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Work engagement as mediator between job characteristics and positive and negative extra-role behaviors

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Abstract

Purpose – This study is based on the JD-R model and aims at understanding the role of work engagement (WE) as a mediator between job resources (i.e. perceived organizational support) and positive extra-role behaviors (i.e. organizational citizenship behaviors (OCB)), between job demands (i.e. interpersonal conflicts at work) and negative extra-role behaviors (i.e. counterproductive work behaviors (CWB)), and also between a personal resource (i.e. conscientiousness) and both types of extra-role behaviors.

Design/methodology/approach – Data from three Romanian organizations ($n = 258$) were collected in a cross-sectional study. Two main models (fully mediated and partially mediated) tested the role of WE as a mediator, using structural equation modelling.

Findings – The results support the partially mediated model. All anticipated antecedents have a direct, and also an indirect relation with extra-role behaviors – via WE. In addition, the mediating effect was stronger for OCB than for CWB. Overall, the results show that job and personal characteristics differentially predict OCB and CWB, and that employees' affective-motivational state explains, in part, these job and personal characteristics – extra-role behaviors associations.

Originality/value – The paper advances the knowledge about the JD-R model and its relevance for OCB and CWB. In addition, understanding work engagement's potential to stimulate OCB and inhibit CWB can aid professionals to advance beneficial behavioral outcomes in organizations by promoting wellbeing at work, thereby supporting the employees' healthy career development.

Keywords Job demands, Job resources, Conscientiousness, Work engagement, Organizational citizenship behaviors, Counterproductive work behaviors, Jobs, Employees behaviour

Paper type Research paper

In the workplace, employees face various job demands, some interpersonal in nature. Interpersonal conflicts have been long considered stressful (Ilies *et al.*, 2011; Karasek,

), affecting wellbeing at work (Rook, 2001) and shown to be related to negative extra-role behaviors, such as counterproductive work behavior (CWB) (Fox *et al.*, 2001). Such behaviors refer to volitional acts that harm or intend to harm organizations and their stakeholders such as clients, co-workers, customers, and supervisors (e.g. intentionally working slowly, making fun of others at work, etc.) (Spector and Fox, 2005). Costs of such harmful behaviors can be either economic (e.g. theft), or psychological and interpersonal (e.g. psychological withdrawal) (Vardi and Weitz, 2004). Given these various costs, it is important to understand how interpersonal demands, such as conflicts, affect directly, or indirectly, harmful behaviors in the workplace. Fortunately, at work there are also various job resources that stimulate positive extra-role behavior, such as organizational citizenship behavior (OCB) (Chen *et al.*, 2005). OCBs are defined as intentional employee behaviors that are discretionary and typically not recognized or rewarded, but nonetheless improve the functioning of the organization (e.g. exceeding role expectations in attendance and work, helping others) (Organ, 1997). Moreover, certain individual characteristics are considered personal resources (e.g. conscientiousness) (Halbesleben *et al.*, 2009) that play a significant role in promoting OCB (Organ and Ryan, 1995) and counteracting CWB (Dalal, 2005).

Although there is a vast amount of research on job characteristics and personal resources, little is known about their implications for positive and negative extra-role behaviors at work, and the potential effect through work engagement. The Job Demands Resources model (JD-R; Bakker and Demerouti, 2007; Demerouti *et al.*, 2001) offers a useful conceptual frame for understanding the mechanisms through which job and personal characteristics relate to extra-role behaviors, through an affective-motivational state called work engagement (WE). More specifically, our goal is to show how job demands (i.e. interpersonal conflicts), job resources (i.e. perceived organizational support) and a personal resource (i.e. conscientiousness) are directly and indirectly, through work engagement (WE), related to positive (OCB) and negative (CWB) extra-role behaviors.

By analyzing these relationships, we wish to get more insight regarding the affective-motivational underpinnings of extra-role behaviors, and therefore in those motivational and behavioral dimensions that are important determinants of employees' careers and professional development.

Hypotheses and research model

Demands and resources at work

The JD-R model proposes that in every job two types of job characteristics can be distinguished:

(1) job demands; and

(2) job resources.

Job demands (e.g. emotional demanding interactions or high work pressures) are those physical, psychological, social or organizational aspects of the job that require sustained physical and/or psychological (i.e. cognitive or emotional) effort and therefore associated with certain physiological and/or psychological costs. Job demands may turn into job stressors when meeting demands that require high effort on the part of the employee, and the employee may not adequately recover from these stressors (Meijman and Mulder, 1998). Job resources (e.g. supervisor and coworker

support) refer to those physical, psychological, social or organizational aspects of the job that either/or function to reduce job demands, enable achievement of work goals, and/or stimulate personal growth, learning, and development. So job resources not only help employees to deal with job demands but also have the potential to motivate employees. Recently, The JD-R model was extended by Xanthopoulou *et al.* (2007) by including personal resources (e.g. optimism), that are considered aspects of the self that generally linked to resiliency and refer to individuals' sense of their ability to control and impact upon their environment successfully (Hobfoll *et al.*, 2003). Conscientiousness, a personality dimension, has been considered an important personal resource (Halbesleben *et al.*, 2009). Also Bakker *et al.* (2010) have emphasized the role of personality factors within the JD-R model for employees' wellbeing.

In the context of workplace behaviors, the social environment can also be categorized in terms of demands and resources. Previous research utilizing the JD-R model has analyzed social stressors (e.g. emotional demands) as job demands (Bakker *et al.*, 2004). Interpersonal conflict, a negative interpersonal interaction involving a contentious exchange (Ilies *et al.*, 2011), is considered an emotional demand because it places the individual in emotional stressful situations (Peeters *et al.*, 2005). Such demands are likely to be related to CWB – which refers to an emotion-based response to stressful organizational conditions (Spector and Fox, 2005). Interpersonal conflict appears to be positively and significantly related to CWB (Bruk-Lee and Spector, 2006; Fox *et al.*, 2001). Using the lens of social exchange theory (Gouldner, 1960), it may be assumed that employees may reciprocate with the same negative interpersonal treatment that they have received. Therefore we formulate:

H1. Interpersonal conflict at work is positively related to counterproductive work behaviors.

On the other hand, aspects of social environments categorized as job resources include a supportive work environment, which can be referred to as perceived organizational support that includes help and consideration for employees' goals and values. Previous research on the JD-R model has consistently classified social support as a main job resource (e.g. Schaufeli *et al.*, 2009) because it can help reduce job demands and stimulate employees to develop extra-role behaviors, such as OCBs. Perceived organizational support (POS; Eisenberger *et al.*, 1986) refers to the employees' general belief that their work organization values their contributions and cares about their wellbeing. POS was found to be related to positive extra-role behaviors (Rhoades and Eisenberger, 2002). That relation can also be explained by considering the perceived normative obligation to reciprocate the other's concession with one of his own, thus helping the organization to reach its goals (Cialdini, 2001; Gouldner, 1960). Therefore we formulate:

H2. Perceived organizational support is positively related to organizational citizenship behavior.

Conservation of resources theory (COR; Hobfoll, 1989) argues that personal resources – like conscientiousness – can be seen as such because it facilitates successful coping with stress; (i.e. increases resistance against it) and, along with other resources, may result in improved wellbeing. Conscientiousness is not only an important predictor for in-role performance (Barrick *et al.*, 2001), but also a relevant predictor for extra-role

performance such as CWB (Berry *et al.*, 2007; Dalal, 2005), and OCB (Borman *et al.*, 2001; Organ and Ryan, 1995). The reason is that conscientious people are responsible and achievement oriented, and these features being consistent to enacting positive beneficial behaviors and less detrimental behaviors for organizations. Therefore we formulate:

H3. Conscientiousness is negatively related to counterproductive work behaviors.

H4. Conscientiousness is positively related to organizational citizenship behaviors.

Demands and resources and their relationships with work engagement
Work engagement (WE) is an affective-motivational, work-related state of fulfilment in employees that is characterized by vigor, dedication and absorption (Schaufeli *et al.*, 2006a). Engaged employees have high levels of energy, are enthusiastic about their work and are often fully immersed in their job so that time appears to fly by (Macey and Schneider, 2008; May *et al.*, 2004). Common antecedents of work engagement have been found to be job characteristics (e.g. feedback, social support), leadership (e.g. that induces positive affect), and dispositional characteristics (e.g. conscientiousness) (Christian *et al.*, 2011).

Social characteristics at work help to define what is considered to be good and interesting in the work environment, thereby influencing employees' potential to experience enjoyment at work (Gersick *et al.*, 2000). From the demand perspective, in the present study we focus on interpersonal conflict at work (ICAW) that reflects how often people experience disagreements and how they experience, hostility, or aggression (Ilies *et al.*, 2011; Spector and Jex, 1998). ICAWs require emotional effort and therefore reduce levels of wellbeing (Guerra *et al.*, 2005), and they are associated with anxiety and depression (Spector and Fox, 2005). It has been found that when employees are involved in ICAW, they are less likely to be engaged in their work (Chen *et al.*, 2011) and that they are less productive (Pelled, 1996). Because such demands have the potential to wear out individuals' energy (Van Emmerik *et al.*, 2009), we formulate that:

H5. Interpersonal conflict at work is negatively related to work engagement.

From the resource perspective, social support at work is considered to have a motivating potential and thus being positively associated with engagement (Bakker and Demerouti, 2007; Schaufeli and Bakker, 2004). Because resources can play either an intrinsic or extrinsic motivational role, fostering employees 'growth and contributing to accomplishing their professional goals, they are considered to foster work engagement (Bakker and Demerouti, 2008). Therefore we formulate:

H6. Perceived organizational support is positively related to work engagement.

Using Romanian (Virga *et al.*, 2009) and South African (Mostert and Rothman, 2006) samples, substantial correlations were found between conscientiousness and work engagement. Conscientious employees, who are characterized by strong responsibility, organizational skills, and steadiness, are more likely to drive their energy into their work (Kim *et al.*, 2008), which is according to Kahn (1990) constitutes the hallmark of engagement. Therefore we formulate:

H7. Conscientiousness is positively related to work engagement.

Relationships of work engagement with extra-role behaviors
The relation between WE and extra-role behaviors is of increasing interest to researchers. Schaufeli *et al.* (2006b), found that WE had a positive impact on both in-role and extra-role performance. Moreover, Macey and Schneider (2008) indicated that state engagement is positively related to behavioral engagement, such as OCBs, that is discretionary behavior and contributes to the effective functioning of an organization. Engaged employees are likely to be involved in OCBs because they efficiently accomplish their professional goals and they feel capable to perform extra-role behaviors (Christian *et al.*, 2011).

However, so far, little is known about the relation between WE and CWBs; although there is some evidence that positive emotions at work are negatively related to organizational CWBs (Fox *et al.*, 2001). Research on emotional contagion shows that engaged employees "infect" their colleagues with their enthusiasm (see Bakker, 2008), so that it is likely that work engagement may lower the likelihood of CWB.

Thus, we expect that WE will be positively related to OCB, and negatively to CWB. Therefore we formulate:

H8. Work engagement is positively related to organizational citizenship behaviors.

H9. Work engagement is negatively related to counterproductive work behaviors.

The mediating role of work engagement
Research has shown that when organizations provide resources, employees experience WE, which, in turn, is related to positive outcomes such as organizational commitment (Hakanen *et al.*, 2006; Hu and Schaufeli, 2011) and proactive behavior (Salanova and Schaufeli, 2008). Job resources could generate positive behavior, manifested as OCBs, not only by reciprocation, but also because when employees feel supported at work they experience positive emotions (i.e. wellbeing). According to the Broaden and Build theory (Fredrickson, 2003), such emotions generate a wider array of thinking and acting among employees, such as envisioning further achievement, that can be attained by helping their colleagues, the work team and therefore the organization at large.

Therefore we formulate:

H10. Work engagement partially mediates the relation between perceived organizational support and organizational citizenship behavior.

Regarding demands at work, ICAWs are considered to be job stressors (Spector and Jex, 1998) and when experienced, employees tend to engage in CWBs – as response to the stress process (Fox *et al.*, 2001). Also, Jehn (1995) explained how relationship conflict decreases employees' performance because in such experiences, the focus tends to be on the conflict, hence leading to disengagement from the task. Therefore we hypothesize:

H11. Work engagement partially mediates the relation between interpersonal conflict at work and counterproductive work behavior.

Conscientious employees are more likely to drive their energy into their work (Kim *et al.*, 2008), and engage in extra-role performance (e.g. Dalal, 2005). Being a personal resource (Halbesleben *et al.*, 2009), conscientiousness, due to its proactive features like achievement, may encourage employees to invest energy and feel dedicated about their

work (which are features of WE). In its turn that may motivate them to foster accomplishments, for instance, by helping the organizations to achieve, like going the "extra-mile" for (i.e. performing OCB). Conscientiousness is also about inhibiting features, like responsibility and holding impulsive behaviors that could lead to being absorbed in professional activities (also feature of WE) – such work motivation and involvement may have the potential to inhibit detrimental (e.g. CWB).

Therefore, we formulate:

H12. Work engagement partially mediates the relation between conscientiousness and organizational citizenship behavior.

H13. Work engagement partially mediates the relation between conscientiousness and counterproductive work behavior.

The present study
Our goal is to contribute to the understanding of the relation between job and personal characteristics, and extra-role behaviors. While previous studies have provided empirical support for many specific links that are included in our hypothesized model (see Figure 1), none of the previous attempts tried to integrate these relevant variables in a comprehensive model to reflect the complex interplay between job demands and resources and their impact on extra-role behaviors. More specifically, and using a structural equation modeling (SEM) approach, we test the research model that is displayed in Figure 1 and that includes *H1-H13*.

Method
Sample and procedure
Our study was based on 350 questionnaires sent to employees in three organizations in the Western part of Romania: 200 questionnaires from the regional company of public
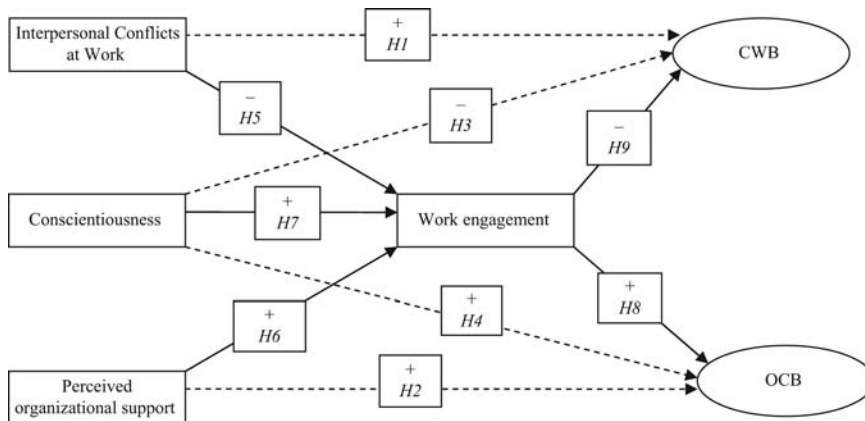
Notes: The full mediation model is represented by solid lines. The partial mediated model includes both solid and dotted lines. *H10* is about mediation of work engagement and thus combines *H6* and *H8*. *H11* is about mediation of work engagement and thus combines *H5* and *H9*. *H12* is about mediation of work engagement and thus combines *H7* and *H8*. *H13* is about mediation of work engagement and thus combines *H7* and *H9*

Figure 1.
The research models

water services and sanitation (Org1), 50 from a food manufacturing company (Org2), and 100 from a city hall (Org3), based on a non-probabilistic convenience sampling procedure. Although data were collected from organizations with different profiles, we did not find significant differences among the three organizations regarding the main study variables included in the model. The response rate was very good: 297 questionnaires were returned (84 percent): 176 questionnaires from Org1 (88 percent response rate), 39 questionnaires from Org2 (78 percent) and 81 from Org3 (81 percent). Out of 297 responses 39 were incomplete and were not processed in the analyses. The final database consisted of 258 employees (56 percent from Org1, 14 percent in Org2, and 30 percent in Org3). There was a good balance regarding gender (52 percent women), 16 percent were managerial staff and the participants had an average age of 38.55 years (SD = 10.21). Their tenure was 16.94 years (SD = 11.18) and they worked on average 9.94 years (SD = 9.26) in their current jobs. The general objective of the research was briefly introduced to the employees and all participants were assured about the confidentiality of their individual responses and they were informed that only overall group results would be presented to their employer. Each employee received an envelope containing the questionnaires and was asked to return the completed questionnaires in a sealed envelope that could be dropped at special points in their organizations.

Measures
The Romanian versions of all instruments (except the personality measure, which was developed in Romanian) were evaluated using the standard back-translation technique (Breslin, 1970).

Work engagement was measured using the nine-item version of the Utrecht Work Engagement Scale (UWES 9; Schaufeli *et al.*, 2006a), tapping three dimensions, namely Vigor (three items;, e.g. "At my work, I feel bursting with energy"), Dedication (three items;, e.g. "I am enthusiastic about my job") and Absorption (three items; e.g. "I am immersed in my work"). Response alternatives were given on a Likert scale (0 = "never" to 6 = "always/every day"). For our analyses, a global score was computed, with higher scores being indicative of a higher level of WE.

Conscientiousness was measured with a 19-item scale from the DECAS Personality Inventory (Sava, 2008) (e.g. "I rather consider myself a very orderly person, each thing having its own well defined place"). The response choices solicit a dichotomized answer ("true"/"false").

Counterproductive work behavior was measured by the Counterproductive Work Behavior Checklist (CWB-C; Fox and Spector, 2002; Spector *et al.*, 2006). This scale includes 22 items reflecting behaviors that target individuals (e.g. "Did something to make a person at work look bad") and 21 items that target the organization (e.g. "Purposely did your work incorrectly"). Response alternatives were given on a Likert scale (1 = "never" to 5 = "every day").

Organizational citizenship behavior was measured using the scale described by Lee and Allen (2002). This scale includes eight items reflecting interpersonal behaviors (e.g. "Willingly give your time to help others who have work-related problems") and eight items tapping organization-oriented behaviors (e.g. "Attend functions that are not required but that help the organizational image"). Response alternatives were given on a Likert scale (1 = "never" to 7 = "always").

Interpersonal conflicts were measured by the Interpersonal Conflicts at Work Scale (ICAW; Spector and Jex, 1998), a four-item rating scale designed to assess the amount of conflict or discord at work (e.g. "How often do you get into arguments with others at work"). Response alternatives were given on a Likert scale (1 = "never" to 7 = "very often").

Perceived organizational support was measured using an eight-item rating scale (Eisenberger *et al.*, 1997; Rhoades *et al.*, 2001) (e.g. "My organization shows concern for me"). Response alternatives were given on a Likert scale (1 = "strongly" disagree to 7 = "strongly agree").

Data analysis
The data were analyzed using AMOS 4.0 (Arbuckle and Wothke, 1999). It is common practice to test alternative models in order to determine which model best explains relationships among the study variables. Therefore we tested two path models:

(1) the hypothesized model – a partially mediated model (which assumes that in addition direct effects of POS and ICAWs, and personality on extra-role behaviors exist); and

(2) the alternative model – a fully-mediated model which assumes that WE fully mediates the relationship between perceived support and personality (POS and conscientiousness) and demands (ICAWs) and extra-role behaviors).

To assess model fit, we used maximum-likelihood estimation and report fit indices that are least influenced by sample size (the Root-Mean-Square Error of Approximation – RMSEA) and by estimation method (the Goodness-of-Fit Index – GFI, and the Adjusted Goodness-of-Fit Index – AGFI) (Fan *et al.*, 1999). We also report two relative goodness-of-fit indices recommended by Marsh *et al.* (1996): Normed Fit Index (NFI) and Comparative Fit Index (CFI). Furthermore, we used the chi-square index for evaluating the models and for estimating the statistical significance of the difference between the models (Weston and Gore, 2006). For NFI and CFI, values greater than 0.90 are considered to indicate acceptable fit (Hoyle, 1995), whereas values smaller than 0.08 for RMSEA indicate good model fit, and values larger than .10 indicate unacceptable model fit (Browne and Cudeck, 1993).

Before testing our hypotheses we assessed the potential presence for common method bias (Podsakoff *et al.*, 2003), both in terms of response style (all measurement being self-reported), and in terms of positivity/negativity of the analyzed constructs. Therefore, a one-factor solution (common self-reported bias), a two-factor solution (positive traits and negative traits, respectively), and a five-correlated factors solution (POS, WE, OCBs, ICAWs, and CWBs as latent factors) were compared in a CFA, using a maximum likelihood estimation method. Findings show that the fit to the data of the five factor solution is superior to that of the other two solutions (e.g. RMSEA 0.050 (0.037 − 0.063); CFI 0.98, AGFI 0.92); two-factor solution −($\Delta\chi^2$ (8) = 563.3, $p < 0.001$) and one-factor solution ($\Delta\chi^2$ (9) = 1970.0, $p < 0.001$).

Results
Descriptive analysis
Table I reports means, standard deviations, internal consistency (Cronbach's alpha), and zero-order correlations among all study variables. As can be seen from Table I, all

	M	SD	1	2	3	4	5	6	7	8	9
1. CWB	49.71	11.60	0.95								
2. OCB	90.08	15.70	-0.28	0.92							
3. Work engagement	4.23	1.37	-0.28	0.51	0.90						
4. Conscientiousness	11.29	3.00	-0.22	0.37	0.39	0.71					
5. Interpersonal conflict at work	7.18	2.46	0.44	-0.30	-0.25	-0.07	0.83				
6. Perceived organizational support	40.59	10.14	-0.23	0.38	0.35	0.17	-0.37	0.92			
7. Gender (1 – Male, 2 – Female)	–	–	-0.07	0.00	0.00	0.04	0.08	0.03	–		
8. Age	38.55	10.21	-002	0.08	0.12	0.19	0.04	0.01	-0.09	–	
9. Tenure on the job	9.94	9.26	0.00	0.10	0.20	0.13	0.05	0.04	-0.17	0.61	–

Notes: $n = 258$; M = Mean; SD = Standard deviations. Reliabilities are on the diagonal (alpha Cronbach). $|r| \geq 0.15$ for $ps < 0.05$ and $|r| \geq 0.18$ for $ps < 01$

Table I.
Correlation matrix of the model variables

scales exceed the criterion of 0.70 for Cronbach's alpha (Nunnaly and Bernstein, 1994), so that their internal consistency is satisfactory. Correlations between variables included in the model and demographic variables (i.e. gender, age and tenure on the job) showed small effects, with values ranging from -0.006 to 0.18. All correlations presented in Table I are statistically significant at $p < 0.001$, except for the correlation between conscientiousness and ICAWs($r = -0.07$, n.s.).

Model testing
The fully mediating model assumes that WE fully mediates the relations between conscientiousness, POS and ICAWs on the one hand, and CWBs and OCBs on the other hand (see Figure 1). The partially mediating model specifies both direct as well as mediated relations between predictors and criteria. The fit of both models is displayed in Table II. It appears that only the partial mediation model fits the data well. As can be seen from Figure 2, the proportion of explained variance for CWB (0.25) is about similar to that for WE (0.24), but lower than that for OCB (0.42). Not surprisingly, a formal chi-square difference test revealed that the fit of the partial mediating model is superior to that of the fully mediating model ($\Delta\chi^2(4) = 83.72$, $p < 0.001$).

Direct and mediation effects
Work Engagement, conscientiousness, ICAWs and POS all relate significantly and in the expected direction with both forms of CWBs and OCBs. The direct effects presented in Figure 2 also support the hypotheses that stated relations between: ICAWs and conscientiousness with CWBs (0.41, and -0.14) (*H1* and *H3*) and between POS and conscientiousness with OCBs (0.24, and 0.19) (*H2* and *H4*, respectively). Job demands (i.e. ICAWs) were found to relate directly and negatively to WE (-0.14), as was anticipated in *H5*, and job and personal resources (i.e. POS and conscientiousness) were found to relate directly and positively to WE (0.24, and 0.34), as was stated in *H6* and *H7*, respectively. Work Engagement was found to relate positively to OCBs (0.42) (*H8*) and negatively to CWBs (-0.14) (*H9*). In sum, *H1-H9* was supported.

Furthermore, our model highlights the mediated effects played by WE in the relation between job resources (i.e. POS) and OCBs (as stated in *H10*), as well as between job demands (i.e. ICAWs) and CWBs (*H11*), and also between conscientiousness and both types of extra-role behaviors (*H12* and *H13*). Overall, mediation effects were stronger for OCBs than for CWBs; that is, the indirect effect of conscientiousness – via WE – explains 42 percent of the total effect in OCBs, whereas the corresponding indirect effect of conscientiousness explains only 28 percent of the total effects in CWBs. This discrepancy in amounts of explained variance is caused by the relatively strong association between WE and OCBs (0.42), as compared to CWBs (-0.14). The indirect effect of perceived organizational support – via work engagement – on OCBs explains 29 percent of the total effect of OCBs, whereas the indirect effect of interpersonal conflicts at work – again via work engagement – explains only 5 percent of the total effects on CWBs. In sum, all three hypotheses that assumed partial mediation of work engagement (*H10-H13*) were confirmed (see Table III).

Discussion
The purpose of the present study was to examine a model that includes job characteristics (i.e. ICAWs and POS), an individual difference factor

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17,3

Model	χ^2	GFI	AGFI	NFI	CFI	RMSEA	RMSEA Low	RMSEA High
Full mediation model	$\chi^2(17) = 95.36$ $p < 0.001$	0.91	0.81	0.88	0.90	0.13	0.10	0.16
Partial mediation model	$\chi^2(13) = 11.64$ $p = 0.55$	0.98	0.96	0.98	0.99	0.00	0.00	0.05

Notes: RMSEA Lo = the lower limit of the 90 percent confidence interval for the population; RMSEA Hi = the higher limit of the 90 percent confidence interval for the population

Table II.
Summary of fit indices

Figure 2.
Path coefficients for the
partial mediated model
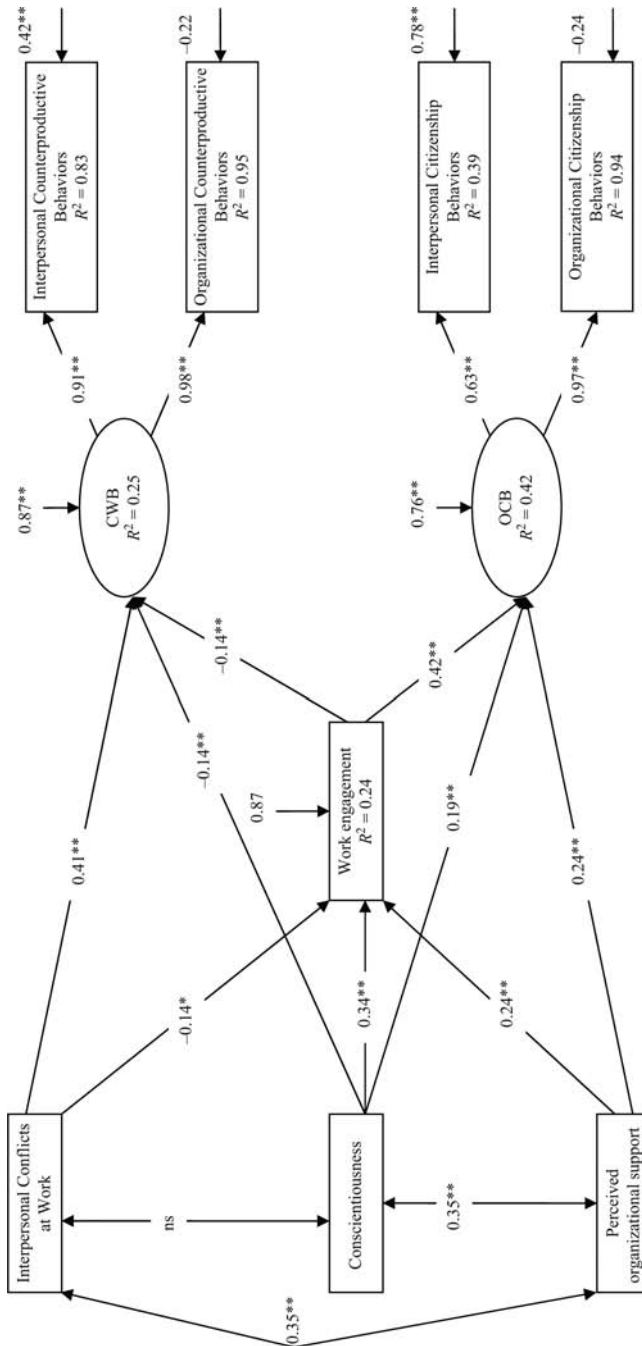
Note: Path coefficient significance at: *p < 0.05 and **p < 0.01

(i.e. conscientiousness), and employee wellbeing (i.e. WE) in order to explain possible antecedents of OCBs and CWBs (see Figure 1). We have developed and successfully tested 13 hypotheses regarding the direct effects of job and personal characteristics on extra-role behaviors, as well as regarding the mediating role of work engagement. As expected, job resources positively and directly relate to positive extra-role behaviors (i.e. OCB) and job demands relate positively and directly with negative extra-role behaviors (i.e. CWB) – these relations being also partially mediated by affective-motivational state at work (i.e. WE). Also, there was a direct and partially mediated relation, through WE, between conscientiousness and both types of extra-role behaviors. Taken together, these results suggest that job resources and personal resources are related to WE, which in turn, is positively related to positive extra-role behavior. In a similar vein, our results suggest that job demands are related to decreased levels of WE, which, in turn, is negatively related to negative extra-role behavior. In addition, WE explain a larger part of the effect of POS on OCB than of the effect of ICAW on CWB. A possible explanation for this result could be that OCB and WE are rather determined by intrinsic motivation and the desire to have a positive impact at the work environment, where CWBs are motivated to restore the equity affected by stressful social exchange relationships.

Theoretical and practical implications

This paper contributes to the JD-R literature by extending the role of job and personal characteristics for extra-role behaviors, which are studied simultaneously for the first time, to the best of our knowledge. In addition, it contributes to the literature on work engagement by highlighting its mediating role for such behaviors. Accordingly, we would like to emphasize two specific theoretical contributions.

First, job characteristics play a role for extra-role behaviors directly as well as indirectly through work engagement. Perceived Organizational Support was found in previous studies to be an antecedent for OCBs (Peele, 2007) and ICAWs to be antecedents for CWBs (e.g. Fox et al., 2001). We demonstrated that the impact of POS and ICAWs also operates – at least partly – through WE. This means that employees who perceive that their organization takes care of their wellness and shows consideration are likely, on one hand, to reciprocate by engaging in OCB and, on the other hand, to experience a positive affective-motivational state at work (i.e. WE), that may lead to further manifestations of beneficial voluntarily behaviors at work. The reason is that positive affects have the potential of generating attitudes and behaviors that relate to achievement, that can be pursued by involving

Predictor	Direct effects		Mediated effects		Total effects	
	CWB	OCB	CWB	OCB	CWB	OCB
C	−0.14	0.19	−0.05**	0.14**	−0.19	0.33
ICAW	0.41	–	0.02	−0.06*	0.43	−0.06
POS	–	0.24	−0.03*	0.10**	−0.03	0.34
WE	−0.14	0.42	–	–	−0.14	0.42

Notes: Sobel tests were computed for the mediated effects; *for $ps < 0.05$ and **for $ps < 0.01$

Table III.
Standardized direct, indirect and total effects for the hypothesized partial mediation model

in attitudes and behaviors that relate to performance (e.g. OCBs). In contrast, when employees perceive impoliteness or are targets of quarrels at work, and thus experience stressful interactions with others, they are likely to negatively reciprocate poor treatment, and may feel less engaged and unfocused about work and are therefore more inclined to exhibit behaviors that are counterproductive.

Second, in concordance with previous studies, as a personal resource, conscientiousness was found be a possible antecedent of extra-role behaviors, exhibiting a positive relationship with OCBs and a negative relationship with CWBs, respectively (e.g. Borman *et al.*, 2001). Further, we qualified these relationships by showing that the relevance of conscientiousness for extra-role behaviors operates – at least partly – through WE. That means that employees, who are persevering, organized, and achievement oriented (i.e. conscientious) are likely to be more emotionally involved in their professional life and feel energetic, dedicated, and absorbed in their work (i.e. engaged), and are therefore willing to put forth extra effort when performing their tasks, thus displaying OCBs, and are less inclined to display negative behaviors that are not consistent with work motivation and professional achievement (e.g. CWBs). This agrees with previous findings that showed that employees who are high in achievement striving show more engagement in their work (Hallberg *et al.*, 2007).

In short, the present research contributes to a better understanding of the role of personality variables and job characteristics in explaining both employees' states of mind, and their workplace behaviors, suggesting that fostering engagement is beneficial for organizations because it reduces CWB and increases OCB.

From a practical point-of-view, promoting WE can be achieved – amongst others – by personnel selection (considering the role of conscientiousness) and stress management, by increasing job resources through providing organizational support (e.g. supervisory coaching, performance feedback, emotional and instrumental social support from supervisors and colleagues), and by building personal resources (e.g. training employees for effective conflict management skills). In addition, increasing the individual level of happiness – including employees' work engagement – can also be achieved by focusing on improving the quality of social relationships at work. For example, engaging in acts of kindness may increase happiness because individuals are likely to elicit positive feedback and stimulate the same response from colleagues; offering support and being loyal has an important potential to increase wellbeing at work; sharing good news might boost team spirit due to the contagiousness of work engagement (for more details, see Schaufeli and Salanova, 2007, 2010). The relationship found between WE and extra-role behaviors is insightful, because, based on that knowledge, organizational practices and procedures can be applied to foster the necessary conditions for positive behavioral manifestations, and minimize the occurrence of CWB, therefore contributing to organizations' health and employees' wellbeing and their career advancement.

Limitations and future research

The current study has some limitations. First, the findings of present study are based on cross-sectional data, so causal inferences cannot be drawn from our results. Second, all data collection methods are self-report questionnaires, meaning that the magnitudes of the correlation coefficients may have been inflated by common method variance

(Campbell and Fiske, 1959). Although this research artifact is not considered universal (Spector, 2006) and we performed a test for the effect of method variance as recommended by Podsakoff *et al.* (2003) we cannot rule this out entirely. In order to avoid these limitations, future research should be longitudinal (e.g. Hakanen *et al.*, 2008) and also include observer, supervisor or colleague ratings of variables such as WE, OCBs or CWBs (Fox *et al.*, 2007). Also, future studies regarding these relations and the role of WE as a reflection of positive affect should take into consideration controlling for individuals' affect. Though it is considered that affective dispositions are important in stress research, some authors disagree that these should be treated as bias factors to be statistically controlled (Spector *et al.*, 2000).

Final note
The current research demonstrates the crucial role that WE plays in the occurrence of positive (OCB) as well as negative (CWB) extra-role behaviors in organizations. Also, our study draws attention to personality factors (i.e. conscientiousness) and to job characteristics (ICAWs and POS) in explaining such extra-role behaviors. Essentially, our model, that is supported by the data, assumes that the relationships of OCBs with personality and job characteristics mirrors those of CWBs with the same ones; albeit that the model works better for OCBs than for CWBs. Most likely this is because the positive nature of WE. Including burnout as a mediator analogously to work engagement would perhaps have increased the proportion of explained variance of CWBs.

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Further reading

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