

EFFECTS OF AN INTERVENTION PROGRAM BASED ON JOB CRAFTING BEHAVIORS ON THE WORK ENGAGEMENT OF TEACHERS

EFECTOS DE UN PROGRAMA DE INTERVENCIÓN BASADO EN LOS COMPORTAMIENTOS DE REDISEÑO DEL TRABAJO SOBRE EL *ENGAGEMENT* LABORAL DE PROFESORES

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Resumen

Los estudios han puesto de relieve que es posible potenciar el engagement en el trabajo mediante intervenciones que buscan aumentar los recursos que el empleado posee y disminuir sus demandas laborales. El objetivo es evaluar la eficacia de un programa de intervención basado en los comportamientos de rediseño del trabajo en el engagement laboral de profesores. La muestra estaba integrada por 82

profesores brasileños de educación pública dividida en dos grupos. El grupo de intervención se realizó con 41 profesores de ambos sexos (81 % femenino) y el grupo de comparación también con 41 profesores de ambos sexos (79.1 % del sexo femenino). Al final de la intervención, las puntuaciones de los participantes del grupo de intervención, en las escalas de engagement en el trabajo y de comportamientos de rediseño, excedieron significativamente las puntuaciones del grupo de comparación. Los hallazgos encontrados recomiendan la

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implementación de programas de intervención basados en los comportamientos de rediseño que concienticen los docentes más de sus demandas y de sus recursos como forma de aumentar su engagement con el trabajo.

Palabras clave: Programa de intervención; Comportamientos de rediseño en el trabajo; Engagement en el trabajo; Modelo JD-R; Profesores.

Abstract

Research has evidenced that interventions to increase employees' resources and decrease their work demands can enhance their work engagement. Objective assess the efficacy of an intervention program based on job crafting behaviors on the job crafting behaviors and work engagement of teachers. The sample consisted of 82 public education teachers divided in two groups. The intervention group consisted of 41 male and female teachers (81 % female), while the comparison group also consisted of 41 male and female teachers (79.1 % female). At the end of the intervention, the scores of the participants in the intervention group on the work engagement and job crafting behaviors scales were significantly higher than the scores in the comparison group. The findings recommend the implementation of intervention programs based on the job crafting behaviors, enhancing the teachers' awareness of their demands and resources as a way to increase their work engagement.

Keywords: Intervention program; Job crafting behaviors; Work engagement; JD-R model; Teachers.

Introduction

In recent decades, organizations have faced financial crises and continuous changes in their organizational structures. Those changes have led to increasing demands on the employee (Cummings & Worley, 2014), such as fewer opportunities for job changes and higher charges. As a result, these individuals need to become increasingly

efficient (Ouweneel, le Blanc, & Schaufeli, 2013). In addition, they have caused physical and psychological health problems that probably interfere with work performance (Bakker & Woerkm, 2018).

In the attempt to find solutions to these problems, organizational scholars have argued that work engagement is a construct that can contribute to the improvement of employee and organizational outcomes (van Wingerden, Derks, & Bakker, 2016). It corresponds to a positive and fulfilling work-related state of mind that manifests itself through employees' vigor, dedication to and absorption in their work activities (Schaufeli, Salanova, Romá-Gonzalez, & Bakker, 2002). Vigor is associated with high energy level, persistence, and effort in developing one's tasks. Dedication refers to enthusiasm, inspiration, and a sense of meaning in relation to work. Absorption involves the employees' involvement, concentration, and immersion in performing their tasks.

According to the Job Demands and Resources Model (JD-R), work characteristics can be classified into job resources and demands (Bakker, Demerouti, & Sanz-Vergel, 2014). Resources are aspects of work that help the employee achieve his goals in accomplishing the tasks, reducing the work demands and stimulating personal growth. Therefore, they are associated with a motivational process that increases employee willingness to invest efforts in the execution of their work.

The job demands, in turn, concern physical, psychological, social or organizational aspects that result in physical and psychological costs (Bakker & Demerouti, 2014). They are related to a process of illness that drains the employees' energy, that is, it consumes their energy resources and demands increasing efforts to perform their work activities.

Thus, when employees have sufficient resources to cope with the job demands, they feel more motivated and engaged in their work activities (Mäkikangas, Bakker, & Schaufeli, 2017). In other words, more engaged employees are more active and develop more positive emotions at work than the less engaged ones (Bakker & Albrecht, 2018), as they combine increased resources with minimized demands, which increases their levels of motivation (Bakker et al., 2014).

Different studies have shown that work engagement can be enhanced through interventions aimed at increasing the resources available to the employees and at reducing their job demands (Bakker, Rodriguez-Munoz, & Vergel, 2016). These include interventions that are based on a specific type of proactive behavior called job crafting behaviors. These behaviors refer to behavioral changes designed to adjust the way the tasks are performed to their own preferences and motivations (Tims, Bakker, & Derks, 2012). Therefore, they facilitate the adjustment of individual needs, abilities, and passions to work activities (Berg, Dutton, Wrzesniewski & Bakker, 2013). In this sense, they have proven to be effective and have brought promising results for individuals and organizations (Tims et al., 2012), by encouraging employees to have control over the performance of their tasks as a way of building a healthy environment (Grant & Parker, 2009).

With the support of the JD-R theory, Tims et al. (2012) classify the job crafting behaviors into resource-seeking behaviors, challenge-seeking behaviors, and demand-reducing behaviors. The search for resources is defined by actions that seek help at work, such as feedback and the search for learning opportunities and autonomy. Challenge seeking, then, consists in motivating behaviors that lead to coping with the work demands and, at the same time, allow the employee to have control over these demands when looking for new tasks at work or assuming new responsibilities. The reduction of demands, finally, refers to the behaviors aimed at minimizing the emotional or physical aspects, such as the burden in work activities and the pressure to perform tasks (Bakker et al., 2016). Interventions based on job crafting behaviors thus aim to facilitate the balance between work resources and work demands (Tims et al., 2012; Bakker et al., 2004; Wang, Lu, Du, & Bakker, 2014), and follow the guiding principles of goal proactivity (Parker, Bindl, & Strauss, 2010).

According to Parker et al. (2010), the awareness of a desirable future work situation, the setting of concrete and realistic, that is, achievable goals, the planning of the ways and means to reach the goals and the proactive quest for those goals are steps necessary to goal achievement. In this sense, interventions based on job crafting behaviors stimulate participants to set proactive, short-term, achievable goals by adjusting their work. In other words, by adopting

group discussion techniques, the training sessions lead individuals to refine their goals, to devise the means necessary to reach them and to put into practice the actions for that purpose (van Wingerden, Bakker & Derks, 2017).

The effectiveness of interventions based on job crafting behaviors has been evaluated in studies in which the findings have shown that they make employees feel more confident and more committed to the organization (van Wingerden, Derks, Bakker & Dorenbosch 2013) and improve their work performance (Tims et al., 2012). They also tend to increase job crafting behaviors (Bipp & Demerouti, 2015).

In other words, interventions based on job crafting behaviors lead the employee to make cognitive changes in their task accomplishment strategies and in their work relationships by changing their social environment (increased resources, autonomy, and diminished demands, such as, for example, the work overload; van Wingerden et al., 2017). In addition, they have also contributed to improving the employee's cognitive ability, self-esteem, and perceived level of task control (Lyons, 2008), as well as to increasing their resilience levels regardless of adversities at work (Leana, Appelbaum, & Shevchuk, 2009; Lyons, 2008; van Wingerden et al., 2017).

Specifically what work engagement is concerned, research has shown that interventions based on job crafting behaviors tend to increase the work resources and reduce the demands, which leads the employees to be more engaged in the performance of their work activities and become more proactive in carrying out their work activities (Beer, Tims, & Bakker, 2016). In this sense, the intervention study carried out by van Wingerden et al. (2017), involving 75 primary school teachers from two Dutch schools, showed that the intervention group had higher rates of engagement compared to the control group after the training. van Wingerden et al. (2016) also obtained similar findings in 67 health professionals from the Netherlands when they took part in an experimental intervention to increase their levels of work engagement. Corroborating these findings, systematic reviews of interventions based on job crafting behaviors also found their effects on work engagement (Gordon, Demerouti, Le Blanc, Bakker, Bipp, & Verhagen, 2018; Rai, 2018).

Although some studies already exist that look at the effects of intervention programs based on job crafting behavior on work engagement (Beer et al., 2016, Demerouti, Bakker, & Gevers, 2015, Gordon et al., 2015, Petrou, Bakker, & Heuvel, 2017), none of them were carried out with teachers, except for the study by van Wingerden et al. (2017), whose sample consisted of special education teachers, nor did it involve Brazilian samples. The educational field is characterized by a high workload and tension though, making teachers become particularly vulnerable to mental illness (Garrick, Mak, Cathcart, Winwood, Bakker, & Lushington, 2017). Thus, intervention research based on job crafting behaviors may contribute to the reduction or elimination of these and other demands and, consequently, to the increase in teachers' wellbeing.

Therefore, based on these considerations, the objective of this study was to evaluate the effectiveness of an intervention program based on job crafting behaviors on the work engagement of Brazilian teachers. In order to do so, the hypothesis was raised that the group submitted to the intervention program based on the job crafting behaviors would present, after the intervention, significantly higher scores for job crafting behaviors (H1) and work engagement (H2) when compared to the comparison group.

Method

Participants

A convenience sample of 82 teachers was randomly distributed between the intervention group (N = 41) and the comparison group (N = 41). To be included in the sample, the respondents should be willing to participate in the study and be working as teachers, at the time of the intervention, for at least one year. As an exclusion criterion, participants who missed more than one session or who were not present at any instrument application session would be excluded from the sample.

The intervention group was composed of 41 public education teachers, male and female (81 % female), ranging from 23 to 63 years old (M = 40.87, SD = 9.79) and active

in basic education (44 %) and secondary (56 %). As for the education level, the majority held a higher education degree. Teaching time ranged from 1 to 29 years (M = 10.03, SD = 7.13) and total time of service from 1 to 36 years (M = 14.42, SD = 7.06).

The comparison group consisted of 41 public education teachers, male and female (79.1 % female), with ages varying between 25 and 65 years (M = 41.46, SD = 10.10). With regard to the education level, most held a higher education degree. Teaching time ranged from 1 to 30 years (M = 10.83, SD = 7.54) and total time of service from 1 to 37 years (M = 15.05, SD = 7.73).

Instruments

The teachers' work engagement was evaluated by the *Engaged Teachers Scale* (ETS; Klassen, Yederlen, & Durksen, 2013). The scale consists of 16 items, to be answered on seven-point Likert scales, ranging from 1 (never) to 7 (always). Example item: While teaching, I work intensely. These items are divided into four dimensions: cognitive engagement (four items), emotional engagement (four items), social engagement with students (four items) and social engagement with colleagues (four items). The internal consistency coefficients of these dimensions corresponded to 0.66, 0.82, 0.71 and 0.66, respectively, in this study.

The job crafting behaviors were measured using the *Job Crafting Behavior Scale* (Petrou et al., 2012). The scale contains 11 items, to be answered on five-point Likert scales, ranging from never (1) to always (5). Example item: I try to learn new things. The items are distributed in three dimensions: increasing social resources (four items); increasing challenging demands (three items); reducing demands (four items). Example item: I ask my colleagues for advice. In this study, these dimensions presented Cronbach's alpha coefficients equal to 0.79, 0.63 and 0.90, respectively.

Procedure

The participants were randomly assigned to the intervention and comparison groups. The intervention group answered all instruments on the first day before the inter-

vention (T1), during the intervention (T2), and on the last day (T3), after being fully submitted to the intervention. The comparison group answered the same instruments on the same occasions but did not participate in the intervention. All participants signed the Informed Consent Form.

The intervention based on the job crafting behaviors adopted the principles of the Michigan Job Crafting Exercise (JCE; Berg et al., 2013) and the JD-R theory (Bakker et al., 2014). Thus, exercising and goal setting were used to increase the job resources and reduce the demands for the workers to gain awareness that they exist and need to be minimized. The intervention was performed once a week, totaling eight sessions, lasting two hours each. The interval between the pre-test (T1) and post-test 1 (T2), as well as between post-test 1 and post-test 2 (T3) was one month. Each group had a minimum of eight and a maximum of 12 members.

In the first session, participants were explained the purpose of the intervention and the free informed consent

form and the scales used in the research were completed. In the second meeting, the concepts of job resources, job demands, engagement, and job crafting behavior were introduced, as well as an exercise to increase resources (success stories of behavioral change in search of resources) and the activity plan for the week.

In the third session, a summary of the previous session was presented. Then, exercises to increase the resources were executed in pairs (success experience that would help participants increase resources), as well as weekly activity planning. During the fourth meeting, both groups completed the instruments (Time 2), exercises were conducted to reduce the job demands by identifying the requirements at work and the activity plan was prepared. In the fifth session, exercises were used to increase resources and reduce demands (reflection on past situations that could contribute as a stimulus for the development of tasks and behavioral changes), and the activity plan for the week was elaborated.

Table 1.

Means and Standard-Deviations of Cognitive Engagement, Emotional Engagement, Students Social Engagement, Colleagues Social Engagement, Increasing Social Resources, Increasing Challenging Demands and Reducing Demands.

	Intervention			Comparison			Interaction (Time x Condition)	
	T1	T2	T3	T1	T2	T3	F (2)	η ²
Cognitive Engagement	5.7 (0.5)	6.0 (0.8)	6.5 (0.2)	5.7 (0.7)	5.6 (0.5)	5.3 (0.5)	24.0*	0.23
Emotional Engagement	5.4 (0.6)	6.2 (0.6)	6.5 (0.3)	5.3 (0.6)	5.2 (0.6)	5.3 (0.6)	28.7*	0.26
Students Social Engagement	5.3 (1.0)	5.6 (0.8)	6.4 (0.2)	5.5 (1.0)	5.2 (0.9)	5.4 (0.6)	14.0*	0.15
Colleagues Social Engagement	5.2 (1.0)	5.5 (0.8)	6.3 (0.4)	5.2 (0.9)	5.1 (0.8)	4.7 (0.9)	76.7*	0.25
Increasing Social Resources	3.3 (0.5)	3.4 (0.7)	4.7 (0.4)	3.4 (0.6)	3.2 (0.6)	3.4 (0.7)	27.9*	0.26
Increasing Challenging Demands	2.0 (0.9)	2.3 (0.9)	3.3 (0.6)	2.2 (1.0)	1.9 (0.9)	2.0 (0.6)	17.5*	0.18
Reducing Demands	3.5 (1.0)	3.0 (0.9)	4.7 (0.7)	3.4 (0.8)	3.3 (0.7)	3.2 (0.2)	41.2*	0.34

Note: * = p < 0.001.

During the sixth meeting, the participants reported on the difficulties and advantages of setting goals. They received feedback from the instructor and planned their activities. The seventh weekly session was similar to the previous week. Finally, at the eighth meeting, the two groups completed the data collection instruments.

Data Analysis

The effectiveness of the intervention based on the job crafting behaviors on work engagement was evaluated by comparing the participants' mean scores on the Work Engagement and Job Crafting Behavior scales in the intervention group and in the comparison group, at three times. The comparative analyses of the mean scores before (T1), during (T2) and after the intervention (T3) between the intervention and comparison groups were developed using Repeated Measures Analysis of Variance (ANOVA).

Results

Initially, the means and standard deviations of the intervention and comparison groups were calculated, in the

pre-test (T1), post-test 1 (T2) and post-test 2 (T3), according to Table 1. Then, repeated measures ANOVA analyses were used to evaluate whether the indices of the four dimensions of engagement and the three dimensions of job crafting behaviors in the intervention group would show a significant increase after the intervention (T3) compared to the scores of this group at T1 and the scores of the comparison group at T3. Mauchly's test indicated that the seven dimensions fulfilled the sphericity assumptions.

The interaction of time (T1, T2, and T3) and the participants' condition (Intervention, Comparison) was significant for the seven dimensions investigated (See Table 1 and Figure 1). Therefore, we performed contrast analyses using Bonferroni's correction.

When comparing times T1 and T3, it was observed that the interaction between the collection time and the condition was significant for all dimensions (Cognitive Engagement, $F(2) = 51.3, p < .001, \eta^2 = 0.39$; Emotional Engagement, $F(1) = 51.6, p < .001, \eta^2 = 0.39$; Students Social Engagement, $F(1) = 27.3, p < .001, \eta^2 = 0.25$; Colleagues Social Engagement, $F(1) = 46.8, \eta^2 = 0.37, p < .001$; Increasing Social Resources, $F(2) = 52.2, p < .001, \eta^2 = 0.39$; Increasing Challenging Demands, $F(2) = 28.6,$

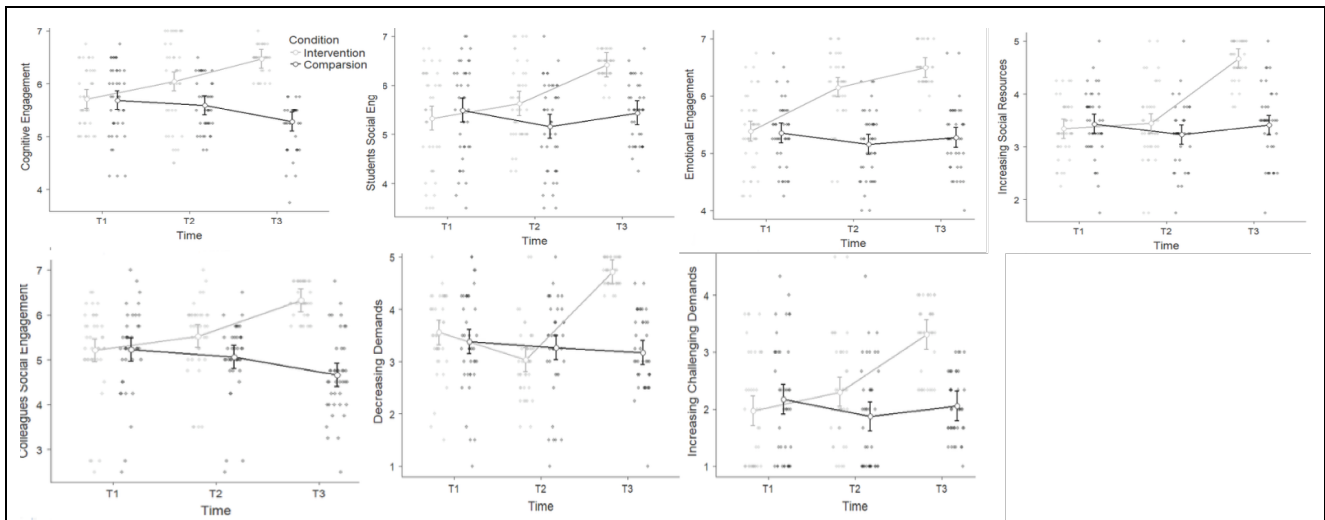


Figure 1. Interaction of Condition and Time on Cognitive Engagement, Emotional Engagement, Students Social Engagement, Colleagues Social Engagement, Increasing Social Resources, Increasing Challenging Demands and Reducing Demands Scores.

$p < .001$, $\eta^2 = .26$; Reducing Demands, $F(2) = 41.8$, $p < .001$, $\eta^2 = 0.34$) (See Figure 1). The results of the contrast analyses showed that the interaction of the condition (Intervention x Comparison) with the collection moments T2 and T3 were significant for the dimensions Cognitive Engagement, $F(2) = 18.2$, $p < .001$, $\eta^2 = 0.18$; Colleagues Social Engagement, $F(1) = 29.6$, $\eta^2 = .26$, $p < .001$; Increasing Social Resources, $F(1) = 25.2$, $p < .001$, $\eta^2 = 0.24$; Increasing Challenging Demands, $F(2) = 11.4$, $p < .001$, $\eta^2 = 0.12$; Reducing Demands, $F(2) = 83.6$, $p < .001$, $\eta^2 = 0.51$ (See Figure 1).

The findings showed that the scores of all dimensions under investigation gradually increased over time for the intervention group, and no significant differences were observed over time for the comparison group (See Table 1 and Figure 1). In addition, it can be observed that the scores of the intervention group in all dimensions are significantly higher than the comparison group, suggesting the effectiveness of the training.

Discusión

The objective of this study was to evaluate the effectiveness of an intervention program based on job crafting behaviors on work engagement of teachers. The expectation was that, after training, the group submitted to the intervention program would obtain significantly higher job crafting scores (H1), as well as significantly higher work engagement scores (H2), when compared to the comparison group.

The results showed that there was a significant difference between the intervention and comparison groups' job crafting behavior scores after the intervention, which confirmed hypothesis 1. These results are similar to those reported in a study by van Wingerden et al. (2016) in health professionals in the Netherlands. The impact that the training provoked may have been due to the fact that, as a result of the intervention, the teachers gained a more global vision of their work, which enhanced their awareness of their difficulties to cope with the demands of the school context and the need to reduce them. Therefore, they attempted to change their relationships with colleagues and

students, and also alter their perceptions about their own work activities (van Wingerden et al., 2017).

The findings also showed that there was a significant difference between the work engagement scores of the comparison and intervention groups obtained after the intervention, which confirmed hypothesis 2. These results converge with the evidence van Wingerden et al. (2016) found in a study of health professionals from the Netherlands and with the research by van Wingerden et al. (2017), in a sample of special education teachers in Christian schools. The increase in engagement after the intervention may have been due to the fact that teachers were more motivated and inspired to perform their work tasks as they became aware that they could use resources that would make them fight the work demands (Bakker et al., 2014). In other words, when they realize that adopting proactive behaviors leads them to fight demands and obtain the resources needed to reach their work goals, the teachers feel more energetic, inspired, and involved in their work (van Wingerden et al., 2017).

The results also showed that there was a progressive increase in emotional engagement during the whole intervention in the intervention group. This finding may be due to the fact that they felt more valued, supported and motivated to develop work resources and, consequently, to better cope with the demands in the accomplishment of their tasks, and to execute their school activities more willing and readily (Xanthopoulou, Bakker, Demerouti & Schaufeli, 2009), which facilitates the achievement of their work goals (van Wingerden et al., 2017).

Although the hypotheses have been confirmed, some limitations need to be mentioned. The first one concerns the sample, as it included only basic and secondary public school teachers, which is why these results should be generalized with caution. It would be interesting, therefore, for future studies to also include university and private school teachers. The second limitation refers to the research method, as only the quantitative method was used. Future studies should therefore also use qualitative research methods, such as structured interviews, as the combined use of quantitative and qualitative methods could provide more in-depth knowledge of participants' experiences of the aspects inherent in their own work that have

improved, after the intervention. Nevertheless, the results obtained here recommend the implementation of intervention programs based on job crafting behaviors that enhance teachers' awareness of their demands and resources, as a way to increase their inspiration, enthusiasm, and involvement with work, which can undoubtedly contribute to the better performance of students and educational institutions.

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