
LMX and TMX as resources for work engagement and performance: Gender inequalities in the hybrid work context

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✎ **ABSTRACT.** Nel 2022, con la fine della pandemia di Covid-19, il telelavoro da casa ha gradualmente lasciato il posto al lavoro ibrido. Questo studio mira a comprendere in che modo gli scambi leader-membro (LMX) e gli scambi membro-membro (TMX), influenzano gli indicatori della qualità della vita sul lavoro: a tale scopo è stato distribuito un questionario online in una Pubblica Amministrazione francese. Sono state analizzate complessivamente 570 risposte, di cui 170 provenienti da uomini e 398 da donne, utilizzando un modello di equazioni strutturali multigruppo tramite Mplus. Per le donne, i risultati mostrano che la qualità degli scambi con il manager influenza la loro soddisfazione riguardo all'equilibrio tra vita lavorativa e vita privata e al loro impegno sul lavoro. Al contrario, per gli uomini, è la qualità delle relazioni con gli altri membri del proprio team a determinare una maggiore soddisfazione in questi ambiti.

✎ **SUMMARY.** In 2022, with the end of the Covid-19 pandemic, home-based teleworking has gradually given way to hybrid working. This research aims to understand how socio-organizational resources, namely leader-member exchanges (LMX) and team-member exchanges (TMX), influence indicators of quality of life at work, such as work engagement, satisfaction with work-life balance, and perceived individual performance at work. An online questionnaire was distributed in a large French public administration in 2022. A total of 570 responses, including 170 men and 398 women, were analyzed using a multi-group structural equation model via Mplus. For women, the results show that the quality of exchanges with the manager influences their satisfaction with work-life balance and work engagement. In contrast, for men, the quality of relationships with other members of their team has a higher effect on satisfaction with work-life balance, work engagement, as well as on perceived individual performance, compared to the women's group. Finally, by discussing theoretical and practical issues, we highlight that an HR policy that has not been explicitly designed to ensure equality of resources can have a deleterious impact on hybrid workers, especially women.

Keywords: Hybrid work, Gender equality, Public organization

INTRODUCTION

In France, March 2020 marked the onset of the Covid-19 pandemic and the nationwide lockdown measures. During this period, home-based teleworking allowed approximately 25% of French employees to maintain professional activity, ensuring continuity for many organizations (DARES, 2020). By December 2020, this figure had risen to 27%, with 70% of teleworkers working remotely on a regular basis, compared to just 4% in 2019 (DARES, 2022b). In 2021, over 4,000 teleworking agreements were signed, ten times more than in 2017, highlighting organizational recognition of the cost-saving and structural benefits of remote work (DARES, 2022a).

This period of sudden and widespread teleworking evolved into a more structured model in 2022, with the implementation of permanent hybrid work agreements. These structural changes have introduced new challenges regarding quality of life at work, particularly in terms of gender equality (Çoban, 2022) and professional relationships (Bezak et al., 2022).

This study investigates gender disparities in access to these socio-organizational resources in the context of a French public organization. While remote and hybrid work arrangements have the potential to enhance employee well-being, they may also amplify existing inequalities. Drawing on the Job Demand-Resources Model (JD-R; Bakker & Demerouti, 2017; Demerouti, Nachreiner & Schaufeli, 2001), this research examines how leader-member exchanges (LMX) and team-member exchanges (TMX) – two key socio-organizational resources grounded in Social Exchange theory (Blau, 2017) – are associated with work engagement (Schaufeli, Salanova, González-Romá & Bakker, 2002), satisfaction with work-life balance (Valcour, 2007), and perceived individual work performance (Griffin, Neal & Parker, 2007). In addition, the study considers psychological detachment from work (Sonnentag & Fritz, 2007), as an individual resource that may mediate these relationships, following the principles of Conservation of Resource theory (COR; Hobfoll, 2011).

While previous research has explored the impact of teleworking on quality of working life, few studies have addressed the issue of the link between gender and access to social and organizational resources in a hybrid work context (van der Lippe & Lippényi, 2020) surprisingly little empirical evidence supports that it decreases work-family conflict. In this paper we examine the role of a supportive organizational context in making working from home facilitate the

combination of work and family. Specifically, we address to what extent perceptions of managerial support, ideal worker culture, as well as the number of colleagues working from home influence how working from home relates to work-family conflict. By providing insight in the role of the organizational context, we move beyond existing research in its individualistic focus on the experience of the work-family interface. We explicitly address gender differences since women experience more work-family conflict than men. We use a unique, multilevel organizational survey, the European Sustainable Workforce Survey conducted in 259 organizations, 869 teams and 11,011 employees in nine countries (Bulgaria, Finland, Germany, Hungary, Netherlands, Portugal, Spain, Sweden, United Kingdom). The present study adopts a gender-informed perspective, focusing on the influence of socially constructed gender roles and norms in shaping access to work resources and experiences in the context of hybrid work. By doing so, it provides actionable insights for HR professionals and policy-makers aiming to promote both gender equality and sustainable work conditions in the evolving landscape of hybrid work.

Literature review

Quality of leader-member exchange and hybrid work. The quality of leader-member exchange (LMX) is a concept first proposed in 1975 and formalized in the work of Graen and Uhl-Bien (1995). This concept assumes that the managerial relationship is a unique exchange relationship whose evolution over time makes it possible to define the roles of each person. In 2006, Golden surveyed 294 American teleworkers in a large company to determine the role of professional relationships on job satisfaction. He finds a positive, linear relationship between LMX and the number of hours of teleworking reported by the respondent, but no tests are carried out to identify potential gender differences (Golden, 2006). A few years later, de Vries and colleagues (De Vries, Tummers & Bekkers, 2019) show that a high-quality LMX relationship reduces the risk of isolation among teleworkers. Similarly, Kim and colleagues (Kim, Phillips, Park & Gully, 2023), after surveying 342 employees of an oil refining company in South Korea, show that people receiving high-quality LMX are also more inclined to share their knowledge with other team members. Finally, Toscano and colleagues (Toscano, Zappalà & Galanti, 2022) observe that LMX is not

only a significant predictor of work performance, but is also negatively associated with perceived work-family conflict among teleworkers. Although gender was controlled for in this study, the authors did not find significant differences between men and women. Considering the JD-R model, high-quality LMX, as a socio-organizational resource, should lead to improved work engagement (Demerouti et al., 2001).

H1: Leader-member exchanges are positively and significantly related to work-life balance satisfaction (a), work engagement (b) and perceived individual work performance (c) in both groups (women vs. men);

H2: Leader-member exchanges are positively and significantly related to perceived work performance by mediating work-life balance satisfaction (a) and work engagement (b) in both groups.

Quality of team-member exchange and hybrid work. The quality of team-member exchanges (TMX) plays an integral role in the social support process. Seers and colleagues (Seers, Petty & Cashman, 1995, p. 21) define the quality of exchange between team members as an assessment of “the reciprocity between a member and his or her team in terms of the member’s contribution of ideas, comments and assistance to other members and, in return, the member’s receipt of information, help and recognition from other team members”. In 2006, Golden found a significant, linear and negative relationship between teleworking intensity and TMX quality, without controlling the effect of gender. In times of pandemic, Liebermann and colleagues (2021) explain that workers must devote more effort and thought to communicate with their colleagues, and yet their communication is often ineffective (Wang, Liu, Qian & Parker, 2021). However, without controlling gender effects, it is not possible to conclude from these two studies that there are differences. In addition to communication constraints, there is a lack of social relations between colleagues and teleworkers (Stempel & Siestrup, 2021), which threatens the quality of TMX for both men and women. This increase in the complexity of professional relations is also associated with a reduction in performance at work (Catana, Toma, Imbrisca & Burcea, 2022).

High-quality TMX, involving positive relationships and mutual support within the team, can also lead to work-life balance satisfaction. From the point of view of the JD-R model (Demerouti et al., 2001) and the COR theory (Hobfoll, 2011), high-quality TMX are major socio-organizational resources. These resources enable better communication,

mutual support between colleagues and better collective absorption of workload and responsibilities. In fact, Love and Dustin (2014) highlight the positive link between high-quality TMX and an individual’s propensity to take charge at work. By extension, TMX enables personal resources to be retained through social support, making the remaining resources available for personal life and improving work-life balance. This is in line with the theory of role balance (Marks & MacDermid, 1996), according to which team members who collaborate effectively can adapt more easily to the needs of their colleagues, thereby reducing conflict between professional and personal roles.

H3: Team-member exchanges are positively and significantly related to work-life balance satisfaction (a), work engagement (b) and perceived individual work performance (c) in both groups;

H4: Team-member exchanges are positively and significantly related to perceived individual work performance by mediating work-life balance satisfaction (a) and work engagement (b) in both groups.

Psychological detachment at work as mediator. Psychological detachment from work is defined as the ability not to be actively or passively involved in work outside conventional working hours, as well as the ability not to connect mentally with everything to do with work (Sonnentag & Fritz, 2007). This psychological detachment plays an essential role as a mediator between the resources and demands of work and their effects (Demerouti et al., 2001). The use of information and communication technologies (ICTs), which define the practice of teleworking, and the constant availability they allow, make it even more difficult to maintain this psychological detachment, even though it promotes recovery (Santuzzi & Barber, 2018).

High-quality LMX are perceived as positive social exchange relationships, in which workers receive support, recognition and development opportunities from their leader (Blau, 2017). This support can reduce perceived work demands, facilitating psychological detachment during rest time. This psychological detachment makes it possible to spend quality time with family, friends or to recharge one’s batteries individually, thus improving satisfaction with work-life balance.

H5: Leader-member exchange is positively and significantly related to psychological detachment at work in both groups;

H6: Psychological detachment at work and work-life

balance satisfaction are two mediators between leader-member exchange and perceived individual work performance in both groups.

Gender inequity in hybrid work context. Back in 2003, gender biases and stereotypes already accompanied the introduction of hybrid working, with 64% of women needing their manager's approval to telework, compared with only 37% of men (Tremblay, 2003). In 2022, Abendroth and colleagues report that women face more obstacles in their ability to telework from home, notably due to a lack of acceptance from managers, especially when they have children, compared to men with or without children. The literature points out that women feel they miss out on professional opportunities when they telework, unlike their male counterparts who do not (CohenMiller & Izenkova, 2022).

Men have expectations of professional success and cultural pressures to fulfil their role as the breadwinner of the household (Kågesten et al., 2016). On the other hand, women face 'triple days' (Giovanis, 2018), which increases conflicts between family, personal and professional activities, and makes psychological detachment from work more challenging. The contradictions in the empirical studies on this subject do not allow us to conclude which of the two, women or men, find it easier to detach themselves psychologically from work (Dolce, Ghislieri, Molino & Vayre, 2024).

Since the pandemic, many studies have highlighted gender disparities in work-life balance satisfaction. Studies show that women take on more responsibilities than men, making it difficult to achieve a satisfactory balance (CohenMiller & Izenkova, 2022; Giovanis, 2018). The temporality and spatiality of these roles seem to make psychological detachment from work more complicated for women than for their male counterparts in a health crisis context (van der Lippe & Lippényi, 2020).

We hypothesize that men and women will have differentiated relationships to socio-organizational resources (TMX and LMX), implying unequal relationships to work engagement, work-life balance satisfaction and perceived individual work performance in a post-pandemic context.

H7: Women have less frequent access to high-quality socio-organizational resources (LMX and TMX), which are negatively and directly related to work engagement (a), work-life balance satisfaction (b) and perceived individual work performance (c).

We consider that the lower quality of LMX among women, compared to men, leads to weaker psychological

detachment from work. This lower psychological detachment from work has a negative and indirect relationship with work-life balance and perceived individual work performance;

H8: Women have a lower score for psychological detachment from work than men, which is negatively and indirectly related to work-life balance and perceived individual work performance.

Research model. The research hypotheses are presented in Figure 1.

METHOD

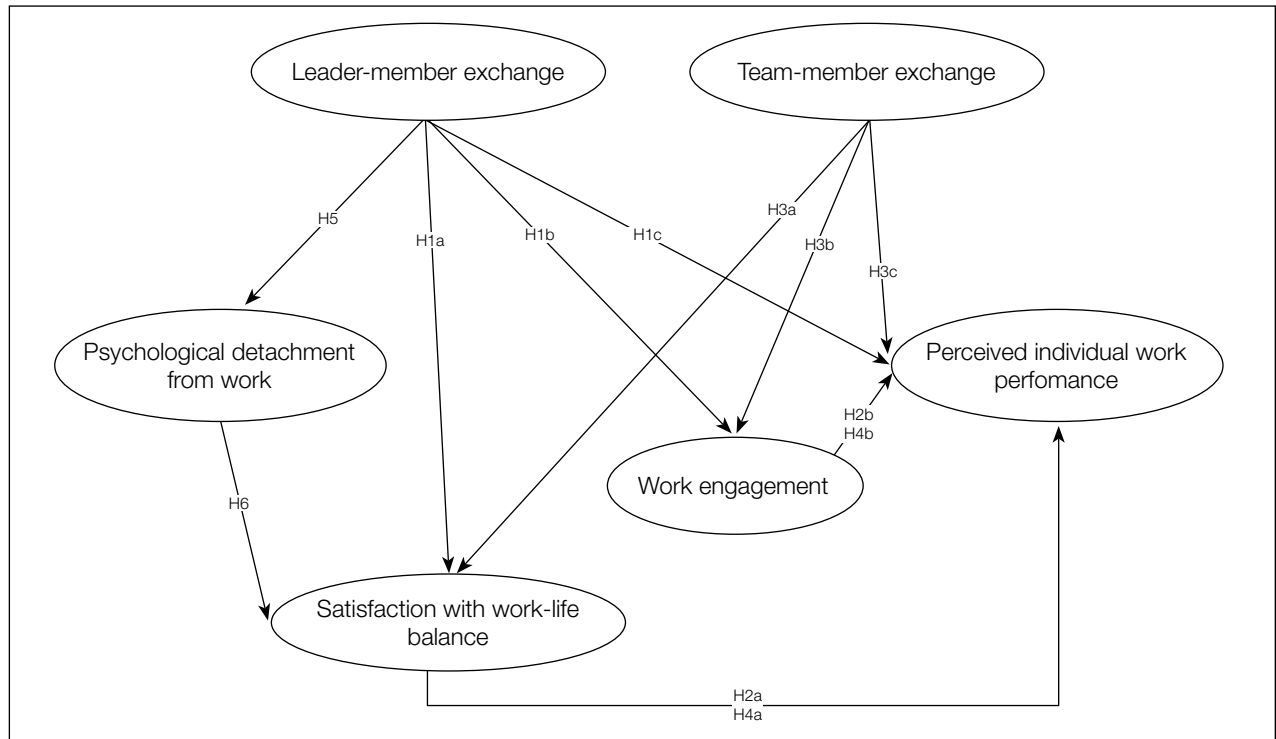
Participants and procedure

An online questionnaire was used to collect a total of 738 responses from a large French Public Administration, in 2022, after successive waves of stop-and-go measures, in a stabilized context. To remember timetable for French restrictions during the pandemic period: first confinement, March 17 to May 11, 2020; second confinement, October 30 to December 15, 2020; third lockdown, April 3 to May 3, 2021. Government restrictions, not involving total confinement, have also been put in place until March 14, 2022 (date of complete lifting of restrictions).

Considering only people in hybrid work, the sample is made up of 570 participants. Participants responded directly to Lime Survey. Informed consent was requested from all participants prior to completing the questionnaire. Information regarding the aims of the research, the use of the data and the anonymous nature of the data collection was explained to the participants before the first research questions. All participants declared they had read and understood the information. Once the questionnaire was completed, the database was extracted and cleaned.

Of the 570 respondents, 30.2% have managerial responsibilities. 69.8% were women, and 32.5% had at least one dependent child aged 12 or under. The average age is 45 ($SD = 10.4$). 85.1% work full-time, the average tenure within the organization is 12.7 years ($SD = 10.3$) and in their position is 6 years ($SD = 6.2$). Finally, of the respondents, .4% have a diploma higher than Bac +5, 39.5% have a diploma at Bac +5 level, 43.4% have a diploma between Bac +2 and Bac +4, and the remaining 16.7% have either a professional diploma, the baccalaureate, or no diploma.

Figure 1 – Research model



Note. Hypotheses H7 and H8 concern only inter-group differences (Women vs Men) and are not shown in the figure. They will be tested using a multi-group analysis (MG-SEM, $N_F = 398$; $N_M = 170$).

Among men ($N = 170$), 49.4% have at least one child. 41.8% had managerial responsibilities. The average age of the men was 46 ($SD = 9.622$). The men have an average tenure within the organization of almost 13 years ($SD = 10.72$) and in their position of around 6 years ($SD = 6.12$). The level of qualification of the men is such that .6% have a diploma higher than Bac +5; 34.7% have a diploma at Bac +5 level; 46.4% have a diploma between Bac +2 and Bac +4, and finally the remaining 18.2% have a professional diploma, the baccalaureate, or no diploma.

Among women ($N = 398$), 55.8% have at least one child. 25.1% had managerial responsibilities. The average age of the women was 44 ($SD = 10.49$). Women have an average tenure within the organization of around 12 years ($SD = 10.26$) and in their position of almost 6 years ($SD = 6.17$). The level of qualification of the women is such that 0.3% have a diploma higher than Bac +5; 41.7% have a diploma at Bac +5 level; 41.7% have a diploma between Bac +2 and Bac +4, and finally the remaining 16.4% have a professional diploma, the baccalaureate, or no diploma.

Measures

The following items and variables were used to meet our research objectives.

Perceived individual work performance (PERF) was measured with the scale by Griffin and colleagues (2007) which consists of 9 items on Likert scale from 1 to 6 (1 = Strongly disagree to 6 = Strongly agree). The scale is divided into three dimensions: competence (“I perform my essential tasks well using the correct procedures”), adaptability (“I adapt well to changes in work procedures”) and individual proactivity (“I come up with new ideas to improve the way I do my job”).

Work engagement (ENG) was assessed using the Schaufeli and colleagues (Schaufeli, Bakker & Salanova, 2006) scale in 7 items. Three dimensions make up this scale: enthusiasm (“When I get up in the morning, I want to go to work”), dedication (“I am passionate about my work”) and absorption (“I am happy when I am captivated by my activity”). Respondents were given a 7-point Likert scale (0 = Never to 6 = Always).

Satisfaction with work-life balance (WLB) was assessed using the unidimensional scale validated by Valcour (2007). This 5-item scale includes a Likert scale response mode with 1 = Not at all satisfied and 6 = Very satisfied. An example item is: “How satisfied are you with the way you divide your time between work and personal or family life?”.

The *quality of leader-member exchange (LMX)* is assessed using a unidimensional 7-item scale (Graen & Uhl-Bien, 1995) Each participant is asked to respond to the items on a 5-point Likert scale, scored from 1 = Strongly disagree to 5 = Strongly agree. An example item is “I can count on my superior to support me if I really need it”.

The *quality of team-member exchange (TMX)* is assessed using a unidimensional scale (Seers et al., 1995) with 10 items. The responses are organized on a Likert scale (5 points) with 1 = Strongly disagree to 5 = Strongly agree. An example item is: “When my colleagues have a positive influence on my work, I let them know”.

For *psychological detachment from work (DET)*, a 4-item scale (e.g. “I distance myself from my work”) from Sonnentag & Fritz (2007) is used. The last item on the scale

(“I can’t manage to detach myself from my work concerns”) is constructed as a negation, and is then coded in the opposite direction to the other items on the scale. The responses are given on a 5-point Likert scale (1 = Totally disagree to 5 = Totally agree).

Some socio-demographic information was collected using close-ended questions at the end of the questionnaire.

Data analysis

General descriptive analyses and analyses of each sub-sample were carried out using IBM SPSS 29.0.0.0. Correlation indices were calculated to assess the relationships between the different variables used. Cronbach’s alpha coefficients were calculated to ensure the validity of the variables (see Table 1). Comparisons of means by *t*-tests were carried out to compare the female and male sub-samples.

We tested the assumption of multicollinearity among the predictor variables. We examined the correlation matrix,

Table 1 – Correlation matrix, Cronbach’s alpha, means and standard deviations for each variable for women (N = 398) and men (N = 170)

Variables	1.	2.	3.	4.	5.	6.
(1) Team-member exchange	.83/.83	.42**	-.116	.43**	.177*	.46**
(2) Leader-member exchange	.20**	.95/.95	-.136	.34**	.08	.36**
(3) Psychological detachment from work	.003	.18**	.84/.88	-.16*	.47**	.021
(4) Work engagement	.24**	.25**	-.06	.87/.88	.24**	.42**
(5) Work-life balance satisfaction	.09	.27**	.50**	.20**	.94/.96	.23**
(6) Perceived individual work performance	.27**	.19**	.12*	.35**	.30**	.92/.89
<i>M</i> (female)	3.61	3.99	3.26	4.79	4.39	5.16
<i>SD</i> (female)	.64	.97	1.01	1.05	1.19	.67
<i>M</i> (male)	3.59	4.05	3.14	4.79	4.41	4.97
<i>SD</i> (male)	.62	.89	1.11	1.07	1.24	.66

Note. Correlations for women are below the diagonal, correlations for men are above the diagonal. Values in italics and bold are the Cronbach’s alphas of the samples for women/men respectively.

* $p < .05$, ** $p < .01$, *** $p < .001$

variance inflation factor (VIF), and tolerance values. All pairwise correlations were below the .90 threshold (Field, 2024). VIF values ranged from 1.136 to 1.478, which is well below the commonly accepted cutoff of 5 (Hair, 2019), and tolerance values ranged from .677 to .880, exceeding the minimum acceptable threshold of .20. These results confirm that multicollinearity is not a concern in our models.

In order to address the research hypotheses, a multi-group structural equation model (MG-SEM) was performed using Mplus 8.10 software (Muthén & Muthén, 2017). The Maximum Likelihood estimation method was used. To ensure the fit of the tested theoretical model to the emerging model in the data, the criteria of acceptable fit indices such as: χ^2 fit ($\chi^2/df \leq 3$); root mean square error of approximation (RMSEA $\leq .08$); fit comparison index (CFI $\geq .90$); Tucker-Lewis

index (TLI $\geq .90$); and standardized root mean square residual (SRMR $\leq .08$) are considered (Hu & Bentler, 1999).

For reasons of parsimony, the parceling technique was used on the *Perceived individual work performance* dimension items as well as on the TMX. The measurement model was also tested using a confirmatory multi-group factor analysis (MG-CFA), which reported an acceptable fit to the data [χ^2 (770, F: N = 398, M: N = 170) = 1711.87, $p < .001$; RMSEA = .07 (.062, .070); CFI = .924; TLI = .920; SRMR = .07]. Finally, to test the mediation hypotheses and indirect effects, a bootstrap procedure was used (2000 new samples). To test the indirect effects of the model, the bootstrapping method with 2000 replications was used (Preacher & Hayes, 2008). The significance of mediation is confirmed when the confidence interval does not include zero (see Table 2).

Table 2 – Indirect effects for the sample of men (N = 170) and women (N = 398)

Indirect effects - male sample	Bootstrap			
	Est.	S.E.	p	CI (95%)
DET → WLB → PERF	-.003	.057	.963	(-.127; .102)
LMX → DET → WLB → PERF	.000	.008	.970	(-.015; .020)
LMX → WLB → PERF	.000	.011	.989	(-.019; .021)
LMX → ENG → PERF	.038	.213	.857	(-.017; .126)
TMX → WLB → PERF	-.001	.032	.968	(-.082; .048)
TMX → ENG → PERF	.149	.354	.683	(.044; .267)
Indirect effects - female sample				
DET → WLB → PERF	.110	.035	.002	(.045; .185)
LMX → DET → WLB → PERF	.020	.008	.016	(.007; .040)
LMX → WLB → PERF	.044	.017	.013	(.013; .081)
LMX → ENG → PERF	.068	.022	.002	(.028; .113)
TMX → WLB → PERF	.020	.014	.148	(-.005; .050)
TMX → ENG → PERF	.068	.022	.002	(.027; .112)

Legenda. DET = Psychological detachment from work; WLB = Work-life balance satisfaction; PERF = Perceived individual work performance; LMX = Leader-member exchange; TMX = Team-member exchange; ENG = Work engagement.

Note. Bootstrapping (2000 replications), the indirect effect is significant when the CI interval (95%) does not include zero.

RESULTS

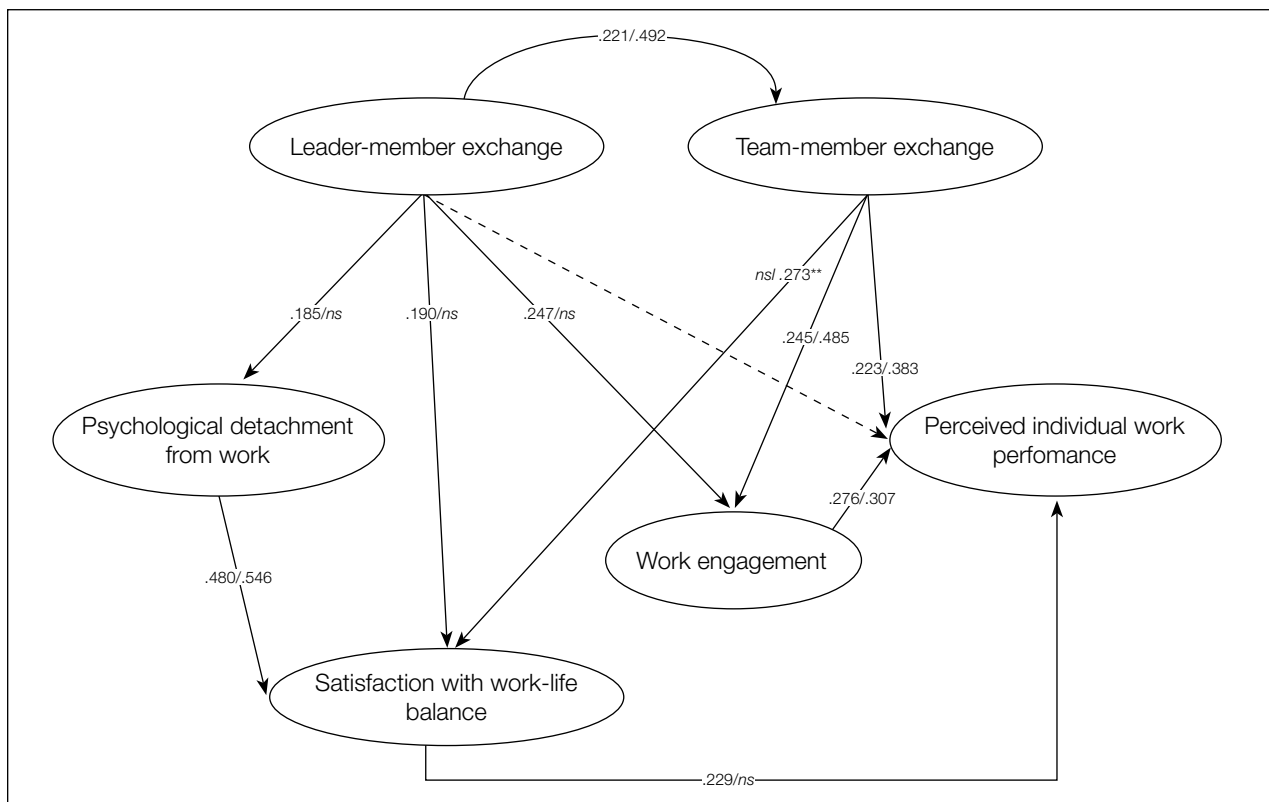
Before proceeding with the model analyses, comparisons of means were carried out in order to identify differences between men and women on the variables of interest. The analyses showed that women had a significantly higher level of detachment ($M = 3.26$, $SD = 1.01$), compared with the men in the sample ($M = 3.14$, $SD = 1.11$) [$t(566) = 4.18$, $p < .05$]. Regarding the variables of work engagement, TMX, LMX, perceived individual work performance and satisfaction with work-life balance, no significant differences were found between men and women in this sample.

The MG-SEM of the research model tested has acceptable fit indices [$\chi^2(772, F: N = 398, M: N = 170) = 1563.44$, $p < .001$; CFI = .94; TLI = .93; RMSEA = .06 (.06; .07); SRMR = .07]. Two covariance relationships were added to improve the fit index, between two items on the work-life balance satisfaction scale and two items on the work engagement scale (see Figure 2).

To conclude on the direct relationships of our research hypotheses, Hypothesis 1a states that LMX is directly and positively related to work-life balance satisfaction in both subgroups. The results show that this relationship is significant for women [$\beta = .190$, $p < .001$], but not for men [$\beta = .030$, $p > .05$]. The hypothesis that LMX is directly and positively related to work engagement (1b) and perceived individual performance (1c) reveals respectively a significant link only for women [$F: \beta = .247$, $p < .001$; $M: \beta = .125$, $p > .05$], and no significant link for either women or men [$F: \beta = -.011$, $p > .05$; $M: \beta = .146$, $p > .05$]. This result partially refutes Hypothesis 7.

Hypothesis 3a is partially confirmed since TMX is significantly related to work-life balance satisfaction only for men [$M: \beta = .273$, $p < .01$], but not for women [$F: \beta = .087$, $p > .05$]. On the other hand, Hypotheses 3b and 3c, according to which TMX is directly and positively related to work engagement [$F: \beta = .245$, $p < .001$; $M: \beta = .485$, $p < .001$] and perceived individual performance [$F: \beta = .223$, $p < .001$; $M: \beta = .383$, $p < .001$].

Figure 2 – Model tested in multi-group structural equation model (MG-SEM)



$\beta = .383, p < .001$], are confirmed in both groups. These results fully invalidate Hypothesis 7.

Hypothesis 5 assumes a direct and positive influence of LMX quality on psychological detachment from work. This relationship is significant only for women [$F: \beta = .185, p < .001$; $M: \beta = -.116, p > .05$]. This hypothesis is partially confirmed.

For Hypothesis 8, the direct effect of psychological detachment from work on work-life balance satisfaction is significant in both groups [$F: \beta = .480, p < .001$; $M: \beta = .546, p < .001$]. On the other hand, when psychological detachment from work is considered as a mediator of the relationship between LMX and work-life balance satisfaction and perceived individual performance, this relationship is significant for women [.007; .040], but not for men [−.015; .020]. These results invalidate Hypothesis 8.

A significant mediation is present in the men's group, namely the mediation of engagement between TMX and perceived individual performance [.044; .267] (Hypothesis 4b). In the women's group, it is possible to conclude that satisfaction with work-life balance mediates the relationship between psychological detachment from work and performance [.045; .185], as well as the dual mediation of psychological detachment from work and work-life balance satisfaction between LMX and perceived individual performance [.007; .040] (Hypothesis 6). LMX and performance are also mediated by satisfaction with work-life balance [.013; .081], as well as by work engagement [.028; .113] for women (Hypotheses 2a and 2b). Finally, mediation by engagement is confirmed for women when LMX is replaced by TMX [.027; .112], but not by work-life balance satisfaction [−.005; .050] (Hypotheses 4a and 4b). These results partially confirm hypotheses 2, 4 and 6.

DISCUSSION

The hypothesis which postulated a direct and positive relationship between the quality of LMX and satisfaction with work-life balance was partially confirmed for women, but not for men. This suggests that LMX may play a more important role in work-life balance satisfaction for women than for men. These results differ from previous research that found no significant gender difference in the relationship between LMX and work-life balance satisfaction (Dolce et al., 2024). One possible explanation for this discrepancy is that the study mentioned was conducted during the pandemic, a

period characterized by crisis and increased need for support among both women and men. In less urgent circumstances, this need for support may remain significant for women but diminish for men, who tend to find it easier to balance work and family responsibilities, often due to greater reliance on women, who consequently shoulder more domestic duties (Nguyen, 2021). Thus, the need for them to have hierarchical support and a good relationship with their manager in order to face these multiple roles satisfactorily is understandable. However, this interpretation should be approached with caution and requires further investigation in future research.

The lack of empirical results on the effects of LMX on engagement and the role of gender in this relationship prevents any comparison with existing data. However, the importance of LMX for women can be explained as a means of combating discrimination and legitimizing their teleworking presence. This is consistent with Lott and Abendroth (2020) findings that one of the main reasons women don't telework is fear of stigmatization compared to men who don't telework due to lack of feasibility. In the case, where women do want to telework, they are more likely than men to need their supervisor's approval to telework (Tremblay, 2003). Women are therefore more attentive in their relations with their managers to counterbalance a lower degree of freedom. This should attract the attention of HR departments, to ensure that egalitarian practices are implemented.

Finally, the direct relationship between LMX and individual performance has not been confirmed. This suggests that LMX may not be a direct predictor of perceived individual performance in a hybrid work context, even though this relationship has been proven in a traditional office (Martin, Guillaume, Thomas, Lee & Epitropaki, 2016).

The results indicate that TMX is only significantly related to work-life balance satisfaction for men but not for women. This finding contradicts studies suggesting that women are more socialized to value interpersonal relationships (Kågesten et al., 2016). One possible explanation for this result is the emergence of stereotypes towards teleworkers during the health crisis. Indeed, Teo and Lim (1998) showed that men who telework consider the gaze of others, the resentment of colleagues and the negative perception of the neighborhood towards them to be more important than women. One plausible explanation is that men's traditional role as the breadwinner of the household makes them more concerned about how others perceive them when they telework from home.

On the other hand, when they have a quality relationship, men benefit more from the social support and positive aspects of TMX. High-quality TMX help men to establish stronger social ties with their colleagues, giving them a sense of belonging and support. This support can help men better manage the boundaries between their professional and personal lives and reduce the stress associated with work-family conflict. Contrariwise, women do not benefit from such support, even when their relationships are satisfactory.

Hypotheses 3b and 3c, according to which TMX has a positive influence on work engagement and perceived individual performance, were confirmed for both groups. These results suggest that TMX is a predictor of engagement and perceived individual performance, regardless of gender. In line with the JD-R model (Demerouti et al., 2001), TMX provides workers with the social support and resources they need to perform their jobs effectively. This support helps workers to feel more motivated and committed to their work, leading to improved performance.

Hypotheses involving psychological detachment from work as a mediator contradict some empirical findings, which found no significant gender differences between LMX and psychological detachment from work (Sonnentag & Schiffner, 2019). To explain the results of this study, it is possible that men consider LMX less important for psychological detachment from work, as they are less likely to experience role conflict (Anderson & Kelliher, 2020). In addition, men are more likely to have access to other resources, such as spousal support, that can help them manage their work and family lives, compared to women (Soubelet-Fagoaga, Arnoso-Martínez, Guerendiain-Gabás, Martínez-Moreno & Ortiz, 2021).

Research suggests that several factors contribute to psychological detachment from work, which may help to explain gender differences in this process. Among these factors, positive affect during or after the workday is positively associated with recovery experiences, including psychological detachment (Sonnentag, Cheng & Parker, 2022). Secondly, the perception of having worked well is strongly associated with greater psychological detachment and relaxation (Sonnentag et al., 2022). Further empirical research could be conducted to determine whether women perceive these two factors more strongly. Finally, if women receive greater support from their managers, this could explain their greater ability to detach themselves from work compared with men (Sonnentag et al., 2022). In addition, Fonner and Stache (2012)

have highlighted the differences between men's and women's strategies for segmenting and integrating work and non-work life. Women tend to use segmentation strategies, while men are more likely to integrate activities from one sphere to another without deploying any particular strategy. Women take on a greater share of domestic and family responsibilities (Hilbrecht, Shaw, Johnson & Andrey, 2008). As a result, they must take care of other activities, which disengages them psychologically and automatically from their work.

Research limitations

In this section, we present the main limitations of the study. This study uses a cross-sectional design, which has inherent methodological limitations. One of the main constraints of cross-sectional studies is the impossibility of establishing cause-and-effect relationships between variables. As the data are collected at a single point in time, it is impossible to determine whether changes in the independent variables precede changes in the dependent variables, or vice versa. Furthermore, this model does not capture temporal fluctuations in key factors such as LMX, TMX or satisfaction with work-life balance, which can vary from day to day. To address these limitations, longitudinal or diary studies would be more appropriate, as they would track changes over time and provide a more nuanced understanding of the relationships between variables. In addition, this study relies exclusively on self-reported measures, which also introduce potential methodological biases.

Furthermore, there is a clear imbalance in the sample sizes of the groups tested. The women's group comprised 398 respondents, compared with only 170 for the men's group. This significant disparity in sample size may affect the robustness of the statistical analyses, particularly when using structural equation models, as pointed out by Bentler and Chou (1987).

Finally, the gender of the manager was not controlled in the study. While the effect of the worker's gender on the perception of the quality of exchanges between workers and managers was tested, the influence of the manager's gender on this relationship could not be evaluated. However, the experimental study by Milner and colleagues (Milner, Katz, Fisher & Notrica, 2007) showed a significant effect of the manager's gender on the perception of the quality of exchanges.

Theoretical implications

The results of this study reveal significant conclusions about the differential impact of interpersonal relationships at work according to gender. Firstly, the quality of exchanges between leaders and members (LMX) seems to have a particularly beneficial effect on women's satisfaction with work-life balance and work engagement. For men, on the other hand, it is relations with colleagues (TMX) that play a predominant role. This distinction underlines the importance of considering gender as a crucial moderator in the LMX and TMX models highlighting the need to further investigate the gendered relational dynamics of individuals.

In addition, psychological detachment from work emerges as a key mediator between the quality of LMX relationships and work-life balance satisfaction, especially among women. This finding adds to existing theories by highlighting the importance of psychological detachment in the management of relational resources and its impact on quality of life at work and outside work.

Finally, the study highlights the existence of gender biases in the distribution and effectiveness of socio-organizational resources. This observation suggests that organizational theories need to integrate a gender perspective to better understand how to optimize relational resources and support policies to reduce inequalities and particularly the invisibility of the double - triple - workload of women - mothers (Clar-Novak, 2024). These results encourage further exploration of the mechanisms underlying gender differences in access to and use of socio-organizational resources, opening avenues for future research into the management of labor relations and equality at work.

Practical implications

The results of this study indicate that the quality of exchanges between leaders and members (LMX) is

particularly significant for women, who face stereotypes and discrimination in their access to teleworking (Lott & Abendroth, 2020; Tremblay, 2003). It is essential to set up regular meetings between managers and teleworkers to discuss support and communication, as well as training managers to address the gender bias that can persist in teleworking. Encouraging two-way feedback, even when teleworking, is also an area for improvement (Jansson & Kangas, 2024), to be pointed out by the human resources department. In addition, work organizations introducing hybrid working should include gender awareness modules in training and information programs on teleworking and establish specific support policies. Equality and telework charters are often implemented separately from each other, whereas it is relevant to include gender awareness directly in telework charters and agreements. Finally, to promote psychological detachment from work, it is recommended that after-hours disconnection policies be implemented, including clear guidelines on out-of-hours work emails, and regular leave and breaks be actively encouraged.

CONCLUSION

To conclude, this study examines gender inequalities in the disposition of socio-organizational resources and how it affects the quality of work life and performance of teleworkers. The quality of exchanges with the manager in the women's group influenced their work-life balance satisfaction and work engagement. In contrast, in men's group, the quality of relationships with their team had a higher effect on work-life balance satisfaction, work engagement, as well as perceived individual performance at work, compared with the women. Future research could monitor the impact of the gender of managers and work teams on these relationships, or explore the effects of hybrid working involving other types of workspace.

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