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A combined resources-strength intervention: Empirical evidence from two streams of the positive psychology approach

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Abstract

In the framework of positive psychology approach, the present study reports the effect of a mixed human resources (HR) intervention program. We developed an intervention by the integration of the classic resource-based intervention with the specific strength training program named FAMILY. Then, we examined the extent to which such a combined intervention enhanced commitment, work engagement, job performance, and decreasing exhaustion of the participants. $N = 69$ sales consultants operating in an Italian pharmaceutical company participated in our study. To monitor the interventions used, participants had to complete a diary with self-report measures on the dimensions considered for four weeks. Data were analyzed by using growth models to study the variability of the dimensions considered overtime. Afterward, we used multilevel model analyses to test the associations between them. Our results showed that our combined training intervention increased in-role and extra-role performance, emotional commitment, and decreased the reported exhaustion level of the employees. Moreover, relationships among such dimensions have been explored in relation to antecedents that affect them (i.e., negative and positive emotions experienced, and job demands, and resources).

INTRODUCTION

Positive psychology deals with what makes our lives worth living, with scholarly authors investigating those main identified factors as crucial for supporting individuals' quality of life (e.g., Csikszentmihalyi & Seligman, 2000; Peterson, 2006). These factors are (a) positive individual characteristics (e.g., character strengths or personal resources), (b) positive subjective experiences (e.g., job satisfaction, happiness, work engagement, etc.), and (c) positive environments (e.g., workplace, family) (Khurana & Snook, 2004; Park & Peterson, 2007).

Given that individuals spend almost one-third of their life at work, positive psychology researchers consider the workplace as a crucial environmental determinant for the development of positive experiences in one's life (Tommasi et al., 2020; Wrzesniewski et al., 1997). A good workplace can enable the display of functional positive characteristics (e.g., character strengths or the development of personal resources) which in turn can foster positive work and life experiences (Peterson, 2006). Accordingly, a fruitful way of catalyzing positive experiences and behaviors at work is by implementing positive psychology interventions.

The literature offers some approaches to support positive experiences at work via training interventions, namely, strength interventions (Mackie, 2014; Quinlan et al., 2012) and resource-based interventions (Baumeister & Alghamdi, 2015). The former is described as self-training plans, based on metacognitive processes, aiming at the identification, development, and use of subjective psychological strength qualities. Individual strengths are defined as "ways of behaving, thinking or feeling that an individual has a natural capacity for, enjoys doing, and which allow the individual to achieve optimal functioning while they pursue valued outcomes" (Quinlan et al., 2012, p. 3). The literature shows that supporting via training interventions those individual strengths can lead to employees' positive experiences and outcomes such as improved job performance (Peterson et al., 2006), increased work engagement (Linley & Harrington, 2006), job satisfaction (Peterson & Seligman, 2004), and organization-based self-esteem (Costantini et al., 2017).

Secondly, the so-called resource-based intervention relies on the job demands-resources model (JD-R, Bakker & Demerouti, 2007). Resource-based training interventions rely on the categorization of job resources and demands as a basis to develop training interventions. This may be focused on (1) the organizational level aspects (e.g., pay, job security, career opportunities), (2) the interpersonal level aspects (e.g., supervisor and co-worker support, team climate), and the work level aspects (e.g., the task, such as skill variety, task identity, task significance, autonomy, performance feedback; Tims & Bakker, 2010). Accordingly, every job can be described using these two dimensions (Bakker & Demerouti, 2007). In this framework, authors proposed several training interventions among which the job crafting behavior intervention resulted to be widely effective. This model aims to help employees to customize their jobs by actively changing their tasks and interactions with others at work (i.e., JD-R) (Van den Heuvel et al., 2015; Van Wingerden et al., 2016, 2017; Wingerden et al., 2013). Such interventions aim to affect psychological positive outcomes such as organizational commitment (Bakker et al., 2010), work engagement (Bakker et al., 2007; Hakanen et al., 2006), job performance (e.g., Bakker et al., 2004, 2008), and the tackling of burnout and exhaustion (e.g., Bakker et al., 2005, 2008; Demerouti et al., 2001).

Most of these interventions rely on the JD-R model where the work strategies – suggested by the training – are based on contextual dimensions, such as task regulation plans (reducing job demands) or relational dimensions of the job (increasing job resources), and do not consider metacognitive dimensions as originally suggested by Wrzesniewski and Dutton (2001). Indeed, metacognition aspects, both emotional and cognitive, about work plays an essential role in shaping one's job experiences. Through metacognitive processes, employees are induced to reflect

and cognitively reframe their work involvement, better appreciate, through the elicitation of positive emotion, the broader effects of their job, and recognize the impact that their work holds in their life (Slemp & Vella-Brodrick, 2013; Wrzesniewski & Dutton, 2001). Incorporating these aspects in training creates the opportunity for employees to consider their strengths in their role of work processes from an inner perspective, hence bringing the benefits of both resources and a strength-based intervention by delivering tools that are inherent to the positive psychology paradigm.

In the present study, we propose a novel intervention, that we developed and applied (Costantini et al., 2017), able to foster the management of contextual resources and work characteristics – via increasing job resources and reducing job demands strategies (i.e., job crafting) – and the development of personal resources with a metacognitive training. Accordingly, we propose to employ the specific strength-based approach of the FAMILY intervention (*Framing, Attitude, Meaningfulness, Identity, Leading Self, Yoked together*, Costantini et al., 2017; Costantini & Sartori, 2018; Costantini et al., 2019). Such intervention aims to develop employees' strength by (1) structuring reflection and meaning-making process and (2) inspiring to develop employee's identity in relation to other inhabitants of the organization (Khurana & Snook, 2004). As for resources-based interventions, the FAMILY approach belongs to the positive psychology paradigm, since it integrates two of the main strength intervention strategies, the Values In Action (VIA; Peterson & Seligman, 2006) and the PERMA models also developed by the founder of positive psychology: Seligman (2010).

LITERATURE REVIEW

The structure of the FAMILY, a metacognitive intervention, is based on six constructs, each one aims to stimulate employees in two ways (Costantini et al., 2017, 2019; Costantini & Sartori, 2018). The FAMILY intervention starts with a workshop of multiple days starting with a theoretical explanation about the six steps on which the intervention is based. The first three steps are based on a cognitive approach that aims to develop employees' strength by structuring reflection and a meaning-making process on the work experience. The first stage is *Framing (F)* which refers to helping individuals to focus on the positive rather than on the negative aspects of work. Re-framing is also a cognitive process that can transform limiting beliefs and re-frame negative experiences by changing the meanings attributed to them. This allows participants to learn from their experience and appreciate the purpose of their work. *Attitudes (A)* stage refers to the appropriate attitudes that participants should be taught to develop and reach the desired level of engagement, well-being, organizational commitment, and performance. Thus, employees are trained to look at their work situations or conditions from a positive perspective, that is to perceive them as opportunities for gain and growth rather instead of threatening and dangerous situations. *Meaningfulness (M)* stage represents the psychological meaningfulness at work. This phase of the intervention is dedicated to enhancing the sense of meaningful and purposeful personal life of employees, connecting it to the organization's mission. Accordingly, the aim is to strengthen the connection between personal and organizational mission, by possibly finding an overlap between the two.

The remaining three steps aim to develop awareness of employees' identity in relation to colleagues and stakeholders present in the organization. *Identity (I)* stage aims to create or restore a sense of identity and affiliation toward the organization. In this phase, the trainer delves deeper into the personal domain enquiring about feelings and perceptions of self-identity and

referring to individual aspirations within the organizational context. Part of the intervention entails the development of a "new self", as an employee, developing a better fit with the work role and other more specific aspects of the environment. *Leading Self (L)* step is related to the development of employees' self-awareness, emotional maturity, and greater effectiveness. This falls within the scope of learning to become the leader of oneself and taking on responsibility for each aspect of daily work life, whilst dealing with stressful and negative events in positive ways. The final step, namely *Yoked together (Y)*, aims to build a feeling of connection both with colleagues (team level) and with the organization (organizational level). The term "yoked" means "being linked together by means of", in the organizational context. This expression points to a sense of belonging and alignment to be instilled and nurtured so that everyone can feel he/she is part of something greater and moving toward a common purpose while being fully aware of the importance of being connected.

As noted above, there is accumulating evidence that regulating levels of job demands and resources could have a positive impact on individual well-being, work engagement, and job performance (Bakker et al., 2012; Petrou et al., 2012). Similarly, research on strength-based interventions, such as the FAMILY training, found support for the elicitation of positive outcomes, such as well-being, work engagement, and performance (Costantini et al., 2017, 2019; Costantini & Sartori, 2018). In line with a more comprehensive positive psychological approach, we intend to measure the effect of combined strength and resource-based intervention to investigate effects on the employees' well-being. According to Muchinsky (2000) and Keyes (2005), general affective well-being can be considered to be the core of the human experience and mental health, and it can represent an estimation of how a person is feeling (Warr, 1987). Warr (1987) proposed a two-dimensional model of affective well-being based on positive and negative emotional states (positive and negative affect), and this structure was also adopted in occupational health psychology (McGowan et al., 2006). Such a model has been emblemed also into the JD-R theory by Balducci and Colleagues (2011) since it is increasingly acknowledged that job-related affective experiences may play a crucial role in mediating the relationship between the work environment and positive and negative well-being outcomes (van Katwyk et al., 2000). For what concerns the positive outcomes (e.g., work engagement, organizational commitment, job performance, etc.) the authors suggest that it may develop through the experience of positive affective states at work, which in their turn are related to psychosocial resources made available by the organization. On the other hand, the effect of organizational stressors, such as exhaustion, is mediated by the experience of job-related negative affect. Spector and Fox (2005), for example, propose with their stressor emotion hypothesis that emotionally critical internal states are to enact (and discharge) such states. In light of this evidence, we theorize that positive job resources together with positive emotions experience at work could be the main sources of positive outcomes such as work engagement, job performance, and organizational commitment, while job demands together with negative emotions experience, would be the main predictors of exhaustion (Bakker & Demerouti, 2007).

The motivational role of positive emotions experienced in the workplace and of job resources toward work engagement and job performance

Research shows that work engagement and job performance can be predicted considering levels of job demands and resources (Bakker, 2011; Bakker & Demerouti, 2007; Demerouti et al., 2001). Work engagement can be defined as a persistent and pervasive affective–cognitive state that is

not focused on any particular object, event, individual, or behavior (Schaufeli & Bakker, 2004, p. 295). It reflects a positive work-related state in balance with demands and resources at work, and it is characterized by positive feelings as vigor, dedication, and absorption. Work engagement occurs as the result of a balance between employees' ideal job demand and resources (Bakker & Demerouti, 2014) and the actual work environments with a sufficient amount of job resources and challenging tasks (Bakker, 2011; Halbesleben, 2010) and it can be achieved through seeking job resources via proactive work behaviors (Bakker et al., 2012; Petrou et al., 2012).

Thus, using a resources and strength-based approach, employees can learn how to find and balance new job resources, and focus on their strengths by finding an alignment between personal and organizational goals to improve their well-being.

Hypothesis 1 *Through the combined intervention work engagement will increase (H1a), positive emotions and job resources will predict the work engagement enhancement (H1b).*

For what concerns job performance, we can classify it into two categories, namely in-role and extra-role performance. In-role performance reflects the achievements, tasks, outcomes, and behaviors that officially serve the aim of the organization (Borman & Motowidlo, 1997). Extra-role performance can be described as work activities and behaviors that are not necessarily related to work tasks, but they contribute to the psychological and social features of the organization, (e.g., to assist others with their work for the benefit of this organization; Borman & Motowidlo, 1993). Recent Industrial and Organizational (I/O) psychology research found that optimal management between job resources and job demands has the potential to increase performance (Bakker et al., 2012; Lyons, 2008). New job resources acquired by employees to meet job demands can also be devoted to different aspects of performance (Halbesleben, 2011; Hobfoll, 2001) providing themselves with developmental opportunities, which in turn may enhance their performance (Wingerden et al., 2016). Moreover, there are theoretical reasons to think that positive emotions can empower and support employees' strengths and result in increased well-being which is likely a catalyst for higher performance (Costantini et al., 2019).

Hypothesis 2 *Through the combined intervention in-role performance will increase (H2a), positive emotions and job resources will predict the in-role performance enhancement (H2b).*

Hypothesis 3 *Through the combined intervention extra-role performance will increase (H3a), positive emotions and job resources will predict the extra-role performance enhancement (H3b).*

Emotional commitment as a product of job resources and positive emotions experienced in the workplace

Organizational commitment has been defined as "*the strength of an individual's identification with an organization*" (Mowday et al., 1979, p. 226). In particular, considering the relevance given to this study to the experience of positive emotions, we focused on the emotional (or affective) commitment, a sub-dimension of organizational commitment, which refers to the employees' emotional attachment to, and involvement in the organization (Meyer & Allen, 1997). Employees who have a strong emotional commitment remain in the organization because they want to. This component of commitment may encourage adherence to the expectations and values of an organization.

A study by Bakker and Colleagues (2010) examined whether a combination of job demands and resources predicts organizational commitment and task enjoyment. The results showed that job resources predicted task enjoyment and organizational commitment particularly under conditions of high job demands. Investigating the predictive power of supervisor and co-worker support on emotional commitment, moderated by job resource adequacy, Rousseau and Aubé (2010) found that supervisor and co-worker support are strongly related to emotional commitment given that job resource adequacy is high. Insight of this, in our study we retain relevant examining the predictive power of the combination of positive emotions and job resources on emotional commitment. Due to our focus on job demands and job resources regulation and the nature of the FAMILY intervention (e.g., the first three modules of the training), we theorize that:

Hypothesis 4 *Through the combined intervention emotional commitment will increase (H4a), positive emotions and job resources will predict the emotional commitment enhancement (H4b).*

The detrimental role of negative emotions experienced in the workplace and of job demands

Exhaustion can be defined "*as a consequence of intense physical, affective and cognitive strain, i.e., as a long-term consequence of prolonged exposure to certain job demands*" (Demerouti & Bakker, 2008, p. 4). This definition is in line with other conceptualizations of exhaustion (e.g., Aronson et al., 1983; Shirom, 1989). Exhaustion can also be conceptualized as the opposite of the vigor element of engagement (Schaufeli et al., 2001). Previous research has found that perceived stressors usually associated with exhaustion, are indeed related to the experience of negative emotions such as anger and anxiety (Spector & Goh, 2001). According to Lazarus's transactional model (2006), psychological stress involves affective arousal and the activation of regulative processes intended to manage these affects. Thus, building on these findings, we theorize that the combination of increased levels of job demands and negative emotions will lead to exhaustion. Finally, we intended to verify such a relationship to study how our intervention could moderate the development of exhaustion.

Hypothesis 5 *Through the combined intervention exhaustion will decrease (H5a), negative emotions and job demands will predict exhaustion (H5b).*

Figure 1 provides a visual representation of the hypotheses, relating to the predictors of positive and negative emotions and job resources to the constructs of work engagement, in role and extra-role performance, affective commitment and exhaustion.

METHOD

Participants and procedure

To test the effect of such training, $N = 69$ sales consultants operating in an Italian pharmaceutical company volunteered to participate in our study. The company allowed us to monitor the performance of the employees based also on the budget of each consultant during the experimental section. Of those who were involved in the intervention, 75.4 per cent were female and 24.6 per cent were males, with an average age of 32.21 years (SD = 7.61). More than half of the

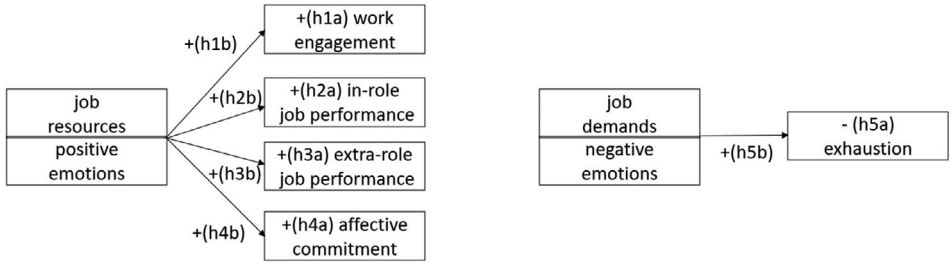

FIGURE 1 Visual representation of hypotheses

participants (52.2 per cent) held a university degree and had been with the organization for an average of 4.18 years (SD = 4.48). Participants received a 1-day training, after which they worked on setting their own weekly goals for the following 4 weeks. Weekly tasks were filled in an action plan diary based on intervention purposes. At the end of each week, consultants had to complete a questionnaire, with which we collected data. The research staff provided participants with the questionnaire and explained the anonymous nature of the data collection. Anonymity was guaranteed by the respondent's insertion of a nine-letter identification code, consisting of the initial letters (three) of significant people and objects in the respondent's life, and placed in the initial part of each questionnaire in a recognizable position to match all questionnaires.

Measures

Job-related affective well-being consists of positive and negative emotions, which were measured with the 12-item translated and back-translated version of the *Job Affective Well-being Scale* (JAWS; Van Katwyk et al., 2000). JAWS investigates the frequency of experience of positive and negative emotions associated with one's work in the last 30 days, with responses given on a frequency scale (1 = never, 5 = very often). This version of JAWS assesses both positive (6 items, e.g., *full of energy*) as well as negative emotions (6 items, e.g., *angry*). An example item is "*I would be very happy to spend the rest of my career in this organization*".

Job demands were assessed with a three-item scale developed by Bakker et al. (2003). The instrument was translated from English to Italian using a translation and back-translation procedure. An example item is "*How often do you have to work extra hard in order to reach a deadline?*" Items are scored on a 5-point Likert scale (1 = never, 5 = very often).

Job resources were measured with three items from the translated scale developed by Van Veldhoven and Meijman (1994). An example item is "*Can you ask your colleagues for help if necessary*?" (1 = never, 5 = always).

Work engagement was measured with the Italian version of the Utrecht Work Engagement Scale (Balducci et al., 2011). Six items were selected: two items for the vigor component (e.g., "*At my work, I feel bursting with energy*"), two for the absorption component (e.g., "*I feel happy when I am working intensely*"), and two for the dedication component (e.g., "*My job inspires me*"). Responses were scored on a 7-point Likert scale (0 = never, 6 = always).

Three items of the Oldenburg Burnout Inventory (Demerouti & Bakker, 2008), adapted for Italian workers, were used to assess the exhaustion. An example item is "*There are days when I feel tired before I arrive at work*" (1 = totally disagree, 4 = totally agree).

Two types of job performance were assessed: in-role and extra-role performance. In-role performance was measured with three items, an example is: "*As regards performance, you meet all the standards*" (0 = not at all characteristics, 6 = totally characteristic). Extra-role performance was measured with three other items, such as: "*You help your colleagues with their work when they return from a period of absence*" (same previous response scale). Both scales were derived from the JD-R questionnaire by Bakker et al. (2014) and were translated from English to Italian using a translation and back-translation procedure.

Six affective commitment items of the Italian version of the Organizational Commitment Scale (Meyer & Allen, 1997), were used. Affective commitment refers to the employee's emotional attachment to, identification with, and involvement in the organization (Meyer & Allen, 1997), and may encourage adherence to the expectations and values of the organization. An example item is "*This organization has a great deal of personal meaning for me*". Responses were scored on a 7-point Likert scale (1 = strongly disagree, 7 = strongly agree).

Intervention structure

Day 1, workshop

On day one of the intervention the 69 participants received a workshop that included a theoretical explanation of resources-strength intervention and continued with practical exercises. We conducted the workshop with the objective of changing cognitive and behavioral processes. In particular, we asked participants to reflect on changes in their working conditions, to identify what they would like to change and to explore and reflect on the dimensions within the FAMILY approach. During the first week of intervention, participants were also invited to familiarize themselves with the JD-R theory and on strategies for regulating job resources and demands in the workplace. Finally, with the exercise part, participants worked together in groups of four or five people, in order to put into practice what they have learned from the theoretical session. In the exercise session, participants were instructed to implement the newly acquired knowledge in a hypothetical scenario of their daily work and to prepare a plan based on weekly goals for the following four weeks focusing as follows.

Week 1

During the first week of intervention, participants focused on strategies for improving job resources. There are several strategies that employees can use to increase job resources, for example, asking for feedback and increasing their job autonomy can enhance the levels of job resources and buffer the effects of job demands on burnout (Bakker et al., 2003, 2005).

Week 2

The second week of intervention was based on reducing job demands strategies. Job demands refer to those physical, social or organizational aspects of the job that require sustained physical or mental effort and are therefore associated with certain physiological and psychological costs. Examples of job demands are high work pressure and demanding interactions with co-workers,

clients and customers (Bakker & Demerouti, 2014, Bakker et al., 2007). One can reduce job demands by engaging in job crafting thereby reducing one's workload (Demerouti, 2014).

Week 3

The first three constructs of the FAMILY intervention: Frame, Attitude and Meaning (FAM) were the themes presented during the third week. Participants were introduced to the overall structure of the intervention and focused on the first three dimensions. Specifically, the first stage (F) started with participants creating their own list of their personal strengths. Then, after reflecting over past work experiences, participants were supported in reframing their work-related negative experiences. The reframing of the meanings attributed to negative experiences occurred by leveraging on how their strengths could have been suitable to differently facing them. About the second FAMILY's step (A) participants were supported in the process of adopting a positive perspective when facing challenging work tasks and guided in doing so by leveraging on their self-identified strengths. At the end of the workshop, participants were asked to take note of their work experiences during the time lag between the first and the second workshop, to be shared in the next session, on how applying their strengths at work resulted in a favorable situation. Finally, participants focused on the dimensions of meaningfulness (M) attributed to their work and on how such perceptions were (or were not) aligned with the mission of their organization. In the end participants were then given an assignment that included reflection and listening on the working tasks that, in their opinion allowed them to use their strengths. They were told to do this exercise in the upcoming three months.

Week 4

The last session focused on the last three dimensions of the FAMILY approach, (i.e., identity, leading-self, and yoked together). With the *identity* dimension participants were facilitated in reflecting on their aspirations within the organizational context. Furthermore, they were invited to reflect on how such aspirations matched and were concretely translated in the work environment by means of everyday tasks. Finally, the last workshop focused on the dimensions of leading-self (L) and yoked together (Y). Participants were guided in the self-selection of behavioral goals to be carried out during their work activities in order to face stressful and negative events by making use of personal strengths. In doing so, participants confronted their colleagues, who provided feedback and suggestion on the feasibility of the proposed goals.

After the initial workshop and at the end of each week participants were asked to complete a questionnaire integrated into a notebook that had been given to each participant at the beginning of the study. Then four weeks of self-intervention followed. Data were collected from the participants at five-time points: once after the one-day training, and once after each week of the intervention.

RESULTS

Data analytic plan

Following the longitudinal research design of the study, our data can be considered as repeated measures. According to our purposes, we aimed at examining the effects of our interventions,

hence, two main aspects should be object of the analysis. Firstly, the extent to which the dimensions considered increase (e.g., job performance) or decrease (e.g., exhaustion) as an effect of our intervention. Secondly, the associations between dimensions over time. To pursue these aims, we, firstly, used growth modeling to estimate the inter-individual variability over time. That is, this analytic approach can allow showing the differences over time of the constructs (Curran et al., 2010). Then, we administrated multilevel model analyses for the associations between the variables considered. Such a method is appropriate in the extent to which data are organized at more than one level (i.e., level-1: within variance, level-2: between variance) as they are in our study. Ultimately, a combination of these two methods of analysis is meant to examine the effect of our intervention by considering in a unique assessment both inter-individual differences and associations between the variables considered.

Growth models

The data for the growth models were collected in four different time points (Table 1) and analyzed with R software, with the DRC extension package. First of all, we wanted to check if through the combined intervention work engagement increased. The growth model for work engagement shows no significant growth trend from time 0 to time 4, providing no support for Hypothesis 1a. A useful practice for testing associations between variables and longitudinal data is to center the predictable variable (Blozis & Il Cho, 2008; Curran et al., 2010). It helps for interpreting results avoiding the risk of multiple linearities. Indeed, by centering the temporal variable one may notice a significant linear trend that is increasing which was otherwise masked when not centering the data. The results also show significant individual variability.

The two variables measured for performance were in-role job performance and extra-role performance. The results show that in-role job performance has a significant positive linear increase in time, in support of Hypothesis 2a. Specifically, in-role job performance increases from time 0 to time 2, from time 0 to time 3, and from time 0 to time 4. By centering the temporal variable there is a significant linear trend given by the last intervention. There is a presence of between-individual variability (intercept value).

The growth model shows that extra-role job performance has a linear positive increase in time, in support of Hypothesis 3a. Specifically, extra-role job performance increases between time 0 and time 2, and time 0 and time 3 of the interventions. There is also a large between-individual variability.

The growth model shows a positive linear increase for emotional commitment due to the last intervention, time 4, compared to time 0. When the time variable is centered, as in previous cases, a significant linear trend appears due to the last intervention. Lastly, the results for exhaustion show that this variable decreases linearly when comparing time 0 to time 3 and time 0 to time 4 in support of Hypothesis 5a.

Multilevel models

Intra-class correlations coefficients (Table 2) suggest that the amount of variance that can be attributed to between-individual fluctuations is not negligible (Intra-class Correlations Coefficients range between 0.72 and 0.90). Notice that the amount of within-subject variability is nonetheless in many cases relevant (e.g., 28 per cent for job demands, 23 per cent for exhaustion). Particularly

TABLE 1 Growth models

	JD	JR	PE	NE	WE	IRJB	ERJB	EC	EX
	Est (SE)	Est (SE)	Est (SE)	Est (SE)	Est (SE)	Est (SE)	Est (SE)	Est (SE)	Est (SE)
Var. within	0.179	0.097	0.084	0.045	0.057	0.195	0.134	0.036	0.091
Var. slope	0.001	0.003	0.034	0.002	0.008	0.043	0.029	0.002	0.003
Var. between	0.506	0.461	0.530	0.127	0.498	1.520	1.034	0.415	0.348
Intercept ($t0$)	2.400 (0.103)	4.323 (0.093)	4.070 (0.097)	1.585 (0.052)	5.375 (0.092)	4.259 (0.162)	5.323 (0.134)	6.521 (0.083)	1.892 (0.082)
t ($t0$)	23.372***	46.666***	41.885***	30.757***	58.163***	26.223***	39.705***	78.229***	23.040***
$t1 - t0$	−0.177 (0.074)	0.000 (0.055)	−0.045 (0.056)	−0.026 (0.038)	0.002 (0.044)	0.049 (0.082)	−0.010 (0.068)	−0.033 (0.034)	−0.067 (0.053)
t ($t1 - t0$)	−2.376, $p = 0.018$	0.000	−0.797	−0.696	0.047	0.597	−0.152	−0.988	−1.253
$t2 - t0$	−0.221 (0.075)	−0.005 (0.056)	0.043 (0.069)	−0.058 (0.039)	0.051 (0.048)	0.208 (0.093)	0.231 (0.077)	0.044 (0.035)	−0.056 (0.054)
t ($t2 - t0$)	−2.944**	−0.092	0.620	−1.504	1.074	2.232, $p = 0.027$	2.998**	1.248	−1.035
$t3 - t0$	−0.278 (0.076)	0.050 (0.058)	−0.014 (0.086)	−0.085 (0.040)	0.101 (0.054)	0.228 (0.109)	0.203 (0.091)	0.033 (0.037)	−0.144 (0.057)
t ($t3 - t0$)	−3.659***	0.859	−0.167	−2.121, $p = 0.035$	1.860 (0.001)	2.085, $p = 0.039$	2.240, $p = 0.027$	0.890	−2.538, $p = 0.012$
$t4 - t0$	−0.349 (0.077)	0.077 (0.060)	0.012 (0.105)	−0.130 (0.042)	0.123 (0.062)	0.367 (0.129)	0.190 (0.107)	0.115 (0.039)	−0.172 (0.059)
t ($t4 - t0$)	−4.551***	1.278	0.112	−3.110**	1.992, $p = 0.0499$	2.843**	1.782 (0.001)	2.934**	−2.893**
L. slope	−0.080 (0.017)	0.020 (0.014)	0.005 (0.026)	−0.032 (0.010)	0.034 (0.015)	0.091 (0.031)	0.059 (0.026)	0.030 (0.009)	−0.042 (0.014)
t (L. slope)	−4.625***	1.479	0.207	−3.323**	2.342, $p = 0.022$	2.939**	2.311, $p = 0.024$	3.268**	−3.087**
Q. slope	0.014 (0.014)	0.008 (0.010)	−0.0002 (0.0096)	−0.002 (0.007)	0.003 (0.008)	0.003 (0.015)	−0.020 (0.012)	0.010 (0.006)	−0.001 (0.010)
t (Q. slope)	1.014	0.796	−0.024	−0.331	0.370	0.201	−1.596	1.620	−0.147

Abbreviations: EC, emotional commitment; ERJP, extra-role job performance; EX, exhaustion; IRJP, in-role job performance; JB, job resources; JD, job demands; NE, negative emotions; PE, positive emotions; WE, work engagement.

*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

relevant, is that negative (31 per cent) and positive (26 per cent) emotions show a relevant inter-individual effect. It is also worth noticing that commitment (10 per cent) appears to be mainly driven by main differences between subjects. For these reasons, a multilevel approach is justified to the present data in which a random intercept is modeled. Since the interpretation of within-person effects is considered appropriate under centering within context, so that all between-individuals variance is removed (see e.g., Ohly et al., 2010), predictors were centered on the persons' means. Estimates for the resulting models when accounting only for the group-mean-centered variables at level L1 have been reported in the following tables under centering within context (N) column.

Nevertheless, to control for compositional effects, aggregated mean values of the attributes were also reintroduced as predictors at level L2 and where grand mean-centered. Estimates for the resulting models have been reported in the following tables under centering within context (M) column. As it can be seen from the marginal R^2 that largely increases with the addition of aggregated means, the variance explained by fixed effects at the between level L2 is generally one order of magnitude greater than that explained by fixed effects at within level L1. Indeed, slope estimates for aggregated means at L2 level are higher than those at L1 level suggesting relevant compositional effects. Interestingly, there are exceptions to this trend as it will be seen. As a final notice, age was grand mean-centered and controlled as well as gender. Likelihood ratio tests in the following tables have been carried for centering within context (N), by contrasting the model against the null model plus age and gender, and for centering within context (M) by contrasting the model against the Centering Within Context (N) model.

We use PROCESS to test the hypothesized mediations. Firstly, we tested if positive emotions and job resources predicted an enhancement in work engagement (H1b). Results (Table 3) show that job resources affect only at the within level. That is when a person reports a value of job resources higher than their usual mean it also reports a higher value of work engagement. Positive emotions affect at both levels, the higher the base value of a person (between levels) the higher the work engagement, but also the higher the positive emotions reported (within level) the higher the value of work engagement. The effect of mean positive emotions is stronger (beta of 0.117) than the effect of the positive emotion above the mean (beta of 0.041). This also is reflected in the marginal R^2 that accounts for fixed effects and increases when means are added. As it might be expected, the random intercepts have a large variance thus suggesting that people have different levels of work engagement. This variance is reduced moving from the centering

TABLE 2 Intra-class correlations for daily measures (all p-values <0.001)

	Intra-class correlations coefficients	**$\Delta - 2 \times \log(1)$**
Job demands	0.72	237.15
Job resources	0.83	368.39
Engagement	0.86	408.92
Exhaustion	0.77	292.89
In-role performance	0.80	325.07
Extra-role performance	0.81	339.16
Commitment	0.90	491.56
Negative emotions	0.69	212.04
Positive emotions	0.74	257.46

TABLE 3 Work engagement with (M) and without (N) reintroduced means, base model: null model plus covariates

	Work engagement CWC (N)			Work engagement CWC (M)		
Variables	**Estimate**	**SE**	***t***	**Estimate**	**SE**	***t***
Age (GMC)	0.005	0.012	0.445	0.014	0.010	1.374
Gender	−0.001	0.213	−0.005	0.047	0.172	0.273
Job resources (CWC)	0.129	0.052	2.486, $p = 0.014$	0.129	0.052	2.485, $p = 0.014$
Positive emotions (CWC)	0.223	0.041	5.402***	0.222	0.041	5.395***
Job resources (GMC)				0.166	0.124	1.340
Positive emotions (GMC)				0.514	0.117	4.395***
−2 × log of base model			325.74			293.99
Δ − 2 × log			31.746***			30.736***
df			2			2
L1 variance (within)	0.072	0.006		0.072	0.006	
L2 variance (between)	0.505	0.091		0.320	0.057	
R^2 marginal	0.016			0.335		
R^2 conditional	0.877			0.878		
Intercept	5.431	0.102	53.217***	5.420	0.082	66.079***

*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

within context (N) to the centering within context (M) model due to the introduction of the aggregated means. Nonetheless, random between variability accounts for the greatest part of the variance explained by random effects (the rest is within residual variability). Notice that the random part accounts for the higher quota of explained variance (conditional R^2 is four times the marginal R^2 for fixed effects).

Afterward, in testing if positive emotions and job resources provided for an enhancement of in-role performance (H2B) we noticed that job resources affects only at the within level, that is when a person reports a value of job resources higher than his or her usual mean, it also reports a higher value of in-role performance (Table 4). Positive emotions affect mainly at within level, since the aggregated mean shows just a tendency. The higher the positive emotions in a day (within level) the higher the value of in-role performance. Although it is only a tendency, aggregated mean beta is higher than the within one and the marginal R^2 increases. The random intercepts have a large variance suggesting that people have different levels of in-role performance. This variance is obviously reduced moving from the Centering Within Context (N) to the Centering Within Context (M) model due to the introduction of aggregated means. Nonetheless, random between variability accounts for the greatest part of the variance explained by random effects (the rest is within residual variability). Notice that the random part accounts for the higher quota of explained variance (conditional R^2 is four times the marginal R^2 for fixed effects).

For what concerns the enhancement of extra-role performance predicted by job resources (H3b) we found that job resources affect both at the within level and between level (Table 5) that is when a person reports daily a higher value of job resources it also reports a higher value of extra-role performance, similarly for the base level. Positive emotions do not show effects. Similar considerations of the previous cases can be done for random effects and R-squares. Moreover, it is possible to notice the effect of age on the Centering Within Context (M).

TABLE 4 In-role performance with (M) and without (N) reintroduced means, base model: null model plus covariates

	In-role performance CWC (N)			In-role performance CWC (M)		
Variables	**Estimate**	**SE**	***t***	**Estimate**	**SE**	***t***
Intercept	4.457	0.167	26.617***	4.438	0.156	28.509***
Age (GMC)	−0.010	0.019	−0.541	0.006	0.020	0.291
Gender	−0.122	0.350	−0.348	−0.040	0.327	−0.124
Job resources (CWC)	0.312	0.102	3.055**	0.312	0.102	3.055**
Positive emotions (CWC)	0.496	0.081	6.134***	0.196	0.081	6.132***
Job resources (GMC)				0.384	0.236	1.629
Positive emotions (GMC)				0.402	0.222	1.811, $p = 0.075$
−2 × log of base model			764.84			705.59
Δ − 2 × log			41.25***			11.803**
df			2			2
L1 variance (within)	0.276	0.024		0.276	0.024	
L2 variance (between)	1.344	0.244		1.150	0.204	
R^2 marginal	0.029			0.160		
R^2 conditional	0.834			0.837		

*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

The hypothesis of positive emotions and job resources as predictors of emotional commitment enhancement (H4b) was not verified since we found no effect of job resources and positive emotions affecting both levels of emotional commitment.

Finally in testing if negative emotions and job demands predicted exhaustion (H5b) we noticed that job demands affect only at the within level, that is when a person reports a value of job demands higher than his or her usual mean, it also reports a higher value of exhaustion (Table 6). Negative emotions affect at both levels, the higher the base value of a person (between level) the higher the exhaustion, but also the higher the negative emotions reported (within level) the higher the value of exhaustion. The effect of mean negative emotions is stronger (beta of 1.243) than the effect of the negative emotion above the mean (beta of 0.468). This is also reflected in the marginal R^2 that accounts for fixed effects and increases when aggregated means are added. As it might be expected, the random intercepts have a large variance suggesting that people have different levels of exhaustion. This variance is obviously reduced moving from the centering within context (N) to the centering within context (M) model due to the introduction of the aggregated means. Nonetheless, random between-variability accounts for the greatest part of the variance explained by random effects (the rest is within residual variability). Notice that the random part in general accounts for almost half of the explained variance (conditional R^2 doubles the marginal R^2 for fixed effects).

DISCUSSION

In this study, we combined two training interventions to enhance positive experiences and behaviors at the workplace. These are resource-based and strength-based interventions, both rooted in

TABLE 5 Extra-role performance with (M) and without (N) reintroduced means, base model: null model plus covariates

	Extra-role performance CWC (N)			Extra-role performance CWC (M)		
Variables	**Estimate**	**SE**	***t***	**Estimate**	**SE**	***t***
Intercept	5.498	0.143	38.421***	5.466	0.121	45.038***
Age (GMC)	0.007	0.017	0.440	0.037	0.015	2.392, $p = 0.020$
Gender	−0.226	0.299	−0.754	−0.086	0.255	−0.336
Job resources (CWC)	0.270	0.090	2.994**	0.270	0.090	2.994**
Positive emotions (CWC)	0.014	0.077	0.177	0.013	0.077	0.173
Job resources (GMC)				0.812	0.184	4.419***
Positive emotions (GMC)				0.008	0.173	0.046
−2 × log of base model			625.89			617.00
Δ − 2 × log			8.884. $p = 0.012$			23.76***
df			2			2
L1 variance (within)	0.213	0.019		0.213	0.019	
L2 variance (between)	0.979	0.178		0.689	0.124	
R^2 marginal	0.014			0.260		
R^2 conditional	0.824			0.825		

*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

positive psychology focusing on organizational outcomes. The first relies on processes aimed to optimize the balance between the job demands and the resources in the workplace. Recent studies have shown that employees who take the initiative to craft their jobs can balance job demands and resources (Tims & Bakker, 2010) enhancing work engagement, well-being, and performance (Van Wingerden et al., 2016). Moreover, when employees strengthen their beliefs regarding how much control they have over their environment (i.e., increase their personal resources) and use their character strengths, they will be more engaged at work (Bakker & Wingerden, 2021), indicating that individual strategies may act as substitutes for job resources (Tisu et al., 2021). The second intervention enhances the strengths of the employee using metacognitive processes. In this framework, the FAMILY intervention was used to achieve the goal of developing personal resources through a metacognitive training and to provide strategies to inspire employees to react emotionally to situations and to push themselves to step outside of their comfort zone. Moreover, this intervention provides a moment of reflection to enhance each employee's identity, overall developing and enhancing employees' strengths, thereby contributing to the flourishing of employees as a fundamental tenant of positive psychology.

Accordingly, we aim to test their combined effects on employees' well-being. More specifically, through the FAMILY intervention we sought to understand if levels of work engagement, in-role and extra-role job performance, emotional commitment and exhaustion would change throughout the four-time periods during which each employee reported the levels of these dimensions according to the FAMILY intervention. We were also interested in understanding if positive emotions and job resources would influence work engagement in- and extra-role job performance and emotional commitment. Furthermore, if negative emotions and job demands had an effect on exhaustion.

TABLE 6 Exhaustion with (M) and without (N) reintroduced means, base model: null model plus covariates

	Exhaustion CWC (N)			Exhaustion CWC (M)		
Variables	**Estimate**	**SE**	***t***	**Estimate**	**SE**	***t***
Intercept	1.833	0.087	21.146***	1.832	0.063	29.112***
Age (GMC)	−0.006	0.010	−0.571	0.003	0.008	0.369
Gender	−0.110	0.181	−0.610	−0.106	0.132	−0.805
Job demands (CWC)	0.117	0.045	2.573, $p = 0.011$	0.117	0.045	2.578, $p = 0.011$
Negative emotions (CWC)	0.469	0.089	5.255***	0.468	0.089	5.252***
Job demands (GMC)				−0.020	0.084	−0.239
Negative emotions (GMC)				1.243	0.176	7.057***
−2 × log of base model			361.36			307.56
Δ − 2 × log			53.799***			43.869***
df			2			2
L1 variance (within)	0.082	0.007		0.082	0.007	
L2 variance (between)	0.358	0.066		0.181	0.033	
R^2 marginal	0.043			0.427		
R^2 conditional	0.821			0.821		

*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

Findings showed that the FAMILY intervention fostered employees' strategies to find job resources and to metacognitively reframe personal and organizational goals in order to improve their well-being. The results of the growth model show that work engagement did not increase throughout the interventions. Conversely, the multilevel model results show that positive emotions affect work engagement both at the within and between level, which entails that when an employee reports higher positive emotion, they report higher levels of work engagement, and when the base value of that participant is high, so is the work engagement. Job resources were found to affect work engagement only at the within level therefore when the employee reports high levels of job resources, the levels of work engagement are also higher.

For what concern performance, we hypothesized that in-role and extra-role job performance would increase with the use of the combined intervention following previous research that shows that performance increases when correctly balancing job resources and job demands (see, e.g., Bakker & Demerouti, 2014). Moreover, we hypothesized that positive emotions and job resources would predict an enhancement of in-role job performance and extra-role job performance. The results show that in-role job performance increases throughout the intervention. Specifically, it increases linearly when comparing time 0 to time 2, time 0 to time 3 and time 0 to time 4, providing support that the FAMILY intervention did increase the levels of the in-role job performance of the employees. When examining the multilevel model results of positive emotions and job resources affecting in-role performance, one can see that positive emotions affect in-role performance at the within level providing support for the notion that higher positive emotions lead to higher in-role job performance. Job resources, too, affect in-role job performance at the within level, hence, when an employee reports higher values of job resources compared to their base value, the value of in-role job performance is higher as well.

Extra-role job performance was also examined using the growth and multilevel models. The results show that extra-role job performance increases throughout the interventions. Specifically, there is a significant positive linear increase when comparing time 0 to time 2 and time 0 to time 3. The multilevel models examined if there was a relationship between positive emotions and job resources with extra-role job performance. The results show that positive emotions have no effect on extra-role job performance, however, job resources affect extra-role job performance both at the within and between level. Therefore, when an employee reports higher values of job resources, so are the values of extra-role job performance. Similarly, when the employee reports higher values of job resources compared to their base value, values for extra-role job performance are also higher.

The last positive psychology construct analyzed was affective commitment, which is the attachment to, and involvement in, the organization (Meyer & Allen, 1997). Research has shown that job resources predicted organizational commitment when the job demands are high (Bakker et al., 2010). Because the FAMILY intervention instructs employees on the regulation of job demands and job resources, we hypothesized that the combined intervention would lead to an increase in affective commitment and that positive emotions and job resources would predict an enhancement in affective commitment. The results show that levels of emotional commitment increase linearly when comparing the values at time 0 and at time 4. The multilevel model that examined if there was an effect of positive emotions and job resources on emotional commitment did not show any effects.

Finally, as a negative emotional path, we explored exhaustion, defined as the consequence of cognitive strain (Demerouti & Bakker, 2008), associated with negative emotions such as anger and anxiety (Spector & Goh, 2001). We expect that increased levels of job demands and negative emotions can contribute to exhaustion and therefore we hypothesize that the intervention will be associated with the decrease of exhaustion and that negative emotions and job demands will predict an increase in exhaustion. The results show that exhaustion decreased significantly and linearly when comparing time 0 to time 3 and time 0 to time 4, therefore supporting the notion that the FAMILY method did indeed have an effect on decreasing exhaustion through time. The multilevel model explored if there was an effect of negative emotions and job demands on exhaustion. The results show that negative emotions affect exhaustion both at the between and within level and therefore, higher base values of negative emotions result in higher exhaustion levels, and higher negative emotions values at the within level results in higher exhaustion values. Job demands affected exhaustion only at the within level, and therefore when an employee had higher job demand values compared to their base value, they reported higher levels of exhaustion.

Limitations and practical implications

In this study we have not taken into account personal differences and therefore there may be some confounding factors. Tims and Bakker (2010) showed that not everyone is prone to balance job demands and resources in the same manner. Some personal differences come into play. For example, proactive employees are more inclined to change their own environment (Crant, 2000). Those who are more self-efficacious are prone to create different tasks (Vough & Parker, 2008). Another difference is regulatory focus: those who are oriented toward advancement, growth and accomplishment will have higher expectations for positive outcomes and therefore will modify their job accordingly (Higgins, 1998).

Notwithstanding this, our study may serve industrial and organizational psychology practitioners as a guide to help apply the FAMILY method in organizations to improve performance, work engagement, job commitment and to decrease burnout by guiding employers and employees to seek out the right balance between job resources and job demands. The present study contributes to the field of industrial and organizational psychology by merging several well-established framework theories with the novel, practical, and strength-based FAMILY intervention resulting in a validated approach that bridges theory and practice.

CONCLUSION

Building upon the positive psychology paradigm we showed that by using a combination of resource and strength-based interventions, we were able to enhance positive experiences and behaviors at the workplace. We mostly built upon Peterson's (2006) findings that a positive workplace can reinforce positive individual characteristics that, in turn, can foster positive experiences. These findings can extend to other realms of daily life, as positive psychology relates to the positive individual characteristics, the positive subjective experience and the positive institutions which are all interdependent with one another. Thus, a positive event in one domain of life can spill over into another domain.

CONFLICT OF INTEREST

The authors have no conflict of interests to disclose.

AUTHOR CONTRIBUTIONS

All authors listed have made a direct, substantial intellectual contribution to the work, and approved it for publication.

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