



## Do job resources affect work engagement via psychological empowerment? A mediation analysis

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### ABSTRACT

The present study explores whether psychological empowerment may act as a personal resource mediating the motivational process from job resources (i.e., task autonomy, skill utilization, social support from supervisors and social support from colleagues) to work engagement. Regression analysis using *MEDIATE* macros in a sample of Chilean public workers ( $N = 1,313$ ) lent support to the mediation hypothesis: Psychological empowerment carried the effect of task autonomy, skill utilization, and social support from supervisors on work engagement. These results suggest that job resources may increase the perception of being empowered at work, which then represents an important factor to enhance work engagement. Psychological empowerment is thus a pathway to promote wellbeing in organisations.

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## ¿Afectan los recursos del trabajo al *engagement* a través del *empowerment* psicológico? Análisis de mediación

### RESUMEN

El presente estudio explora si el *empowerment* psicológico puede actuar como un recurso personal medianando el proceso motivacional desde los recursos laborales (autonomía de tareas, uso de habilidades, apoyo social del supervisor y apoyo social de los colegas) a la implicación en el trabajo. Los análisis de regresión, usando la macros *MEDIATE* en una muestra de trabajadores públicos chilenos ( $N = 1.313$ ), apoyan la hipótesis de mediación. El *empowerment* psicológico transmitió el efecto de la autonomía de tareas, el uso de habilidades y el apoyo social del supervisor la implicación en el trabajo. Estos resultados sugieren que los recursos laborales pueden incrementar la percepción de *empowerment* en el trabajo, lo cual representa un importante factor para mejorar la implicación en el mismo. El *empowerment* psicológico, por lo tanto, es una vía para promover el bienestar en las organizaciones.

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#### Palabras clave:

*Empowerment*

Implicación en el trabajo

Recursos laborales

Work engagement is recognized as one of the leading concepts for wellbeing at work (Bakker, 2011). From a theoretical perspective, work engagement has contributed to the field of positive psychology by increasing knowledge on the health-promoting potential that job and personal resources have and how, via work engagement, they increase optimal functioning. From the practical field, work engagement has become relevant for organizations and practitioners because of its links with performance and other positive indicators such as extra-role behaviour and affective commitment (Bakker,

Schaufeli, Leiter, & Taris, 2008). Within the growing body of research on work engagement, job resources along with personal resources have emerged as its main predictors (Halbesleben, 2010). Traditionally, studies on personal resources have focused on a set of variables, such as those included in the psychological capital concept (*PsyCap*, i.e., optimism, efficacy, hope, and resilience) (Luthans, Youssef, & Avolio, 2007). However, recent research has shown that besides these variables, there are other personal resources which are important predictors of work engagement and positive outcomes (i.e., trait competitiveness) (Karatepe & Olugbade, 2009). Among these variables, psychological empowerment, namely, the personal evaluation of the experience of empowerment (Spreitzer, 2007), has been associated with wellbeing indicators, such as job satisfaction and work commitment (Seibert, Wang, & Courtright, 2011).

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Furthermore, as work engagement, psychological empowerment has shown important links with work motivation and positive outcomes (Seibert et al., 2011). Based on this, some authors have proposed that psychological empowerment may be an important predictor of work engagement (Bhatnagar, 2012; Kimura, 2011; Stander & Rothmann, 2010). Although few studies have analyzed these associations, the limited evidence confirms that psychological empowerment fosters work engagement (Bhatnagar, 2012; Kimura, 2011; Stander & Rothmann, 2010). The present study seeks to replicate these results and at the same time extend previous research by analyzing the associations among job resources, psychological empowerment, and work engagement. Particularly, the present study proposes that psychological empowerment mediates the association between job resources and work engagement.

### *Work engagement*

Work engagement is defined as a positive work-related state of fulfilment (Schaufeli, Salanova, González-Romá, & Bakker, 2002) composed of three dimensions: vigor, dedication, and absorption. The first dimension, namely vigor, is characterized by working with high levels of energy and persistence, which are accompanied by mental resilience and eagerness to make efforts to accomplish the work tasks. The second dimension, dedication, refers to the state of involvement and inspiration with one's work, combined with the experience of significance and challenge. Finally, absorption is characterized by being fully and happily immersed in the job along with troubles with disconnecting from the work's activities (Schaufeli et al., 2002).

Early studies on engagement were focused on its associations with job characteristics and health outcomes (Schaufeli, 2012). Particularly, job-related resources are widely considered to be the most important predictors of work engagement (Halbesleben, 2010). Job resources are defined as those physical, social or organisational job characteristics that facilitate the attainment of work goals, decrease the impact of job demands and foster learning and development of workers (Bakker & Demerouti, 2007). According to the Job Demands-Resources model (JD-R), the connection between job resources and work engagement is explained by a motivational process (Bakker & Demerouti, 2007). Basically, the JD-R model proposes that job resources foster work engagement through their intrinsic and extrinsic motivational potential. In the former case, job resources act as drivers of intrinsic motivation because they fuel basic human needs, such as social support fulfils the need for belongingness (Van den Broeck, Vansteenkiste, De Witte, & Lens, 2008). In the latter case, job resources enhance extrinsic motivation, for example because they facilitate goal attainment by providing useful information, which then increases the likelihood of completing work tasks (Bakker & Demerouti, 2007). This in turn assists in achieving work related goals.

More recent research has shown that, in addition to job resources, there are other relevant predictors of work engagement (Bakker & Demerouti, 2007). Among these variables, personal resources emerge as important factors. Personal resources are defined as positive self-evaluations associated with resilience (Hobfoll, 2011). They correspond to the individual perception of being able to manage and cope with unfavourable situations. Like job resources, the role of personal resources is not restricted to managing stressful situations and fostering resilience. Personal resources are also important contributors of well-being and health at work (Bakker & Demerouti, 2007). For instance, Xanthopoulou, Bakker, Demerouti, and Schaufeli (2007) found that personal resources (i.e., organizational-based self-esteem, optimism, and self-efficacy) related to low levels of exhaustion and high work engagement. Similarly, the study of Boudrias, Morin, and Brodeur (2012) revealed that resilience and optimism were important antecedents of wellbeing (i.e., sociability, happiness, work engagement,

and personal control) and distress (i.e., irritability/aggression, anxiety/depression). Additionally, Xanthopoulou, Bakker, and Fischbach (2013) found that self-efficacy and optimism offset the effect of emotional demands on work engagement.

The influence of personal resources has also been found in longitudinal studies (Bakker & Demerouti, 2008). For instance, Llorens, Schaufeli, Bakker, and Salanova (2007) found reciprocal effects among task resources, self-efficacy beliefs, and work engagement. Accordingly, task resources and self-efficacy beliefs exerted a positive effect on work engagement at time 1, work engagement consequently influencing task resources and self-efficacy beliefs at time 2. Based on these findings, the JD-R model expands the motivational process by including the influence of personal resources on work engagement (Xanthopoulou et al., 2007). This way, both job and personal resources are proposed as important predictors of work engagement results (Halbesleben, 2010).

Besides the pattern from resources to work engagement, studies have revealed that resources influence each other via mediation. As recently some authors have pointed out (Van den Broeck, Van Ruyseveldt, Vanbelle, & De Witte, 2013), the JD-R model successfully explains how resources (job and personal) impact health results (i.e., work engagement, job satisfaction, etc.). However, the processes that connect resources are less elaborated. Therefore, to tackle this issue we rely on Conservation of Resources theory (COR, Hobfoll, 2011). This theory proposes that individuals invest their efforts in creating, gathering, maintaining, increasing, and protecting their resources. People with resources are less likely to experience resource loss and the possession of resources facilitates the collection of more resources. Resources are therefore usually highly correlated and tend to associate and travel together (Doane, Schumm, & Hobfoll, 2012). Key resources (i.e., job control, social support) thus bring more resources, creating the phenomenon of resource caravans (Hobfoll, 2011). In line with this view, Xanthopoulou, Bakker, Demerouti, and Schaufeli (2009), for instance, found that job resources fostered the creation of personal resources (i.e., optimism, self-esteem, self-efficacy, and organizational-based self-esteem) which then led to higher levels of work engagement over time.

In sum, both the JD-R model and COR theory are well documented and complementary frameworks that provide insight to understand how job and personal resources relate and influence work engagement.

### *Psychological empowerment*

Research on empowerment follows two main approaches: structural and motivational. The structural approach has its origins in social exchange and power theories, which underline transactional factors in social interactions (Kanter, 1985). From this viewpoint, empowerment focuses on how social structures within the organisation foster sharing power at all hierarchical levels (Kanter, 1985). In terms of the JD-R model, the social structures that foster empowerment correspond to job resources (Laschinger, Wilk, Cho, & Greco, 2009). As the present study seeks to gain knowledge on the contribution of psychological empowerment in the association between job resources and work engagement, the motivational perspective of empowerment is used. Following this motivational approach, Spreitzer (2007) proposes the concept of psychological empowerment, which received most attention in the literature (Seibert et al., 2011). Psychological empowerment is defined as a motivational concept composed of four dimensions: meaning, choice, competence and impact. Meaning corresponds to the value employees assign to their job according to their beliefs and standards. It is the fit between the requirements of a task or work goal and personal values or ideas. Choice refers to the degree to which an individual perceives that he can initiate and regulate his own actions. The core element of this concept is the feeling of self-determination.

Workers feel responsible for their outcomes as long as they experience autonomy to make decisions regarding their tasks. Competence is defined as the employees' beliefs in their capability to perform their tasks skilfully. It refers to the perception that one has the required abilities to cope with different work situations (Spreitzer, 2007). Competence derives from the concept of self-efficacy, which promotes initiative, persistence, and greater effort to deal with difficult situations (Bandura, 1977). Finally, impact corresponds to the perception that employees' behaviours may influence results at work. It is the degree to which employees feel that they can make a difference through their behaviours, in order to accomplish their task goals. Although the different dimensions may be experienced separately, only their joint effect gives rise to feelings of psychological empowerment. Approached from the motivational perspective, psychological empowerment is thus not a job characteristic; instead it refers to a positive self-evaluation which influences wellbeing and motivation at work.

Past research on psychological empowerment was devoted to examine its antecedents and consequences. Two groups of important antecedents have been identified: job characteristics and individual characteristics. Within the first group, findings show that a broad range of job characteristics has been related to psychological empowerment. Among these variables are leadership, high-performance managerial practices (i.e., participatory decision making, information sharing, training, etc.), social support, skill variety, task identity, and task significance (Seibert et al., 2011, for an overview). In terms of the JD-R model, most of the job characteristics in empowerment research are labelled as job resources. This suggests that job resources are one of the main antecedents of psychological empowerment, implying that greater job resources lead to greater levels of psychological empowerment.

Though with smaller associations, individual characteristics have been associated with psychological empowerment. In general, higher levels of psychological empowerment were for example observed in older workers, with more years in the organisations and higher job positions (Spreitzer, 2007). Furthermore, also personal resources have also shown positive relationships with psychological empowerment. For example, Avey, Hughes, Norman, and Luthans (2008) found that PsyCap variables (i.e., hope, efficacy, resilience, and optimism) were positively related to psychological empowerment. These findings suggest that PsyCap and psychological empowerment are different but related concepts associated with well-being at work. Similarly, Seibert et al. (2011) showed that positive self-evaluations were as strongly related to psychological empowerment as job characteristics.

These results are consistent with the concept of resource caravans proposed by the COR theory (Hobfoll, 2011). Because of their similar nature and functions, resources (i.e., job and personal) relate to and foster the creation and maintenance of more resources. This way, the availability of key job resources (i.e., autonomy and social support) is expected to attract and raise psychological empowerment levels.

Research on the consequences of psychological empowerment can be categorized in attitudinal and behavioural outcomes (Seibert et al 2011; Spreitzer, 2007). As regards the attitudinal outcomes, evidence reveals that psychological empowerment promotes job satisfaction, organizational commitment, innovativeness, and managerial effectiveness (Seibert et al., 2011 for an overview). Laschinger, Finegan, Shamian, and Wilk (2004) for instance, found that high levels of psychological empowerment were associated to high job satisfaction. In contrast, negative associations have been found between psychological empowerment and turnover intentions, stress, and strain (Spreitzer, Kizilos, & Nason, 1997).

More recent research has analyzed psychological empowerment as mediator and moderator in the relationships between job characteristics and health outcomes. In most cases, global psychological empowerment or its individual dimensions mediated

the effect of job resources on positive health results (Siebert et al, 2011). Seibert, Silver, and Randolph (2004), for example, found that psychological empowerment carries the influence of participative climate on job satisfaction and individual performance. Similar results were obtained by Albrecht and Andreetta (2011), who studied the relationship between transformational leadership and organisational commitment via psychological empowerment. In sum, evidence shows that psychological empowerment is an important contributor of workers' well-being, either via its direct effect or by mediating the influence of job resources.

These findings suggest that psychological empowerment, like job resources, protects employees from demands and their associated costs (Spreitzer et al., 1997), helps workers to achieve goals, and fosters personal development. However, different from job resources, the motivational perspective of psychological empowerment states that empowerment corresponds to evaluations that people make about their own experience of empowerment. As such, psychological empowerment refers to a cognitive state or personal belief instead of a job characteristic. Accordingly, psychological empowerment may be considered a personal resource. Based on these assumptions, the present study proposes to explore psychological empowerment as a personal resource within the motivational process.

#### *Psychological empowerment and work engagement*

Despite the fact that psychological empowerment is defined as a motivational concept, little research has explored its relationship with one of the main concepts in motivation research: work engagement (Kimura, 2011; Stander & Rothmann, 2010). Though research is limited, studies have found that psychological empowerment is a significant predictor of work engagement (Bhatnagar, 2012; Kimura, 2011; Stander & Rothmann, 2010). For example, Kimura (2011) investigated the associations between structural empowerment (i.e., opportunity, information, support, resources, formal power, and informal power), psychological empowerment, and person-environment fit in predicting work engagement. As expected, psychological empowerment carried the influence of structural empowerment on work engagement. Higher levels of structural empowerment were associated with an increase in psychological empowerment, which then led to higher work engagement. In the same vein, Stander and Rothmann (2010) analyzed the relationships among job insecurity, psychological empowerment, and work engagement. Results showed that psychological empowerment related positively to work engagement and negatively to job insecurity. Finally, Bhatnagar (2012) explored the links between psychological empowerment, work engagement, and innovation. She found that psychological empowerment fostered work engagement, which then led to higher levels of innovation.

Although scarce, these studies confirm that psychological empowerment (1) is a significant antecedent of work engagement and (2) mediates the effect of job characteristics (i.e., opportunity, support, information, and resources) on engagement. Interestingly, none of the previous studies included key drivers of work engagement, such as autonomy, skill variety, and social support (Halbesleben, 2010). Therefore, it remains unclear whether psychological empowerment may mediate the relations between these resources and work engagement too. Hence, the present study seeks to analyze the associations between key job resources (task autonomy, skill variety, social support from the supervisor, and social support from colleagues), psychological empowerment and work engagement. Specifically, drawing on the motivational process of the JD-R model and COR theory, this study explores whether psychological empowerment, framed as a personal resource, mediates the relationship between key job resources and work engagement (*hypothesis*). This means that when employees perceive that their jobs allow them to work with autonomy, foster the development of

their skills and provide supporting supervisors and colleagues, they will experience higher levels of psychological empowerment. Moreover, via the effect of job resources, psychologically empowered workers will feel more connected and energized in their jobs, which will be expressed in higher levels of work engagement.

## Method

### Data collection and respondents

The present study was part of larger project aimed to promote wellbeing at work in the public Chilean service sector. This study was conducted in hospital staff from one public Chilean organisation. First, the HR department of the organisation was contacted by email. Then, via the HR department, personal appointments were made to present the project to the CEOs. Both the research group and the CEOs agreed to protect workers identity, so the questionnaire did not contain personal data or sensitive information that allowed employee identification. After obtaining CEOs' consent, workers were informed of the survey by means of the hospital newspaper, emails, and posts in the notice boards. In addition, research participation was voluntary.

The study comprised all the job positions in the organisation. The data collection process was carried out by the research group with the collaboration of the HR department. The participants received a paper and pencil questionnaire along with a cover letter explaining the study. The questionnaires could be filled out during working hours in locations provided by the hospital to ensure that participants had optimal circumstances (i.e., auditoriums and classrooms). Members of the research group were in the locations to answer potential questions or doubts and to collect the questionnaires.

A total of 1,313 employees participated in the study (response rate 46%). Mirroring the gender distribution in the hospital, most participants were female (72%). Of the participants, about 10% was younger than 25 years, 39% was between 26 and 40 years old, while 47% aged between 41 and 60. Only 4% was older than 60 years. Some participants (2%) completed only primary education, 31% completed secondary education, 8% started but did not finish higher education, while 41% completed higher education and 19% obtained a postgraduate diploma or PhD. The sample comprised a variety of occupations: 36% of the participants were blue collar workers (i.e., cleaning services, electricians, technicians, fitters, etc.), 18% performed administrative services (i.e., secretaries, computer programmer, etc.), 40.9% were professionals (engineers, nurses, surgeons, etc.), whereas 3.6 % were intermediate supervisors and only 1.5% belonged to upper management staff. With respect to their tenure, 21% had worked less than 2 years in the organization, 17% reported between 2 and 5 years (5 not included), while 16% had between 5 and 10 years and almost half of the participants (46%) reported more than 10 years of tenure.

### Measures

**Job resources.** *Task autonomy* was measured by means of a 4-item scale developed by Rosenthal, Guest & Peccei (1996). A sample items is, "I can plan my own work". Following Brislin's recommendations (1986), this scale was translated into Spanish and then back-translated to assure the equivalence with the English version. Each item was rated on a 5-point scale ranging from 1 (never) to 5 (always). *Skill utilization* was assessed by 3 items of the skill utilization scale (Van Der Does & Maes, 1999) and 3 items of the possibilities for development scale (Copenhagen Psychosocial Questionnaire – COPSOQ, Kristensen, Hannerz, Høgh, & Borg, 2005). Example items are "My job requires a high level of skills" and "My job requires me to learn new things". Both scales were translated into Spanish following Brislin (1986). Items were rated on a 5-point scale ranging from 1 (never) to 5 (always). The decision to collapse

these two scales was based on Principal Component Analyses and Confirmatory Factor Analyses (CFAs) which showed that all the items loaded on one factor (for more details see next section). The scales for *social support* were taken from the Chilean version of the COPSOQ (SUSESO-ISTAS, 2009) (Alvarado, Marchetti, Villalón, Hirmas, & Pastorino, 2009). Social support from the supervisor was measured by means of a 3-item scale. An example item for social support from supervisor is "Do you receive support from your immediate supervisor?" Social support from the colleagues was assessed by a 3-item scale. An example item is "How often do you get help and support from your colleagues?" All the scales were rated on a 5-point Likert format ranging from 1 (never) to 5 (always).

*Psychological empowerment* was measured using the 12-item scale of Spreitzer (1995). The scale was composed of 4 dimensions: meaning (e.g., "My job activities are personally meaningful to me"), competence (e.g., "I am confident about my ability to do my job"), choice (e.g., "I have considerable opportunity for independence and freedom in how I do my job"), and impact (e.g., "I have significant influence over what happens in my department"). The scale was translated into Spanish following Brislin (1986). The items were rated on a 4-point Likert scale ranging from 1 (disagree) to 4 (agree). Seibert et al. (2011) in their meta-analysis demonstrated that global psychological empowerment shows better discriminant validity than its sub-dimensions as well it is a better predictor of health results. Therefore, they recommend analyze psychological empowerment as a unitary second order factor. Accordingly, the present study used the composite scores of psychological empowerment.

*Work engagement* was assessed using the short version of the Utrecht Work Engagement Scale (UWES) in Spanish (Schaufeli et al., 2002). The 9 item-scale was composed of three dimensions: vigor (e.g., "At my work, I feel bursting with energy"), dedication (e.g., "My job inspires me") and absorption (e.g., "I am immersed in my work"), including three items each. Because this study was part of a larger project with more health results, the answer categories of the UWES were adapted to a 5-point scale (1 = never) to (5 = always), in order to increase comparability among results. After performing CFAs the items were collapsed in one composite measure (see next section).

*Covariates.* Previous evidence reveals that background variables such as age, gender, and educational level may be important predictors of engagement and psychological empowerment (Schaufeli, 2012; Seibert et al., 2011). Accordingly, this study included age (years), gender (0 = male, 1 = female), and educational level (dummy 1: 0 = bachelor degree and postgraduate, 1 = primary and secondary education; dummy 2: 0 = primary and secondary education, and bachelor degree, 1 = postgraduate) as covariates.

### Analyses

**Confirmatory factor analyses.** In order to demonstrate the construct validity of the measures, confirmatory factor analysis (CFA) was performed using the AMOS 18 software package (Arbuckle, 2009). Previous to CFAs, data were inspected for multicollinearity, non-normality, and outliers. In the first case, correlations higher than .85 were indicative of multicollinearity, whereas a skewness index over 3 and a kurtosis index higher than 10 were the criteria for non-normal data (Weston & Gore, 2006). Scores with 4 standard deviations beyond the mean were considered outliers and eliminated from the analysis. The inspection of the data revealed that there were no multicollinearity issues. The distribution of the variables met the requirements of normality. Finally, only two cases were considered outliers and therefore they were not considered in the analyses.

To estimate the CFAs maximum likelihood was the chosen technique. A total of four models were calculated. Model 1, composed of six first order factors (i.e., task autonomy, skill utilization, social support from supervisors, social support from colleagues,



psychological empowerment, and work engagement), each one derived from their respective items. Model 2, composed of six factors in which job resources (task autonomy, skill utilization, social support from supervisors, and social support from colleagues,) were derived from their respective items (first order factors). Psychological empowerment and work engagement were modeled as second order factors composed of four (i.e., meaning, competence, self-determination, and impact) and three dimensions (vigor, dedication, and absorption) respectively. Model 3, composed of two factors in which both the job (task autonomy, skill utilization, and social support from supervisor and colleagues) and personal resources (i.e., psychological empowerment), loaded on one factor whereas work engagement was the other factor. Finally, in Model 4 all the items loaded on the same factor. The models were compared by means of both absolute and relative indexes (Byrne, 2010). Three absolute values goodness were calculated: the  $\chi^2$  goodness of fit statistic, the Root Mean Square Error of Approximation (RMSEA), and the Goodness of Fit Index (GFI). As relative indexes, the Normed Fit Index (NFI), the Comparative Fit Index (CFI), and the Tucker-Lewis Index (TLI) were assessed. Following the recommendations of Byrne (2010), well-fit models should have a non-significant  $\chi^2$ , RMSEA smaller than .05, and values bigger than .95 for the rest of the indexes. Additionally, because the models were not nested, two indexes were used to evaluate the model with the best fit: the Akaike Information Criterion (AIC) or Bayesian information criterion. Smaller values are indicative of better fit (MacCallum, Browne, & Cai, 2006).

**Mediation Analyses.** The mediation hypothesis of psychological empowerment was tested using the *MEDIATE* macro (Hayes & Preacher, 2012) for the SPSS 18 software package. This procedure estimates total, direct, and indirect effects of multiple predictors (IV) on a dependent variable (DV) via the mediator (M) while controlling for covariates. Because of its better performance and statistical power compared to other mediation approaches (such as the Sobel test and the Baron and Kenny method), bias-corrected (BC) 95% bootstrap confidence intervals were used to make inferences about the relative indirect effects (Williams & MacKinnon, 2008). Following Hayes' recommendations (Hayes & Preacher, 2012), the bootstrap estimates were based on 10,000 bootstrap samples. Indirect effects are significant when zero is not contained in the bootstrap confidence intervals. An important assumption for mediation analysis is the no interaction between independent variables and mediators. This means that the effect of the mediator on the dependent variable does not depend on the predictors. *MEDIATE* tests this assumption using the homogeneity of regression analysis. Non-significant *p*-values are indicative of the independence between predictors and mediators.

## Results

### Preliminary analyses

The means, standard deviations, reliability coefficients and correlations among the study variables are displayed in Table 1. The

reliability of the scales was good with alpha values over .70 (Nunnally & Bernstein, 1994). As expected, all the variables were found to be positively and significantly related, showing small and moderate correlation coefficients.

### Confirmatory factor analyses

To test the distinctiveness of the measures, four CFAs were estimated. Model 1, composed of six first order factors, yielded a good fit ( $\chi^2 = 2237.08$ ,  $df = 571$ ,  $p = .001$ ,  $NFI = .89$ ,  $CFI = .92$ ,  $TLI = .91$ ,  $RMSEA = .05$ ,  $AIC = 2434.69$ ,  $BIC = 2442.35$ ). Model 2, in which all items loading on their respective factors and psychological empowerment and work engagement were second order factors, showed an acceptable fit ( $\chi^2 = 2348.83$ ,  $df = 570$ ,  $p = .001$ ,  $NFI = .885$ ,  $CFI = .91$ ,  $TLI = .901$ ,  $RMSEA = .049$ ,  $AIC = 2929.52$ ,  $BIC = 2937.06$ ). Model 3, with two factors ( $\chi^2 = 8802.01$ ,  $df = 593$ ,  $p = .001$ ,  $NFI = .57$ ,  $CFI = .59$ ,  $TLI = .56$ ,  $RMSEA = .10$ ,  $AIC = 7316.90$ ,  $BIC = 7323.75$ ), and model 4, with one factor ( $\chi^2 = 11027.09$ ,  $df = 594$ ,  $p = .001$ ;  $NFI = .46$ ,  $CFI = .47$ ,  $TLI = .44$ ,  $RMSEA = .12$ ,  $AIC = 11243.09$ ,  $BIC = 11249.36$ ), showed unacceptable fit indexes. In sum, CFAs support that the study variables are different constructs. The AIC and the BIC indexes suggested that model 1 was superior to the other models. Based on these results further mediation analyses included psychological empowerment and work engagement scores as global unitary constructs.

### Mediation analysis

In order to examine the mediator role of psychological empowerment in the relationship job resources-work engagement, several regression analyses were performed using *MEDIATE* macros (Hayes & Preacher 2012). The hypothesized model simultaneously tested the influence of the four job resources (i.e., task autonomy, skill utilization, and social support from the supervisor and from colleagues) on work engagement via psychological empowerment. The model included gender, education level and tenure as covariates.

**Total and direct effects.** As can be seen in Table 2, the total effect estimates confirmed that all the job resources are significantly and positively associated to work engagement. In addition, the omnibus test showed that the inclusion of job resources improved the estimation of work engagement compared to a null model containing only the covariates. These results, however, changed when psychological empowerment was included among the predictors. Results for the direct effects showed that only three job resources (i.e., skill utilization and social support from the supervisor and from colleagues) remained significant when controlling for psychological empowerment, whereas task autonomy lost its significance. These results may suggest that psychological empowerment partially mediated the influence of skill utilization and social support from the supervisor and from colleagues and fully mediated the effect of task autonomy on work engagement. However, modern statistical approaches recommend that the concepts of full or partial mediation

**Table 1**  
Mean, standard deviations, reliability, and intercorrelations among variables

	Mean	SD	1	2	3	4	5	6
Task autonomy	3.35	0.89	(.78)					
Skill utilization	4.17	0.70	.29**	(.77)				
Social support supervisor	3.48	1.23	.36**	.31**	(.90)			
Social support colleagues	3.63	0.96	.21**	.37**	.34**	(.84)		
Psychological Empowerment	3.63	0.32	.41**	.30**	.30**	.22**	(.70)	
Work engagement	4.22	0.67	.29**	.36**	.37**	.27**	.40**	(.91)

\*\*  $p < .01$  (2-tailed).

**Table 2**  
Results of the mediation analysis of psychological empowerment in the relationship between job resources and work engagement using MEDIATE macros for SPSS (Hayes, 2012) ( $N = 1,313$ )

	Coefficient	SE	p	BC Bootstrap 95% CI	
				Lower	Upper
Total effect of IVs on work engagement	0.09	0.02	.00		
Task autonomy	0.19	0.03	.00		
Skill utilization	0.13	0.02	.00		
Social support supervisor	0.10	0.02	.00		
Social support colleagues					
Psychological empowerment					
Model $R^2$	0.266		.00		
Direct effect of IVs on work engagement					
Task autonomy	0.03	0.02	.23		
Skill utilization	0.17	0.03	.00		
Social support supervisor	0.11	0.02	.00		
Social support colleagues	0.09	0.02	.00		
Psychological empowerment	0.57	0.07	.00		
Covariates					
Gender	0.01	0.04	.87		
Age	0.05	0.01	.00		
Primary/secondary education	0.11	0.04	.01		
Postgraduate	0.18	0.05	.00		
Indirect effect of IVs on work engagement through psychological empowerment					
Task autonomy	0.06	0.01		.04	.09
Skill utilization	0.03	0.01		.01	.05
Social support supervisor	0.02	0.01		.01	.03
Social support colleagues	0.01	0.01		.00	.02
Model $R^2$	0.31		.00		
Homogeneity of regression test (job resources*psychological empowerment)					
$R^2$	0.01		.06		
F	2.27				

be not used due to their high dependence on sample size (Rucker, Preacher, Tormala, & Petty, 2011 for an overview). Instead, they suggest that the focus be on the significance and magnitude of the indirect effects. Therefore, the next section is devoted to analyze the indirect effects of the four job resources on work engagement.

*Indirect effects.* The indirect effects correspond to the influence that the independent variables (IVs) exert on the dependent variable (DV) through the mediator. However, before examining the point estimates for the direct effects it is relevant to check whether the IVs interact with the mediator. When there is evidence of interaction mediation, analysis should not be used (Hayes & Preacher, 2012). The non-significant  $p$ -value of the homogeneity of regression test confirmed that the effect of psychological empowerment on work engagement did not depend on job resources (Table 2). As regards the significance of the indirect effects, results showed that three out of four bootstrap confidence intervals did not contain zero (i.e., task autonomy, skill utilization, and social support from supervisor). In other words, with a 95% confidence psychological empowerment was a significant mediator of the effects of task autonomy, skill utilization, and social support from supervisor on work engagement (Table 2). As expected, higher levels of these job resources were associated with higher levels of psychological empowerment, which then led to higher work engagement. On the contrary, the bootstrap confidence interval of social support from colleagues included zero.

Therefore, psychological empowerment was not a significant mediator of the effect of social support from colleagues on work engagement. Overall, the analyses lent support for the mediator role of psychological empowerment in the association between job resources and work engagement.

## Discussion

The present study examined whether psychological empowerment mediates the associations between job resources and work engagement. Based on the JD-R model and COR theory, this study proposed that psychological empowerment, defined as a personal resource, carries the effect of four job resources (i.e., task autonomy, skill utilization, social support from supervisor, and social support from colleagues) on work engagement.

Results confirmed the mediation hypothesis. Psychological empowerment was a significant mediator for three out of four job resources. Specifically, the influences of task autonomy, skill utilization and social support from the supervisor on work engagement were carried by psychological empowerment. As expected, all the associations were positive. This means that jobs that are characterized by autonomy, which provide the opportunity to use one's skills and offer social support from supervisor, foster psychological empowerment among employees. These feelings of

psychological empowerment, in turn, relate to higher levels of work engagement.

In line with the assumptions of COR theory, the results suggest that job resources and psychological empowerment created a resource caravan process (Hobfoll, 2011). According to this, the availability of job resources acts as a caravan passageway that triggers a process of accumulation of resources, which in turn mobilizes personal resources (i.e., psychological empowerment). In doing so, high levels of resources (job and personal) foster the motivational process, proposed by the JD-R model, which leads to the positive state of work engagement.

These results are consistent with previous studies on psychological empowerment and work engagement (Bhatnagar, 2012; Kimura, 2011; Stander & Rothmann, 2010). Although scarce, evidence has lent support to the assumption that psychological empowerment is a relevant antecedent of work engagement and a mediator of the effect of job characteristics on wellbeing.

Psychological empowerment however did not mediate the influence of social support from colleagues on work engagement. Despite that previous research has confirmed the links between social support, psychological empowerment, and health results, most of these studies have focused on organisational and managerial support, leaving out colleague support. A possible explanation for our result is that support from colleagues, as a social resource, uses other mechanisms to enhance work engagement, for example other social or group-related resources (i.e., collective empowerment). Hence, an individual-related resource such as psychological empowerment may not carry the effect of colleague support on work engagement. Indeed, when comparing the intercorrelations among the variables, psychological empowerment and support from colleagues showed the lowest association.

### Contributions

This study contributes to the literature in fourth relevant ways. First, although research on psychological empowerment and work engagement shows that both concepts are important for motivation and well-being at work, few studies have analyzed their relationship. Therefore, the primary contribution of the present study is to gain knowledge of the associations between psychological empowerment and work engagement. Particularly, the current study revealed that psychological empowerment was an important contributor in the motivational process of the JD-R model. Via psychological empowerment, job resources influenced work engagement. Second, within the scarce evidence on the relationship psychological empowerment-work engagement, different job characteristics (i.e., information, formal and informal power, etc.) have been included as antecedents of work engagement. However, as far as we know, none of the previous studies explored job resources. Hence, the second contribution of the current paper is the study of job resources considered as key drivers of work engagement (Halbesleben, 2010) and their associations with psychological empowerment. The third contribution of this study is to broaden the scope of research on personal resources. So far, studies on work engagement have mainly focused on PsyCap variables (i.e., optimism, efficacy, hope, and resilience) (Xanthopoulou et al., 2007, 2009). However, evidence shows that there are other relevant individual variables which affect well-being at work (i.e., psychological empowerment, core self-evaluations and emotional intelligence) (Durán, Extremera, & Rey, 2010; Seibert et al., 2011). Moreover, the study of Avey et al. (2008) demonstrated that psychological empowerment and PsyCap are different concepts which influence positive indicators (i.e., intentions to quit). In their study, psychological empowerment mediated the effect of PsyCap on turnover intentions. These results confirm the added value of psychological empowerment framed as a personal resource in the motivational process of the J-DR model. Finally, in

terms of practical contributions, this study offers new insights in how to promote work engagement levels in organisations. For instance, including psychological empowerment in intervention programmes aimed to increase work engagement may facilitate the positive effect of job resources. As this study evidenced, because of the influence of job resources, psychologically empowered workers showed better results on work engagement compared to those with low job resources. Furthermore, the benefits of promoting psychological empowerment in workers goes beyond work engagement and also includes other positive outcomes such as organisational commitment, job satisfaction, work effectiveness, and reduced turnover intentions and strain (Seibert et al., 2011). In sum, this study adds to the knowledge on strategies to foster health at work, showing that psychological empowerment may be used by organisations as wellbeing promoting factor.

Finally, a number of potential pitfalls need to be considered. First, the cross-sectional design does not allow making causal inferences between the job resources, psychological empowerment, and work engagement. Despite this, the analyses revealed important associations among the study variables. Second, since all the variables were based on individual employees' perceptions instead of objective measures, self-report questionnaires were the most appropriate data collection method (Judge, Bono, & Locke, 2000). However, this may entail common method bias. In order to reduce this potential source of bias, analyses of discriminant validity (factor structure) and reliability were performed (Conway & Lance, 2010). The CFAs showed that although the study variables were related, they refer to different concepts. Furthermore, the reliability of the scales ranged from good to excellent, confirming the internal consistency of the measures (Cortina, 1993). Besides the validity and reliability analyses, Conway & Lance (2010) suggest that multitrait multimethod techniques be included (i.e., CFA marker technique). An important requisite to perform this method is to find an adequate marker variable (Richardson, Simmering, & Sturman, 2009) which is not related to the study variables. If this is not possible, this approach is not recommended. Unfortunately, our study does not have variables that meet these conditions. Therefore, we relied on previous criteria to solve the common method bias issues. Finally, the present study only included one type of personal resource: psychological empowerment. Although this may represent a shortcoming, this decision was based on the scarce evidence on the relationship among job resources, psychological empowerment and work engagement (Kimura, 2011, Stander & Rothmann, 2010). Therefore, we decided to narrow the scope of this research and to focus only on the association between these variables.

Although the present study makes theoretical and practical contributions, additional research is needed to explore the associations among job resources, psychological empowerment and work engagement. Further studies should include other personal resources (e.g., PsyCap) as well health outcomes (e.g., performance, job satisfaction, etc.). Furthermore, the influence of empowerment on the motivational process may be analyzed in depth through the addition of collective or team empowerment. Finally, longitudinal research is crucial to understand how psychological empowerment influences work engagement across time and explore potential reverse and reciprocal effects.

This study extends knowledge on the antecedents of work engagement demonstrating that psychological empowerment is an important contributor to work engagement and therefore a well-being promoting factor. Moreover, the present study sheds light on the associations between job resources and work engagement, providing evidence for psychological empowerment as a new mediator explaining the relationships between these variables. Psychological empowerment may be integrated in future research and interventions programmes to foster the influence of job resources and to improve work engagement levels in organisations.

## Conflicts of interest

The authors of this article declare no conflicts of interest.

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