

RELATIONSHIPS BETWEEN WORK DESIGN, ENGAGEMENT, AND LIFE SATISFACTION

Relación entre el diseño del trabajo, engagement, y satisfacción con la vida

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Abstract

The study aimed to determine the type of relationships that could exist between work design, engagement, and life satisfaction. This research was carried out in Madrid, Spain, where a random sample of 305 people answered a survey. All those constructs were assessed with the following instruments: Work Design Questionnaire (WDQ); Utrecht Work Engagement Scale (UWES) in its short version of 9 items; and Satisfaction with Life Scale (SWLS). The Structural Equation Model (SEM) was decided on in order to determine how work design, engagement and life satisfaction are related. Results from SEM showed that work design indirectly affects life satisfaction and also can serve as a predictor of engagement. In other words, work design fully mediates the relationship between engagement and life satisfaction.

Key words: Work design, Life satisfaction, Engagement, Well-being, Autonomy.

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Resumen

The study aimed to determine the type of relationships that could exist between work design, engagement, and life satisfaction. This research was carried out in Madrid, Spain, where a random sample of 305 people answered a survey. All those constructs were assessed with the following instruments: Work Design Questionnaire - WDQ-; Utrecht Work Engagement Scale - UWES - in its short version of 9 items; and Satisfaction with Life Scale - SWLS. The Structural Equation Model (SEM) is proposed in order to determine how work design, engagement and life satisfaction are related. Results from SEM showed that work design indirectly affects life satisfaction and also can serve as predictor of engagement. In other words, work design fully mediates the relationship between engagement and life satisfaction.

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INTRODUCTION.

Contributions in Psychology have provided new ways to improve the conditions of workers to increase their performance. Among some of these contributions, we highlight Positive Psychology due to its relevance from a theoretical framework viewpoint and also for its increasing impact and applicability. Consequently, we focus our research on Organizational Psychology and its applications.

This perspective applied to Organizational Psychology aims at improving the living conditions of people in their job roles. It is so that “for example, instead of costs, health and well-being measures are considered more solid ‘investments’ in the performance of the employees than the direct economic benefits for the enterprise” (Bakker & Schaufeli, 2008, p. 148). In that sense, Positive Organizational Psychology (POP) has been constructing both a theoretical and an empirical knowledge base.

Based on the Luthans (2002) and on the Salanova, Martinez and Llorens (2005) definitions, we conceptualize POP as the study and application of personal and team resources in any company, with emphasis on positive and effective ways for integral development of workers and organizations. These types of interventions will produce personal, organizational and societal benefits insofar as healthy working relationships are established.

People and their skills are the only things that cannot be copied by direct competitors. Therefore, as long as companies invest in the mental health and well-being of their workers, they may become more globally competitive (Schabracq & Cooper, 2000). Therefore, workplaces have to be designed in such a way that people feel engaged and feel satisfied with their lives.

WORK DESIGN AND ITS CONTEXT.

To better understand work design and its context, it is essential to highlight the difference bet-

ween two concepts that were named previously: Work Design (WD) and Job Design (JD). Although they are related, these concepts do not mean the same thing. Both are of particular interest within the context of organizational processes because they improve organizational outcomes and the health of workers when they are successfully implemented.

WD can be defined as the study, creation, and modification of the composition, content, and structure of the job, workplace environment, and job roles (Morgeson & Humphrey, 2006). Likewise, WD consists of conceiving and fragmenting a productive process, or a service, for the effective implementation and coordination of different sub-processes and their eventual reintegration.

On the other hand, JD focuses on a specific job (for example, the job of the person who reads these lines) and the tasks, skills, equipment and other things deemed necessary to design a position in particular (Fernández-Ríos, 1996). This makes reference to the fact that the job is unique and refers to a specific reality, while WD refers to any work and the features that it presents. Today, these new work contexts (such as automation and robotization) have replaced manual labor with machines and automatic controls in some cases. In addition, they have increased the flexibility of production in both quantity and variety. In this regard, the paper by Wrzesniewski and Dutton (2001) is a remarkable formulation of the direction in which new corporations seem to be moving.

Parker and Wall (1998, 2001) and Parker, Wall and Cordery (2001) proposed a theory that shall be developed simultaneously in two directions. On the one hand, it specifies the most relevant

elements (backgrounds, characteristics of the work, results, mechanisms and contingencies), and on the other hand, it recognizes three levels of analysis (individual, group and organizational). In brief, Parker and his team proposed that WD is a constructive process mainly concerned with the characteristics of the work, that it has to incorporate previous circumstances related to the design in question, and that it is conditioned to environmental fluctuations, usable technology, etc. This is consistent with what was formulated by authors like Wrzesniewski and Dutton (2001), Rico, Sanchez-Manzanares and Fernández-Ríos (2003), among others. In 2006, integrating the proposal of Parker and his team, as well as various theoretical and empirical studies of work design, Morgeson and Humphrey published The Work Design Questionnaire (WDQ). During the following year, Humphrey, Nahrgang and Morgeson (2007) published another article with a meta-analysis in relation to the first one; and three years later, Grant, Fried, and Juillerat (2010) did a qualitative state of the art about this issue. The items of WDQ are grouped into several categories, such as: motivational characteristics (which are subdivided into tasks and knowledge features), social characteristics, and contextual/physical characteristics.

In other words, WD, which is the basis of organizational design, involves actions that explicitly and intentionally seek to change and improve organizations (Dunbar & Starbuck, 2006; Nystrom & Starbuck, 1981). Thus, from the paradigm in which we have positioned POP, it seems appropriate to focus on some of those possible positive effects deriving from a design oriented towards the improvement of organizational conditions.

ENGAGEMENT.

One of the most prolific concepts brought by POP is engagement at work (we will refer to it as engagement). This concept comes to show people's ability to become passionate about their work, to enjoy it, and to perceive it as a source of realization. It has been defined as "a positive state of mind, [or] a state of accomplishment, related to a throughput characterized by vigor, dedication and absorption" (Salanova & Schaufeli, 2009, p. 74; Schaufeli, Salanova, González-Romá, & Bakker, 2002).

Studies on engagement have revealed, as possible causes for engagement: labor resources (e.g. autonomy, social support) and personal resources (e.g. self-efficacy, recovery from the effort, or emotional contagion outside of the job). Engagement appears to be positively associated with characteristics of the job position that can be considered motivating or invigorating to do work. These resources are, for example, social support from peers and superiors, feedback on job performance, job autonomy, the variety of tasks, and training facilities (Demerouti et al., 2001; Salanova et al., 2000; Salanova, Carrero, Pinazo and Schaufeli, 2002; Schaufeli, Taris, and Van Rhenen, 2003; Schaufeli and Bakker, 2003). Investigations show that the more resources available at work, the higher the likelihood of having more engaged employees. In essence, this result illustrates the motivational potential of labor resources as it has been traditionally formulated in the Theory of the Characteristics of the Job Post (Salanova & Schaufeli, 2004, p. 119).

A resource or model that is being implemented by business organizations today is the development of their supervisors and staff members in areas of leadership, commitment,

and autonomy. Studies show that supervisors with strong leadership skills can influence the well-being, satisfaction, and thus the employee's commitment to the organization (Mathieu, Fabi, Lacoursière and Raymond, 2016).

Likewise, Gyamfi (2014) argues that job satisfaction affects the employee's commitment to their workplace; based on this, it could be argued that, if there is job satisfaction, employees might have a positive attitude towards their job and therefore exhibit a high commitment and performance within the organization. Note that these aforementioned factors are not far away from the components of the theory of work design and its context as we have proposed it.

LIFE SATISFACTION

People work to live, they don't live to work. Work may tend in some instances to be a phenomenological condition for the personal development and, ultimately, may encourage individuals to experience fulfillment. Thus, the philosophy that permeates the hedonic tradition (with which life satisfaction is associated) is defined by Ed Diener in the following terms: "The literature on subjective well-being is about how and why people experience their life in a positive way, including both cognitive judgment and emotional reactions" (Diener, 1994, p. 67). In addition, researchers such as Veloso, Cuadra, Gil, Quiroz and Meza (2015) consider job satisfaction as a vital factor related to mental health.

Later on, Diener and other researchers (Diener, Sapyta and Suh, 1998 and confirmed in Diener, Suh, Lucas and Smith, 1999; Diener, Lucas and Oishi, 2002; Sparr and Sonnentag, 2008; Veenhoven, 1994) understood that subjective well-being encompasses "a broad category of

phenomena that includes emotional responses from people, satisfaction within the domains, and the global judgments about the satisfaction with life” (Diener, Suh, Lucas and Smith, 1999:277).

The individual work-life balance lived up to a specific moment is clearly marked by personal experiences (flow of experiences). However, such experiences are not born in a vacuum and are not a quirk of our imagination; rather, they are closely related to the conditions in which we focus our life. Among these, we find working conditions in general and Work Design in particular.

Hypothesis.

Studies in organizational psychology have received major importance in recent years for their impact on the well-being of workers, which in turn resonates in the productivity and profitability of organizations. WD is considered a complex model that demands, in major measure, the construction or modification of work structures in order to make them more motivating and challenging for workers. In previous research, we have found significant relations between the dimensions that compose WD (Motivational, Social and Context characteristics) with mental health indicators like engagement and life satisfaction (Polo-Vargas, Fernandez Rios, & Ramirez Vielma, 2012).

Therefore, the question for this research was: if work design is an independent variable, while both life satisfaction and engagement are dependent variables, to what degree are work design and engagement related to life satisfaction? To answer this question, we tested the following hypotheses:

Hypothesis 1. There is a positive relationship between work design, life satisfaction and engagement.

Hypothesis 1a. Engagement is related with the following dimensions of work design: motivational, social and contextual characteristics.

Hypothesis 1b. Life satisfaction is related with the following dimensions of work design: motivational, social and contextual characteristics.

Hypothesis 2. Engagement is a mediating variable in the relationship between work design and life satisfaction.

Participants.

Five hundred employees from different companies located in the community of Madrid, Spain were invited to participate, but only 305 people correctly answered the questionnaire for this study (i.e. a 61% response rate). All were employees who had been with their company longer than two years and had served a minimum of six months in their current position. The sample included people from different social origins and labor conditions (occupying various positions and places in the hierarchy of the company in which they were working). The mean age was 42.59 years, ranging from 20 to 66 years, and the standard deviation was 12.49 years. The sample consisted of 154 males (50.5%) and 151 females (49.5%). Most participants (72.8%) were working in private companies.

Instruments.

The information was collected through three self-reporting questionnaires. The independent variable, Work Design, was assessed

with the Work Design Questionnaire (WDQ) (Morgeson & Humphrey, 2006), which has 77 items grouped in 21 factors. In our study, the Cronbach's alpha for this questionnaire was 0.919, better than Morgeson and Humphrey (2006) (Cronbach's alpha = 0.87). We used the Spanish adaptation of Fernandez-Rios et al. (2017).

The Utrecht Work Engagement Scale (UWES) in its short version of 9 items was used to assess engagement (Schaufeli, Bakker and Salanova, 2006; Salanova and Schaufeli, 2009), which is formed by three dimensions: dedication, vigor and absorption. Each of these dimensions had 3 items on the scale that we applied. All items of UWES were scored on a scale (Likert type) that ranges between 0 (never) and 6 (always). In terms of its internal consistency, previous studies reported Cronbach's alpha between 0.60 and 0.88 (Schaufeli, Bakker and Salanova, 2006), while in our study the Cronbach's alpha factor was 0.909.

Life satisfaction was assessed by a five-item scale called SWLS (Satisfaction With Life Scale) (Diener, Emmons, Larsen and Griffin, 1985; Nimon and Astakhova, 2015). The scale has a type of Likert response ranging from 1 (disagree) to 5 (complete agreement). Its internal consistency has been reported to vary between 0.79 and 0.89 (Atienza, et. al, 2000), while our Cronbach's alpha was 0.834.

Procedure.

For data analyses, the Cronbach's alpha factor for each of the instruments and descriptive

statistics (i.e., mean and standard deviation), correlations and covariance matrices for the sample were calculated using SPSS 24 software. Prior to modeling, a standard Confirmatory Factor Analysis (CFA) was performed to build a measurement for each multi-item scale.

To test Hypothesis 2, we used a mediation analysis. Mediation involves a causal relationship whereby an independent variable (X) impacts a mediator (M), which in turn impacts a dependent variable (Y) (Sobel, 1990). To estimate these relationships, two regression models are needed. First, the mediator (M) is regressed onto the independent variable. Second, the dependent variable (Y) is regressed onto the mediator (M), controlling for the independent variable (X). Therefore, a relationship is mediated if X is significantly related to M, M is significantly related to Y (after controlling for X), and the mediated effect is statistically significant (MacKinnon, 2008). In order to contrast H2 of mediation and to estimate the indirect effects, we used Macro Process for SPSS (Hayes, 2013), which gives the Confidence Intervals (CI) of the bootstrapping of 5000 samples with a confidence level of 95% (Preacher & Hayes, 2008).

Results.

In order to test H1a and H1b, we observed the correlations among the variables. As we can see in Table 1, all the correlations were significant. Also, the size effect was bigger in the relationship among Work Design variables and Engagement. Therefore, these findings support Hypothesis 1.

Table 1. Means, standard deviation, scale reliabilities and correlations coefficient among variables and mediators

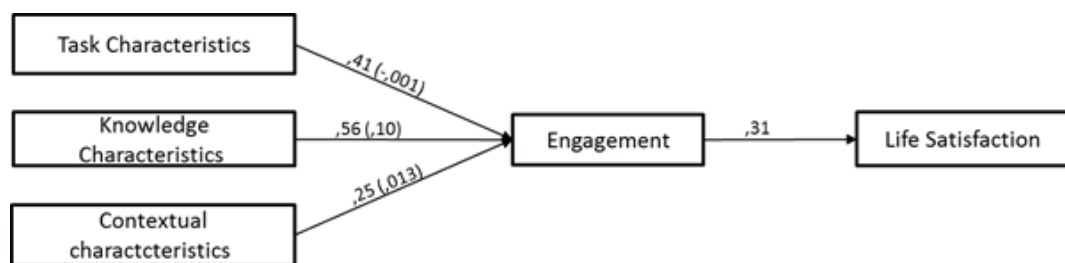
	M	SD	1	2	3	4	5	6	7	8	9
1. Task characteristics	3,57	0,65	(,91)								
2. Knowledge characteristics	3,37	0,54	,656**	(,74)							
3. Social characteristics	3,2	0,55	,454**	,439**	(,77)						
4. Contextual characteristics	2,97	0,53	,285**	,246**	,188**	(,59)					
5. Dedication	3,9	1,31	,533**	,520**	,297**	,259**	(,85)				
6. Absorption	3,6	1,26	,386**	,417**	,260**	,255**	,746**	(,79)			
7. Vigor	3,84	1,16	,335**	,333**	,216**	,189**	,767**	,635**	(0,74)		
8. Engagement	3,82	1,12	,468**	,474**	,288*	,262**	,934**	,885**	0,882	(0,91)	
9. Life Satisfaction	3,34	0,76	,209**	,235**	,133*	,113*	,367**	,262**	,379**	,372**	(,83)

N=305. ** $p < 0,1$

Hypothesis 2 related to mediation, posits, first, that Work Design characteristics (task, knowledge, social characteristics, and physical conditions), will be positively related to mediator variable engagement. Focusing on the regression coefficients obtained, task characteristics have a positive and significant relationship with engagement ($\beta = .41, p < .05$), knowledge characteristics ($\beta = .56, p < .05$) and physical characteristics ($\beta = .25, p < .05$). There is no significant relationship between social characteristics and engagement.

Second, mediator variable will be positively related to life satisfaction. In this case, after controlling for work design characteristics, en-

agement is significantly and positively related to life satisfaction ($\beta = .30, p < .05$) and social characteristics ($\beta = .22, p < .05$). And third, the indirect effect, based on bootstrap procedure, is significant for a mediating role of engagement regarding task characteristics ($B = 0.019$, Boot ET = 0.03, 95% IC [0.03, 0.16]), knowledge characteristics ($B = 0.12$ Boot ET = 0.05, 95% IC [0.04, 0.26]) and contextual characteristics ($B = 0.05$, Boot ET = 0.03, 95% IC [0.0016, 0.12]). Therefore, the results show a mediation of engagement in the relationships among task, knowledge and contextual characteristics of work design and life satisfaction (see figure 1), partially confirming hypothesis 2 of this study.



Note: Indirect effects in brackets. $R^2 0.14, p < .0$

Figure 1. Effect of work design characteristics over life satisfaction, mediated by engagement

DISCUSSION AND CONCLUSIONS.

The purpose of this study was to review the formal structure of the relationships between Work Design (WD), life satisfaction (LS) and engagement (ENGT) through a statistical modeling technique (SEM). To accomplish this, a model was specified and estimated using data from employees of different companies. The results confirmed all proposed hypotheses and provided empirical evidence that work design has a positive direct effect on engagement and a positive indirect effect on life satisfaction through engagement. This allows us to open a review of the way in which workplaces are designed, and how an organizational structure defines its hierarchical arrangement of lines of authority, communications, rights and duties.

Based upon the results of this study, a first noteworthy point is the significant statistical relationship that exists between some factors of WD, ENGT and LS. In relation to this matter, other studies (Polo-Vargas, Fernandez-Rios and Ramirez-Vielma, 2012; Veloso, Cuadra, Gil, Quiroz and Meza, 2015) have pointed out that there are factors of work design that have significant impact on life satisfaction. Our research allows us to conclude that the motivational characteristics continue to be the factors that positively influence welfare (Hackman and Oldham, 1975, 1980; Humphrey, Nahrgang and Morgeson, 2007).

A second noteworthy point is that, by expanding the proposal made by Salanova and Schaufeli (2004) and Schaufeli and Bakker (2003, 2008), we can infer from our results that the motivation of the employee—based on factors such as autonomy and interaction with others inside and outside the organization—is

a key aspect that should be taken into account when designing jobs. However, attention must be given to the work-method autonomy factor. We find that this factor is significantly related to engagement and life satisfaction. This point suggests that employees who have to be creative to solve work related problems have a better well-being at work (Karasek, 1979; Schaufeli and Bakker, 2004).

Following the previous idea, Hakanen and Schaufeli (2012) have argued that there is a certain relationship that proposes that engagement helps predict life satisfaction. One innovative contribution arising from our study is that, when we integrate the proposed work design motivational factors, the ability to feel satisfied with life increases.

Another point to consider is that social factors related to work design are not statistically significant. This idea has been presented in Polo-Vargas, Fernandez-Rios and Ramirez-Vielma (2012) and claims that people prioritize individual factors. However, the relationship between external interaction factors and interdependence initiated factors are statistically significant. This tells us that it is necessary that the subject does not feel isolated and has healthy interactions, both inside and outside the company.

It should be emphasized that, although a significant relationship does not appear to exist between social features in engagement and life satisfaction factors, lack of social support predisposes the individual to a burnout state (Hombrados-Mendieta and Cosano-Rivas, 2013; Sarti, 2014). Furthermore, it can be verified that social support, a factor of WD, has a significant role as a variable that mediates bet-

ween job satisfaction and burnout (Hombrados-Mendieta and Cosano-Rivas, 2013; Sarti, 2014).

Another interesting point is the idea that physical work design factors, as indicated by our data, are not associated with any of the components of engagement or life satisfaction (with the exception of work conditions and ergonomics). This point allows us to consider the hypothesis that physical work design factors do not allude to the energetic aspect of engagement. In other words, it appears that they do not directly activate the behavior, but rather facilitate greater dedication and absorption (i.e. facilitate focusing into a task).

From the above sentence, we can say that, as it has been argued already by Herzberg (1966), those factors that are associated with hygiene do not motivate, but when they are not present, the lack of these factors is notorious. A pleasant and meaningful work experience allows an increase in life satisfaction for the individual within a comprehensive global assessment. This is in accordance with the ideas proposed by Gardner, Csikszentmihalyi and Damon (2002). These authors argue that when people seek and find realization in their work, the result is that this positive outcome radiates into other areas of their life as well.

Finally, the main contribution of this study is that work designs should not be based on meeting a criteria driven solely by increased productivity levels (Torraco, 2005), but rather by taking into account the welfare of workers in an enterprise-groups-people interaction alongside with productivity. One of the points to consider as a limitation of this research was the fact that the survey took place during Spain's financial crisis of 2012. As a result, in the future it should

be investigated whether this had any influence on how people perceived their work.

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