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The spillover and crossover of daily work enjoyment and well-being: A diary study among working couples

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ABSTRACT

The purpose of this daily diary study was to investigate whether a positive experience initiated at work (i.e., work enjoyment) may have an indirect impact on employees' significant others. Based on Fredrickson's broaden-and-build theory (2001) we predicted that daily work enjoyment would be positively related to own daily well-being (spillover) and, in turn, daily well-being would be transmitted to the partner (crossover). Eighty couples participated in the study. Participants filled in a diary booklet during five consecutive working days. Overall, results supported our hypotheses. This study is the first to provide evidence for an upward spiral initiated at work and transferred at home in the form of couples' increased well-being.

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La transmisión entre ámbitos y entre personas del disfrute diario en el trabajo y del bienestar: estudio de diario en parejas trabajadoras

RESUMEN

El objetivo del presente estudio de diario fue investigar si una experiencia positiva iniciada en el ámbito laboral (disfrutar en el trabajo), tiene un efecto indirecto en la pareja del trabajador. Basándonos en la teoría de Fredrisckson (2001) sobre "ampliar y construir", planteamos la hipótesis de que el nivel diario de disfrute con el trabajo se relacionaría positivamente con el bienestar en el ámbito personal que, a su vez, se transmitiría a la pareja. Ochenta parejas formaron parte del estudio. Los participantes debían rellenar un cuestionario durante cinco días de trabajo consecutivos. En general, los resultados apoyaron nuestras hipótesis. Este es el primer estudio que proporciona evidencia de una espiral positiva que comienza en el trabajo y se transfiere a la esfera personal, incrementando el nivel de bienestar de los miembros de la pareja.

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Although daily hassles at work exist, fortunately there is also a chance to experience positive states while working. Scholars have emphasized that job resources have the potential to initiate positive spirals leading to experiences such as work engagement, which in turn, leads to increased well-being and job performance (Bakker & Demerouti, 2008). Further, it has been shown that positive states trigger upward spirals toward emotional well-being (Fredrickson & Joiner, 2002). According to Fredrickson and Branigan (2005), emotions are "short-lived experiences that produce coordinated changes in people's cognitive, physiological, and behavioural responses, so that positive emotions will create positive responses"

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(p. 313). Based on these assumptions, a growing number of researchers in the field of work and organizational psychology have focused on the benefits of a short-peak experience known as flow, "a state of consciousness where people become totally immersed in an activity and enjoy it intensely" (Bakker, 2005, p. 26). For instance, Bakker (2008) found that this positive work experience was related to increased performance and job satisfaction. There is also evidence for an upward spiral in the form of a reciprocal relationship between flow and personal and organizational resources over time (Salanova, Bakker, & Llorens, 2006).

Despite this, there is scarce research on how positive experiences at work may influence non-work life and significant others (Demerouti, Bakker, Sonnentag, & Fullagar, 2012; Rodríguez-Muñoz, Sanz-Vergel, Demerouti, & Bakker, in press). In the current study, we aim at filling this gap by analyzing the enjoyment component of flow and its impact on daily well-being at home. In addition, we are

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interested in finding out whether a positive experience initiated at work may have an indirect impact on partner's well-being via actor's well-being, which means that an upward spiral may emerge between couples. This proposition implies recognizing a positive synergy between work and family. As some authors have suggested, work and family can be allies and sharing positive work events with significant others may increase family well-being (Greenhaus & Powell, 2006; Ilies, Keeney, & Scott, 2011).

The current study contributes to the literature at least in three ways. First, to the best of our knowledge, this is the first study analyzing how daily work enjoyment is transferred to the home domain in terms of higher levels of own well-being (spillover effect) and partner's well-being (crossover effect). Second, by using a diary design, we are better able to capture the flow experience (in the case of this study, the component of work enjoyment). Selecting an appropriate methodological approach is crucial, especially when working with an experience that is inherently "volatile", such as the flow experience (Rodríguez-Sánchez, Schaufeli, Salanova, Cifre, & Schonnenschein, 2011). Third, we use an innovative strategy of analysis ("The Actor-Partner Interdependence Model", APIM), which has been considered as the most appropriate technique for testing interdependence within dyadic relationships (Cook & Kenny, 2005). The APIM allows us to explore (a) bidirectional relationships between the members of the dyad, (b) how a specific variable affects one's own criterion variable (actor effect), and (c) how much a person is influenced by a partner (partner effect).

Work enjoyment: The emotional component of flow

There are three dimensions that are consistently mentioned in the different conceptualizations of flow: absorption, enjoyment and intrinsic motivation. *Absorption* refers to total immersion in the activity, the feeling that "time flies". *Work enjoyment* is the outcome of cognitive and affective evaluations of the flow experience, "you feel happy while working". *Intrinsic motivation* refers to performing a certain work-related activity with the aim of experiencing the inherent pleasure (see Bakker, 2008).

Most researchers have directed their attention towards the two first components. For instance, Ghani and Deshpande (1994) highlighted the total concentration and the enjoyment as the two key characteristics of flow. In a similar vein, Rodríguez-Sánchez, Cifre, Salanova, and Aborg (2008) considered intrinsic motivation as a prerequisite of the flow experience itself. Absorption is considered to be the cognitive component of flow, given that it requires a state of total concentration (Csikszentmihalyi, 1990). Finally, enjoyment corresponds to an affective evaluation, people feel happy while working (Diener, 2000). We decided to focus on work enjoyment because this affective component of the flow experience has been considered most important in sustaining resources both during and after work rather than the behavioral components of the experience (absorption) or the reasons why individuals are engaging in specific activities (intrinsic motivation). Indeed, whereas absorption has not been related to energy states, enjoyment has been positively related to well-being after work (Demerouti et al, 2012). Given that in our study we bring together the work and the home domains, we consider appropriate to focus specifically on this affective component of the experience of flow.

The daily spillover of work enjoyment

Interestingly, researchers tend to link work-related variables with outcomes within the same domain. We find a clear example in the case of flow. Literature on work-related flow has traditionally linked this experience with job-related outcomes. For instance, it has been found that flow predicts in-role and extra-role performance, particularly among conscientious employees (Demerouti, 2006). Interestingly, taking into account the three components of flow, Bakker (2008) found that the enjoyment component of the flow experience was the most important predictor of different outcomes such as in-role performance or job satisfaction. However, there is evidence that positive experiences lived in one domain may be transferred to another domain, which is called *spillover effect* (Edwards & Rothbard, 2000).

So far, the spillover of flow has not been widely examined. We only found one study that analyzed the effects of flow on daily levels of energy during non-work time (Demerouti et al., 2012). In this daily diary study, it was found that work enjoyment significantly predicted higher vigor and lower exhaustion at bedtime. Moreover, those employees who enjoyed at work and detached during leisure time achieved higher levels of vigor. The findings are in line with Trougakos and Hideg (2009), who pointed out that when the activities are enjoyable, people are better able to replenish and build affective resources.

In the present study, we propose that on days when employees enjoy at work, they will report higher levels of well-being in the evening. We follow the conceptualization proposed by Shirom (2004), and relate work enjoyment with higher levels of physical strength, emotional energy, and cognitive liveliness. These components represent the most salient domains of energy that humans possess (Shirom & Shraga, 2009). According to Fredrickson and Branigan (2005), positive states increase a variety of personal resources, including physical, cognitive and emotional aspects. On the basis of this literature, we hypothesize that:

H1. Employees' daily work enjoyment will be positively related to daily well-being (i.e., physical strength, emotional energy, and cognitive liveliness).

The indirect effect of work enjoyment on partner's well-being

To what extent experiences lived at work by an employee may be transferred to the partner at home? It is reasonable to think that work experiences can easily cross over between colleagues, since they share the same environment. For instance, daily work engagement crosses over between colleagues on days when employees frequently interact with each other (Bakker & Xanthopoulou, 2009). There is also evidence for a crossover of flow between teachers and their students (Bakker, 2005).

However, according to Westman, Etzion, and Chen (2009), positive feelings following job events may also have a positive effect on the partner's well-being (*crossover effect*). Previous research has shown that positive experiences such as happiness or life satisfaction are transmitted between couples (Demerouti, Bakker, & Schaufeli, 2005; Rodríguez-Muñoz et al., in press). Even so, the number of studies analyzing the crossover of positive feelings among partners is still so reduced that it should be included in the crossover research agenda (Westman et al., 2009).

To our knowledge, this is the first study that analyzes the daily crossover of physical strength, emotional energy, and cognitive liveliness. Traditionally, the crossover of positive experiences has been explained on the basis of the emotional contagion literature. It has been shown that exposure to an individual who is expressing a positive emotion produces a corresponding change in the emotional state of the observer (Pugh, 2001). Hatfield, Cacioppo, and Rapson (1994) considered emotional contagion as "the tendency to automatically mimic and synchronize facial expressions, vocalizations, postures and movements with those of another person and consequently, to converge emotionally" (p. 5). Thus, our second hypothesis is:

H2. Employees' daily well-being (i.e., physical strength, emotional energy and cognitive liveliness) will be positively related to their partner's daily well-being.

Our last hypothesis closes the circle proposed in this study. Previous studies have provided evidence for the upward spiral of flow in the form of increased job resources or increased energy resources (Rodríguez-Sánchez et al., 2011; Demerouti et al., 2012). So far, there is a lack of research of an upward spiral initiated at work and transferred at home in the form of couples' increased well-being. As it has been proposed in Fredrickson's *broaden-and-build theory* (2001), positive emotions broaden people's thought-actions repertory, prompting them to pursue a wider range of thoughts and actions. As a result, people have the opportunity to increase many different personal resources, which leads to enhanced well-being. As previously mentioned, well-being may cross over to the partner via an emotional contagion process (Hatfield et al., 1994). Thus, in our final hypothesis we propose that:

H3. Employees' daily work enjoyment will have a positive effect on partner's daily well-being trough employees' daily wellbeing.

Method

Procedure and sample

We collected data from employees working in different organizations in Spain. Participants were recruited through the social networks of the researchers and their students. Participants had to first fill in a general questionnaire followed by a diary survey twice a day during five consecutive working days (Monday-Friday). Specifically, work enjoyment was measured at the end of the workday, whereas well-being was reported before going to bed. Responses of partners were linked by means of anonymous codes provided by the participants. All the information was sent back directly to the researchers.

Of the 220 survey packages distributed, 160 valid questionnaires were returned (72.7% response rate). Eighty couples (N = 160 participants and N = 800 occasions) participated in the study. Participants worked in a broad range of professional backgrounds, including financial institutions and business services, farming, construction, trade, industry, health and welfare, education and media. The final study sample consisted of 80 men (50%) and 80 women (50%). The average age of the participants was 41.63 years (SD = 12.16) and their mean organizational tenure was 19.47 years (SD = 11.50). On average, they worked 39.17 hours per week (SD = 10.58). The majority of the couples (69.7%) had at least one child, while 35% of the sample had a university degree or postgraduate studies. Most of them were salaried (82.8%) and 34.4% of the sample had a supervisory position.

Measures

Work enjoyment was measured with the subscale of the Workrelated flow inventory (Bakker, 2008). The scale includes three items (e.g., "Today, I did my work with a lot of enjoyment"). Items were rated on a 6-point scale, ranging from 1 = not true at all to 6 = totally true. The mean of Cronbach's alphas across the five occasions was .87.

Well-being. In the present study we used Shirom-Melamed Vigor Measure as a way of conceptualizing well-being (Shirom, 2004). It has been shown that individuals' levels of vigor may be considered as an indicator of their well-being (Shirom, 2011). This scale consists of 12 items, measuring physical strength (e.g., "At this moment I feel I have physical strength"), emotional energy (e.g., "At this moment I feel able to show warmth to others"), and cognitive liveliness (e.g., "At this moment I feel I can think rapidly"). Given that we were interested on short measures, we used 3 items in each dimension. Items were rated on a 6-point scale, ranging from 1 = not true at all to 6 = totally true. The mean Cronbach's alphas across the five days was .82, .86, and .85 for physical strength, emotional energy and cognitive liveliness, respectively.

Data analysis

Our data set is composed of three levels. Specifically, repeated measurements at the day level consisted the first one (withinperson), individual persons the second level (between-person), and the dyad the third level (between-dyad). To test the hypotheses, we conducted multilevel analyses with the MLwiN program (Rasbash, Browne, Healy, Cameron, & Charlton, 2002) with three levels: day (Level 1, N = 800 observations), person (Level 2, N = 160 participants), and dyad (Level 3, N = 80 dyads). Following Ohly, Sonnentag, Niessen, and Zapf (2010), we centered predictor variables at the person level around the grand mean, and predictor variables at the day level around the respective person mean.

We analyzed our data following the actor-partner interdependence model (APIM, Cook, & Kenny, 2005; Kenny, Kashy, & Cook, 2006). This approach has been used in previous studies with a similar research design (e.g., Rodríguez-Muñoz et al., in press; Sanz-Vergel, Rodríguez-Muñoz, Bakker, & Demerouti, 2012), considering the dyad as the highest unit of analysis, with individuals nested within the dyad. APIM allows examining how an individual's predictor variable simultaneously and independently relates to his or her own criterion variable (actor effect) and to his or her partner's criterion variable (partner effect). In APIM models, the partner effect allows to test the mutual (i.e., reciprocal) influence between the members of the dyad (Kenny et al., 2006). In the current study, the crossover of well-being from the actor to the partner is tested simultaneously with the crossover from the partner to the actor. Moreover, as we were not interested in specific partner relationships (e.g., male vs. female), the members of the dyad were treated as indistinguishable. Thus, as suggested earlier, each member could be considered either as the actor or as the partner in the hypothesized relationships.

Results

Preliminary analyses

First, we calculated means, standard deviations, and correlations among all the variables of the study. As can be seen in Table 1, the pattern of correlations was in the expected direction. Additionally, some demographic variables (gender, age, number of children, and hours worked per week) were related to the study variables, and we decided to control its effect in further analyses.

To provide statistical evidence for the use of a three-level (dyads, persons, days) model, we calculated whether our variables exhibited sufficient variability. For each day-level variable, we calculated the intra-class correlations with the intercept-only model. Results indicated that the three-level models explained a significant amount of the well-being variance. Specifically, regarding physical strength at home, the 42.82% of the variance may be attributed to withinperson variations, 41.2% of the variance was attributable to betweenperson variations, and 16% of the variance was attributable to between-dyad variations. Results concerning emotional energy at home showed that 35% of the variance may be attributed to withinperson variations, 44.5% of the variance was attributable to betweenperson variations, and 20.5% of the variance was attributable to between-dyad variations. Finally, results regarding cognitive liveliness showed that 36.2% of the variance may be attributed to within-person variations, 35.5% of the variance was attributable to between-person variations, and 28.3% of the variance was attributable to between-dyad variations. These results support the use of multilevel modeling with the three levels of analysis, because the variance attributed to the dyad was in all cases significant.

Table 1	
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Mean, standard deviations, and correlation	s (N =	= 80 dyads, <i>N</i> =	= 160 individuals, N = 800 obser	vations)
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Variable	M (SD)	1	2	3	4	5	6	7	8
1. Work enjoyment, actor	4.13 (1.26)								
2. Work enjoyment, partner	4.13 (1.26)	.31**							
3. Physical strength at home, actor	2.83 (1.22)	.33**	.21**						
4. Physical strength at home, partner	2.83 (1.22)	.21**	.33**	.20**					
5. Emotional energy at home, actor	4.17 (1.35)	.36**	.12**	.43**	.22**				
6. Emotional energy at home, partner	4.17 (1.35)	.12**	.36**	.22**	.43**	.28**			
7. Cognitive liveliness at home, actor	2.99 (1.30)	.27**	.18**	.64**	.21**	.55**	.24**		
8. Cognitive liveliness at home, partner	2.99 (1.30)	.18**	.27**	.21**	.64**	.24**	.55**	.30**	

*p < .05, **p < .01

Hypothesis testing

To test our study hypotheses, we examined a series of nested models. In the Null Model, we included the intercept as the only predictor. In Model 1, we included person-level control variables (demographic information). In Model 2, we entered work enjoyment of both the partner and the actor. Finally, in Model 3, we entered actor's well-being. The differences of the deviances of the models follow a chi-square distribution and indicate whether the additional explained variance is significant. Results showed that Model 3 showed a better fit to the data than the rest of the models in each of the three well-being dimensions as dependent variables. Tables 2-4 present unstandardized estimates, standard errors, and t values of the three well-being dimensions. Hypothesis 1 stated that individuals' daily work enjoyment would be positively related to their own daily wellbeing. The results support this hypothesis, since work enjoyment was related to physical strength (t = 6.52, p < .001), emotional energy (t =7.92, *p* < .001), and cognitive liveliness (*t* = 6.28, *p* < .001).

Hypothesis 2 suggested that there would be a bidirectional crossover of daily well-being between both members. Results showed that actor's daily physical strength was positively related to partner's physical strength (t = 3.20, p < .001). Similarly, the bidirectional crossover of daily emotional energy was significant (t = 2.17, p < .05).

Regarding daily cognitive liveliness, the crossover was also significant (t = 3.12, p < .01). These findings support Hypothesis 2.

Finally, Hypothesis 3 suggested that actor's work enjoyment would have a positive effect on partner's well-being through actor's well-being. The three conditions that should be met in order to support this mediation hypothesis are (a) actor's daily work enjoyment should be positively related to actor's daily well-being; (b) actor's daily well-being should be positively related to partner's daily well-being; and (c) after the inclusion of the mediator (actor's well-being), the previously significant relationship between actor's daily work enjoyment and partner's daily well-being either turns into non-significant or becomes significantly weaker. The test of Hypothesis 1 and 2 already supported the first two conditions. However, analyses did not support the third condition, since actor's work enjoyment was not significantly related to partner's wellbeing. However, it has been suggested that in cases where mediation hypotheses are rejected, alternative hypothesis of indirect effects should be examined (Mathieu & Taylor, 2006). Indirect effects are a special form of intervening effects whereby the predictor and the dependent variable are not related directly, but they are indirectly related through significant relationships with a linking mechanism. We tested this indirect effect with the Sobel (1982) test. Results showed that actor's work enjoyment indirectly, positively relates to

Table 2

Multilevel estimates for models predicting physical strength at home of the partner (N = 80 dyads, N = 160 individuals, N = 800 observations)

Variable		Null Model			Model 1			Model 2			Model 3	
	Estimate	SE	t	Estimate	SE	t	Estimate	SE	t	Estimate	SE	t
Intercept	2.833	0.088	32.1***	2.852	0.082	34.7***	2.861	0.073	36.1***	2.862	0.073	39.2***
Gender				-0.386	0.156	-2.47**	-0.465	0.151	-3.07***	-0.516	0.152	-3.39***
Age				-0.018	0.010	-1.80	-0.018	0.009	-2.00*	-0.014	0.009	-1.55
Number of children				0.032	0.089	0.35	0.025	0.081	0.30	0.004	0.081	0.49
Worked hours per week				-0.014	0.008	-1.75	-0.014	0.008	-1.75	-0.012	0.008	-1.50
Work enjoyment (actor)							0.009	0.039	0.23	0.023	0.038	0.60
Work enjoyment (partner)							0.251	0.039	6.43** *	0.248	0.038	6.52***
Physical Strength (actor)										0.125	0.039	3.20***
-2 X Log (lh)		2200.210			1908.339			1852.581			1842.429	
Difference of -2 X Log					291.87***			55.75***			10.15**	
Df					4			2			1	
Level 1 intercept variance (SE)	0	.637 (0.036))	0	.658 (0.040)	0	.624 (0.03	8)	(0.612 (0.037	')
Level 2 intercept variance (SE)	C	0.613 (0.118)		C	0.640 (0.134))	0	.592 (0.08	7)	0	0.596 (0.087	7)
Level 3 intercept variance (SE)	C	0.238 (0.113)		C	0.067 (0.104)	0	.000 (0.00	0)	C	0.000 (0.000))

p < .05, p < .01, p < .01, p < .001

Table 3

Multilevel estimates for models predicting emotional energy at home of the partner (N = 80 dyads, N = 160 individuals, N = 800 observations)

Variable		Null Model			Model 1			Model 2			Model 3	
	Estimate	SE	t	Estimate	SE	t	Estimate	SE	t	Estimate	SE	t
Intercept	4.181	0.107	39.0***	4.181	0.107	39.0***	4.192	0.101	41.5***	4.189	0.096	43.6***
Gender				0.199	0.169	1.17	0.106	0.160	0.66	0.111	0.168	0.66
Age				0.021	0.012	1.75	0.020	0.012	1.66	0.020	0.011	1.81
Number of children				0.030	0.114	0.26	0.013	0.108	0.12	0.024	0.104	0.23
Worked hours per week				-0.017	0.010	-1.70	-0.017	0.009	-1.88	-0.017	0.009	-1.88
Work enjoyment (actor)							0.026	0.039	0.66	0.042	0.038	1.10
Work enjoyment (partner)							0.300	0.039	7.69***	0.301	0.038	7.92***
Emotional energy (actor)										0.085	0.039	2.17*
-2 X Log (lh)		1905.682			1905.682			1843.508			1836.315	
Difference of -2 X Log					0			62.17***			7.19**	
Df					4			2			1	
Level 1 intercept variance (SE)	0	0.601 (0.036)	0	.601 (0.036	5)	0	.558 (0.134)	C	0.557 (0.034)
Level 2 intercept variance (SE)	C	0.764 (0.153))	0	.764 (0.153	;)	0	.673 (0.136)	(0.761 (0.151)
Level 3 intercept variance (SE)	C).347 (0.157))	0	.347 (0.157	')	0	.307 (0.139)	().187 (0.132)

p < .05, p < .01, p < .01

Table 4

Multilevel estimates for models predicting cognitive liveliness at home of the partner (N = 80 dyads, N = 160 individuals, N = 800 observations)

Variable	Null Model			Model 1			Model 2			Model 3		
	Estimate	SE	t	Estimate	SE	t	Estimate	SE	t	Estimate	SE	t
Intercept	2.996	0.103	29.0***	2.969	0.098	34.7***	2.978	0.093	31.9***	2.975	0.082	36.2***
Gender				-0.490	0.156	-2.47**	-0.566	0.155	-3.65***	-0.634	0.171	-3.70***
Age				-0.037	0.011	-1.80	-0.037	0.011	-3.36***	-0.035	0.010	-3.50***
Number of children				0.098	0.104	0.35	0.140	0.100	1.40	-0.148	0.091	-1.62
Worked hours per week				-0.014	0.009	-1.75	-0.014	0.009	-1.55	-0.014	0.009	-1.55
Work enjoyment (actor)							0.013	0.039	0.33	0.039	0.038	1.02
Work enjoyment (partner)							0.233	0.039	5.97***	0.239	0.038	6.28***
Cognitive Liveliness (actor)										0.122	0.039	3.12**
-2 X Log (lh)		2201.924			1912.350			1871.643			1865.361	
Difference of -2 X Log					289.574***			40.70***			6.26**	
Df					4			2			1	
Level 1 intercept variance (SE)		0.615 (0.03	5)	(0.635 (0.038	3)	(0.604 (0.037	7)	(0.602 (0.036	5)
Level 2 intercept variance (SE)		0.603 (0.116	5)	(0.624 (0.130))	(0.614 (0.128	3)		0.786 (0.110))
Level 3 intercept variance (SE)		0.480 (0.140	5)	(0.283 (0.131)		0.225 (0.121)	(0.000 (0.000))

p < .05, p < .01, p < .01, p < .001

partner's daily physical strength via actor's daily physical strength (z = 3.49, p < .01). Similarly, actor's work enjoyment indirectly, positively relates to partner's daily emotional energy via actor's daily emotional energy (z = 2.00, p < .05). Finally, results showed that actor's work enjoyment indirectly, positively relates to partner's daily cognitive liveliness via actor's daily cognitive liveliness (z = 2.38, p < .05). Thus, hypothesis 3 is partially supported.

Discussion

In this study, we analyzed the impact of a short-peak work experience (i.e., work enjoyment) on the non-work domain. Based on Fredrickson's *broaden-and-build theory* (2001) we predicted that daily work enjoyment would be positively related to daily well-being and, in turn, daily well-being would be transmitted to the partner. To the best of our knowledge, this study is the first to examine the impact of work enjoyment on partner's well-being on a daily basis.

Main findings

Overall, our results supported our hypotheses. First, results showed that daily work enjoyment was positively related to own physical strength, emotional energy, and cognitive liveliness. This finding is in line with the results reported by Steele and Fullagar (2009), who demonstrated that flow was positively related to physical health. In the same vein, Demerouti et al. (2012) found in their diary study that absorption and enjoyment were significantly associated with energy after work. Our findings may be explained using the *broaden-and-build theory* (Fredrickson, 2001). According to this theory, positive emotions (a) create the urge to explore the

environment, (b) create the urge to share emotions with others, and (c) broaden the scopes of attention and cognition, enabling flexible and creative thinking. Based on these propositions, we can explain why work enjoyment increases physical strength, emotional energy, and cognitive liveliness, respectively.

Second, we found a bidirectional crossover of well-being. More specifically, the three components of well-being were transmitted between members of the partner. Although previous studies have provided evidence for the crossover of well-being in terms of life satisfaction (Demerouti et al., 2005), vigor (Westman et al., 2009), or positive mood (Song, Foo, & Uy, 2008), this is the first study that shows a daily crossover of three types of well-being. The main mechanism proposed by researchers to explain a direct crossover between couples has been an emotional contagion process (see Bakker & Demerouti, 2013). According to the latter authors, the emotional contagion is particularly likely among intimate partners, especially when they pay close attention to each other. This argumentation may be applied to our findings, so that observation of another person's physical strength, emotional energy and cognitive liveliness elicits congruent postural or vocal expressions, as well as congruent feelings within the observer (Barsade, 2002; Hatfield et al., 1994).

Finally, we proposed an indirect effect of daily work enjoyment on partner's well-being via actor's well-being. Results showed that actor's daily work enjoyment was not directly related to partner's well-being, but was indirectly related via actor's well-being. This finding agrees with the study conducted by Rodríguez-Muñoz et al. (in press), who also found an indirect link between a work-related experience (i.e., work engagement), and partner's happiness via employee's happiness. Furthermore, Westman et al. (2009) in their study among 275 business travellers found that demands on the travellers (number of trips) and their resources (trip control and their business trips satisfaction) were positively related to travellers' vigor and, in turn, travellers' vigor crossed over to spouses' vigor. Taken together, our findings are in line with previous literature and suggest that work enjoyment has a positive impact on employees' significant others, via employees' physical, cognitive, and emotional well-being.

Limitations and suggestions for future research

The present study has a number of shortcomings. First, we worked with three levels of analysis, couple, person, and day, but we only included predictors at two levels: person, and day. This means that we miss information on how certain aspects at the couple level could be affecting the process of crossover. For instance, as previously mentioned, in a daily diary study among colleagues, the transmission of work engagement was higher on days when colleagues frequently interacted with each other (Bakker & Xanthopoulou, 2009). Therefore, there are variables at the couple level that could help us to improve our understanding of the crossover process (such as time spent together during the evening). Future studies should address this issue, as the case of Song et al. (2008), who found a crossover of positive mood among couples, but only when both spouses were physically together.

Second, in the present study, we only examined one component of flow because we were especially interested in affective components. However, future studies could examine the impact of the three aspects of flow on well-being indicators at home.

Third, we have examined a positive state *during* work. Interestingly, it has been shown that the experience of flow is not linear (Rodríguez-Sánchez et al., 2011). Specifically, the latter authors found that enjoyment was higher during non-working tasks, whereas absorption was higher when working. On the light of these results, it could be interesting to examine enjoyment while performing off-job activities and its implications for couples' well-being. There is a recent line of

research on how the degree to which an individual wants to engage in a specific off-job activity influences quality of life outside the work domain (Volman, Bakker, & Xanthopoulou, 2013). However, these studies do not explicitly evaluate the level of *enjoyment*. We encourage scholars to make an effort to integrate work and home domains. For instance, Hahn, Binnewies, and Haun (2012) showed that absorption in joint activities with the partner during the weekend increased positive affective states at the beginning of the following working week.

Finally, we used a daily diary design, so that employees had to fill in the questionnaire twice a day: after work and before going to bed. This reduces retrospective bias because the person informs about recent events (Ohly et al., 2010). However, as it has been previously noted, flow is a short-peak experience. Thus, future studies could adjust the methodology to better capture this phenomenon. For instance, the experience sampling method, which implies answering to specific events immediately after they have taken place, could be an appropriate technique.

Practical implications

Our findings have several implications for practice. We found that the affective component of flow has a positive impact on employees' well-being, which in turn affects their partner. This is an example of work-family facilitation, that is, "the extent to which an individual's engagement in one life domain (i.e., work) provides gains which contribute to enhanced functioning of another life domain (i.e., family)" (Wayne Grzywacz, Carlson, & Kacmar, 2007, p. 64). By creating a positive work environment, it is more likely that employees build resources that may use in the home domain, which in turn, will affect the organization in a positive way.

Given that job resources such as autonomy or feedback are conditions that evoke flow, organizations should redesign tasks in order to promote flow among their employees (Bakker, 2008). In the twenty first century, we should move on toward a more flexible view of the work design. Even in the most routine jobs, employees may exert some influence on the work environment, which has been called *job crafting* (Wrzesniewski & Dutton, 2001). This is an interesting line of thinking, and organizations should provide employees with the opportunity to redefine their jobs so that they could enjoy their daily tasks or at least, some of them during the workday.

On the other hand, creating a flow experience may not be easy for all employees. Training programs on "flow" could help individuals in their daily routine, not only at the work but also at the home level. In these programs, the employee could acquire skills on how to better concentrate, how to focus on positive events and not only on the negative ones, as well as practicing different exercises such as relaxation or mindfulness techniques.

Conflicts of interest

The authors of this article declare no conflicts of interest.

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References

- Bakker, A. B. (2005). Flow among music teachers and their students: The crossover of peak experiences. *Journal of Vocational Behavior*, 66, 26-44. doi: 10.1016/j. jvb.2003.11.001
- Bakker, A. B. (2008). The Work-Related Flow Inventory: Construction and initial validation of the WOLF. *Journal of Vocational Behavior*, 72, 400-414. doi: 10.1016/j. jvb.2007.11.007

- Bakker, A. B., & Demerouti, E. (2008). Towards a model of work engagement. Career Development International, 13, 209-223. doi: 10.1108/13620430810870476
- Bakker, A. B., & Demerouti, E. (2013). The Spillover-Crossover model. In J. Grzywacs & E. Demerouti (Eds.), New Frontiers in Work and Family Research. Hove: Psychology Press.
- Bakker, A. B., & Xanthopoulou, D. (2009). The crossover of daily work engagement: Test of an actor-partner interdependence model. *Journal of Applied Psychology*, 94, 1562-1571. doi: 10.1037/a0017525
- Barsade, S. G. (2002). The ripple effect: Emotional contagion and its influence on group behavior. Administrative Science Quarterly, 47, 644-675. doi: 10.2307/3094912
- Cook, W., & Kenny, D. A. (2005). The Actor-Partner Interdependence Model: A model of bidirectional effects in developmental studies. *International Journal of Behavioral Development*, 29, 101-109. doi: 10.1080/01650250444000405
- Csikszentmihalyi, M. (1990). Flow: The psychology of optimal experience. New York: Harper & Row.
- Demerouti, E. (2006). Job characteristics, flow, and performance: The moderating role of conscientiousness. *Journal of Occupational Health Psychology*, 11, 266-280. doi: 10.1037/1076-8998.11.3.266
- Demerouti, E., Bakker, A. B., & Schaufeli, W. B. (2005). Spillover and crossover of exhaustion and life satisfaction among dual-earner parents. *Journal of Vocational Behavior*, 67, 266-289. doi: 10.1016/j.jvb.2004.07.001
- Demerouti, E., Bakker, A. B., Sonnentag, S., & Fullagar, C. (2012). Work-related flow and energy at work and at home: A study on the role of daily recovery. *Journal of* Organizational Behavior, 33, 276-295. doi: 10.1002/job.760
- Diener, E. (2000). Subjective well-being, the science of happiness and a proposal for a national index. American Psychologist, 55, 34-43. doi: 10.1037//0003-066X.55.1.34
- Edwards, J. R., & Rothbard, N. (2000). Mechanisms linking work and family: Clarifying the relationship between work and family constructs. Academy of Management Review, 25, 178-200. doi: 10.2307/259269
- Fredrickson, B. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American Psychologist*, 56, 218-226. doi: 10.1037//0003-066X.56.3.218
- Fredrickson, B. L., & Branigan, C. (2005). Positive emotions broaden the scope of attention and thought-action repertoires. *Cognition and Emotion*, 19, 313-332. doi: 10.1080/02699930441000238
- Fredrickson, B. L., & Joiner, T. (2002). Positive emotions trigger upward spirals toward emotional well-being. *Psychological Science*, 13, 172-175. doi: 10.1111/1467-9280.00431
- Ghani, J. A., & Deshpande, S. P. (1994). Task characteristics and the experience of optimal flow in human-computer interaction. *The Journal of Psychology*, 128, 381-391. doi: 10.1080/00223980.1994.9712742
- Greenhaus, J., & Powell, G. (2006). When work and family are allies: A theory of workfamily enrichment. Academy of Management Review, 31, 72-92. doi: 10.5465/ AMR.2006.19379625
- Hahn, V. C., Binnewies, C., & Haun, S. (2012). The role of partners for employees' recovery during the weekend. *Journal of Vocational Behavior*, 80, 288-298. doi: 10.1016/j.jvb.2011.12.004
- Hatfield, E., Cacioppo, J. T., & Rapson, R. L. (1994). Emotional contagion. New York: Cambridge University Press.
- Ilies, R., Keeney, J., & Scott, B. A. (2011). Work-family interpersonal capitalization: Sharing positive work events at home. Organizational Behavior and Human Decision Processes, 114, 115-126. doi: 10.1016/j.obhdp.2010.10.008
- Kenny, D. A., Kashy, D. A., & Cook, W. L. (2006). Dyadic data analysis. New York: The Guilford Press.
- Mathieu, J. E., & Taylor, S. R. (2006). Clarifying conditions and decision points for meditational type inferences in organizational behaviour. *Journal of Organizational Behavior*, 27, 1031-1056. doi: 10.1002/job.406

- Ohly, S., Sonnentag, S., Niessen, C., & Zapf, D. (2010). Diary studies in organizational research: An introduction and some practical recommendations. *Journal of Personnel Psychology*, 9, 79-93. doi: 10.1027/1866-5888/a000009
- Pugh, S. D. (2001). Service with a smile: Emotional contagion in the service encounter. Academy of Management Journal, 44, 1018-1027.
- Rasbash, J., Browne, W., Healy, M., Cameron, B., & Charlton, C. (2002). MLwiN (Version 1.10.006): Interactive software for multilevel analysis. Centre for Multilevel Modelling. Institute of Education. University of London. doi:
- Rodríguez-Muñoz, A., Sanz-Vergel, A. I., Demerouti, E., & Bakker, A. B. (in press). Engaged at work and happy at home: A Spillover-Crossover model. *Journal of Happiness Studies*. doi: 10.1007/s10902-013-9421-3
- Rodriguez-Sánchez, A. M., Cifre, E., Salanova, M., & Aborg, C. (2008). Technoflow among Spanish and Swedish students: A confirmatory factor multigroup analysis. *Anales de psicología*, 24, 42-48.
- Rodriguez-Sánchez, A. M., Schaufeli, W. B., Salanova, M., Cifre, E., & Sonnenschein, M. (2011). Enjoyment and absorption: An electronic diary study on daily flow patterns. *Work & Stress*, 25, 75-92. doi: 10.1080/02678373.2011.565619
- Salanova, M., Bakker, A. B., & Llorens, S. (2006). Flow at work: Evidence for an upward spiral of personal and organizational resources. *Journal of Happiness Studies*, 7, 1-22. doi: 10.1007/s10902-005-8854-8
- Sanz-Vergel, A. I., Rodríguez-Muñoz, A., Bakker, A. B., & Demerouti, E. (2012). The daily spillover and crossover of emotional labor: Faking emotions at work and at home. *Journal of Vocational Behavior*, 81, 209-217. doi: j.jvb.2012.07.003
- Shirom, A. (2004). Feeling vigorous at work? The construct of vigor and the study of positive affect in organizations. In D. Ganster & P. L. Perrewe (Eds.), Research in organizational stress and well-being (pp. 135-165). Greenwich, CT: JAI Press.
- Shirom, A. (2011). Vigor as a positive affect at work: Conceptualizing vigor, its relations with related constructs, and its antecedents and consequences. *Review of General Psychology*, 15, 50-64. doi: 10.1037/a0021853
- Shirom, A., & Shraga, O. (2009). Vigor. In S. J. Lopez (Ed.), Encyclopedia of positive psychology (pp. 1008-1011). New York, NY: Wiley-Blackwell.
- Sobel, M. E. (1982). Asymptotic confidence intervals for indirect effects in structural equation models. In S. Leinhardt (Ed.), Sociological Methodology (pp. 290–312). Washington, DC: American Sociological Association.
- Song, Z., Foo, M. D., & Uy, M. A. (2008). Mood spillover and crossover among dualearner couples: A cell phone event sampling study. *Journal of Applied Psychology*, 93, 443-452. doi: 10.1037/0021-9010.93.2.443
- Steele, J. P., & Fullagar, C. J. (2009). Facilitators and outcomes of student engagement in a college setting. *The Journal of Psychology: Interdisciplinary and Applied*, 143, 5-27. doi: 10.3200/JRLP.143.1.5-27
- Trougakos, J. P., & Hideg, I. (2009). Momentary work recovery: The role of within-day work breaks. In S. Sonnentag, P. L., Perrewé, & D. C. Ganster (Eds.), Current perspectives on job-stress recovery: Research in occupational stress and well being (Vol. 7, pp. 37-84). Bingley, UK: JAI Press.
- Volman, R. E., Bakker, A. A, & Xanthopoulou, E. (2013). Recovery at home and performance at work: A diary study on self-family facilitation. *European Journal of Work and Organizational Psychology*, 22, 218-234.
- Wayne, J. H., Grzywacz, J. G., Carlson, D. S., & Kacmar, K. M. (2007). Work-family facilitation: A theoretical explanation of primary antecedents and consequences. *Human Resource Management Review*, 17, 63-76. doi: 10.1016/j.hrmr.2007.01.002
- Westman, M., Etzion, D., & Chen, S. (2009). Crossover of positive experiences from business travelers to their spouses. *Journal of Managerial Psychology*, 24, 269-284. doi: 10.1108/02683940910939340
- Wrzesniewski, A., & Dutton, J. E. (2001). Crafting a job: Revisioning employees as active crafters of their work. Academy of Management Review, 26, 179-201. doi: 10.2307/259118