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Longitudinal Relationships Between Job Satisfaction and Creative Performance: A Three-Wave Cross-Lagged Panel Design

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Abstract

Despite the assumption about the positive relationship between wellbeing and performance within the happy and productive worker thesis (HPWT), the matter is still under discussion due to inconclusive results. To better understand the link between wellbeing and performance and delineate their possible causal relationships, it is necessary to conduct longitudinal studies with data collection at different moments, as well as broaden the focus by considering different types of wellbeing and performance. To achieve this, the authors of this study analyzed the relationship between intrinsic (IJS) and extrinsic job satisfaction (EJS) with creative performance. The design consisted of a three-time cross-lagged panel design since it permits analyzation of the reciprocal and longitudinal relationship between two or more variables. Our sample was composed of 209 employees from nine different organizations in Spain. The results demonstrated that only IJS predicted creative performance at one of the time intervals. The conclusions were: 1) the relationship between IJS and creative performance might be spurious, 2) it is important to consider IJS and EJS separately because they yield differential results, 3) the relationship between IJS and creative performance is not reciprocal, and 4) it is necessary to increase longitudinal studies in the field.

Keywords: wellbeing, job performance, job satisfaction, creative performance, longitudinal, cross-lagged.

Relações Longitudinais entre Satisfação no Trabalho e Desempenho Criativo: Um Projeto de Painel com Três Ondas Cruzadas

Resumo

Apesar do pressuposto sobre a relação positiva entre bem-estar e desempenho dentro da Tese do Trabalhador Feliz e Produtivo (*happy and productive worker thesis* - HPWT), o assunto ainda está em discussão devido aos resultados inconclusivos. Para melhor compreender a relação entre bem-estar e desempenho e delinear suas possíveis relações causais, é necessário realizar estudos longitudinais com coleta de dados em diferentes momentos, bem como ampliar o foco considerando diferentes tipos de bem-estar e desempenho. Para alcançar este objetivo, os autores deste estudo analisaram a relação entre satisfação intrínseca (*intrinsic job satisfaction* - IJS) e extrínseca no trabalho (*extrinsic job satisfaction* - EJS) com o desempenho criativo. O desenho consistiu em um projeto de painel com retardo cruzado de três ondas, uma vez que permite a análise da relação recíproca e longitudinal entre duas ou mais variáveis. Nossa amostra foi composta por 209 funcionários de nove organizações diferentes na Espanha. Os resultados demonstraram que apenas IJS previu desempenho criativo em um dos intervalos de tempo. As conclusões foram: 1) a relação entre IJS e desempenho criativo pode ser espuria, 2) é importante considerar IJS e EJS separadamente porque eles produzem resultados diferenciais, 3) a relação entre IJS e desempenho criativo não é recíproca e 4) é necessário aumentar os estudos longitudinais na área.

Palavras-chave: bem-estar, desempenho no trabalho, satisfação no trabalho, desempenho criativo, longitudinal, retardo cruzado.

Relaciones Longitudinales entre la Satisfacción Laboral y el Desempeño Creativo: Diseño de Panel de Correlaciones Cruzadas, con Tres Momentos Temporales

Resumen

A pesar de la suposición sobre la relación positiva entre el bienestar y el desempeño dentro de la tesis del trabajador feliz y productivo (*happy and productive worker thesis* - HPWT), el tema aún está en discusión debido a resultados no concluyentes. Para comprender mejor el vínculo entre bienestar y desempeño y delinear sus posibles relaciones causales, es necesario realizar estudios longitudinales con recolección de datos en diferentes momentos, así como ampliar el enfoque considerando diferentes tipos de bienestar y desempeño. Para lograrlo, los autores de este estudio analizaron la relación entre la satisfacción laboral intrínseca (*intrinsic job satisfaction* - IJS) y extrínseca (*extrinsic job satisfaction* - EJS) con el desempeño creativo. Se utilizó un diseño de panel de correlaciones cruzadas, con tres momentos temporales, ya que permite el análisis de la relación recíproca y longitudinal entre dos o más variables. Nuestra muestra estuvo compuesta por 209 empleados de nueve organizaciones diferentes en España. Los resultados demostraron que solo IJS predijo el rendimiento creativo en uno de los intervalos de tiempo. Las conclusiones fueron: 1) la relación entre IJS y el desempeño creativo podría ser espuria, 2) es importante considerar IJS y EJS por separado porque producen resultados diferenciales, 3) la relación entre IJS y el desempeño creativo no es recíproca, y 4) es necesario incrementar los estudios longitudinales en el campo.

Palabras clave: bienestar, desempeño laboral, satisfacción laboral, desempeño creativo, longitudinal, rezagado cruzado.

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The relationship between wellbeing and job performance is a concern that has captured the interest of practitioners and academics since the early XX century. Subsumed in the happy and productive worker thesis (HPWT), is the general idea that satisfied workers perform better than those who are unsatisfied (Peiró, Kozusznik, Rodriguez et al., 2019). However, although the idea seems intuitive and has spread in the managerial field like a mantra, research shows that the matter is still unclear, as the results of corresponding studies are non-conclusive. For example, the meta-analysis by Judge et al. (2001) sets the correlation between job satisfaction and job performance at approximately .30, and Bowling's meta-analysis (2007) concludes that the relationship is spurious. The fact that some of the papers find a positive association between wellbeing and performance whereas others do not, compels researchers to consider other perspectives when studying the HPWT. In fact, the theory is not without criticisms that may be guides regarding how to approach the topic. Here, four of those limitations are highlighted, serving as the basis of the design of this study: 1) the different constructs used to operationalize employees' wellbeing, 2) the different constructs used to operationalize job performance, 3) the scarcity of studies of other types of relationships other than wellbeing on performance (e.g., reciprocal relationships), and 4) the scarcity of longitudinal studies on this topic.

The first limitation refers to the conceptualization of wellbeing at work. As Peiró, Kozusznik, Rodriguez et al. argue (2019), it can be understood from two perspectives: the hedonic view of pleasure and positive affect, and the eudaemonic view of personal growth and a sense of meaning. This latter is usually conceptualized in the literature as job satisfaction, a concept that is subsumed in the hedonic view. Job satisfaction is generally defined as 'an employee's affective reaction to a job' (Singhai et al., 2016). However, although it has been the most common perspective, job satisfaction is still a broad construct. This has caused a diversity of results and a difficulty in interpretation. Therefore, the findings still need to have more accurate considerations with respect to the approach of hedonic wellbeing. To analyze the effect of job satisfaction on performance in more depth, this paper is focused on the dimensionality of job satisfaction.

A traditional distinction has been understood between intrinsic and extrinsic job satisfaction (IJS and EJS, respectively). IJS is a positive attitude directly related to the job, including factors such as job autonomy, recognition, or responsibilities, whereas EJS is directed to external sources, such as a physically appropriate working environment, or the relationship with peers and supervisors (Bektaş, 2017). Of both type of job satisfaction, the theoretical definition alone indicates that they refer to different types of variables (Calvo-Salguero et al., 2011), and literature on the topic has shown that the distinction between IJS and EJS is both relevant and useful (Brough & Frame, 2004; Saari & Judge, 2004). It helps to unveil a broad distinction between two factors of different natures that can relate differently to other variables or processes (Spector, 1997). General job satisfaction measures drive researchers to assume that two workers who obtain equivalent scores are satisfied to the same degree with the different facets of their job (Boles et al., 2003). In reality, employees have different priorities and one facet may be important for a given employee but not for another; additionally, the pattern of satisfaction with facets of the job may differ even with an identic general score (Spector, 1997). Organizations have shown a preference to use job satisfaction measures that contemplate job facets to a minimum degree (Hora et al., 2018). The interest in considering the IJS-EJS distinction is even more encouraging by the extended finding that IJS seems to have more weight in explaining general job satisfaction than EJS (Decker et al., 2009; Randolph & Johnson, 2005; Saari & Judge, 2004). However, not only does IJS seems to be a stronger predictor for general job satisfaction itself, but also other organizational outcomes such as occupational commitment (Blau & Gibson, 2011), job involvement, volitional absence (Hirschfeld, 2000), career satisfaction and desire to stay on the job (Randolph & Johnson, 2005). This preponderance of occupational commitments includes job performance (Chandrasekara, 2019; Cheng-Liang & Hwang, 2014), therefore, it is important to consider each one of them separately.

As noted above, the second limitation of the HPWT is related to the operationalization of performance. Although happy workers are assumed to "perform" better, there is no general agreement regarding its operationalization, similar to the unknowns attached to wellbeing (Peiró, Kozusznik, Rodriguez et al., 2019). In this case, there is more variety and disagreement about its operationalization or dimensionality. Many structures for job performance have been proposed, for example, the task-contextual performance distinction by Borman and Motowidlo (1993) or the comprehensive taxonomy by Bartram (2005) with eight factors. The emergence of different structures and conceptualizations of job performance may be attributable to the broadness of its definition: "things that people actually do and actions they take that contribute to the organization's goals" (Campbell & Wiernik, 2015, p. 48). This breadth of understanding of the term, makes it difficult to accumulate precise and consistent results concerning the forecasted relationships in the HPWT.

Within this variety of concepts, a promising and relevant factor is creative performance, which is being included progressively in different performance taxonomies (Bartram, 2005; Fluegge-Woolf, 2014; Schepers, 2003). For example, Bartram (2005) includes a factor called 'creating and conceptualizing' in his Eight Competencies model, characterized by working well in situations that require openness to new ideas and experiences, as well as creative, broad, and strategical thinking. In this sense, creative performance refers to the generation of novel and innovative ideas resulting in new product and service development (Tajeddini et al., 2017). Its importance is increasingly understood by organizations, and this interest is reflected in researchers' increased concerns (Fluegge-Woolf, 2014). Creative performance has great relevance in the current turbulent context (Walton, 2016), in which the organizational processes of continuous improvement and the achievement of competitive advantages are achieved through the creativity of the staff (West, 2002; Zhou & Hoever, 2014; Zhou & Shalley, 2003). It plays a crucial role in tackling problem-solving situations or new environments, but also the routine tasks that employees need to face daily (Florida, 2002). For these reasons, and because they consequently expand the HPWT perspectives, the focus has been narrowed down to this specific performance factor in the present study.

However, despite the importance of creative performance, only a few studies have analyzed its role within the HPWT, finding that it renders positive results (Akgunduz et al., 2018; Kato-Nitta & Maeda, 2013; Spanjol et al., 2015). To date, only the study done by Akgunduz et al. (2018) explored the relation of IJS and EJS separately on creative performance. They found, in a sample of exhibition workers in Turkey, that IJS, but not EJS, had an effect on creative performance. However, their study is skewed because of the third and fourth limitations of the HPWT that are developed below. Additionally, the sample used in their study differs from the one presented here. This study employs a less specific sample, and therefore encompasses a more heterogeneous set of workers. These facts make the present study more valid, and so a further contribution to the topic, filling an important gap in the literature.

However, the findings of these authors will inspire hypotheses 1 and 2, that are outlined later.

The third limitation is that most of the literature has considered the effects of satisfaction on performance whereas other kinds of relationships have been neglected (Peiró, Kozusznik, Rodriguez et al., 2019). In the aforementioned meta-analysis, Judge et al. (2001) suggested different 'models' in which the relationship between satisfaction and performance can take place; for example, job performance could impact satisfaction or both variables impacting each other. There is some evidence supporting the effect of creative performance on job satisfaction (Mishra & Shukla, 2012; Tongchaiprasita & Ariyabuddhiphongs, 2016; Wang & Netemeyer, 2004). For example, Wang and Netemeyer (2004) argue, based on the intrinsic motivation theory and job enrichment models, that "a job that allows and encourages more creative performance inherently increases the job occupant's intrinsic satisfaction" (p. 809). The effect of job satisfaction on creative performance has also been examined in some studies, as has been shown (Akgunduz et al., 2018; Kato-Nitta & Maeda, 2013; Spanjol et al., 2015). However, as far as is presently known, there are no attempts to test both directionalities in a single design. The exploration of this possibility would shed some light on the essence of the HPWT: elucidating the type of relationship between satisfaction and performance.

The fourth limitation is related to the preference for cross-sectional designs in research, despite repeated calls for longitudinal studies. This is a problem for the HPWT because its interest lies in the causality of the relations, and one of the conditions for causality is that the cause must occur temporarily before its effect. The predominance of cross-sectional designs hinders the interpretation of results because any conclusion regarding the directionality of the relations between variables or processes can be based only on theory and not on empiric results (Kearney, 2017). Although some longitudinal studies that relate job satisfaction and general job performance are beginning to appear (Alessandri et al., 2017; Koys, 2001), creative performance is different as there are no known previous studies with that focus.

Based on all reviewed in the previous paragraphs, the following hypotheses is outlined:

H1: IJS positively predicts creative performance over time.

H2: EJS does not predict creative performance over time.

H3: Creative performance positively predicts IJS over time.

H4: Creative performance positively predicts EJS over time.

As explained above, H1 and H2 are inspired by the findings of Akgunduz et al. (2018). In the case of the reversed directionality (H3 and H4), because the IJS-EJS distinction is not provided in the literature, the findings in this study are based on addressing job satisfaction in general, which does not inherently suggest that EJS could work differently.

In sum, the aim of this paper is to expand on the knowledge about the HPWT, exploring the longitudinal and reciprocal relationships over time between job satisfaction, in both its facets (intrinsic and extrinsic), with creative performance. For this purpose, two separate cross-lagged panel models have been conducted, one relating IJS with creative performance and the other EJS with creative performance, as shown in Figure 1.

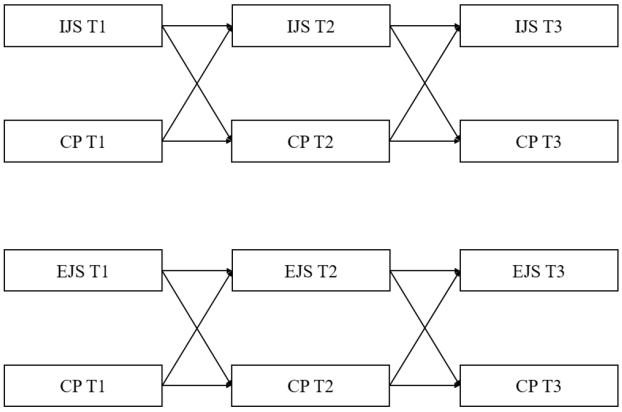

Figure 1. Proposed exploratory cross-lagged panel model of the relationship between intrinsic job satisfaction (IJS, upper panel) and extrinsic job satisfaction (EJS, lower panel) with creative performance (CP) based on three data collections.

Methodology

Participants and Procedure

The members of the research team contacted several organizations, forming a heterogeneous sample with organizations from different sectors and different locations in Spain. The only inclusion criterion was that the participants were active workers of a company. The same companies were contacted between nine months and one year later (T2) to participate again in the project. They were contacted once again (T3), between nine months and one year after the second data collection. These time spans approximately coincide with those used by organizations to evaluate their employees and therefore the findings in this study can have more transferable practical implications. They are also consistent with the time lapses considered by other studies that examined the longitudinal relationship between satisfaction and performance (e.g., Alessandri et al., 2017). The same workers were asked to answer the questionnaires each time. To guarantee the longitudinal character of this sample, it was formed only with those specific employees who answered the questionnaire at T1, T2, and T3. This effort was complicated by resignations, layoffs, professional or personal leaves, new incorporations, and missing data. This last issue was integrated in the following way: subjects who had over 30% missing data were eliminated from the samples. There was less than 5% missing data in the total database, which allowed for imputation of data (Schafer, 1999). Therefore, the missing data was imputed using Maximum Likelihood estimation with 25 iterations (Enders, 2001).

To prevent further sample loss, the research team insisted on the confidentiality of the data collected and the importance of the research project. The linkage of the data between the same workers throughout the three questionnaires was implemented using confidential codes.

In total, at T2, 36% of the original sample of 1647 subjects responded, resulting in 593 subjects. At T3, 35% of this second sample answered, resulting in our final sample of 209 employees from nine organizations. A sample size was maintained above the minimums recommended by Wolf et al. (2013). The authors found minimum sample size requirements ranging from 30 (simple CFA's) up to 450 cases (regressive models). In our case, 209 · 3 (the three times of data collection) = 627 cases.

The majority of employees were from Valencia (N = 177; 84,7%), and the rest from Barcelona (N = 18; 8,6%) and Mallorca (N = 14; 6,7%). Most of the workers were from the tertiary or service sector (N = 168; 80.4%) and the rest (N = 41; 19.6%) from the secondary sector, and above all from the manufacturing industry. Slightly more than half were women (N = 127; 60.8%). At T3, the average age was 40.33 years old (SD = 7.87). Most of the employees had a bachelor degree (N = 140; 67%), and the rest had an occupational training (N = 27; 12,9%), a high school (N = 15; 7,2%), or a basic degree (N = 6; 2,9%). Most of them were married or living with a partner (N = 147; 70,3%), whereas the rest were single (N = 40; 19,1), or separated/divorced (N = 17; 8,1%). The majority of workers (N = 162; 77.5%) had more than

five years working in the same organization; the rest were between one and five years (N = 32; 17.2%), and less than one year (N = 2; 1%). Finally, the majority of workers had a full-time job (N = 169; 80.9%), and the rest (N = 34; 16.3%) part-time jobs. In these four latter variables, the missing percentages are due to missing data.

Measures

Intrinsic and extrinsic job satisfactions were measured with a short version in Spanish of the job satisfaction scale by Warr et al. (1979). Five items belong to the intrinsic scale and four to the extrinsic. Respondents had to answer according to how satisfied they were with specific aspects of their job, ranging from 1 (very unsatisfied) to 7 (very satisfied). An example of IJS is "The freedom to choose my own working method", and, for EJS, "Working physical conditions". Cronbach's alphas for IJS were .86 (T1), .88 (T2), and .88 (T3), and, for EJS, .53 (T1), .58 (T2), and .54 (T3).

Creative performance was measured with a 7-point scale in Spanish based on Oldham and Cummings (1996). Respondents had to answer according to the degree they agreed with the items, ranging from 1 (nothing) to 7 (a lot). The scale is composed of 3 items. An example of an item is "I am creative at work and I develop original ideas for my organization". Cronbach's alphas were .82 (T1), .82 (T2), and .87 (T3).

Analysis

First, the descriptive analyses were conducted (mean, standard deviations, and correlations). For reliability of the measures, Cronbach's alpha was computed and complemented with inter-item and item-scale correlations. In order to have good reliability, Cronbach's index should be over .70 (Nunnally & Bernstein, 1994), inter-item correlations between .15 and .50 (Clark & Watson, 1995), and item-scale correlations above .20 (Streiner & Norman, 1995).

Then, a structural equation modelling was performed (SEM) in a cross-lagged panel design with three waves of data collection in the software Mplus. The skewness and kurtosis analysis (Table 1) shows us that the data of the variables are normally distributed and therefore the SEM can be carried out (Kline, 2015). Cross-lagged designs allow for testing for reciprocal relations between variables throughout different points in time, as well as controlling for the effects of the same variables across time (Reinders, 2006). Two SEM models were run, one for IJS and another one for EJS, and their fit was tested utilizing different indexes (Kenny & McCoach, 2003). The desired value is shown between parentheses: root-mean-square error of approximation (RMSEA < .08), standardized root mean square residual (SRMR < .10), comparative fit index (CFI > .90) and the Tucker–Lewis index (TLI > .90).

Results

In Table 1 descriptive analyses and reliability indexes are displayed. As a general pattern, IJS has stronger relations with creative performance than EJS. The reliability indexes are good for IJS and creative performance, and lower for EJS. As already mentioned, additional reliability analyses were conducted, which are presented in Table 2. Focusing on EJS—the scale with lower Cronbach's alpha—, all inter-item correlations are in the range between .15 and .50 recommended by Clark and Watson (1995), except the correlation between items 19 and 20 (r = .12). Item-scale correlations for EJS at T1, T2, and T3 are over the .20 cutoff value indicated by Streiner and Norman (1995). These results, taken together, support the use of the EJS scale in this study.

The two models contrasted in this study are displayed in Figure 2. The model fit indexes for the IJS model (RMSEA = .063; SRMR = .040; CFI = .981; TLI = .955) and the EJS model (RMSEA = .088; SRMR = .041; CFI = .972; TLI = .935) are over the usual cut-off points (Kenny & McCoach, 2003). The only exception is the RMSEA for EJS model, but the overextension is not large and the other indicators are acceptable. Therefore, it can be concluded that the model fit in both cases is acceptable.

The results show that IJS at T1 does not predict creative performance at T2, but IJS at T2 does predict creative performance at T3 (Est. = .23, p <0.05; H1 partially supported). EJS does not predict creative performance in any case (H2 confirmed). There is not any effect of creative performance on any type of job satisfaction (H3 and H4 rejected). Therefore there are no reciprocal relationships between the constructs.

Discussion and Conclusions

The goal of this study was to explore the longitudinal and reciprocal relations over time between job satisfaction and creative performance, subsumed in the broader objective of expanding the knowledge about the HPWT. Starting from the limitations found in the literature, the particular contributions of this study, whilst pursuing this goal, were four: 1) the consideration of the two facets of job satisfaction: IJS and EJS; 2) the utilization of a relevant conceptualization of job performance nowadays such as creative performance, 3) the analysis of reciprocal relationships between job satisfaction and creative performance, and 4) the adoption of a longitudinal design. The results showed that IJS predicted creative performance in one of the two time intervals, whereas the rest of the relationships explored were inexistent. From these findings, three main aspects will be discussed.

Table 1
Descriptive analysis and reliability indexes

Factor	*M*	*SD*	Skew.	Kurtosis	IJS T1	IJS T2	IJS T3	EJS T1	EJS T2	EJS T3	CP T1	CP T2	CP T3
IJS T1	5.5	.99	-.85	.59	.86								
IJS T2	5.4	1.0	-.94	.86	.54***	.88							
IJS T3	5.5	.95	-1.2	2.8	.42***	.60***	.88						
EJS T1	5.3	.90	-.78	1.6	.56***	.36***	.30***	.53					
EJS T2	5.2	.94	-.43	-.37	.40***	.51***	.29***	.64***	.58				
EJS T3	5.3	.87	-.43	.02	.35***	.44***	.60***	.53***	.62***	.54			
CP T1	5.3	.94	-.49	.72	.41***	.20**	.19**	.23**	.13	.11	.82		
CP T2	5.3	.86	-.66	1.5	.26***	.33***	.23**	.13	.20**	.18*	.64***	.82	
CP T3	5.4	.96	-.77	1.7	.25***	.26***	.32***	.24**	.22**	.28***	.55***	.62***	.87

Note. Reliability indexes are computed by Cronbach alpha and are displayed in the diagonal. IJS = Intrinsic job satisfaction, EJS = Extrinsic job satisfaction, CP = Creative performance. *** p<0.001 ** p<0.01 * p<0.05

Table 2
Inter-item and item-scale correlations

Factor	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	SCALE
Intrinsic satisfaction T1																																					
Item 1																																					.76
Item 2	.49																																				.77
Item 3	.51	.57																																			.86
Item 4	.56	.52	.76																																		.87
Item 5	.51	.43	.70	.74																																	.82
Extrinsic satisfaction T1																																					
Item 6																																					.63
Item 7						.26																															.58
Item 8						.32	.22																														.72
Item 9						.17	.26	.20																														.66
Creative performance T1																																					
Item 10																																					.85
Item 11										.60																											.85
Item 12										.64	.62																										.90
Intrinsic satisfaction T2																																					
Item 13																																					.75
Item 14													.50																								.76
Item 15													.47	.56																							.85
Item 16													.62	.52	.76																						.90
Item 17													.51	.48	.70	.78																					.84
Extrinsic satisfaction T2																																					
Item 18																		.40																			.67
Item 19																		.32	.12																		.54
Item 20																		.20	.17	.37																	.74
Item 21																																					.70
Creative performance T2																																					
Item 22																																					.85
Item 23																						.64															.86
Item 24																						.57	.63														.87
Intrinsic satisfaction T3																																					
Item 25																																					.81
Item 26																									.56												.76
Item 27																									.60	.54											.87
Item 28																									.66	.49	.77										.87
Item 29																									.53	.45	.67	.69									.81

Table 2 (continued)
Inter-item and item-scale correlations

Factor	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	SCALE
Extrinsic satisfaction T2																																					
Item 30																																					.65
Item 31																														.21							.54
Item 32																														.28	.15						.71
Item 33																														.23	.26	.25					.69
Creative performance T3																																					
Item 34																																					.90
Item 35																																		.69			.87
Item 36																																		.73	.69		.92

Note. Items numbering has only displaying purposes. All correlations were significant at $p < .001$ except for the one between items 19 and 20.

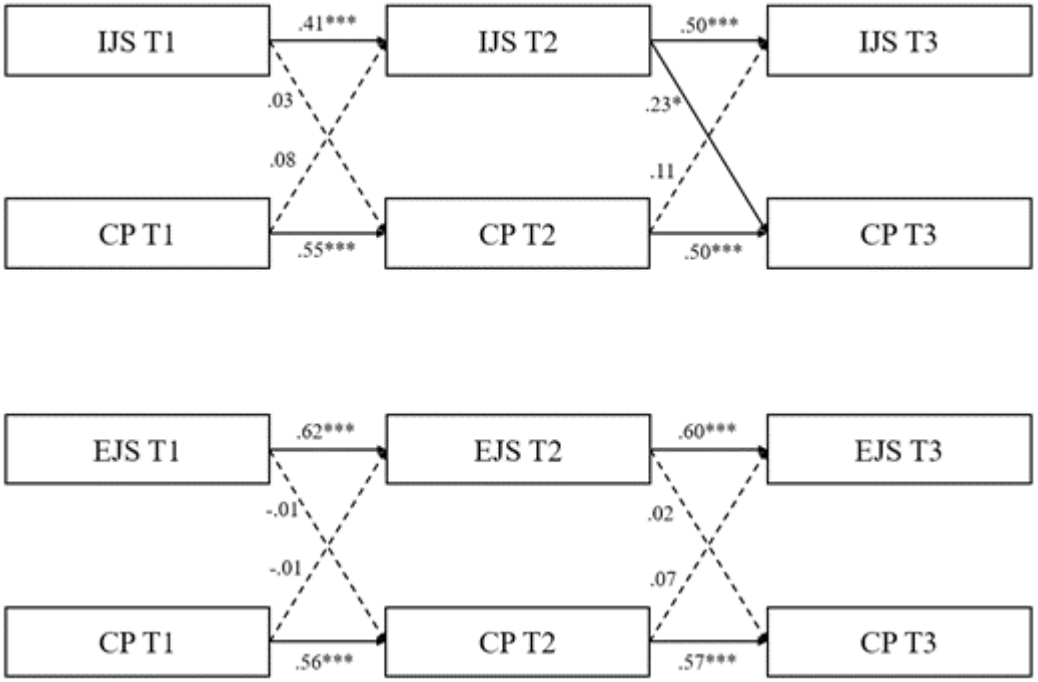

Figure 2. Cross-lagged panel model of intrinsic job satisfaction (IJS, upper panel) and extrinsic job satisfaction (EJS, lower panel) with creative performance (CP) based on three data collections. Note. Nonsignificant paths are dotted. * $p<.05$, *** $p<.001$

First, the pattern of results of this study, with only one significant relationship, is a caveat that cannot be ignored when extracting conclusions. Being cautious and based on these results, it cannot be stated that there is a clear relationship between job satisfaction and creative performance. To help elucidate the type of relationship they are keeping, the models described by Judge et al (2001) can be examined. These authors contemplated alternative types of relationship between satisfaction and performance, within the HPWT, beyond the classic 'satisfaction causes performance'. The models are the following: job satisfaction causes job performance (model 1), job performance causes job satisfaction (2), job satisfaction and job performance are reciprocally related (3), the relationship between job satisfaction and job performance is spurious (4), the relationship between job satisfaction and job performance is moderated by other variables (5), there is no relationship between job satisfaction and job performance (6), and alternative conceptualizations of job satisfaction and/or job performance (7).

The exploratory design proposed here could be identified with model 3 (job satisfaction and job performance are reciprocally related). However, the results do not support this for either IJS or EJS. For EJS, the results would support the model 6 (there is no relationship between job satisfaction and job performance). For IJS, the fact that there is only one significant relationship and in only one of the time intervals, suggests that this relationship could be spurious (model 4). In other words, the relationship between the two variables could be due to a third, unmeasured variable (Meier & O'Toole, 2013). This unknown variable might have been absent in one time interval, and present in another.

Judge et al. (2001) number a series of variables that, when controlled, have incidentally made the relationship between satisfaction and performance disappear in previous studies: role ambiguity (Brown & Peterson, 1993), organization-based self-esteem (Gardner & Pierce, 1998), job involvement and organizational commitment (Keller, 1997), and trust in management (Rich, 1997). Taking the example of organization-based self-esteem, Gardner and Pierce (1998) found that job satisfaction and job performance were significantly related ($r = .27$, $p < .01$), but once this variable was introduced to influence both, the relationship disappeared. Employees high in organization-based self-esteem perceive themselves as important, meaningful, and worthwhile in their organization. The authors suggest that workers with this quality are good performers, and display positive work-related attitudes. Performance and satisfaction, in turn, could reinforce organization-based self-esteem and corroborate the observation that performance is associated with satisfaction. Organization-based self-esteem might have been mutating throughout time in this sample, and that would explain why a significant relationship appears in only one of the time intervals. T1 and T2 data were collected during 2014 and 2015 when Spain was still recovering from a devastating economic crisis. It is plausible that organization-based self-esteem was not present during that harsh period to the same degree as later on, when the economic situation improved. Many employees could have felt that they were no longer important and indispensable for their organizations. A similar case could have happened with the other possible third variables mentioned, such as job involvement and organizational commitment, which might also have been sensitive to the economic circumstances. However, more research is needed to discover which of these specific variables (or others), could be playing a role in the relationship between IJS and creative performance.

Second, and with all the cautions presented in the previous point, it is possible that the type of satisfaction indicator could be relevant when analyzing the relationship between satisfaction and performance. In this sense, IJS seems to be related to creative performance to some extent while EJS does not. Literature usually considers IJS and EJS jointly and implicitly within the general job satisfaction construct. However, as noted in the introduction, the studies that make the differentiation find IJS to be more salient than EJS to organizational outcomes (e.g., Blau & Gibson, 2011), and specifically job performance (e.g., Chandrasekara, 2019). Our results align with this idea. Within the HPWT, the question should not be simplified anymore into "are happy workers better workers?". As Judge et al. (2001) point out, adjusting the focus on specific conceptualizations of job satisfaction and/or job performance can lead to a better understanding of the topic. There are recent efforts in considering different conceptualizations of both constructs, such as the distinction between hedonic and eudaemonic wellbeing (García-Buades et al., 2020; Peiró, Kozusznik & Soriano, 2019). General constructs are apparently too broad to answer the HPWT question accurately.

Third, as pointed out above, creative performance does not seem to influence job satisfaction. This fact seems to contradict the literature reviewed (e.g., Tongchaiprasita & Ariyabuddhiphongs, 2016). However, it is indicated above that the evidence was not sufficient because there were no studies that integrated both directionalities of the relationship over time in a single design. Once this was done, the relationships disappeared. In any case, it is necessary to continue analyzing these relationships, given the complex and contradictory results, to provide more evidence and be able to suggest the causal links between variables.

Finally, the need for conducting more longitudinal research in the field of organizational psychology needs to be underscored. Despite the consensus for its importance, cross-sectional data continues to prevail (Kelloway & Francis, 2013). As is widely accepted, cross-sectional research posits an issue concerning the directionality of results. As stated earlier, the antecedent-consequence aspect is central to the HPWT. What is probably more serious is that in some cases it may be offering false positives, that is, establishing the existence of relationships that cannot be found when examined from a longitudinal perspective (Taris & Kompier, 2014). In fact, Table 1 demonstrates that most of the correlations among the study variables are significant. However, these relationships are not significant anymore in the cross-lagged SEM, where the effect of each variable on itself over time was controlled, which removes much of the variance.

Implications for Practice and Research

This study has implications for organizations, but they have to be taken with the cautions expressed in previous parts. In addition, the findings will be more valid for organizations in which creative performance is a substantial part of their culture. In those, results suggest that it would be more important to have a staff intrinsically satisfied rather than extrinsically. Job redesign is an organizational effort to review job responsibilities and tasks, so it can be a powerful tool to make changes into more IJS (Holman & Axtell, 2016).

Regarding the theoretical implications, our main contribution lies in knowing more about the possible sequential linkages between job satisfaction and creative performance. This study opens a path for research indicating that IJS seems to work as a predictor of creative performance in some situations, whereas creative performance, in turn, does not work as a predictor of IJS in any case.

Limitations and Recommendations for Future Research

This study is not without limitations. First, it operationalized wellbeing at work only as job satisfaction, a fact that responds to the hedonic conceptualization of wellbeing. Although this is the main tendency, some voices suggest other conceptualizations, as proposed earlier when mentioning the eudaemonic tradition (Peiró, Kozusznik, Rodriguez et al., 2019). Both perspectives could be integrated into more comprehensive models in the future.

Another limitation is the inconsistency in finding a stable relationship between IJS and creative performance. As cautionary notes have been included throughout the paper, this fact encourages the authors of this study to be careful in making conclusions. However, it opens the door to interesting possibilities, as there could be other variables involved in the relationship between IJS and creative performance, suitable for further study. Based on previous literature, therefore, role ambiguity (Brown & Peterson, 1993), organization-based self-esteem (Gardner & Pierce, 1998), job involvement and organizational commitment (Keller, 1997), and trust in management (Rich, 1997) could be contaminating that relationship. More research is required to deepen these possibilities.

Finally, although the attempt has been made to form a heterogeneous sample, this study is one made up only of Spanish workers. The results of studies in organizational psychology can be altered by lack of cultural diversity. Regarding wellbeing, Lomas (2015) explains that, although there are universals in the ways it is understood, the different cultures still have space to shape this understanding to a large extent. For example, in collectivist cultures it is highly related to the fulfilment of approved social norms, also at work (Stavrova & Fetchenhauer, 2015). This notion leaves to one side those factors considered to form job satisfaction from the western perspective (job autonomy, variety, etc.). Thus, future developments on the topic could explore whether cultural factors could play a role in the relationships under examination in this paper.

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