

Work-family interactions among female teachers: Socio-demographic, labour and psychosocial predictors

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The reciprocal interaction between work and family is an important issue currently, as demands in both contexts have increased in the present times. In educational system, the expansion of teaching duties that has occurred in recent years affects female teachers especially, as they have to balance the demands in both work and family contexts. This cross-sectional study aimed to assess demographic, labour and psychosocial predictors of work-family interactions within a random sample of 623 female teachers from a city in the metropolitan area of Porto Alegre, Brazil. The instruments used were a socio-demographic and labour questionnaire, the Psychosocial Risk Assessment Battery to assess work overload, self-efficacy, social support at work, autonomy, role conflict and interpersonal conflicts, and the Survey Work-Home Interaction-Nijmegen (SWING) to assess the work-family relationship interaction, considering its direction and quality in four dimensions - negative work-family interaction; negative family-work interaction; positive work-family interaction and positive family-work interaction. The results were obtained by means of linear regression analysis, indicating that the overload, weekly workload, performance of another occupational activity, social support and self-efficacy variables worked as predictors of the dimensions of the work-family interaction.

Introduction

Currently, the impact that work has on family dynamics and vice versa is unquestionable. The need to balance the demands between work and family life has increased in a 24-hour society (Bergs, Hoofs, Kant, Slagen, & Jansen, 2018). In contemporary society, marked by globalisation, the trend of men and women playing a dual role as both parents and workers is a common reality, as both family and work have become two important parts of life that demand time and energy (Nurmayanti, Thoyib, Noermijati & Irawanto, 2014).

Initially, studies on work-family relationships tended to address both influences, but only regarding their negative directions. Geurts et al. (2005) proposed a new model based on the *Effort-Recovery* (ER) theory by Meijman and Mulder (1998), which assesses, in a bidirectional manner, this relationship. In this model, when the effort invested in one of the domains (family or work) is excessive and recovery is insufficient, negative reactions will occur and propagate in the other domain. When the effort invested in a domain is acceptable and allows behaviour adjustment, there will be a positive impact on the other domain. A negative impact causes a conflict between the exercise within the work sphere and within the family sphere (Frone, Russell & Cooper, 1992; Goyal & Arora, 2012), and a positive impact enables a better performance of the role (Matias & Fontaine, 2012).

The conflicts that occur in attempts to meet the dual demands, professional and family-

related, have increased the concern about their management (Mostert & Oldfield, 2009). This is an important challenge for workers, institutions and researchers (Costa, 2012; Scott, Ingram, Zagenczyk & Shoss, 2015). Understanding the interaction between personal and professional life can assist organisations in planning policies and practices aimed at balancing both aspects of life. This can enable a greater performance and efficiency in the use of resources and contribute to the creation of a more stable and productive organisational environment (Goyal & Arora, 2012; Oliveira, Cavazotte & Paciello, 2013; Selvarajan, Cloninger & Singh, 2013). Thus, these actions may improve the quality of life and health of workers (Mihelić & Tekavčić, 2014).

This concern takes on new proportions in current times, considering the growth of a new generation of workers who, in addition to traditional care towards spouses and children, also assist parents and elderly relatives (Parker & Patten, 2013). It is also necessary to consider another growing social phenomenon in recent years, which is the extended time one stays with his or her family, especially among young people who choose to live longer with their parents due to emotional and financial reasons (Lennartz, Arundel & Ronald, 2015; IBGE [Brazilian Institute of Geography and Statistics], 2013).

Also, there has been a parallel increase in employment in the services sector and an increasing participation of women in the labour market, which were among the most significant changes in the industrial economies in the second half of the twentieth century and in the new millennium (McDowell, 2015). This growth causes a reorganisation of male and female roles in the labour system division, requiring involvement in multiple roles, demanding coordination and balance in responsibilities related to work and family (Barham & Vanalli, 2012).

Although the labour market already presents itself as more adjusted in terms of physical and intellectual abilities for allocation of men and women, there is still a greater dedication to family care by women (Barham & Vanalli, 2012; Prieto & Perez, 2013). The double shift remains heavier for women. Currently, women participate actively in the labour market and contribute to the family income, but they are assigned the same social roles once constructed, that is, taking care of their husbands, parenting, assisting their families and taking care of their homes (Rosa, 2011). Women have similar levels of work demands but less control over work and schedules than men in the same occupation and, therefore, report a higher level of work-family conflict (Grönlund & Öun, 2018). In this process of reconciliation between work and care of home and family, recent IBGE data (2013) indicated that, as years go by, there has been a change in the distribution of the time allocated to the care of the home among men and women, although chores are still a predominantly female activity. This role is the result of a socialisation process in which men were prepared for carrying out productive activities, while women were encouraged to engage in the care of children and house chores, with a social and subordinate role interwoven with care and support (Bellucci, 2011).

This social representation of women, from their entry into the labour market, acquires a sense and a meaning in the profession of teaching, considering the high prevalence of women in this occupation (Dias, 2011; Louro, 1998; Organisation for Economic Co-

operation and Development [OECD], 2014; Silva & Ferrari, 2011). Education is considered a professional field predominantly staffed by women (Araújo et al., 2006) and linked to the concept of donation and care, often regarded as a naturally female profession (Vanalli & Barham, 2008).

One of the issues often pointed out by teachers is the feeling of guilt for not being able to handle satisfactorily domestic and family activities (Neves & Seligmann-Silva, 2006). In this sense, among the various professions, teaching has received special attention when it comes to the work-family relationships, since few occupations identify with the personal life of the worker as much as that of a teacher (Arroyo, 2000). The work-family relationship has been related to the variables autonomy (Wayne et al., 2017), self-efficacy (Chan, 2016), social support (Bellavia & Frone, 2005), work overload, role conflict (Ee et al., 2017) and workplace interpersonal conflict (Liu et al., 2015).

Investigating the relationship between work and family in an attempt to support actions to reduce conflict among teachers enables a greater satisfaction with the job, with the family and with life (Karimi, Jomehri, Asadzade & Sohrabi, 2012), and can minimise health problems such as depression (Ugoani, 2013), and occupational diseases such as burnout syndrome (Mostert, 2011; Yang et al., 2017). In this context, the present study aims to assess demographic, labour and psychosocial predictors of the Work-Family / Family-Work interaction among teachers.

The Brazilian context

In Brazil, there are 48.6 million students and 1.4 million teachers distributed in 184,100 schools of basic education. Among the teachers, 81.5% are female (Ministry of Education of Brazil, 2018). Teaching is marked by poor working conditions, high student numbers, exhaustive workload and lack of planning time within the work day. This forces teachers to take school activities home, though receiving low wages (Zibetti & Pereira, 2010). To compensate for the low remuneration, a sizeable proportion of teachers, from 10 to 30%, have another job (Milko, 2017; Souza, Brasil & Nakadaki, 2017). Thus working in three shifts, morning, afternoon and evening is often a reality, especially for women teachers (Ferreira, 2017).

Method

Participants

This cross-sectional study was conducted with a calculated random sample composed of a population of 1250 teachers distributed in all 37 elementary schools located in a large city, the metropolitan area of Porto Alegre (in the state of Rio Grande do Sul, Brazil). The parameters for sample size calculation were 50%, 5% error, 80% effect power and 20% potential losses. The final sample consisted of 713 teachers. The collected sample consisted of 679 teachers, with a loss of 34 participants who refused to participate. A total of 56 male participants were excluded. Thus, the final study sample was composed of 623 female teachers.

Most participants had a stable relationship (77.6%) and had children (70.8%). The average age was 42 years and three months ($SD = 9$), ranging between 18 and 68 years old. Most participants had postgraduate degrees (62%). On average, they had been working in the profession for 17 years ($SD = 8.7$), with an average workload of 34 hours per week ($SD = 11.3$), ranging from 8 to 60 hours per week. They had, on average, 80.5 students ($SD = 60.2$), varying from 11 to 350 students. Most of them worked only at the school investigated (78%).

Instruments

To meet the objectives of the study, the following self-report instruments were used:

1. Sociodemographic and labour questionnaire

The instrument contains questions about socio-demographic data (gender, age, marital status, presence of children, education, salary) and labour data (weekly workload, number of students served daily, time at the job, and work in another occupation not related to teaching).

2. Survey Work-Home Interaction-Nijmegen (SWING)

This survey was developed by Geurts et al. (2005) and adapted for use with teachers by Carlotto and Câmara (2014). It is a self-report scale that aims to assess the interaction of the work-family relationship, considering its direction and quality in four dimensions:

- a. negative Work-Family Interaction (-WFI) (8 items; $\alpha = .92$), which assesses the negative impact of work-related situations on the family dynamics (*I get angry at home because of demands at work*);
- b. negative Family-Work interference (-FWI) (4 items; $\alpha = .84$), which measures the negative impact of family issues on work-related situations (*I have trouble concentrating at work for being worried about a problem in my family*);
- c. positive Work-Family Interaction (+WFI) (5 items; $\alpha = .84$), referring to the positive influence of work-related situations on family dynamics (*I feel more able to interact with my family, friends and spouse at home for what I have learned at work*); and
- d. positive Family-Work Interaction (5 items; $\alpha = .81$), (+FWI), characterised by the positive impact on family dynamics of positive situations that occurred at work (*After spending a pleasant weekend with my family, friends and spouse, I feel more satisfied with my job*).

This assessment uses a four point Likert-type score scale ranging from 0 to 3, where 0 = Never; 1 = Sometimes; 2 = Often; and 3 = Always.

3. Psychosocial Risk Assessment Battery

This was elaborated by Gil-Monte (2005) for assessing:

- a. Autonomy (5 items, Cronbach's $\alpha = .84$, *The work allows me to take initiative*);
- b. Role conflict (5 items, $\alpha = .78$, *I receive incompatible instructions from two or more people*);
- c. Work overload (5 items; $\alpha = .79$, *I feel I do not have enough time to complete my work*);
- d. Social support at work (6 items; $\alpha = .75$, *I get help from my co-workers when there are problems at work*);

- e. Interpersonal conflicts (5 items; alpha = .76, *I have been experiencing conflicts with my co-workers*); and
- f. Self-efficacy (8 items; alpha = .78, *I have confidence that I can deal effectively with unexpected events of my work*).

The items are assessed by a five-point Likert scale (0 "never" to 4 "every day"). The Brazilian adaptation (translation and back-translation) and evaluation of psychometric properties (construct validity, reliability) of the Psychosocial Risk Assessment Battery were conducted by the authors of the present study.

A confirmatory factor analysis, using *AMOS.21*, showed that the theoretical model revealed a satisfactory fit to the data ($\chi^2 [281] = 510.159$, $p < 0.001$, CFI = .925, TLI = .914 RMSEA = .05 [95% CI = .04 - .05]). All factors presented Cronbach's alpha greater than .70.

Procedures

First, the City's Educational Department was contacted and the objective of the study was presented so that authorisation and support to carry out the study could be obtained. Teachers answered the paper questionnaires at their workplace and the instruments were collected after being filled out. The application occurred from. The first author of this study collected the data during September to November 2013. The Research Ethics Committee of Universidade do Vale do Rio dos Sinos approved the study.

PASW software, version 21 (SPSS/PASW, Inc., Chicago, IL), was used to conduct the data analysis. Descriptive analyses were carried out for the variables investigated, and Pearson's correlation test was done, adopting as significant relations in which $p < .05$. Before performing the linear regression analysis (stepwise method), assumptions of multicollinearity, normality, linearity, homoscedasticity and independence of residuals and outliers were checked, without identifying a violation that contra-indicated its use. Four analyses were performed, considering as dependent variables the four dimensions of the work-family interaction, and the socio-demographic, labour and psychosocial variables (autonomy, role conflict, work overload, interpersonal conflicts and social support) as independent. The selection of predictor variables assumed a significance level of $p < .05$.

Results

Table 1 displays the amplitude, means and standard deviations of the variables under study. Higher mean values were found for the following dimensions: autonomy, social support, and self-efficacy. The means were evaluated considering the rating scale for each dimension.

Table 2 shows the results of the four linear regression analyses that considered the four dimensions of the Work-Family Interaction Scale as dependent variables, and the sociodemographic, labour and psychosocial variables as predictors. The F Model values were significant in the four regression equations. The first model presented an adjusted R²

Table 1: Descriptive statistics for the variables of the used scales (N=623)

Variables	Min	Max	Mean	SD
-WFI (Negative Work-Family Interaction)	.00	3.00	1.33	.70
-FWI (Negative Family-Work Interaction)	.00	2.50	.62	.51
+WFI (Positive Work-Family Interaction)	.00	3.00	1.22	.64
+FWI (Positive Family-Work Interaction)	.00	3.00	1.46	.74
Autonomy	.60	4.00	2.71	.55
Role conflict	.00	3.60	1.27	.73
Overload	.00	4.00	1.93	.63
Social support	.38	4.00	2.57	.66
Interpersonal conflicts	.00	2.50	1.16	.44
Self-efficacy	.88	4.00	2.71	.66

of 0.291 and an R² of 0.296, meaning that the linear regression explains 29.6% of the variance of -WFI. The second model had an adjusted R² of 0.172 and an R² of 0.179, explaining 17% of the variance of -WFI. The third model reached an adjusted R² of 0.092 and an R² of 0.095, explaining 9.5% of the variance of +WFI. The last model presented an adjusted R² of 0.061 and an R² of 0.065, explaining 6.5% of the variance of +FWI.

Table 2. Summary of the model of regression analysis for dimensions of Work-Family Interaction / Family-Work Interaction (stepwise method). (N=623).

Variables	R ²	R ² adjusted	R change	p	B	SE	β	t	p
-WFI									
Overload	.238	.237	.238	.000	.465	.044	.416**	10.499	.000
Weekly workload	.267	.265	.029	.005	.012	.002	.183**	4.874	.000
Another work	.282	.277	.014	.007	.209	.063	.124**	3.345	.001
Social support	.296	.291	.015	.012	-.137	.042	-.129**	-3.296	.001
F Model 54.341**									
-FWI									
Overload	.141	.139	.141	.000	.228	.036	.287**	6.304	.000
Social support	.159	.156	.018	.012	-.105	.032	-.139**	-3.270	.001
Interpersonal conflicts	.172	.167	.013	.005	.148	.049	.131**	3.024	.003
Education	.179	.172	.007	.042	-.057	.027	-.085*	-2.100	.036
F Model 28.086**									
+WFI									
Social support	.095	.092	.070	.000	.203	.043	.210**	4.765	.000
Self-efficacy	.095	.092	.025	.021	.163	.043	.168**	3.812	.000
F Model 27.343**									
+FWI									
Self-efficacy	.052	.050	.052	.000	.216	.051	.189**	4.205	.000
Social support	.065	.061	.013	.015	.137	.051	.120**	2.662	.008
F Model 17.875**									

*p < .05; **p < .01; -WFI = Negative Work-Family Interaction; -FWI = Negative Family-Work Interaction; +WFI = Positive Work-Family Interaction; +FWI = Positive Family-Work Interaction

The analysis of the predictors of the negative Work-Family Interaction dimension evidenced a model consisting of four variables, and overload was the variable with the greatest relative explanatory power ($\beta=0.416$). In this sense, the greater the overload, the weekly working hours, in addition to having another occupational activity not related to teaching, and the less the social support at work, the greater the negative influence of work on family life.

The variation of the negative Interaction Family-Work dimension is also explained by four variables, with Overload ($\beta =.287$) being the variable with higher impact to -FWI. The result indicates that the greater the overload and the presence of interpersonal conflict, the greater is the negative impact of family on work. The more the social support in the work context and the higher the educational level, the weaker the impact.

The positive Work-Family Interaction dimension and the positive Family-Work dimension were both explained by the same predictors: social support and self-efficacy. In the +WFI model, social support was the variable with greater impact ($\beta =.210$) and in the +FWI, it was social support ($\beta =.189$). As social support and self-efficacy belief increase, the positive influences of work on family life and of family life on work increase.

Discussion

The analysis of the predictors of the negative Work-Family Interaction dimension showed that, as overload and weekly working hours increase, and social support at work decreases, in addition to developing another occupational activity, the negative impact of work on family life becomes greater. This result has been identified as a major problem in the current teaching context (Assunção & Oliveira, 2009; Shujie & Onwuegbuzie, 2012).

This result may be related to the issue of lack of resources mentioned by Matias and Fontaine (2012), which assume that each individual has a limited amount of psychological and physiological resources such as time, attention or energy. Under certain circumstances, when engaging in multiple domains, the individual does not have enough resources to deal with all different requirements, causing the conflict. The expansion of teaching duties occurring in recent years (Barretto, 2015) has resulted in an increase in bureaucratic demands (Vieira et al., 2015), which means a heavier workload for teachers (Assunção & Oliveira, 2009). To meet such demands, teachers need to perform part of their activities during non-working hours, usually within the domestic context, using time and space taken from family life.

With respect to weekly workload - working time defined by the labour contract - it is possible to perceive it as effectively removed from the family context. However, a greater weekly workload implies a greater psychological distress (Pereira et al., 2014) and less energy to engage with family demands. From a rational perspective on resource management, the longer the time spent in one domain, the greater the degree of conflict with the other domain (Matias & Fontaine, 2012).

Working in another occupation has a negative impact on family dynamics. The teacher, in order to supplement his or her income, often needed to seek another working activity (Gomes & Brito, 2006). When having to deal with two work contexts, besides the greater workload assumed, he or she needed to face different stressors according to the activities performed in each place. Less social support at work leads to a greater conflict in the work-family relationship. In this sense, it is possible to think that the female teacher, by not counting on the possibility of sharing instrumental and emotional difficulties, tends to seek this support among family members, which might overburden relationships in this context.

The assessment of the negative Family-Work Interaction dimension found that the greater the workload, the presence of interpersonal conflicts, and the less the social support and the lower the level of education, the greater the negative impact of family on the labour activity. It is considered that the professional, when feeling overloaded, having to meet this demand in the domestic context, is faced with a pressure from the family, causing her to experience the family-work conflict. Working in an environment with interpersonal conflict and little social support causes exhaustion and decreased emotional availability (Fuster, 2011; Goyal & Arora, 2012). Social support can function as a way to pay off the emotional implications of interpersonal conflict at work (Ilies et al., 2010).

With regards to the predictor education, higher levels of education, such as postgraduate level, decreased the family's interference with work. Functional progression in the teaching career allows a higher income, which enables the hiring of professionals to replace their own housework (McDowell 2015). It can be assumed that, with domestic demands met, the female teacher can enjoy a longer time and quality of life within the family environment.

The positive Work-Family interference dimension and positive Family-Work dimension revealed that, as social support and self-efficacy belief increase in teachers, there is an increase in the positive influence of family on work, and of work on family life. It is possible to think that teachers, when perceiving themselves as capable of organising their cognitive, affective and motivational resources in order to implement actions that are necessary to achieve certain goals, to perform certain tasks or to handle specific situations (Bandura, 1997), can deal effectively with stressors of everyday life (Carlotto & Câmara, 2017). Thus, successful experiences in one domain can increase the chances of success in another domain (Bäßler & Schwarzer, 1996), positively influencing the family context with work experiences, in the same way that work experiences influence the family context.

People with a high self-efficacy establish more complex and challenging goals and tend to be more persistent against possible obstacles (Schwarzer et al., 1997). Added to this question, there is the social support received. The latter involves empathy, identification, cooperation and harmonious interaction with the others (Crandall, 1984). Sharing difficulties and maintaining cooperative relations with managers, colleagues, students and their families proved to be an important issue for the balance between the two domains. This result was also identified in a study conducted by Selvarajan et al. (2013), in which

workers with high levels of social support at work may transfer some of their resources to the family domain and reduce the tension in the latter. A meta-analysis study conducted by Michel, Kotrba, Mitchelson, Clark and Baltes (2011), confirmed the predicting role of social support in the Work-Family relationship.

Conclusion

The results show prediction models for the Negative Work-Family Interaction, Negative Family-Work Interaction, Positive Work-Family Interaction and Positive Family-Work Interaction dimensions composed of psychosocial risks derived from the design of the position (overload), work organisation (weekly workload), relational risks (interpersonal conflicts, social support), personal risks (self-efficacy) and characteristics of the sample (education). It is worth highlighting the overload variable as the one with the greatest relative explanatory power for the two dimensions that negatively impact the work-family and family-work interaction, revealing the importance of equating the activities according to the specific duties of the teaching job and its workload. Though self-efficacy and social support present low explanatory power, self-efficacy and social support were the predicting variables of the positive interaction between work-family and family-work. This result highlights the importance of the positive dimensions at both individual and interpersonal level for a better quality of life, making work and family compatible.

One of the strengths of the present study is that data among teachers was collected only in public schools, reducing possible biases associated with data collection in private schools. Additionally, this study utilised a strong theoretical basis, counting on reliable and valid instruments for data collection. Regarding the sample type used, the probabilistic one stands out, as it enables the generalisation of its results for the population to which they belong.

The results of this study should be considered in light of some limitations, such as the cross-sectional design, which prevents conclusions in terms of causality. Another limitation of the study is the utilisation of self-reported measures, which may increase the possibility of response bias. The regression models used can be considered as a limitation as well. Possible interactions, such as mediating effects between variables have not been considered. A structural model could allow reciprocal relationships to be tested. Therefore, further studies are recommended, contemplating other educational contexts and regions of the country. Moreover, other variables should be introduced aiming at better explaining the positive interactions, such as individual and interpersonal factors.

Overall, this study contributes to the development of theoretical knowledge of the Work-Family interaction. Furthermore, the findings have important implications for occupational psychologists, applied practitioners and school principals. Particularly, results should be used to shed light on possible applied interventions among teachers, such as improved positive social support and interpersonal relationships. At the organisational level, interventions should consider factors related to workload. It is important to stress to interest groups (female teachers, education managers and politicians) that the work-family

conflict is not an individual responsibility, but rather a problem that needs to be treated at all levels of society (Mihelič & Tekavčič, 2014).

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