

## Research Reports

# Role Stress and Work Engagement as Antecedents of Job Satisfaction: Results From Portugal

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## Abstract

With more organizations looking for employees who take initiative and respond creatively to the challenges of the job, engagement becomes important at both individual and organizational levels. Engaged employees are generally more satisfied with their work, committed and effective at work. According to the JDR model (Schaufeli & Bakker, 2004), engagement may be produced by two types of working conditions: job demands (i.e., role stress) and job resources (i.e., self-efficacy). This study examines the role of role stress (role ambiguity and role conflict) and work engagement as antecedents of job satisfaction. A cross sectional study using online questionnaires was conducted. The sample consisted of 312 Portuguese workers. Hierarchical multiple regressions analyses have revealed that job satisfaction was significantly predicted by role conflict and work engagement. Results support JDR model by showing that positive outcomes, such as job satisfaction, may be predicted by motivational process and job demands. On a practical level, JDR model provides a framework for understanding motivating workplaces and engaged and satisfied employees.

*Keywords:* work engagement, role conflict, role ambiguity, job satisfaction, role stress

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## Introduction

The Job Demands-Resources (JDR) model is a theoretical framework that tries to integrate two fairly independent research traditions: the stress research tradition and the motivation research tradition. According to this model, job demands are initiators of a health impairment process and job resources are initiators of a motivational process. In addition, the model specifies how demands and resources interact, and predict important organizational outcomes such as job satisfaction or organizational commitment. Previous research has shown that the assumptions of the model hold not only for self-reports but also for objective data (Bakker & Demerouti, 2007). Moreover, studies have shown that the JDR model can predict the experience of burnout and of work engagement (Demerouti & Bakker, 2011).

Recently, there has been a great deal of interest in employee engagement. May have claimed that employee engagement predicts employee outcomes, organizational success, financial performance (e.g., total shareholder return) and client satisfaction (Chaudhary, Rangnekar, & Barua, 2011). The experience of engagement has been

described as a fulfilling positive work-related experience and state of mind (Schaufeli & Bakker, 2004), and has been found to be related to good health and positive work affect, such as job satisfaction (Alarcon & Lyons, 2011; Maslach & Leiter, 2008; Saks, 2006; Schaufeli & Bakker, 2004). In the current economic climate, the employees' psychological connection with their work is certainly a key to compete effectively (Chaudhary et al., 2011). The organizations are in need of employees who are engaged with their work (Bakker, van Veldhoven, & Xanthopoulou, 2010).

On the other hand, job stress has been recognized as a significant occupational hazard that can impair physical health, psychological well-being, and work performance. It is assumed that job stress is a mediator between the impact of external job demands (stressors such as role stress) and work-related outcomes (such as job satisfaction, absenteeism, or illness) (Maslach & Leiter, 2008).

A variable closely associated with job stress and engagement in the research literature is job satisfaction. A number of writers have suggested that job satisfaction is of special significance, due to its relationship with other variables such as organizational commitment, intention to quit, and organizational citizenship (Alarcon & Lyons, 2011; Saks, 2006; Zhu, 2013). In this sense, this study examines the relationship between work engagement, role stress and job satisfaction, and the role of work engagement and role stress as antecedents of job satisfaction in a sample of Portuguese workers.

### **The Job-Demands and Resources Model**

The Job Demands and Resources Model (JDR) (Schaufeli & Bakker, 2004) distinguished two sets of variables in any kind of work: job demands and job resources. They relate, in different ways, to positive and negative outcomes, and can be typical of specific occupations.

Job demands are physical, psychological, social, or organizational aspects of work that require a physical and/or psychological effort (cognitive or emotional), and are associated with certain physiological and/or psychological costs; instead, job resources refer to those physical, psychological, social, or organizational aspects of the job that either/or (1) reduce job demands and the associated physiological and psychological costs; (2) are functional in achieving work goals; and (3) stimulate personal growth, learning and development.

With regard to the relationship between demands-resources and personal and organizational outcomes, Maslach and Leiter (2008) hypothesized that the presence of specific demands (i.e., role stress) and the absence of specific resources (i.e., self-efficacy) predict burnout, leading to negative results such as job dissatisfaction, job rotation, absenteeism, and reduction of organizational commitment. Also, the JDR model predicts that while job demands are related to burnout, job resources are related to engagement.

Recent research has shown strong and positive relationships between job resources and work engagement, and negative relationships between job demands and work engagement. Several studies have revealed that job demands such as a high work pressure, emotional demands, and role stress may lead to exhaustion, disengagement, low job satisfaction, and impaired health (Bakker & Demerouti, 2007), whereas job resources such as social support, performance feedback, and autonomy may instigate a motivational process, leading to job-related learning, job satisfaction, work engagement, and organizational commitment (Demerouti & Bakker, 2011). Thus, we hypothesize the following.

*Hypothesis 1:* There will be a negative relationship between work engagement and role stress.

## Work Engagement and Job Satisfaction

Employee engagement has emerged as one way for organizations to measure their investment in human capital (Chaudhary et al., 2011). Engagement is defined as a motivational and positive construct related to work that is characterized by vigor, dedication, and absorption. Vigor is characterized by high levels of energy displayed at work and dedication by high levels of meaning for work. Enthusiasm and challenge relate to the work one does, while absorption refers to complete concentration and happiness at work when <<time flies>>. Work engagement helps individuals deal effectively to the demands of stressful work (Britt, Adler, & Bartone, 2001).

According to Saks (2006), there is reason to expect employee engagement to be related to individuals' attitudes (i.e., job satisfaction), intentions, and behaviors. Kahn (1992) proposed that engagement leads to both individual outcomes (i.e., quality of people's work and their own experiences of doing that work), as well as organizational-level outcomes (i.e., the growth and productivity of organizations). The experience of engagement has been described as a fulfilling positive work-related experience and state of mind (Schaufeli & Bakker, 2004; Sonnentag, Mojza, Demerouti, & Bakker, 2012) and has been found to be related to good health and positive work affect, such as job satisfaction (Sonnentag et al., 2012). Thus, we hypothesize the following.

*Hypothesis 2:* Work engagement will positively predict job satisfaction.

## Role Stress and Job Satisfaction

Role stress is one of the most studied job demands in the literature. Role conflict and role ambiguity have been identified as organizational factors associated with burnout, conceptually the opposite of job satisfaction (Cervoni & DeLucia-Waack, 2011). Role conflict is defined as the simultaneous occurrence of two or more role pressures, so that the compliance with one makes more difficult to comply with the other (Rizzo, House, & Lirtzman, 1970). According to Ivancevich and Matteson (1980), conflict occurs when more than one role pressure is exerted on an employee, and these two roles conflict with each other. Increased role obligations have been shown to cause psychological conflict when multiple roles cannot be fulfilled. Other studies have found excessive increase the likelihood of psychological stress (Bekker, de Jong, Zijlstra, & van Landeghem, 2000).

Often role ambiguity is strongly connected with role conflict, and the two topics are researched together. Role ambiguity is often seen as an exaggeration factor for role conflict. Ambiguity is described as a type of inadequacy where clear information is not present and communication is lacking. According to Rizzo et al. (1970), role ambiguity is the degree to which clear information is lacking regarding the expectation associated with a role. Ambiguous role expectations (subjective) are associated with greater tension and less job satisfaction than clear role expectations (Vandenberghe, Panaccio, Bentein, Mignonac, & Roussel, 2011).

According to Locke (1976), job satisfaction is a kind of pleasant or positive affection state, which grows in the process of evaluating an individual's work experience (Zhu, 2013). As job satisfaction is a reaction directed toward the immediate work environment, an increase in role ambiguity and role conflict may precipitate the decline in job satisfaction. Both role ambiguity and role conflict constrain employees' ability to perform and be effective in their jobs, reducing enjoyment derived from the job (Vandenberghe et al., 2011). Several studies have supported the relationship between role conflict and role ambiguity and job satisfaction, specifically within teachers, nurses, and services staff (Cervoni & DeLucia-Waack, 2011; Crawford, LePine, & Rich, 2010; Zapf, Seifert, Schmutte, Mertini, & Holz, 2001). Thus, we hypothesize the following:

*Hypothesis 3:* Role stress will negatively predict job satisfaction.

## The Current Study

Job satisfaction is an important predictor of negative attitudes and behaviors in the work context. Given the negative consequences that may come with low levels of job satisfaction, it is necessary an analysis of the factors that determine job satisfaction, as well as the creation of programs that increase job satisfaction reducing, as a result, negative work behaviors. This is particular important in the Portuguese economic context, with new innovative and professional requirements for employees but with scarcity of economic resources.

With regard to the Portuguese context and according to Hofstede (2001), Portugal is characterized by a high hierarchical distance, high collectivism, low masculinity and high levels of uncertainty avoidance. This last dimension is related to role stress, specifically to role ambiguity. Security is an important element in individual motivation and job satisfaction for Portuguese workers, and role ambiguity may bring anxiety if there are no roles for working.

The JDR model pretends that job demands and resources can be distinguished in any kind of occupation, regardless which country people work in. The JDR model aims to be universal, and cultural differences are not expected (Bakker et al., 2010; Demerouti & Bakker, 2011). In this sense, new transcultural empirical evidence is needed to support the universality of the JDR model. Moreover, few studies have been realized in the Portuguese context analyzing the relationship between job demands (role stress), engagement and job satisfaction, in a cultural context with high levels of uncertainty avoidance. Due to the necessity of new cultural evidence about the JDR model and the importance of job satisfaction on organizational outcomes, this study examines the relationship between work engagement, role stress (role conflict and role ambiguity) and job satisfaction, and the role of work engagement and role stress as antecedents of job satisfaction.

## Method

### Participants

The sample consisted of 312 Portuguese workers from public and private companies. Participants were required to have a minimum of one year's experience in their professional positions. As for the sample's socio-demographic characteristics, 71.6% were female, with an average age of 34.59 years ( $SD = 10.66$ ). 50.7% of the participants were single, and 38.4 were married.

### Measures

All the constructs included in the analyses were assessed with perceptual self-report measures based on multi-item scales whose psychometric properties are well established.

**Socio-Demographic Information** — In this section, participants were asked to report age, gender, marital status and years of professional experience.

**Work Engagement** — Work engagement was assessed with the Portuguese version of the Utrecht Work Engagement (UWES) (Schaufeli & Bakker, 2004). The nine items were distributed into three dimensions: vigor (three items), dedication (three items), and absorption (three items). Responses to all items were made on a Likert-type ranging 0 ("never") to 6 ("always"). High scores indicate high levels of engagement at workplace. The Cronbach's Alpha for the scale was .90.

**Role Stress** — To measure role stress, we utilized the Portuguese version of the Role Stress Scale (Rizzo et al., 1970). The Role Stress Scale consists of 11 items distributed into two sub-scales: role ambiguity (six items) and role conflict (five items). Responses to all items were made on a Likert-type scale ranging from 1 (“not agree at all”) to 5 (“very strongly agree”). High scores reveal a high presence of role stress in the employees. The internal consistency (Cronbach’s Alpha) in this study were .84 and .81 for role ambiguity and role conflict, respectively.

**Job Satisfaction** — Job satisfaction was assessed by the Job Satisfaction Scale (Lima, Vala, & Monteiro, 1994). Responses to the eight-item scale were given on a Likert-type from 1 to 5, where 1 signifies “not agree at all” and 5 “very strongly agree”. High scores reveal a high presence of job satisfaction in the employees. The internal consistency (Cronbach’s Alpha) in this study was .86.

### Procedure

A cross sectional study using online questionnaires was conducted. A three-page survey questionnaire in Portuguese was utilized as the survey instrument. All participants were required to have a minimum of one year’s experience in their professional positions. They were informed of the study’s objectives and the confidentiality of their data, and they were asked to consent to participate.

### Data Analysis

Data analysis was conducted using SPSS 20.0 statistical package for Windows. The correlations of the different instruments and the reliability coefficients of dimensions were obtained using Pearson’s correlation and the coefficient of measurement. Hierarchical multiple regression were used to assess the ability of engagement and role stress to predict levels of job satisfaction.

## Results

### Preliminary Analysis

First of all, before testing the regression models, we examined the measurement models with all study variables: work engagement, role conflict, role ambiguity and job satisfaction. Harman’s one-factor test was conducted to test the presence of common method variance (CMV). All the variables items were entered into an exploratory factor analysis, using unrotated principal components factor analysis, and forcing to extract one factor. The factor merged accounted for less than 50% of the variance (32.45%). Thus, no general factor is apparent (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). While the results of this analysis do not preclude the possibility of common method variance, they do suggest that CMV is not a great concern and thus is unlikely to confound the interpretations of the results.

### Descriptive Statistics and Correlations

Table 1 shows the means, standard deviations, skewness and kurtosis, and intercorrelations of all study variables. The mean score of the variables ranged from 3.97 to 2.21. None of the variables had absolute skewness greater than 1. Work engagement and job satisfaction were slightly skewed toward the negative, yet role conflict and role ambiguity were slightly skewed toward the positive.

Both role ambiguity and role conflict were negatively related to job satisfaction ( $r = -.35$  and  $r = -.38$ ,  $p < .01$ , respectively) and to work engagement ( $r = -.47$  and  $r = -.15$ ,  $p < .05$ ). On the opposite, there was a positive and

significant relationship between work engagement and job satisfaction ( $r = .49, p < .01$ ), so that the higher levels of work engagement in individuals, the higher job satisfaction.

Table 1

*Descriptive Statistics and Correlations of All Study Scales*

|                     | <i>M</i> | <i>SD</i> | <i>Skw</i> | <i>Kur</i> | 1      | 2      | 3      | 4 |
|---------------------|----------|-----------|------------|------------|--------|--------|--------|---|
| 1. Engagement       | 4.51     | 1.02      | -0.89      | 0.77       | 1      |        |        |   |
| 2. Role Conflict    | 2.21     | 0.89      | 0.05       | -0.78      | -.15*  | 1      |        |   |
| 3. Role Ambiguity   | 2.45     | 1.04      | 0.56       | -0.05      | -.47** | .24**  | 1      |   |
| 4. Job Satisfaction | 3.12     | 1.12      | -0.35      | 0.04       | .49**  | -.38** | -.37** | 1 |

\* $p < .05$ . \*\* $p < .01$ .

### Testing the Hypotheses

To test our hypotheses we conducted a series of multiple and hierarchical regression analyses (see Table 2). Regression models were used to assess the ability of work engagement and role stress (role conflict and role ambiguity) to predict levels of job satisfaction. Preliminary analyses were conducted to ensure no violation of the assumptions of normality, linearity, multicollinearity, and homoscedasticity.

First, it was tested the ability of both role ambiguity and role conflict to predict levels of job satisfaction. The total variance explained by the Model 1 as a whole was 21.1%,  $F(2, 290) = 38.86, p < .01$ . Both role conflict and role ambiguity were statistically significant, with role conflict recording a higher beta value ( $\beta = -.31, p < .01$ ) than role ambiguity ( $\beta = -.28, p < .01$ ).

Next, hierarchical multiple regression was used to assess the ability of work engagement to predict job satisfaction after controlling for the influence of role conflict and role ambiguity. Role conflict and role ambiguity were entered at Step 1, explaining 21.1%. After entry of work engagement at Step 2, the total variance explained by the Model 2 as a whole was 33.9%,  $F(3, 289) = 49.33, p < .01$ . Work engagement explained an additional 12.7% of the variance on job satisfaction, after controlling for the influence of role conflict and role ambiguity,  $R^2$  change = .127,  $F(1, 289) = 16.78, p < .01$ . In the final model, only work engagement and role conflict were statistically significant, with the work engagement measure recording a higher beta value ( $\beta = -.40, p < .01$ ) than role conflict ( $\beta = -.30, p < .01$ ).

Table 2

*Hierarchical Regression Results for Job Satisfaction*

|                | <i>B</i> | <i>SE B</i> | <i>Beta</i> | <i>t</i> |
|----------------|----------|-------------|-------------|----------|
| <b>Step 1</b>  |          |             |             |          |
| Constant       | 8.89     | 1.28        |             | 6.93     |
| Role Ambiguity | -0.36    | 0.07        | -.28**      | -5.11    |
| Role Conflict  | -0.25    | 0.04        | -.31**      | -5.74    |
| <b>Step 2</b>  |          |             |             |          |
| Constant       | 6.44     | 1.22        |             | 5.27     |
| Role Ambiguity | -0.12    | 0.07        | -.09        | -1.62    |
| Role Conflict  | -0.24    | 0.04        | -.30**      | -5.98    |
| Engagement     | 0.42     | 0.06        | .40**       | 7.46     |

\* $p < .05$ . \*\* $p < .01$ .

## Discussion

Due to the current scarcity of economic resources, job satisfaction is of interest to researchers and practitioners. Now, more than ever, organizations need engaged and satisfied employees. This study investigated the relationship between work engagement, role stress and job satisfaction, and the role of engagement and role stress as antecedents of job satisfaction. The results support the JDR model in a sample of Portuguese workers.

The results support the relationship between role stress and work engagement. Findings confirmed that role stress was negatively correlated to work engagement (Bakker et al., 2010; Demerouti & Bakker, 2011; Schaufeli & Bakker, 2004). An employee's engagement level will decrease when presented with increased stress. In addition, the JDR model found that as job demands (stress) goes up engagement goes down. Poorly designed jobs or chronic jobs demands (e.g., role stress) exhaust employees' mental and physical resources, leading to the depletion of energy, absorption, and dedication related to engagement (Bakker & Demerouti, 2007).

A positive and significant relationship between work engagement and job satisfaction was observed in the study. This result is in line with other research studies (Alarcon & Lyons, 2011; Cervoni & DeLucia-Waack, 2011; Zhu, 2013), which have shown a positive relationship between engagement and job satisfaction, and a negative relationship between role stress (ambiguity role and conflict role) and job satisfaction. Our results corroborate these findings and provide further evidence that job demands and job resources relate, in different ways, to positive and negative outcomes. According to the JDR model, there is a link between both demands and resources in the workplace, and personal and organizational outcomes, such job satisfaction, engagement or burnout (Bakker et al., 2010; Schaufeli & Bakker, 2004).

This study suggests that engagement is a key predictor of job satisfaction. These results are consistent with those found in other studies (Alarcon & Lyons, 2011; Demerouti & Bakker, 2011; Saks, 2006; Schaufeli & Bakker, 2004). Saks (2006) found work engagement had a positive relationship with employees' job satisfaction and a negative relationship with turnover intention. Schaufeli and Bakker (2004) also demonstrated that work engagement influences turnover intention and job satisfaction by mediating the relationship with job resources.

The positive emotions related to work engagement are likely to result in positive outcomes, such as job satisfaction. According to Saks (2006), individuals who continue to engage themselves do so because of the continuation of favorable reciprocal exchanges. As a result, individuals who are more engaged are likely to be in more trusting and high-quality relationships with their employer and will, therefore, be more likely to report more positive attitudes and intentions toward the organization.

With regard to role stress and job satisfaction, role conflict and role ambiguity have been identified as organizational factors associated to burnout and low job satisfaction (Cervoni & DeLucia-Waack, 2011). In this study, both role conflict and role ambiguity were significant predictors of job satisfaction, as observed in other studies (Cervoni & DeLucia-Waack, 2011; Vandenberghe et al., 2011).

The multiple demands placed on the workplace appear to create pressure to make decisions on what tasks to do or how to provide all of them with finite resources and time. Also, ambiguity surrounding the role in the workplace creates pressure and influences negatively job satisfaction (Cervoni & DeLucia-Waack, 2011). The tension at work caused by role ambiguity and role conflict had a significant negative correlation with job satisfaction, suggesting

that the less role stress the workers perceived, the more satisfaction they reported (Cervoni & DeLucia-Waack, 2011; Crawford et al., 2010; Zapf et al., 2001).

However, the relationship between role ambiguity and job satisfaction disappeared when engagement was introduced as a predictor of job satisfaction. Role ambiguity refers to the degree to which clear information is lacking regarding the expectation associated with a role. The lack of information is negatively related to absorption, one of the engagement dimensions, since it difficulties the complete concentration necessary to be absorbed at work.

In this sense, the influence of role ambiguity on job satisfaction may be moderated by engagement, specifically by absorption. Having clear information (role clarity as opposite to role ambiguity) about the tasks associated with a role help individuals to be more concentrated and would rise up absorption levels. Absorption would create positive feelings at work associated to job satisfaction (Demerouti & Bakker, 2011).

Also, the lack of clear working protocols would decrease the feeling of autonomy and self-efficacy. Several studies have shown that self-efficacy is a key predictor of engagement (Llorens, Bakker, Schaufeli, & Salanova, 2006; Llorens, Schaufeli, Bakker, & Salanova, 2007). The impact of role ambiguity on job satisfaction may be mediated by absorption and self-efficacy, core elements of engagement.

There are limitations to the study that have to be addressed. First, the cross-sectional nature of the study limited the findings in that we could not show evidence of causal relationships. Second, this study relies on self-reports, which might increase the risk of common method variance (CMV). Harman's one-factor test, however, indicated that CMV did not significantly influence our results (Podsakoff et al., 2003). Third, the sample size and the distribution of men and women, among others factors, may affect sizes and the power of the results.

Future studies are to examine this model in other contexts and at different organizational levels, as well as in different samples. In future research, larger samples would allow more sophisticated statistical analyses, analyzing the role of engagement as a mediator between role stress and job satisfaction.

To sum up, the JDR model provides a framework for understanding engaged employees and engaging workplaces, even in organizational and cultural contexts with high levels of uncertainty avoidance. This framework could be useful in designing strategies for which engaged employees may be advantageous to improving the quality of services, while at the same time increasing employees' job satisfaction and well-being.

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## Competing Interests

The authors have declared that no competing interests exist.

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