary domain or are they fixed. Future studies should focus on both states of boundaries, symmetrical and asymmetrical, to determine the nature of

boundaries for further theoretical development. Furthermore, future studies are important to determine the role of people from different domains in strength, direction, and boundaries changes.

Also, the analysis revealed that the relationship between work-family enrichment and work-family boundaries was more often statistically insignificant. It could be suggested that there is no direct relationship between boundaries and work-family enrichment. First, correlation analysis has become the standard method in the scientific literature. It usually provides general results, which may not be the most important for the model being tested. For example, many researchers present a correlation between gender (dichotomic variable) and interval variables, which do not fit the requirements for Pearson *r*. Second, the correlation between work-family enrichment and work-family boundaries can be relatively weak and requires a higher number of participants to find even the small effect size. Third, theoretically speaking, work-family enrichment refers to the transfer of resources, while boundaries are not resources *per se*. Boundaries refers to cognitive rules that allow or do not allow resources to move between domains. Work-home resource theory (ten Brummelhuis & Bakker, 2012) defines that enrichment occurs when contextual resources influence personal resources first and only then affect demands in another domain. In other words, boundaries are not contextual (although they can be influenced by context and especially other people in domain), but a personal attribute a person creates and has. Although an empirical direct relationship between work-family boundaries and work-family enrichment is plausible, it is not theoretically justifiable.

Studies quite often considered that the relationship between work-family enrichment and work-home boundaries was not direct: nine studies reported that work-family boundaries moderated the relationship between work-family enrichment and other variables, a few studies reported that work-family boundaries mediated the relationship between work-family enrichment and other variables or provided other kinds of relationship composition. Again, according to the work-home resource theory (ten Brummelhuis & Bakker, 2012), contextual resources influence personal resources first and only then affect demands in another domain. The theory emphasizes that there are five personal resources: physical, psychological, affective, intellectual, and capital. Although the authors present only four psychological resources – optimism, self-efficacy, focus, mental resilience, theory can be extended including work-family boundaries. The main assumption is that boundaries act as a gate that allows or does not allow the transfer of resources. For example, if a person has permeable boundaries, he/she is more willing to transfer resources from home to work (or vice versa), and that will end with a higher work-family enrichment. On the other hand, if a person has strict boundaries, resources will remain in the original domain, and that will result in lower work-family enrichment. Future studies are needed to test this assumption more thoroughly; however,

researchers are highly recommended to consider work–family boundaries as moderator/mediator in their models.

The results also suggest some practical implications. It could be important to consider the boundaries when conducting various types of work–family interventions in organizations. If a person has a strict boundary, the effectiveness of an intervention may be limited if a person chooses to separate work and family. For example, if an intervention is focused on increasing family–supportive supervisor support as a work support (e.g., Odle-Dusseau et al., 2015; Noroozi et al., 2023), the intervention may not be relevant for people with segmentation preferences. On the other hand, increasing employees' boundary permeability can help employees to experience greater work–family enrichment because a person can transfer more resources from work to family and vice versa. However, the results are mixed, so these recommendations should be taken with caution. Finally, based on the reviewed qualitative study, it could be important to consider that people can change their preferences to separate or integrate work and family. Vocational psychologists could assess the boundaries of their clients and help to find the job that suits their preferences in the current state, however, implying that the preferences in work–family boundaries may change in the future.

This review is not without its limitations. Grey literature was looked only partially by using Google Scholar, however, valuable articles still may be missing. Studies in English only were searched and analyzed. A priori protocol for this review was not registered. Finally, meta-analytical investigations were not performed to summarize the findings statistically.

Supplementary material provided in [https://osf.io/yauvr/overview?view\\_only=0f1fee135b48491982c-d72262959ead4](https://osf.io/yauvr/overview?view_only=0f1fee135b48491982c-d72262959ead4).

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