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The role of organizational facilitators in promoting job-related mental health and group service effectiveness: a two-wave analysis

Esther Gracia[a,b], Marisa Salanova[c], Edgar Bresó[c] and Eva Cifre[c]

[a]Department of Social Psychology, Universitat de València, Valencia, Spain; [b]IDOCAL Research Institute, Valencia, Spain; [c]Department of Social Psychology, Universitat Jaume I, Castellón, Spain

ABSTRACT

This study aimed to add to knowledge by providing a more systematic integration of work characteristics, workers' health and performance. The two-wave multi-source study was conducted to test the relationship over time between the healthy states of groups of service-oriented workers and their service effectiveness when their organizations provide facilitators such as training, technical support and autonomy. The study takes healthy states to be a composite of affective-motivational and competent collective states (collective vigour and service competence) and service effectiveness. Service effectiveness was a combination of service quality as assessed by customers and their loyalty intentions. Data from 53 hotels and restaurants in Spain were aggregated from 256 boundary workers (i.e. workers in direct contact with customers) and 530 customers at Time 1 and from 470 customers at Time 2 six month later. Structural equation modelling showed that organizational facilitators at Time 1 were related to the service effectiveness reported by customers at Time 2, and also that there was a relationship between service effectiveness at Time 1 and the healthy states reported by the groups at Time 2. That is, contrary to what is widely believed, there was an influence of performance on well-being.

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Introduction

Occupational health psychology (OHP) aims to minimize stressors and enhance positive work experiences (Biggs, Brough, & Barbour, 2014). However, despite the work that has already been carried out, a more systematic integration into OHP theory of the processes relating work characteristics to workers' health, well-being and outcomes, including performance, is required (Taris & Kompier, 2014). The purpose of this study is to promote this integration by analysing the relationship between facilitators provided by the organization, group healthy mental states and the effectiveness of service providers – in this case hotel workers – bearing in mind two main issues. The first is that a healthy mental state at work implies more than merely an affective state. The second is the specific context that

CONTACT Esther Gracia esther.gracia@uv.es

should be systematically considered when examining work characteristics, mental health and performance outcomes.

Job-related mental health

Regarding healthy states, the World Health Organization (WHO) has defined mental health as "a state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community" (World Health Organisation, 2009). A healthy state should thus comprise not only an affective-motivational state but also a competent state. This proposition finds a parallel in the work of Warr (1987, 2007), who includes affect but also emphasizes competence in his conception of mental health. Moreover, he establishes the need to differentiate between levels of scope of mental health in order to accurately measure it. Warr distinguished the broadest form, or "context-free" scope, as one that refers to mental health in life in general terms, from "domain-specific" scope, which is directed at one segment of life space, such as job-related mental health. The present study will focus on the latter level of mental health, which takes the specific context into consideration,that is, the job-specific context of service organizations.

Specifically, Warr (1987) defined the affective component of mental health in job-related contexts as the actively pleased state, which covers the axes of "pleasure" and "arousal". Warr (1987) proposed using "involvement" to describe this state in the early 1980s. However, a more recent construct – "vigour" – might reflect to a greater degree the essence of this state. This is because vigour represents an affective response to the interaction of the self with the significant elements of the working environment (Shirom, 2004) – it is a response produced by intrinsic and extrinsic motivation that "reflects activation and energy, effort and persistence of the motivated behaviour, as well as goal directness in terms of concentration on a specific work goal" (Salanova & Schaufeli, 2008, p. 118).

In addition to the affective state, Warr (1987, 2007) proposes competence as a behavioural construct that is also a component of mental health. He defines competence as "the ability to handle life's problems and act on the environment with at least a moderate amount of success" (Warr, 2007, p. 58). As everyone is incompetent in some respects, only low competence to cope with important environmental demands, associated with negative feelings (the affective dimension of mental health), would be a sign of low mental health. Again, competence may be viewed either as context-free or domain-specific (e.g. job-related). Therefore, regarding the specific context, it would be necessary to adapt the perceived competence to the situational context. In our case, the focus of competence is found in the setting of service organizations.

In the service sector, competence is mainly based on workers' perceptions of their capability to perform service-oriented tasks, such as providing personal attention or solving customers' problems. In addition, from a practitioner's perspective, service sector workers often have interdependent tasks which force them to perform together in units or groups (Gracia, Cifre, & Grau, 2010; Gracia, Salanova, Grau, & Cifre, 2013). For example, a customer who is having lunch in a restaurant does not wait for "his" or "her" server to ask for more bread, the customer will simply ask the first server she or

he sees. Workers must, therefore, deal with this and similar requests as part of their tasks in order to provide good service. If the need for interreliance is not recognized, effectiveness in the service cannot be reached. In this vein, Van Mierlo, Rutte, Kompier, and Doorewaard (2008) have emphasized that the choice of the level of study deserves much more attention than is currently devoted in order to avoid committing a fallacy by confusing or conflating levels. That is, it makes no sense to study the individual health states and effectiveness of every single worker in organizations if their jobs are performed collectively. Then, when workers think more readily of service competence in terms of the work of the group than of the work of the individual the contextual level of study becomes collective. Something similar occurs at the other end of the service exchange, where customers assess the received service at a collective level. In fact, customers are a well-recognized source of the assessment of group effectiveness in service organizations (Guzzo & Dickson, 1996).

Service effectiveness

In the service industries, customer responses and intentions are crucial for ensuring organizational benefits (Brown & Mitchell, 1993; Han, Kwortnik, & Wang, 2008; Price, Arnould, & Tierney, 1995; Zeithaml, Parasuraman, & Berry, 1985). Customer perceptions of service quality attributes (Parasuraman, Zeithaml, & Berry, 1988) and their future customer loyalty (Gremler & Brown, 1996), therefore, offer good information regarding service effectiveness. Specifically, service quality refers to the perceptions that result from a customer's comparison of their expectations prior to the service encounter with their perceptions of their actual experience (Grönroos, 1990). Taking the portion of service quality that involves the service actions of boundary workers – "the employees with whom customers physically interact in the course of doing business with an organization" (Schneider, White, & Paul, 1998, p. 151) – it is possible to distinguish between functional and relational attributes of service quality (Gwinner, Gremler, & Bitner, 1998; Peiró, Martínez-Tur, & Ramos, 2005). The former consist of attributes that are expected of the service providers by customers (Brief & Motowidlo, 1986), including reliability (the ability to perform the promised service dependably and accurately), and assurance (the workers' knowledge, courtesy, and ability to inspire trust and confidence in their services, as detailed on the SERVQUAL scale; Parasuraman et al., 1988). Service without these attributes would be unacceptable for customers. The latter of these two attributes of service quality – relational attributes – refers to positive attributes that are unexpected or not necessarily required and that extend beyond formal role requirements. These are those affective service attributes that make customers aware of the difference between one service provider and others (Price, Arnould, & Deibler, 1994) but which the SERVQUAL scale (Parasuraman et al., 1988) seems to undervalue (Sánchez-Hernández, Martínez-Tur, Peiró, & Ramos, 2009). For example, when a customer cannot receive a sea view room, the boundary worker gives him/her a free voucher for the hotel spa service.

Previous studies have found that service quality had the strongest effect on loyalty intentions of all its predictors (Bloemer, Ruyter, & Wetzels, 1999), as it is "the degree to which a customer exhibits a repeat purchasing behaviour from a service provider, possesses a positive attitudinal disposition toward the provider, and considers using only this provider when a need for this service arises" (Gremler & Brown, 1996, p. 173).

Specifically, in hotel and restaurant settings, service quality becomes a key topic for creating loyal customers (Gracia, Bakker, & Grau, 2011).

Integrating healthy states and service effectiveness

Warr (1987) also pointed out that "mental health is likely to be associated with better work performance" (p. 292). This would follow the popular "happy-productive worker" hypothesis that has been confirmed by authors such as Oswald, Proto, and Sgroi (2009), who found in a laboratory study that "happy" people were 12% more productive than average. However, the challenge nowadays is identifying the contextual features that promote both healthy states and service effectiveness in real working groups. Some scholars have suggested that providing facilitators to cope with workplace obstacles could improve both healthy states and service effectiveness. For example, the service-profit chain (Heskett, Jones, Loveman, Sasser, & Schlesinger, 1994), borrowed from the marketing framework, suggests that the support that workers receive in terms of services and organizational policies influences employee satisfaction, which in turn has an effect on service quality in terms of external service value and customer loyalty over time. In fact, a recent study conducted at the daily level showed that the service-profit chain is produced when leaders are perceived as transformational (Myrden & Kelloway, 2015). Other cross-sectional empirical studies conducted at a unit level have been in line with these. When employees perceive that their workplace conditions facilitate service-oriented groups, the customers' assessment of provided service was improved (Gracia et al., 2010; Salanova, Agut, & Peiró, 2005; Schneider et al., 1998). This led us to propose the following hypothesis:

> *Hypothesis 1:* Organizational facilitators at Time 1 will have a positive relationship with service effectiveness at Time 2.

In addition, this relationship could be mediated by a kind of affective or competent state. According to Shirom (2011), organizational resources (such as organizational facilitators in our case) would be one antecedent of vigour. In the same way, a meta-analysis conducted by Halbesleben (2010) found that vigour was related to important organizational results, such as performance. In this sense, Salanova et al. (2005) found that collective vigour was the only dimension of work engagement that significantly correlated with the service quality reported by customers (in the mediation role between organizational facilitators and service quality). Yet, recent studies have also found that both an affective and also a competent state played a mediator role between organizational facilitators and service quality in service organizations (Gracia et al., 2013). These have thus led us to propose an additional hypothesis:

> *Hypothesis 2:* Organizational facilitators at Time 1 will have a positive relationship with healthy states at Time 2 and, in turn, healthy states at Time 1 will have a positive relationship with service effectiveness at Time 2.

Finally, taking two different measures over time makes it possible to analyse the reverse relationship between service effectiveness and healthy states from organizational facilitators, leading us to propose one last hypothesis:

> *Hypothesis 3:* Service effectiveness at Time 1 will be positively related to organizational facilitators at Time 2 as well as to healthy states at Time 2.

Figure 1 depicts the hypothesized model, which includes the hypothesized relationships.

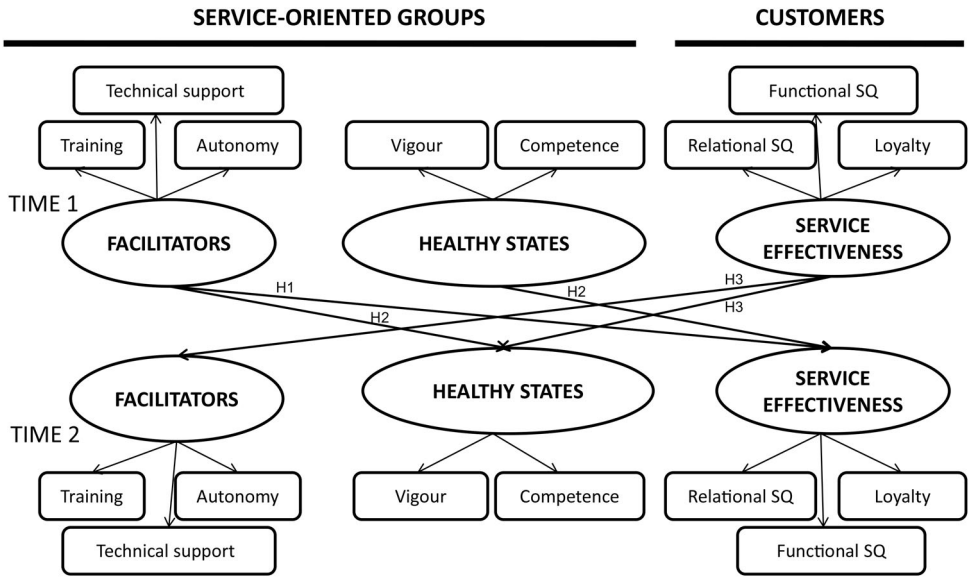

Figure 1. The hypothesized model, showing the hypothesized relationships between organizational facilitators and healthy states as reported by groups of workers, and service effectiveness as reported by customers.
Notes: Functional SQ = functional service quality; Relational SQ = relational service quality; Loyalty = customer loyalty.

Method

Participants and procedure

The current study was conducted within a two-wave framework. Simple random sampling was used to choose multiple-source participants from a total of 107 hospitality service groups composed of boundary workers and their customers, all of whom voluntarily participated in this study. It is important to point out that all the hotels and restaurants pertained, in most cases, to the same organization, and customers only assessed one of the two services (reception vs. restaurant service). Data were collected in different regions of Spain at two points in time separated by six months.

Service-oriented group workers filled out the questionnaires in company time. The process of sample selection was performed at random at Time 1. The minimum number of participants from each establishment was determined as being the mean number of workers who worked the same shift in the overall sample (mean = 4 ± 1). These service-oriented workers performed together in the same unit, on the same shift and sharing the same customers. Another requirement for service-oriented workers to participate in this study was a minimum of six months' experience working in that group so that only data from fairly stable group workers would be taken into account. A total of 256 service-oriented workers participated at Times 1 and 2. Mean age was 32 years ($SD = 7.4$). 47% were men and 53% were women.

Finally, the data were aggregated by groups. Only service-oriented groups where more than half the same group members were present at both times were taken into

consideration in this study in order to prevent information from being affected by large degrees of staff rotation or turnover. Altogether the total sample studied consisted of 53 groups (55% of the groups worked at the reception desk and 45% worked in the restaurants of the hotels). The sample met the methodological and conceptual criteria for being considered to be work groups (i.e. comprising two or more individuals who perform interdependent customer-oriented tasks).

Customers filled out the questionnaire after their service experience (after checking out at reception or paying their bill in the restaurant). Two samples of customers took part in this study, each at one time of measurement. A total of 530 customers participated at Time 1 and 470 different customers participated at Time 2. Mean age was 40 years ($SD = 14$) at Time 1; 59% were men and 41% were women. Mean age at Time 2 was 40 years ($SD = 14$); 56% were men and 44% were women. Between 6 and 30 customers were collected per establishment (mean = 24).

Measures

The construct *organizational facilitators* was assessed by using the organizational facilitators scale previously validated in Spanish by Grau, Salanova, Agut, and Burriel (2001) and made up of 11 items divided into three subscales: training (4 items), autonomy (3 items) and technical support (4 items). Service-oriented group workers responded to each of the statements using a 5-point rating scale ranging from 1 (not important) to 5 (very important). One example item is: "Having enough autonomy to decide the order in which tasks would be done." The reliability of the scale yielded $\alpha_{t1} = .91$; $\alpha_{t2} = .96$.

Healthy states was assessed by using a composite of two scales, incorporating Warr's (1987) conception of job-specific mental health and the WHO definition of mental health (WHO, 2009). First, *collective vigour* was assessed using the vigour dimension of the Utrecht Work Engagement Scale (UWES; Schaufeli, Salanova, González-Romá, & Bakker, 2002). The Spanish version of the vigour subscale had previously been validated by Salanova et al. (2005) and consists of a three-item 7-point frequency rating scale ranging from 0 to 6 (never/always). One example of these items is: "At work, I burst with energy." In order to test group levels, different aggregation indices were calculated (which will be detailed in the *Data analyses* section) in order to test the possibility of aggregation. Second, *service competence*, comprising worker perceptions of in-role and extra-role service behaviour was assessed using a composite of the assurance, authenticity, problem-solving and extras subscales of the service quality scale for workers. This scale was developed in Spanish by Ramos, Collado, Marzo, Subirats, and Martín (2001) based on the SERVQUAL scale (Parasuraman et al., 1988) and the Service Provider Performance Scale (Price et al., 1995). The four subscales were then combined to form a 12-item 7-point scale (1 = I totally disagree/7 = I totally agree). One example of a service competence item is: "We are capable of putting ourselves in the customer's place." The reliability of the scale came out as $\alpha_{t1} = .90$; $\alpha_{t2} = .92$.

Service effectiveness as perceived by customers was assessed using a composite of two scales. First, functional service quality was assessed according to the two basic functional dimensions (reliability and assurance), and relational service quality was assessed in terms of the three relational dimensions (extras, authenticity and

problem-solving) of the Sánchez-Hernández et al. (2009) scale consisting of a nine-item 7-point scale (1 = I totally disagree/7 = I totally agree). One functional quality item was: "When I arrived at the restaurant the services that I expected were available." An example of the relational quality items was: "The workers are capable of understanding customers' personal needs." Second, customer loyalty was assessed using the Spanish adaptation by Martínez-Tur, Ramos, Peiró, and García-Buades (2001) of an original scale (i.e. Swan & Oliver, 1989). This scale assessed the likelihood of customers' returning to the establishment for further service and engaging in positive word-of-mouth behaviours. It is composed of a three-item 7-point scale ranging from 1 to 7 (1 = I totally disagree/7 = I totally agree). An example of these items is: "I will recommend this hotel/restaurant to other people." Reliability of the scale was $\alpha_{t1} = .85$; $\alpha_{t2} = .84$.

Data analyses

First, analyses were oriented towards testing the possibility of aggregating the data by groups. Different aggregation indices were calculated in order to justify aggregating individual responses by groups. These indices were intraclass correlations (ICC_1; Bliese, 2000) and the average deviation index ($AD_{M(J)}$; Burke, Finkelstein, & Dusig, 1999). This latter index calculates the average deviation for each scale of J items in order to justify aggregating individual responses by groups. It is based on Monte Carlo procedures and produces the equivalent of an approximate randomization test for the null hypothesis that the actual distribution of responding is rectangular. Consequently, this index is strongly recommended (González-Romá, Peiró, & Tordera, 2002) because it seems to overcome the weaknesses of the within-group inter-rater agreement measure, R_{wg} (James, Demaree, & Wolf, 1993). This index, therefore, provides essential information about the internal homogeneity in each group under study.

Generally speaking ICC_1 values fell into reasonable ranges: .05–.20. According to this index, it is possible to aggregate the data by groups (Bliese, 2000): organizational facilitators: $ICC_{1(T1)} = .05 < .06 < .20$; $ICC_{1(T2)} = .05 < .26 > .20$, healthy states: $ICC_{1(T1)} = .05 < .24 > .20$; $ICC_{1(T2)} = .05 < .13 < .20$, and service effectiveness: $ICC_{1(T1)} = .05 < .09 < .20$; $ICC_{1(T2)} = .05 < .12 < .20$. Also, $AD_{M(J)}$ scores were below the cut-off criteria based on the range of responses: organizational facilitators: $AD_{M(J)} = .43 < .83$, healthy states: $AD_{M(J)} = .83 < 1.17$ and service effectiveness: $AD_{M(J)} = .80 < 1.17$. Therefore, the results confirmed that it was possible to aggregate the data by groups.

To increase the representativeness of an aggregated measure, we calculated its mean before dropping any cases with incomplete information. In addition, group-level internal consistency (Cronbach's α) confirmed the reliability for all the scales using the average item response per group as the input. This strategy is strongly recommended because it aligns the measurement reliability information with the level of analyses used in the substantive tests (Mathieu, Gilson, & Ruddy, 2006). Subsequently, MANOVAs were also performed to assess the variance between groups, by looking for significant differences among them while considering the variables used for workers and customers separately. Three MANOVAs were performed: one for the sample of workers (repeated at Times 1 and 2) and two for the sample of customers (customers at Time 1 and customers at Time 2). All study variables reported by workers were included; that is to say,

organizational facilitators and healthy states. Multivariate results indicated that groups differed significantly on these variables at Times 1 and 2 F (4, 53) = 1.320, $p < .001$. In addition, service effectiveness reported by customers was included in a further MANOVA analysis. Multivariate results indicated that units differed significantly at both times, Time 1: F (6, 53) = 2.424, $p < .001$ and Time 2: F (6, 53) = 2.081, $p < .001$. The results of aggregation indices thus confirmed that perceptions within groups were strongly shared by members whereas, at the same time, MANOVAs showed that there were significant differences in perceptions between groups. The perceptions of group members were, therefore, closer to each other than the perceptions of members from different groups.

Second, Pearson correlation analyses were run in order to measure the strength of the association between variables at a group level. Significant correlations between two variables ($p < .05$) indicated that the association between them was strong.

Finally, structural equation modelling (SEM; Jöreskog & Sörbom, 1993) was run to test the expected relationships. To do so, various competing models were compared simultaneously. The absolute goodness-of-fit indices, the chi-square goodness-of-fit statistic (χ^2) and the root mean square error of approximation (RMSEA) were also calculated. A non-significant χ^2 value indicates that the model fits the data well (Batista-Foguet & Coenders, 2000). RMSEA values smaller than .08 indicate an acceptable fit and values greater than .1 should lead to rejection of the model (Browne & Cudeck, 1993). In addition, AMOS (Arbuckle, 1997) provides several fit indices that reflect the discrepancy between the hypothesized model and the baseline, *Null model* (the model with no parameters estimated). In the present analyses, the relative goodness-of-fit indices that were computed and used were the Comparative Fit Index (CFI) and the Incremental Fit Index (IFI). For all relative-fit indices, as a rule of thumb, values greater than .90 are considered to indicate a good fit (Hoyle, 1995).

Group-level relationships were tested by different steps, that is, a baseline model versus several competing models (Pitts, West, & Tein, 1996). First, the *baseline model* (M0) was tested. This included temporal stabilities and synchronous (i.e. within-second-order constructs) effects of variables over time. This model is used as the reference model. Second, *the causation model* (M1) was tested. This model resembles M0, but includes additional cross-lagged structural paths from Time 1 to Time 2 following the normal direction of causation, from organizational facilitators to healthy states and to service effectiveness; and from healthy states to service effectiveness. Third, the *reverse causation model* (M2) was tested. This model also resembles M0, but is extended with cross-lagged structural paths from Time 1 to Time 2 running in the direction of reverse causation, from service effectiveness to healthy states and to organizational facilitators, and from healthy states to organizational facilitators. Finally, the *reciprocal model* (M3) was tested. This model again resembles M0, but is extended with cross-lagged structural paths from Time 1 to Time 2 following the both the normal direction of causation and reverse causation. That is, from organizational facilitators to healthy states and to service effectiveness; and from healthy states to service effectiveness, as well as, in turn, from service effectiveness to healthy states and to organizational facilitators; from healthy states to organizational facilitators.

Results

Descriptive tests

Descriptive statistics and the correlation matrix for all the measures included in the hypothesized models are depicted in Table 1. Correlations between the measures ran in the expected direction.

SEM analyses

SEM analyses were performed using AMOS (Arbuckle, 1997) to test the competing models. The overall fit indices of the competing models can be seen in Table 2.

In general, the models showed good fit, since the chi-square values of the causation, reversed and reciprocal models were not significant, and most of the fit indices (CFI and IFI) of these models were equal to or higher than .90 and RMSEA was within the range of non-rejection (.08 < RMSEA < .1). Moreover, there was a significant discrepancy between the proposed models and the *null model*, meaning that the proposed models showed a good data fit. Regarding the cross-lagged structural paths results, *the reciprocal model* (M3) showed that organizational facilitators at Time 1 were found to have a significant normal effect on service effectiveness at Time 2 ($\gamma = .31$, $p < .05$). This confirms Hypothesis 1, which proposed that organizational facilitators at Time 1 would be positively related to service effectiveness at Time 2 (see Figure 2 for results of the tests). However, no significant effects were found from organizational facilitators at Time 1 to healthy states at Time 2, and likewise no significant effects were found from healthy states at Time 1 to service effectiveness at Time 2. This rejects Hypothesis 2, which proposed that healthy states at Time 1 would be positively related to service effectiveness at Time 2, while healthy states at Time 2 will relate with organizational facilitators at Time 1. Finally, while the relationship from service effectiveness at Time 1 to organizational facilitators at Time 2 was not significant, the effect from service effectiveness at Time 1 to healthy states at Time 2 ($\beta = .30$, $p < .05$) was significant (Hypothesis 3). Therefore, Hypothesis 1 was confirmed, Hypothesis 2 was rejected, and Hypothesis 3 was partially confirmed.

Discussion

The aim of this study was to analyse the healthy states and service effectiveness of groups in service-oriented workplace contexts when they receive organizational facilitators. Data were collected from customers and service providers at two points in time, six months apart. We took Warr's (1987) and the WHO (2009) definition of mental health to argue that competence should be taken into consideration. Findings confirmed that the dimensional structure of organizational facilitators, healthy states and service effectiveness was stable at both times of measurement. However, they did not relate in the same way (organizational facilitators – service effectiveness – healthy states) when the data were analysed over time.

Specifically, the results showed that positive organizational conditions were positively related to the service effectiveness perceived by customers (Hypothesis 1). These findings support previous research that has highlighted the importance of creating favourable

Table 1. Means, standard deviations, internal consistencies (Cronbach's α), and correlations between variables in the groups, ($N = 53$ groups).

	M	*SD*	α	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time 1																			
1. F: Training	3.54	0.61	.91	–															
2. F: Autonomy	5.99	0.74	.74	.48*	–														
3. F: Technical	5.81	0.86	.89	.50**	.59**	–													
4. HS Competence	5.92	0.57	.91	.37**	.29*	.39**	–												
5. HS Vigour	5.04	0.61	.73	.43**	.20	.16	.58**	–											
6. SE : Functional	6.14	0.41	.91	.22	.34*	.18	.29*	.14	–										
7. SE: Relational	5.54	0.62	.86	.23†	.32*	.31*	.14	.28*	.67**	–									
8. SE: Loyalty	5.67	0.79	.96	.26*	.30*	.26*	.04	.05	.65**	.80**	–								
Time 2																			
9. F: Training	3.45	0.73	.96	.34*	.07	.21	.16	.27*	.09	.06	.05	–							
10. F: Autonomy	5.95	0.79	.92	.33*	.31*	.32*	.15	.21	−.08	.12	.28*	.19	–						
11. F: Technical	5.49	0.73	.90	.20	.20	.34*	.09	.06	.01	.09	.07	.72**	.78**	–					
12. HS: Competence	5.72	0.68	.92	.24†	.06	.25†	.29*	.32*	.06	.23†	.22†	.38**	.34*	.43**	–				
13. HS: Vigour	4.77	0.83	.73	.24†	.16	.36**	.31*	.29*	.06	.23†	.22†	.43**	.55**	.51**	.48*	–			
14. SE: Functional	6.15	0.43	.91	.21	.09	.20	.05	.05	.18	.13	.17	.12	.06	.09	.10	.05	–		
15. SE: Relational	5.56	0.67	.91	.29*	.16	.27*	.02	.02	.26*	.41**	.38**	.15	.05	.08	.27*	.24†	.75**	–	
16. SE: Loyalty	5.69	0.90	.96	.24†	.14	.06	−.09	−.05	.30*	.29*	.34*	.05	.11	−.08	.09	.10	.70**	.70**	–

Notes: Measures: F = Facilitators; HS = Healthy group states; Competence = service competence, Vigour = collective vigour; SE = Service effectiveness; Functional = functional service quality; Relational = relational service quality; Loyalty = customer loyalty.

$^{\dagger}p < .08$; *p .05; **$p < .001$.

Table 2. Goodness-of-fit indices for the alternative models, ($N = 53$ groups).

	χ^2	df	p	IFI	CFI	RMSEA	Δ c^2	Δdf
Model 0 Baseline	144.796	95	.01	.88	.88	.1		
Model 1 Causation	125.909	89	.06	.92	.91	.09	Model 1–Model 0 = 18.887*	6
Model 2 Reversed	126.786	90	.06	.92	.91	.09	Model 2–Model 0 = 18.001**	5
Model 3 Reciprocal	121.829	87	.08	.92	.92	.08	Model 3–Model 0 = 22.967**	8
Null model	538.644	120	.00			.26		

Notes: χ^2 = Chi-square; df = degrees of freedom; IFI = Incremental Fit Index; CFI = Comparative Fit Index; RMSEA = Root Mean Square Error of Approximation; Δ c^2 = Chi-square difference; Δdf = difference in degrees of freedom.
*$p < .05$; **$p < .01$.

environments for enhanced effectiveness, such as those oriented toward the accomplishment of performance goals (Mathieu et al., 2006). Our results go further by showing that the relationships found at Time 1 were maintained over time (Time 2, six months later) even though data were collected from two sources (groups of boundary workers and customers), which increases the reliability of the results.

However, contrary to our expectations no significant findings were found over time either in the relationship between organizational facilitators at Time 1 and healthy states at Time 2 or in the relationship between healthy states at Time 1 and service effectiveness at Time 2 (Hypothesis 2). Although the mediator role of healthy states was stable when taken cross-sectionally (without taking time into consideration) at both measured times, this sequence was not significant when taken over time. That is, these results confirm previous group-level cross-sectional results that suggest that healthy states play a mediator role between organizational facilitators and service effectiveness (e.g. Gracia et al., 2013; Salanova et al., 2005) but did not support the service-profit chain thesis

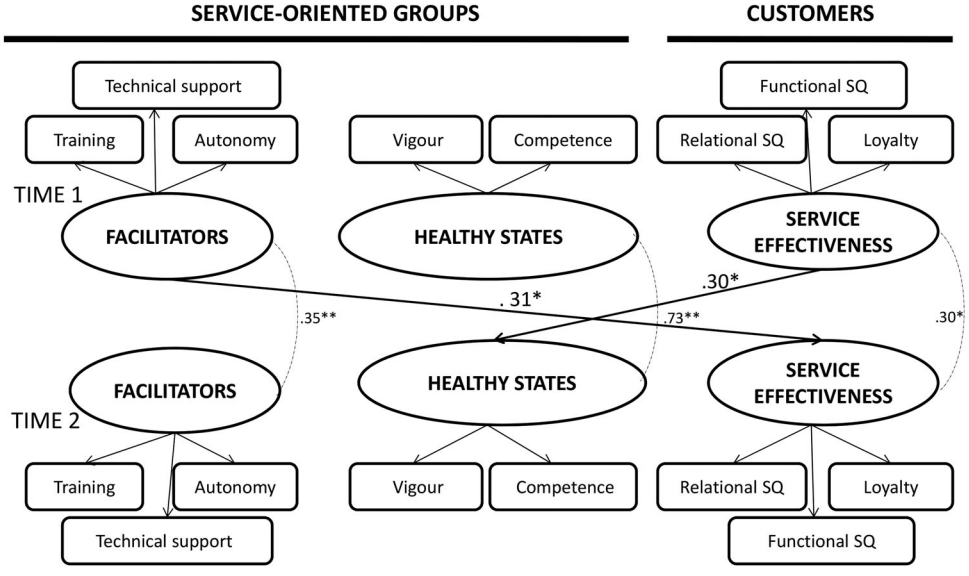

Figure 2. Results of SEM analyses of the reciprocal model (M3). Over-time relationships ($N = 53$ teams).
*$p < .05$; **$p < .001$.
Notes: Functional SQ = functional service quality; Relational SQ = relational service quality; Loyalty = customer loyalty.

(Heskett et al., 1994) over time. This argues that high-quality support services and policies in service organizations lead to employee satisfaction, then to service value and, finally, to increased customer loyalty over time. Although the service-profit chain has been confirmed in a diary level of study (Myrden & Kelloway, 2015), our results suggest that the study of collectives at workplaces over time may be more complex (Mathieu, Maynard, Rapp, & Gilson, 2008). This is because it incorporates two dynamic interactions; the first is among entities (e.g. individuals) and the second is within the structure – that is, the collective constructs that emerge and change over time (Kozlowski, Chao, Grand, Braun, & Kuljanin, 2013). Overall this may lead to multidirectional relationships (Ilgen, Hollenbeck, Johnson, & Jundt, 2005).

As an example of the above statement, SEM analyses showed significant relationships between service effectiveness at Time 1 and healthy states at Time 2 (Hypothesis 3). In this respect, our results suggest that performance outcomes were reversely related to healthy states. Consequently, in the particular case of service organizations, service effectiveness may depend on organizational facilitators and, in turn, it would be responsible for making groups experience more healthy states. This relationship seems to parallel Peter Warr's observations. He pointed out that poor mental health was often related to work characteristics that did not stimulate good performance. Taking the positive side of the previous argument, organizational facilitators that first stimulate good performance might later on produce healthy states. In this sense, it seems that service effectiveness is what may play a mediator role between organizational facilitators and healthy states over time, and this is where our study results suggest divergence from some of the current OHP models that stipulate that the happy group of workers precedes the productive group of workers when the study is conducted over time.

Limitations

Several limitations to this study should be noted. First, it is important to highlight that some of the relationships that we expected to be significant over time in fact were not. They were only significant cross-sectionally. These unexpected results open up new questions and challenges for future OHP studies and discussions. Specifically, the fact that a relationship was found between previous service effectiveness ratings and future healthy states in groups, but the opposite was not, is in accordance with several arguments that suggest that the influence of performance on workers' psychological well-being could be stronger than believed (Bagozzi & Phillips, 1982; Spreitzer, Cohen, & Ledford, 1999). A possible explanation could be related to the *eudaimonic* perspective (Aristotle, 350 B.C.), which defines virtuous actions (such as providing service to society) as those that lead to well-being. In this vein, studies have found that those individuals who are more engaged in eudaimonic behaviours (such as listening carefully to another's point of view, persevering in the pursuit of a valued goal, facing obstacles or even making an effort to express gratitude) report greater well-being as measured by the meaning of life, life satisfaction and positive affect (Steger, Kashdan, & Oishi, 2008). Similarly, groups that provide good service (as perceived by customers) match service-oriented group workers' increased levels of well-being. Future OHP studies may incorporate computational modelling and agent-based simulation in order to analyse in more detail the healthy group emergent processes over time (Kozlowski et al., 2013).

Another limitation is that the sample only focused on hospitality services, and findings therefore have to be taken with caution. A specific sample was assembled in order to take the particular organizational context into consideration (Mathieu et al., 2008). This study thus explains effectiveness in relation to service within the specific organizational context of hospitality services. Future studies should have a broader design so as to include other kinds of service organizations.

This study takes the group-level perspective but composition, time, location and boundaries are diffuse and, therefore, difficult to assess. This might be a strong limitation. However, this blurring reflects the current and future tendency of real groups, already acknowledged by scholars who point out that new needs are emerging from a practitioner perspective and that the conception of groups should be reconsidered (Tannenbaum, Mathieu, Salas, & Cohen, 2012).

In spite of these difficulties, we collected a two-wave multi-source group sample that we believe advances knowledge of the relationship between organizational facilitators, healthy states and service effectiveness, taking into consideration the temporal order of the events and focusing on the bi-directional relations between work factors and indicators of workers' health and well-being (Taris & Kompier, 2014).

Practical implications

Several practical implications arise from this study. First, the results suggest that the more effort the organization makes to facilitate and support the work of service-oriented groups, the more effective the service will be and, ultimately, the healthier the states that the groups experience will be. For this reason, specific organizational facilitators should also be developed as effective strategies for developing or maintaining effective and healthy groups. In this respect, the organization should design specific strategies for groups that make it easier for service-oriented workers to work in such a way as to develop better service effectiveness and consequently attain increased psychological well-being.

The second implication is the fact that in service organizations, service-oriented effectiveness and the healthy states of groups seem to be closely related. This implies that achieving high service effectiveness may be important not only for organizations to realize high profits, but also to develop healthier states in service-oriented groups. Such healthy states include shared fulfilment of vigour or higher perceptions of service competence. That is, when service providers make an effort to display emotions, to be empathetic or to give extra-role attention to their customers, the result is that they not only deliver better customer service quality and customer loyalty, but also increase their future job-related psychological well-being. Therefore, although it is assumed that well-being precedes effectiveness over time, this study, contrary to expectations, suggests that effective groups, with sufficient prior support from the organization, may enhance their occupational health states in service organizations. This model, therefore, suggests certain practical insights, relevant to the OHP approach, as to how organizations can foster effective services and healthy states in groups over time.

The third implication lies in the consideration in this study of the work of Warr (2007) and the WHO (2009) to redefine groups' healthy states. Accordingly, the psychological health shared by group members is taken to consist of more than a state of positive

affect. It is a state that also comprises feelings of developing potentiality, working productively and being useful to the community, which can be developed by working with and for people on a day-to-day basis. Therefore, new risk prevention and health enhancement policies could also be adopted to develop strategies following these suggestions, in which work and organizations may represent a good environment for the enhancement of healthy psychological states.

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ORCiD

Esther Gracia http://orcid.org/0000-0002-1354-4061

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