Role Stressors and Burnout: Effects of Social Relationships

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Abstract

Many studies found direct relations between burnout, role conflict, role ambiguity and work relationships, but few have verified the possibility of moderation and mediation effects between these variables. This cross-sectional study investigates these two possibilities in an attempt to clarify the function of work relationships in the association between role stressors and burnout. This study was conducted on a sample of 263 French-speaking Canadian workers from nine different organizations. Hierarchical multiple regression analyses were conducted in order to investigate the purported interaction between social relationships and role stressors. Mediation effects were also verified through multiple regressions involving a bootstrapping procedure to estimate the indirect effects of role stressors on burnout. The results provided no evidence in favor of moderation. Conversely, the results revealed rather that social relationships did

mediate the relationship between role stressors and burnout.

Keywords: Burnout, Role conflict, Role ambiguity, Mediation, Moderation, Relationships

1. Introduction

According to Maslach, Schaufeli and Leiter (2001), burnout is a work-related psychological syndrome, which can be defined by a combination of emotional exhaustion, depersonalization and reduction of personal accomplishment. The first component, emotional exhaustion, refers to a feeling of exhaustion leading the worker to think that he will be unable to invest himself any further in his tasks. The second component, depersonalization, refers to a cognitive distance that is expressed by an attitude of indifference and cynicism toward clients, colleagues and supervisors. The third component, reduction of personal accomplishment, refers to a feeling of reduced competency at meeting job demands.

The burnout syndrome is known to exert a deleterious impact on both an organization's efficiency and an employee's health. Stephens and Joubert (2001) estimated that in 1998 alone, the costs of mental health problems accounted for a loss of more than 14 billion dollars for the Canadian economy, half of which appeared to be related to reduced productivity. Furthermore, it is now recognized that burnout may precipitate the development of mental health problems such as depression and anxiety (Maslach et al., 2001) and that it can negatively affect the social network and family life of affected employees (Burke & Greenglass, 2001). These considerations support the increasing amount of scientific attention that has been devoted to burnout development and prevention in the past few years.

1.1 Risk Factors for Burnout Development

To prevent burnout effectively, it is crucial to understand the risk processes involved in this syndrome. Although some individual risk factors have been pointed out by previous studies as playing a role in burnout development (e.g. Cordes & Dougherty, 1993; Maslach & Jackson, 1985; Russell, Altaimer, & Van Velzen, 1987; Zellars, Perrewé, & Hochwarter, 2000), organizational factors definitely occupy a central place. Indeed, studies showed quite clearly the crucial influence of organizational factors in burnout development, such as work schedule (e.g. Jamal, 2004), work load (e.g. Leiter, 1991a), role conflict and role ambiguity (e.g. Cordes & Dougherty, 1993), client type (e.g. Burke & Greenglass, 1989), social support at work (e.g. Leiter, 1991b), attribution of rewards (e.g. Schwab, Jackson, & Schuler, 1986) and organizational justice (e.g. Maslach et al., 2001). Among those organizational risk factors, role stressors (role conflict and role ambiguity) (e.g. Cordes & Dougherty, 1993) and the quality of employees' social relationships at work (e.g. Viswesvaran, Sanchez, & Fisher, 1999) appeared particularly important.

Role conflict can be defined as the extent to which employees receive conflicting or incompatible instructions concerning their role at work (Haynes, Wall, Bolden, Stride, & Rick, 1999). Many studies, both cross-sectional and prospective, corroborate the important function of role conflict in burnout development (e.g. Cordes & Dougherty, 1993; Peiro, Gonzalez-Roma, Tordera, & Manas, 2001). Role ambiguity refers to the extent to which workers fail to clearly understand their role at work (Haynes et al, 1999). This occurs when employees lack information concerning the proper performance of their tasks (Tummers, Landdeweerd, & Van Merode, 2002). Again, many studies show that role ambiguity also represents an important risk factor for burnout development (e.g. Jackson, Schwab, & Schuler, 1986; Schwab & Iwanicki, 1982). It should be noted that, even if they represent two different concepts (Jackson & Schuler, 1985), role conflict and role ambiguity are generally related and studied together. For instance, relying on a sample of 225 school administrators, Mansfield (1983) observed a positive correlation between role conflict and role ambiguity and found that both variables contributed to explain a significant portion of burnout variance when considered together.

Although exposure to role ambiguity and role conflict may represent a major source of stress, frustration and conflicts in employees' professional lives, exposure to poor social relationships at work, either with colleagues or with supervisors, may also represent a heavy burden (Gaines & Jermier, 1983). Studies that specifically evaluated the impact of positive social relationships with supervisors showed that they were associated positively with work satisfaction and negatively with burnout (e.g. Baker, Israel, & Schurman, 1996; Schlansker, 1986). Similarly, studies specifically focusing on the effects of positive social relationships with colleagues at work and of effective teamwork indicate that they are negatively related to burnout and work stress (e.g. Burke, Shearer, & Deszca, 1984; Demir, Ulusoy, & Ulusoy, 2003; Jackson et al., 1986; Leiter & Maslach, 1988; Mclean, 1996).

Studies that investigated the relation between role stressors and the quality of social relationships at work have shown that these two types of risk factors also appeared to influence one another (Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964; Liou, 1995), placing workers in a vicious circle from which it becomes increasingly hard to extricate themselves. For instance, Kahn et al. (1964) observed a long time ago that employees exposed to role conflict or role ambiguity also tended to have poor relationships with their supervisors. This effect may be explained in two different ways. On the one hand, as it is normally up to the supervisor to clearly define employees' roles, it is likely that employees exposed to contradictions or ambiguities will consider their supervisors to be responsible for this unpleasant situation. On the other hand, it is also likely that a supervisor who does not trust certain employees might willingly provide them with

ambiguous instructions to limit their initiatives. Kahn et al.'s (1964) results have since been corroborated by many studies (French & Caplan, 1970; Leiter & Maslach, 1988; Liou, 1995; Margolis, Droes, & Quinn, 1974).

Clearly, these results suggest that the effects of both variables on burnout may be interdependent. Nevertheless, very few studies considered the possibility of interrelations (moderation (Note 1) or mediation (Note 2)) between those variables in the development of burnout. These scarce studies came to highly diverging conclusions. Some of them suggest that social support (received from colleagues as well as from supervisors) could represent a buffering factor that moderates the relation between stress agents (e.g. role conflict and role ambiguity) and burnout (Beehr, King, & King, 1990; Harvey, Kelloway, & Duncan-Leiper, 2003; Kirmeyer & Dougherty, 1988; Posig & Kickul, 2003). However, other studies failed to replicate these results (Chappell & Novak, 1992; Ross, Altmaier, & Russell, 1989). Similarly, the results equally conflict regarding the possibility of social support mediating the relationships between stress and burnout (Choenarom, Williams, & Hagerty, 2005; Gonzalez, 1997; Rwampororo, 2001; Yarcheski & Mahon, 1999).

1.2 Objectives and Hypotheses

This study strives to clarify these results by verifying the possibility that the quality of social relationships at work (with colleagues and supervisors) could moderate and/or mediate the association between role stressors (role conflict and ambiguity) and burnout. More precisely, four hypotheses will be verified:

H1: The quality of social relationships at work, with supervisors as well as with colleagues, moderates (reduces) the association between role conflict and burnout.

H2: The quality of social relationships at work, with supervisors as well as with colleagues, moderates (reduces) the association between role ambiguity and burnout.

H3: The quality of social relationships at work, with supervisors as well as with colleagues, mediates the association between role conflict and burnout.

H4: The quality of social relationships at work, with supervisors as well as with colleagues, mediates the association between role ambiguity and burnout.

2. Methodology

2.1 Participants

This study relies on a convenience sample of 263 French-speaking participants (42.5% men; 37.41 years old on average; 55.3% participation rate) recruited from nine organizations located in the Canadian province of Quebec. Less than a third of the participants hold a university degree (29.5%), 32.1% have completed high school, and 34.5% have completed CEGEP (a Quebec transitional institution between high school and university). Finally, 8.5% of the participants are executives, 10.4% are supervisors, and 81.1% are first-level employees.

2.2 Procedure

Three different data collection procedures were used. With the first procedure, the questionnaires were administered directly at work by the research team (8.4%; 71.0% participation rate). The interviewer met all the volunteers in a room, read the instructions, answered questions and distributed the questionnaires. With the second procedure, the questionnaires were handed out to the employees directly by the person in charge of the project in the organizations (55.1%; 55.8% participation rate). This person described the project to the employees, invited them to participate, read the instructions, distributed the questionnaires and ensured proper follow-up. In some organizations, the person met all the volunteers in a room and collected the questionnaires at the end, while in others, volunteers received the questionnaires with a return envelope. With the third procedure, the questionnaires were individually handed out with a return envelope to volunteers by a member of the research team, who explained the project and read the instructions (36.5%; 51.9% participation rate).

2.3 Measures

2.3.1 Socio-demographic characteristics

Many authors have identified socio-demographic variables involved in the development of burnout (Cordes & Dougherty, 1993; Maslach & Jackson, 1985; Russell et al., 1987). In this study, three of these variables were selected for control purposes: (a) gender, (b) age and (c) education.

2.3.2 Role conflict and role ambiguity.

Role conflict and role ambiguity were measured by Haynes et al.'s questionnaire (1999). Both subscales of this questionnaire were translated and adapted into French by a classical translation back-translation procedure with independent bilingual judges. The role ambiguity subscale is composed of four items (α = .87; e.g. "I have clear planned goals and objectives for my job"), and the role conflict scale is composed of five items (α = .83; e.g. "I often receive conflicting instructions from two or more persons"). These items are rated on a five-point Likert-type scale. Since the

role ambiguity subscale is inverted, it will hereafter be referred to as a "role clarity" subscale. Preliminary exploratory factor analyses (with maximum likelihood estimation and oblimin rotation), conducted in this study confirmed the proposed factor structure of this instrument (KMO = .819; Bartlett p < .001; loadings = .445 to .886; 44.6% of explained variance).

2.3.3 Quality of social relationships at work

The quality of the employees' social relationships at work was evaluated by a combination of three questionnaires, one which measured teamwork quality (La Financière Agricole du Québec, 1993), one which measured the quality of the employees' relationships with their supervisors (Scandura & Graen, 1984), and one which measured the level of interpersonal trust that characterize these relationships (Cook & Wall, 1980). The interpersonal trust at work scale is subdivided into two main dimensions: trust in colleagues and trust in management. In the present study, the measure of the quality of the employees' relationships with their colleagues was based on an aggregation of the teamwork quality questionnaire and of the interpersonal trust in colleagues subscale. Similarly, the measure of the quality of the employees' relationships with their supervisors was based on an aggregation of the relationship with supervisor questionnaire and of the interpersonal trust in management subscale. Preliminary exploratory factor analyses (with maximum likelihood estimation and oblimin rotation), conducted in this study confirmed the proposed factor structure of these instruments (KMO = .908; Bartlett p < .001; loadings = .322 to .871; 44.5% of explained variance) as well as the appropriateness of the aggregation process used in this study.

2.3.3.1 *Quality of teamwork.* Teamwork quality was measured using the Teamwork subscale from the Organizational Human Performance Indicator, an organizational diagnosis instrument developed by La Financière Agricole du Québec (1993). This instrument is composed of five items (e.g. "When I am working in a team, I am able to rally to a decision"), which are rated on a five-point Likert-type scale (α = .79).

2.3.3.2 *Quality of the relationship with the supervisor.* The quality of the social relationship between the employees and their supervisor was measured using a French version of the LMX (Leader/Member Exchange: Scandura & Graen, 1984; Villeneuve & Letarte, 1989). This instrument is composed of seven items (e.g. "How would you characterize your working relation with your manager?") to which participants answer by choosing one of four alternatives (e.g. "1- Not efficient" to "4- Very efficient") (α = .93).

2.3.3.3 *Interpersonal trust at work.* The employees' interpersonal trust in their colleagues and management was measured using Cook and Wall's (1980) Interpersonal Trust at Work questionnaire. Both subscales of this questionnaire were translated and adapted into French by a classical translation back-translation procedure with independent bilingual judges. Each subscale was composed of six items assessing the degree to which participants feel they can have faith in the intentions of their colleagues and confidence in their actions (α = .91; e.g. "If I got into difficulties at work I know my workmates would try and help me out") and management (α = .87; e.g. "Management can be trusted to make sensible decisions for the firm's future"). These items were rated on a seven-point Likert-type scale.

2.3.4 Burnout

Burnout was measured with the MBI-GS (Maslach Burnout Inventory General-Survey; Schaufeli, Leiter, Maslach, & Jackson, 1996). This questionnaire was translated and adapted into French by a classical translation back-translation procedure with independent bilingual judges. This instrument evaluates three distinct, yet related (.35< r < .67), dimensions of burnout (Demerouti, Bakker, Vardakou, & Kantas, 2003; Schutte, Toppinen, Kalimo, & Schaufeli, 2000): (a) emotional exhaustion (five items; α = .93; e.g. "I feel emotionally drained from my work"); (b) cynicism (five items; α = .88; e.g. "I just want to do my job and not be bothered"); (c) reduced professional efficacy (six items; α = .76; e.g. "I can effectively solve the problems that arise in my work"). These items are rated on a seven-point Likert-type scale. In the present study, an aggregated global measure of burnout will be used. Preliminary exploratory factor analyses (with maximum likelihood estimation and oblimin rotation), conducted in this study confirmed the proposed factor structure of this instrument (KMO = .847; Bartlett p < .001; loadings = .384 to .919; 48.6% of explained variance) as well as the possibility of aggregating the three subscales into one.

2.4 Analytical strategy

2.4.1 Moderation

As the testing of interactions inherent in moderation analysis often results in serious multicollinearity, all controls, predictors and moderators were converted beforehand into deviation score form (centered at their mean) to avoid this problem (Aiken & West, 1991). Burnout was first regressed in separate linear regressions on every control, predictor and moderator used in this study to ascertain their association with burnout. At this stage, non- significant variables were withdrawn from subsequent analyses. A three-step hierarchical regression was then conducted in which burnout was regressed on three blocks of predictors entered sequentially in the analysis: (a) the first block comprised the socio-demographic characteristics; (b) the second block comprised the role stressors; and (c) the third block comprised the quality of social relationships indicators. The final model including the significant predictors was then replicated in

a final analysis.

To verify whether social relationships at work may moderate the relationship between role stressors and burnout, four interaction terms were created by the product of pairs of predictors (P) and moderators (M) (P*M: relationship with colleagues * role clarity; relationship with colleagues * role conflict; relationship with supervisor * role clarity; relationship with supervisor * role conflict). These variables were then introduced in the last step of a hierarchical multiple regression, following the main effects of both variables included in the product term. This procedure was conducted separately for each interaction to further limit multicollinearity. Significant interactions were then decomposed to test the variation of P effects according to M levels (Aiken & West, 1991; Cohen & Cohen, 1983). Briefly, in a regression analysis in which two-way interaction terms (M*P) are entered after the main effects of both P and M, the coefficients *a* (intercept) and *b* (slope) associated with P represent the effect of this variable when M equals zero. As each variable was centered at the mean, these coefficients represent the effect of P at a mean value of M. To obtain an estimate of the effects of P at additional values of M, one simply has to add or subtract constants to M so that zero represents different values and to compare the resulting coefficients. In this study, new variables were thus created to estimate the effects of P at a low and high level of M by respectively adding and subtracting a standard deviation (Aiken & West, 1991).

2.4.2 Mediation

The different steps involved in verifying a mediation effect are depicted in figure 1 and follow the recommendations of Baron and Kenny (1986): (1) Is the predictor (P) significantly associated to the outcome (O) (τ)? (2) Is P significantly associated with the mediator (M) (α)? (3) Is M significantly associated with O (β)? (4) Is the P-O relation significantly reduced when M is simultaneously entered in the equation ($\tau' < \tau$)? The significance of a mediator (indirect effect) can be verified using two different methods: (1) verifying that $\tau - \tau'$ significantly differs from zero; (2) verifying that $\alpha*\beta$ significantly differs from zero. Recent studies comparing the effectiveness of the most common methods used for verifying indirect effects concluded that the second method ($\alpha*\beta$) was generally more effective (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002). Moreover, given the frequent asymmetry of theoretical distributions of $\alpha*\beta$, verifying their significance through bootstrapped 95% confidence intervals was also recommended (MacKinnon et al., 2004). Bootstrapping relies on a resampling strategy in which a large number of samples (5000 in this study) of a size equivalent to the original one are derived from the original data by a sampling with replacement strategy. The indirect effect ($\alpha*\beta$) is then separately computed in each of the bootstrapped samples to derive a new empirical $\alpha*\beta$ distribution (Preacher & Hayes, 2004). From the resulting distribution, a confidence interval (95% in this case) around the indirect effect ($\alpha*\beta$) can be constructed. If this interval excludes "zero," the indirect effect obtained can be considered to differ significantly from zero. In the present study, bootstrapped confidence intervals were computed with the macro developed by Preacher and Hayes (2004) and available on their quantpsy.org website.

Insert Figure 1 about here

3. Results

3.1 Preliminary analyses

Preliminary analyses showed that all of the variables were normally distributed (-.66 < skewness and 1.3 > kurtosis) and presented means and standard deviations within plausible and acceptable ranges. Less than 3% of the data were missing on each of the variables. Given this, missing values were replaced by the mean of the sample on each variable, following Tabachnick and Fidell (2007) recommendations. Inspection of the Mahalnobis, Cook, and Leverage values (Tabachnick & Fidell, 2007) revealed four multivariate outliers. Analysis were replicated with and without these subjects and revealed that their inclusion did not change the results. All results will thus be reported including all of the participants. Finally, inspection of the SPSS colinearity diagnostics (e.g. .62 < tolerance < .74) revealed no problems of multicolinearity or singularity.

The means, standard deviations and correlations of the variables are presented in Table 1. These results confirm the association of all variables with burnout as well as their distinct character. Because the amount of missing data was low for each variable (n = 257 to 263), the missing values were replaced by the variable mean.

Insert Table 1 about here

3.2 Main effects and moderation

The results from the initial regression analyses are reported in Table 2. The results from the initial linear regressions analysis failed to confirm the association of socio-demographic characteristics with burnout. However, these analyses clearly confirmed the associations between both predictors and both moderators on the one hand, and burnout, on the other hand. The first step in the hierarchical multiple regression analyses (which excluded controls due to their non-significant association with burnout) confirmed that both moderators (the quality of employees' relationships with their colleagues and with their supervisor) represented significant predictors of burnout. In the second step, both

predictors (role clarity and role conflict) were entered in the equation. At this stage, role clarity, role conflict and the quality of employees' relationships with their supervisor emerged as significant predictors of burnout. Conversely, the quality of employees' relationships with their colleagues became non-significant and were taken out from the final model. The final model, including the three significant predictors, explained 32.9% of burnout variance. Finally, the potential moderating role of the quality of employees' social relationships with their colleagues and of the quality of their relationships with their supervisor on the link between role stressors and burnout was tested in a final set of hierarchical multiple regressions in which the interaction terms were entered last. These results are reported in Table 3 and indicate that none of these interactions proved significant, thus refuting hypotheses 1 and 2.

Insert Table 2-3 about here

3.3 Mediation

The results from the regression analyses in which the mediating role of the quality of employees' social relationships with colleagues and supervisors on the relationships between role stressors and burnout was tested are reported in Figures 2 to 5. Bootstrapped confidence intervals from the indirect effects are reported in Table 4. In all cases, the effects of role stressors on burnout (τ) proved significant. Similarly, the effects of role stressors on social relationships (α), as well as the effects of social relationships on burnout (β) also proved significant in all cases. Finally, the effects of role stressors on burnout remained significant, yet reduced, after the inclusion of social relationships at work in the equation (τ') in all cases. This apparent reduction suggests that there is partial mediation in the four cases, which is confirmed by the results from the indirect effects' bootstrapped confidence ($\alpha*\beta$), which all excluded zero. These results confirmed hypotheses 3 and 4.

Insert Figures 2 to 5 and Table 4 about here

4. Discussion

This study's main objective was to verify whether the quality of social relationships at work moderate and/or mediate the association between role stressors (role conflict and clarity) and burnout. Before directly verifying these hypotheses, the main effects of both predictors and moderators on burnout were first verified. The results from this first set of analyses clearly concur with those from previous studies by showing a direct association between role stressors (e.g. Cordes & Dougherty, 1993; Jackson, Turner & Brief, 1987; Jackson et al., 1986; Mansfield, 1983; Peiro et al., 2001; Schwab & Iwanicki, 1982), negative social relationships at work (Baker et al., 1996; Burke et al., 1984; Demir et al., 2003; Jackson et al., 1986; Mclean, 1996; Schlansker, 1986) and burnout development, although role clarity appears to represent the least potent of these predictors.

4.1 Moderation hypotheses

The first two hypotheses proposed that the quality of social relationships at work, with supervisors as well as with colleagues, would moderate (reduce) the association between role stressors and burnout. The results failed to confirm these hypotheses and found no evidence of moderation. These results are both consistent (Chappell & Novak, 1992; Ross et al., 1989) and inconsistent (Beehr et al., 1990; Posig & Kickul, 2003) with those from previous studies. One way to explain these divergences is to invoke the way social relationships were measured. For instance, as in the present study, Chappel and Novak (1992) used a measure tapping more the instrumental side of social relationships rather than the affective one and failed to find evidence of moderation. Conversely, studies in which evidence of moderation were found tended to use more affective or emotional definitions of social relationships (Beehr et al., 1990; Posig & Kickul, 2003).

The present results clearly shed doubts on the validity of the stress-buffering model of social support/social relationships (see Cohen & Wills, 1985), at least concerning the potential protective role of instrumental support on the relationships between stressors (role conflict and role clarity) and burnout. Indeed, this model postulates that the effects of various forms of work-related stressors can be attenuated when employees receive a high level of social support from their colleagues and supervisors. This effect is purported to occur both directly through the provision of tangible help to solve the stressful situation and indirectly by raising employees' confidence that help would be available if needed. The results appear to contradict this model by showing that the effects of both variables are additive rather than interacting.

4.2 Mediation Hypotheses

The third and fourth hypotheses proposed that the quality of social relationships at work, with supervisors as well as with colleagues, mediates the association between role stressors and burnout. The results obtained confirmed both hypotheses by showing that the relationships between both types of role stressors (role conflict and role clarity) and burnout were partially mediated by both forms of social relationships at work (with supervisors and colleagues). These results are clearly consistent with most previous studies which confirm the potential mediating role of social relationships in the chain of events linking stress to various forms of illnesses (Choenarom et al., 2005; Rwampororo, 2001; Yarcheski & Mahon, 1999; but see Gonzalez, 1997). Similarly, these results also appear consistent with the

propositions from Lazarus and Folkman's (1984) transactional model of stress, which stipulates that social support represents a mediator in a complex system of relations linking stress to physical and mental illnesses. Furthermore, they also concur with Lin and Ensel's (1984) model that advances the possibility that stressful events in people's lives may cause evading responses from their social network, thus reinforcing their initial negative reactions. In light of this model, the present results may indicate that when an employee becomes stressed due to role conflict or ambiguity, co-workers (supervisors and colleagues) would prefer to remain distant from this employee rather than risk experiencing the backlash of his or her negative emotions. The resulting social isolation would then reinforce the initial negative emotions of the employee, increasing his or her risk of burnout.

It must also be underlined that employees' relationships with their supervisor appear to play a stronger mediating role than those with their colleagues. This difference might be related to the fact that role definition and attribution are under the supervisor's responsibility. Consequently, the employee exposed to role conflict or role ambiguity at work may come to blame his supervisor for this stressful situation, thus decreasing the quality of their social relationship. Deprived of this potentially important source of social support, the employee's risk of burnout would further increase.

4.3 Limitations

As they are subject to many non-trivial limitations, the results from this study should be interpreted with caution. The potentially most serious of these limitations concerns the reliance on a convenience sample, which considerably reduces the generalizability of the results obtained and underscores the need for replication. A second limitation emerges from the use of a single source of assessment (self-reports) for all variables, which may introduce various biases in the results, such as the shared-method-variance effect that tended to overestimate the size of the observed relations between variables (Fox & Spector, 1999). Finally, as the present study uses a cross-sectional design, no relations of causality could be inferred from the results. Indeed, Frazier, Tix and Barron (2004) mention three criteria that must be met to infer causality: (1) an association must exist between two variables; (2) this association must be isolated by controlling the effect of other variables; (3) the cause must precede the effect in time. The present results must thus be interpreted with care because only the first criterion and part of the second one were met by the present methodological design.

4.4 Conclusion

This study provides important information to researchers and professionals interested in the mechanisms involved in burnout development. Indeed, not only does this study replicate the conclusions from previous studies by suggesting a direct relationship of role stressors on burnout, it also helps to clarify the potential mechanisms involved in this relationship. At this level, the results suggest that positive social relationships with colleagues and supervisors involving instrumental support do not appear to represent an efficient buffer against the effects of role conflict and ambiguity on burnout development. However, negative social relationships still appear to represent at least one of the intervening mechanisms involved in the deleterious effects of role ambiguity and conflict on burnout development. Thus, it seems that the effect of role stressors on burnout may occur at least in part through a deterioration of the quality of social relationships at work. This result is important and suggests that a possible way to prevent burnout is by promoting a greater level of awareness of the preliminary signs of burnout. A related intervention could be to help co-workers and managers act efficiently upon identifying these preliminary signs rather than withdrawing from a relation that otherwise appears to become increasingly demanding.

It is also important to remember that reality is probably much more complex and that many other factors can also play a role in the chain linking role stressors and work stressors to burnout. For instance, powerlessness and commitment might also occupy a crucial position in this chain reaction. According to Kottkamp and Mansfield (1985), a chronic situation of role conflict and role ambiguity could trigger an increase in feelings of powerlessness, which could also be amplified by a breakdown in the employees' social network. Powerlessness could, in turn, represent a key factor in burnout development (Crane & Iwanicki, 1986; Maslach, 1982). As well, according to Leiter and Maslach (1988), role conflict and a poor relationship with a supervisor could decrease commitment toward the organization. This decrease in commitment could then have a direct effect on burnout development (Kalliath, O'Driscoll, & Gillespie, 1998), in addition to reinforcing the initially negative perception that the supervisor had of the employee.

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Notes

Note 1. Moderation occurs when a third variable – the moderator – affects the direction and/or the strength of the relationship between an independent variable (the predictor) and a dependent variable (the outcome), so that the impact of the predictor on the outcome varies according to the level of the moderator (Baron & Kenny, 1986).

Note 2. Mediation occurs when the association between a predictor and an outcome is explained (completely or partially) by a third variable (the mediator). A mediator is identified when: (a) there is a significant association between the predictor and the outcome; (b) there is a significant association between the predictor and the mediator, as well as a significant association between the mediator and the outcome; (c) the relation between the predictor and the outcome is significantly reduced (or eliminated in the case of complete mediation) when the mediator is simultaneously entered into the equation (Baron & Kenny, 1986).

Table 1. Mean, standard deviations, correlations, and internal consistency of studied variables

		Mean	Standard deviation	1	2	3	4	5
1	Burnout	23.154	14.12413	(.863)				
2	Role conflict	12.6579	3.96936	.428*	(.834)			
3	Role clarity	16.8411	2.45463	-.454*	-.463*	(.874)		
4	Social relationships with colleagues	5.4151	0.75025	-.342*	-.259*	.306*	(.908)	
5	Social relationships with supervisor	4.8801	1.19365	-.483*	-.469*	.386*	.493*	(.868)

Note. The internal consistency coefficients (α) are indicated in parentheses in the diagonal; * = p<.05

Table 2. Effect of demographic characteristics, role stressors and social relationships at work on burnout

	Simple effects			Step 1			Step 2			Step 3		
	B	t	p	β	t	p	β	t	p	β	t	p
Education	-0.045	-0.720	.472									
Gender	-0.054	-0.879	.380									
Age	0.036	0.585	.559									
Rel. with colleagues	-0.341	-5.867	.000	-0.138	-2.233	.026	-0.094	-1.611	.108			
Rel. with supervisor	-0.483	-8.913	.000	-0.416	-6.735	.000	-0.266	-4.165	.000	-0.308	-5.261	.000
Role conflict	0.428	7.645	.000				0.163	2.672	.008	0.161	2.641	.009
Role clarity	-0.454	-8.233	.000				-0.250	-4.254	.000	-0.263	-4.506	.000

Table 3. Results from the interaction effects of role stressors and social relationships in the prediction of burnout

	β	t	p
Role conflict * quality of work relationships with colleagues	-0.072	-1.411	.159
Role conflict * quality of work relationships with supervisor	-0.025	-0.472	.637
Role clarity * quality of work relationships with colleagues	0.030	0.578	.564
Role clarity * quality of work relationships with supervisor	-0.020	-0.345	.731

Table 4. Bootstrapped indirect effects of role stressors on burnout with the quality of social relationships as a mediator

Predictor	Mediator	Outcome	Averaged Indirect Effect	Standard Error	95% Confidence Interval
Role Conflict	Rel. with supervisor	Burnout	0.6053	0.1240	0.3928 to 0.8923*
Role Conflict	Rel. with colleagues	Burnout	0.2284	0.0806	0.1016 to 0.4302*
Role Clarity	Rel. with supervisor	Burnout	-0.8116	0.1743	-1.1911 to -0.5006*
Role Clarity	Rel. with colleagues	Burnout	-0.4056	0.1443	-0.7386 to -0.1635*

* The confidence interval excludes zero and is therefore significant at p < .05
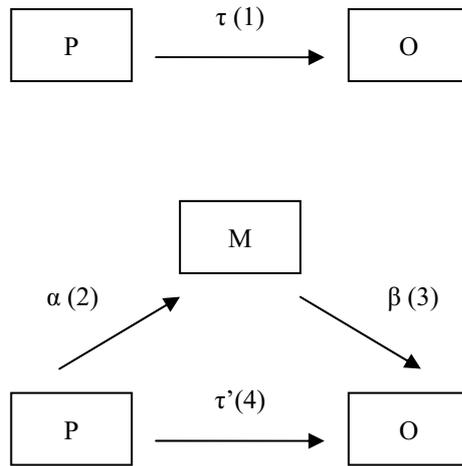
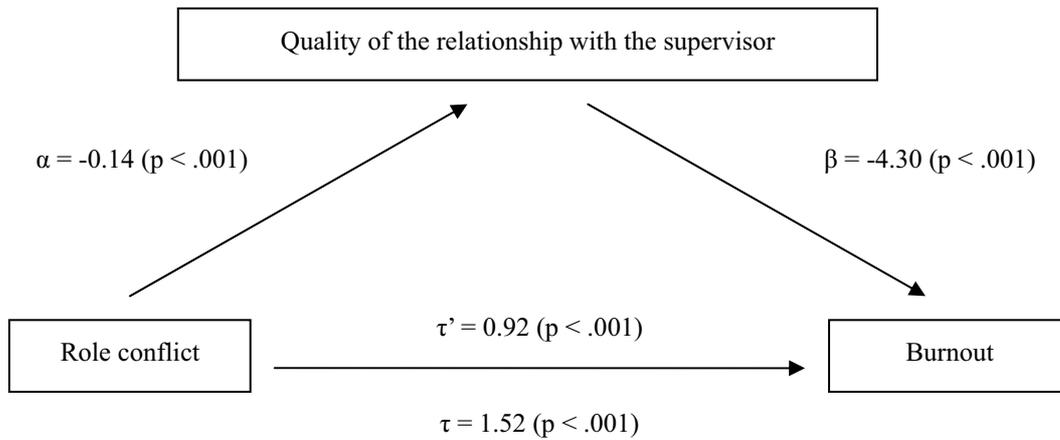Figure 1. Steps involved in verifying a mediation effect

Figure 2. The association between role conflict and burnout mediated by the
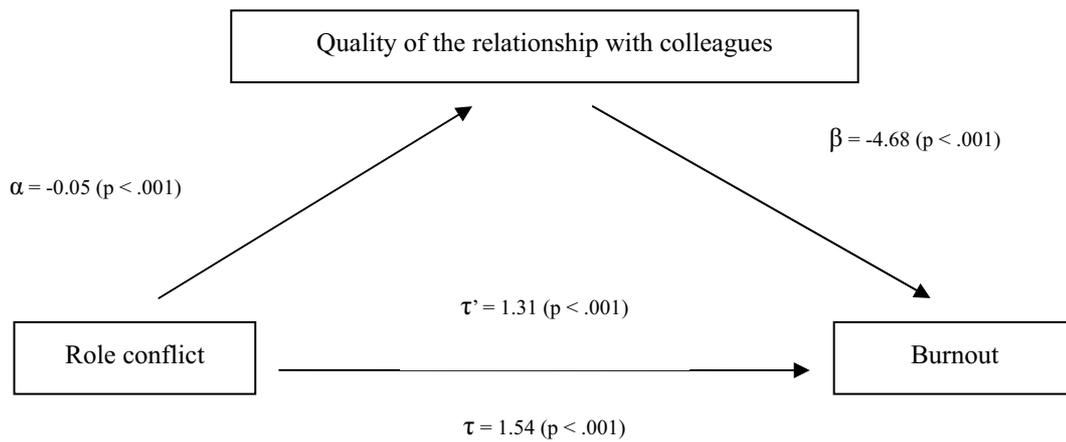quality of employees' relationships with their supervisors

Quality of the relationship with colleagues

β = -4.68 (p < .001)

α = -0.05 (p < .001)

τ' = 1.31 (p < .001)

Role conflict

Burnout

τ = 1.54 (p < .001)

Figure 3. The association between role conflict and burnout mediated by the quality of
employees' relationships with their colleagues.

Quality of the relationship with the supervisor

β = -4.26 (p < .001)

α = 0.19 (p < .001)

τ' = -1.87 (p < .001)

Role clarity

Burnout

τ = -2.68 (p < .001)
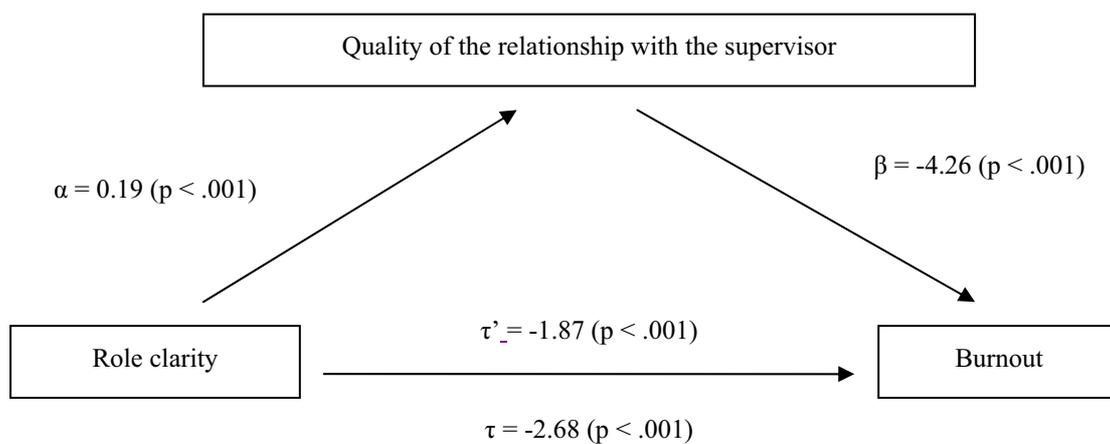
Figure 4. The association between role clarity and burnout mediated by the quality
of employees' relationships with their supervisors

Quality of the relationship with colleagues

$\alpha = 0.09 \ (p < .001)$

$\beta = -4.22 \ (p < .05)$

$\tau' = -2.29 \ (p < .001)$

Role clarity
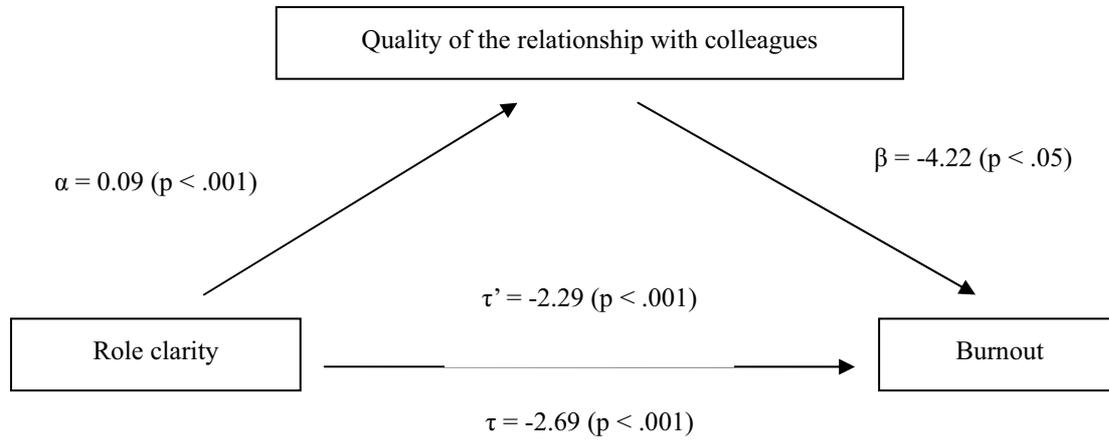
Burnout

$\tau = -2.69 \ (p < .001)$

Figure 5. The association between role clarity and burnout mediated by the quality
of employees' relationships with their colleagues.