



Revista de Psicología del Trabajo y de las Organizaciones

ISSN: 1576-5962

revistas\_copm@cop.es

Colegio Oficial de Psicólogos de Madrid  
España

Torrente, Pedro; Salanova, Marisa; Llorens, Susana

Spreading engagement: On the role of similarity in the positive contagion of team work engagement  
Revista de Psicología del Trabajo y de las Organizaciones, vol. 29, núm. 3, diciembre, 2013, pp. 153-159

Colegio Oficial de Psicólogos de Madrid  
Madrid, España

Available in: <http://www.redalyc.org/articulo.oa?id=231329411007>

- How to cite
- Complete issue
- More information about this article
- Journal's homepage in redalyc.org

redalyc.org

Scientific Information System  
Network of Scientific Journals from Latin America, the Caribbean, Spain and Portugal  
Non-profit academic project, developed under the open access initiative



# Journal of Work and Organizational Psychology

www.elsevier.es/rpto



## Spreading engagement: On the role of similarity in the positive contagion of team work engagement

Pedro Torrente\*, Marisa Salanova, and Susana Llorens

WONT Research Team, Universitat Jaume I, Spain

### ARTICLE INFORMATION

Manuscript received: 31/05/2013

Revision received: 15/09/2013

Accepted: 23/09/2013

#### Keywords:

Similarity

Gender

Company tenure

Emotional convergence

Team work engagement

### ABSTRACT

Emotional contagion theory applied to work and organizations posits that positive emotions are shared among team members, thus enabling them to converge in desirable shared states such as team work engagement. The aim of this study is to analyze how similarity among team members in terms of gender and company tenure is related to convergence in work engagement at the team level. Similarity in terms of gender and company tenure was expected to be positively related to convergence in team work engagement. Hierarchical regression modeling in 161 teams showed that similarity in terms of gender was positively related to convergence in team work engagement, whereas, unexpectedly, similarity in company tenure was negatively related to convergence in team work engagement.

© 2013 Colegio Oficial de Psicólogos de Madrid. All rights reserved.

## Generando engagement: el papel de la similitud en el contagio positivo del engagement con el trabajo en equipos

### RESUMEN

La teoría del contagio emocional aplicada al trabajo y a las organizaciones plantea que las emociones positivas se comparten con los miembros del equipo, a los que capacita para la convergencia en estados deseables compartidos como el engagement con el trabajo en equipos. El objetivo de este trabajo es analizar en qué sentido la similitud entre los miembros del equipo en cuanto a sexo y antigüedad en la empresa se relaciona con la convergencia en el engagement con el trabajo en equipos. Se esperaba que la similitud en cuanto a género y antigüedad en la empresa se relacionase positivamente con la convergencia en el engagement con el trabajo en equipos. Los modelos de regresión multinivel aplicados a 161 equipos de trabajo muestran que la similitud de los miembros en cuanto a género se relaciona positivamente con la convergencia en engagement con el trabajo en equipos mientras que, inesperadamente, la similitud en antigüedad en la empresa se relaciona negativamente con la convergencia en engagement con el trabajo en equipos.

© 2013 Colegio Oficial de Psicólogos de Madrid. Todos los derechos reservados.

#### Palabras clave:

Similitud

Género

Antigüedad en la empresa

Convergencia emocional

Engagement con el trabajo en equipos

Being engaged and passionate about one's own work has been one of the most popular topics in Work & Organizational Psychology over the past decade (Bakker & Leiter, 2010). The pursuit of further knowledge in this topic has yielded a number of contributions addressing what causes work engagement (e.g., Schaufeli, Bakker, & van Rhenen, 2009), how it is measured (e.g., Schaufeli, Bakker, & Salanova, 2006), and its consequences (e.g., Torrente, Salanova, Llorens, & Schaufeli, 2012). Although some studies have already examined, and supported, the contagion of work engagement among employees (Bakker, Demerouti, & Verbeke, 2004; Bakker, van

Emmerik, & Euwema, 2006; Bakker & Xanthopoulou, 2009), the role of similarity in the spread and sharing of work engagement among employees has been largely neglected in the work engagement literature (Bakker, Westman, & van Emmerik, 2009; Schaufeli, 2012).

Focusing on the behavioral consequences of work engagement, engaged employees invest an extra amount of energy, persistence, and dedication in their duties, which is transferred to the job setting and may therefore be appraised and shared by other employees working in the same team (Salanova, Agut, & Peiró, 2005) in a kind of contagion or positive infection of affect. As many organizations are functionally structured around work teams nowadays, this *positive contagion process* involves key implications in terms of promoting a shared state of work engagement within teams. The novelty of this study lies in the fact that it takes a diversity management perspective, thereby analyzing how similarity among employees in terms of gender and

\*Correspondence concerning this article should be addressed to Pedro Torrente. WONT Research Team (High Performance Team, Universitat Jaume I). Department of Social Psychology, Universitat Jaume I. Av. Sos Baynat, s/n. 12071 Castellón (Spain). E-mail: torrente@uji.es

company tenure, could be related with shared desirable states such as team work engagement, which emerges from team work engagement perceptions held by the team members. Although these perceptions are spread through their interactions and shared experiences, throughout the paper we will refer to team work engagement for the sake of consistency in the usage of terminology and space-saving. Hence, the aim of this study is to analyze the role of similarity in the convergence in a shared-state of team work engagement based on emotional contagion theory (Hatfield, Cacioppo, & Rapson, 1994).

#### *Team work engagement and contagion mechanisms*

Work engagement is a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption (Salanova, Schaufeli, Llorens, Peiró, & Grau, 2000; Schaufeli, Salanova, González-Romá, & Bakker, 2002). Work engagement involves a number of behaviors such as the display of emotions and emotionally-charged verbalizations that can be appraised by team members and thus promote an emergent shared-perception of work engagement (Bakker et al., 2006). For example, a vigorous employee is persistent against difficulties and is thus able to motivate the rest of the team members to achieve team duties. Moreover, a dedicated employee feels emotionally attached to the task at hand. This provides the employee with a sense of meaning that leads him or her to express joy and pride toward his or her work. Finally, absorbed employees feel fully engrossed with the task they are carrying out, which can provide a great deal of focus and concentration when engaging in a team task. Coherent with this contagion mechanism, team work engagement has been defined as “a positive, fulfilling, work-related and shared psychological state characterized by team work vigor, dedication and absorption which emerges from the interaction and shared experiences of the members of a work team” (Torrente et al., 2012, p.107). The rationale behind this definition and the proposed underlying contagion mechanism of work engagement are rooted in the tenets of emotional contagion theory.

Emotional contagion theory attempts to explain how different people are able to share and express the same emotional state (Hatfield, Rapson, & Le, 2009). This theory posits that emotions can spread from individual to individual. The contagion of emotions is triggered based on our ability to empathize with the experiences of others (Barsade, 2002). For instance, using different occupational samples Totterdell, Kellett, Teuchmann, and Briner (1998) proved that there is a link between individual emotions and those experienced by the team itself. Furthermore, contextual factors such as team size may influence emotional convergence. Since teams with a higher number of members require a higher number of interactions to achieve a consensus on a shared affect (Bakker et al., 2009), the spread and sharing of emotions within teams may become weaker (Bowers, Pharmer, & Salas, 2000). These influences model emotional contagion processes and raise the question as to what conditions are required for emotional transmission between individuals.

#### *Similarity: An antecedent for the positive contagion of work engagement*

Previous research has pointed out similarity as one condition enabling the emotional contagion process to begin (Bakker et al., 2009). That is, a worker may take another team member as an emotional referent if he or she feels identified with the other person or if he or she feels similar to that person (Bakker, Westman, & Schaufeli, 2007). In this context, similarity refers to specific characteristics such as, for example, gender, race, nationality, or job seniority that are shared by the members of a work team. Similarity, then, differs from related concepts in the field such as group identification, understood as the members' identification with an interacting group (Henry, Arrow, & Carini, 1999).

Members of teams are likely to form impressions on the basis of team members' outstanding physical characteristics (Fiske & Neuberg, 1990). Those who possess similar individual characteristics and attitudes will be perceived as such and, hence, they will be attracted to one another (Byrne, 1971). In that sense, similarity in terms of gender is related to stronger friendship ties and more cohesive relationships (Lincoln & Miller, 1979). As a result, there is an increase in the frequency of positive and meaningful interactions in the workplace (Mehra, Kilduff, & Brass, 1998), which is likely to increase team work engagement (Torrente et al., 2012). Thus, we expect that:

*Hypothesis 1.* Similarity among the team members in terms of gender will be positively related to convergence in team work engagement.

Further support for the role of similarity on the contagion of team work engagement is provided by social identity (Tajfel & Turner, 1986) and self-categorization theories (Turner, 1987). Several scholars (Tajfel & Turner, 1986; Turner, 1987) suggested that individuals tend to categorize themselves and those around them in groups, making use of dimensions that are personally meaningful. These dimensions include categories that are based on salient demographic and organizational-related variables such as company tenure. Similarly experienced employees share many job-related aspects such as motives to work (Kooij, De Lange, Jansen, Kanfer, & Dijkers, 2011), job demands (Johnson, Mermin, & Resseger, 2011), social stereotyping by others (Pothuma & Campion, 2009), and even common characteristics that belong to the non-work domain such as non-work demands (Baltes & Young, 2007). These similarities may enact categorization processes that take the form of exhibiting bias in favor of similar members (Tsui & O'Reilly, 1989) as well as employees' responding more favorably to contexts where there is a greater proportion of similar members (Tsui & Gutek, 1999). In consequence, team members are likely to conform to norms of emotional and behavioral expression toward the team duties. Emotional and behavioral expressions of work engagement within the team take the form of a similar level of work engagement being spread and shared within the team. Thus, we expect that:

*Hypothesis 2.* Similarity among the team members in terms of company tenure in the organization will be positively related to convergence in team work engagement.

In conclusion, the aim of this study is to analyze the role of similarity among the members of work teams in terms of gender and company tenure, as associated with the convergence in a shared state of team work engagement.

## **Method**

### *Participants and procedure*

The sample comprised 694 employees nested within 161 teams from 80 Spanish organizations. The sample was composed of a heterogeneous group of organizations: 21% industry (manufacturing activities), 17% commerce, 16% hotels and restaurants, 10% entertainment activities, 8% education, 7% consultancies and assistance, 7% technical maintenance, 6% construction, 4% health care, and 4% others.

Organizations were invited to join the project and were offered a final report containing the most relevant results of the study in order to promote commitment with the research study throughout the whole process. A preliminary interview was conducted with a key agent within the organization (administrator, human resources manager or risk prevention technician), who helped to identify the teams in their organizations. Only teams with one immediate

supervisor were included in the analysis. After the company had agreed to participate in the study, researchers administered questionnaires to the participants, who took part in the study voluntarily. The full questionnaire required about 30 minutes to be filled out, but the scales used in this study could be completed in about 5 minutes. The questionnaires were then put into sealed envelopes and collected by the researchers themselves in order to maximize the confidentiality of the answers.

### Measures

*Demographic variables* were assessed by *gender* and *company tenure*. Gender was a dichotomous variable (Female = 1, Male = 2). Company tenure was a continuous variable that considered the number of years spent working in the organization. The demographic variables section was reduced to avoid biases arising from employees' perceiving a lack of anonymity in their answers as well as to ensure questionnaire fulfillment. Based on the work of Harrison and Klein (2007), we developed objective measures of team similarity using Blau's index (Blau, 1977) for gender and standard deviation for company tenure.

*Team work engagement* was assessed by 18 items validated for the Spanish population by Salanova, Llorens, Cifre, Martínez, and Schaufeli (2003) and included in the HERO Questionnaire (Salanova, Llorens, Cifre, & Martínez, 2012). In accordance with the aims of the study, the referent of this scale was the team. In line with prior research (Bakker et al., 2006; Salanova et al., 2012; Schaufeli & Bakker, 2010; Schaufeli et al., 2006), we focused on overall engagement, and thus created a composite measure based on its three components ( $\alpha = .91$ ): team work vigor (seven items, e.g., "While working, my team feels full of energy"), team work dedication (five items, e.g., "My team feels very motivated to do a good job"), and team work absorption (seven items, e.g., "My team feels happy when we are engrossed in the task"). Participants responded using a seven-point, Likert-type scale ranging from 0 (never) to 6 (always). Convergence in terms of team work engagement was operationalized using standard deviation (Harrison & Klein, 2007). Intra-class correlation coefficients (ICC<sub>1</sub> and ICC<sub>2</sub>) were calculated for this variable. Results for these indices (ICC<sub>1</sub> = .20, and ICC<sub>2</sub> = .53) suggested differences between organizations in the average level of team work engagement within teams.

*Team size* (i.e., number of team members) was included as a control variable since, in accordance with previous research (Bowers et al., 2000), the number of interactions required to share a common emotional state is likely to be higher in large teams.

Furthermore, in order to empirically assess the preliminary team distribution yielded by the key agent, we used three items from the Teamworking scale (included in the HERO Questionnaire: "My team has well-defined work goals", "In my team, innovative and creative ideas are accepted", and "My team consists of people with appropriate and complementary expertise"). Participants also responded using a seven-point Likert-type scale ranging from 0 (never) to 6 (always). The pooled within-teams mean for teamworking in this sample was 4.80 ( $SD = 0.83$ ). This means that, on average, participants within teams were from "quite" to "very frequently" involved in actual teamworking.

### Data analyses

Descriptive statistics of the study variables were calculated. As teams were nested within a higher-order grouping variable (i.e., organizations), we conducted the analysis using hierarchical linear modeling (Hofmann, Griffin, & Gavin, 2000). This methodology allowed us to control for the variability due to differences between organizations.

Following the categorization of composition models offered by Bliese (2000), similarity research might be included in the so-called

compilation models. Compilation models make use of individual-level data to develop and operationalize measures of team constructs that may be completely different in their meaning and interpretation. As the levels of the two constructs are neither functional nor structurally related, aggregation indices (of reliability and non-independence) tend to be irrelevant (Bliese, 2000).

Similarity (as the opposite of diversity) can be measured making use of dispersion indices (Harrison & Klein, 2007). For the measurement of gender (dichotomous variable), we developed a measure of variety within the team. When conducting variety research, members differ from one another qualitatively, on a categorical attribute (i.e., gender), and also in the extent to which they spread across the number of categories involved in the analysis (Harrison & Klein, 2007). The degree to which team members are similar in a given category may be operationalized using the Blau's index (1977):

$$\text{Blau's index} = 1 - \sum \left[ \frac{n_k(n_k - 1)}{n(n - 1)} \right]$$

In this equation,  $n$  is the team size, and  $n_k$  is the frequency of team members in the  $k$ th category. Blau's index is the most common measure for diversity as variety (Bunderson & Sutcliffe, 2002). This measure was initially developed by Simpson (1949), and to use it to assess diversity within teams, sampling is performed from a finite population yielding the equation given above. As regards its interpretation, the higher the value of Blau's index, the lower the similarity within the team in terms of gender.

Concerning the second independent variable, similarity in terms of company tenure takes the form of separation. Separation studies propose that team members differ from one another in their allocation along a continuous attribute or characteristic. Following Harrison and Klein (2007), separation is operationalized using standard deviation ( $SD$ ):

$$SD = \sqrt{\left[ \sum \frac{(X_i - \bar{X})^2}{n} \right]}$$

Standard deviation has the advantage that the resulting values are given in the same interval-level metric as the original attribute. The higher the higher the  $SD$ , the lower the similarity within the team will be.

Therefore, Blau's index and  $SD$ 's were operationalized as a measure of similarity among team members (Schneider, Salvaggio, & Subirats, 2002). Convergence in terms of team work engagement (i.e., the dependent variable) also involved the use of a continuous scale. So  $SD$  was used to assess convergence in team work engagement. In the same vein, as in the case of company tenure, the higher the  $SD$  for team work engagement is, the lower the similarity within the team will be. Standard deviations of team work engagement within teams were regressed onto Blau's index for gender as well as onto standard deviations of company tenure. LISREL 8.8 (Jöreskog & Sörbom, 2006) was used to conduct the analyses.

### Results

#### Hierarchical linear models

Table 1 shows means, standard deviations, and intercorrelations among the study variables. Table 2 shows the results of testing the research hypotheses. As regards Hypothesis 1, results for this hypothesis showed that similarity in gender was positive and significantly related to convergence in team work engagement ( $\beta = .21, p < .05$ ). Thus, the more similar teams are in terms of gender, regardless of whether they are mostly composed of men or women, the higher the convergence will be in terms of team work engagement. Consequently, results confirmed Hypothesis 1.

**Table 1**Means, standard deviations, and intercorrelations at the team level ( $n = 161$ )

Variables	Mean	SD	1	2	3	4	5	6	7
1. Gender	1.53	0.42	–	-.17*	-.04	-.05	-.07	-.17	.03
2. Company tenure	6.68	4.94		–	-.03	.06	.12	.12	.07
3. Team size	4.37	2.13			–	-.07	-.13	-.10	-.03
4. Team work engagement	4.47	0.59				(.91)	.89***	.93***	.89***
5. Team work vigor	4.43	0.57					(.81)	.78***	.67***
6. Team work dedication	4.82	0.71						(.87)	.74***
7. Team work absorption	4.13	0.66							(.80)

Note. Cronbach's alphas are in parentheses.

\* $p < .05$ , \*\*\* $p < .001$ .**Table 2**Results for the hierarchical linear models ( $n = 161$ )

Parameters	Estimators
Gender	
Intercept	.40*** (.07)
Team size	.04*** (.01)
Gender's Blau	.21* (.09)
Random part	
Level 1	.01 (.01)
Level 2	.10*** (.02)
Company tenure	
Intercept	.45*** (.07)
Team size	.06*** (.01)
SD for company tenure	-.02* (.01)
Random part	
Level 1	.00 (.01)
Level 2	.08*** (.01)

Note. Standard errors are in parentheses.

\*  $p < .05$ , \*\*\* $p < .001$ .

Results for Hypothesis 2 showed that, unexpectedly, similarity in company tenure was significant but negatively related to convergence in team work engagement ( $\beta = -.02$ ,  $p < .05$ ). Thus, the less similar teams are in terms of company tenure, the higher the convergence will be in terms of team work engagement. Therefore, unexpectedly, Hypothesis 2 received support in the opposite direction.

#### Further analyses

Further analyses were conducted dividing the work teams in three different groups and then, conducting the analyses in each of them, separately. The first group of teams considered those that had no agreement in their level of team work engagement. For a 7-point Likert-type scale and coherently with other consensus-based indices of agreement that are interpretable in the original metric of the scale (Lebreton & Senter, 2008), we included teams that showed 1 *SD* or higher in team work engagement perceptions within the team. From the remaining teams, we selected the teams for the second and third group of work teams. In the second group, work teams with 1 *SD* under the pooled averaged level of team work engagement were included. Then, this group considered teams with agreement in a low level of team work engagement within the team. Finally, in the third group, work teams with 1 *SD* over the pooled averaged level of team work engagement were included. Then, this group considered teams with agreement in a high level of team work engagement

within the team. Thus, the analysis were conducted for three sets of 17, 25, and 24 teams, respectively, using Restricted Maximum Likelihood. Results indicated that there were no differences depending on the group of teams involved in the analysis with provided support for the robustness of the main results.

#### Discussion

The aim of this study was to analyze the role of similarity in the convergence within a shared-state of team work engagement based on emotional contagion theory. Similarity among the team members in terms of gender and company tenure was expected to be positively related to convergence in team work engagement within teams. Results provided support in the case of gender, so that the greater the similarity in gender within work teams is, the greater the convergence between the team members in team work engagement will be. Results were significant, although in the opposite direction, for the case of company tenure. The novelty of the current study lies in the similarity perspective taken to explore the positive contagion of work engagement within a heterogeneous sample of work teams, which has implications for theory development and human resources management.

#### Theoretical implications

Findings provided mixed support for similarity as one of the main sources of emotional contagion theory (Hatfield et al., 1994). Emotional contagion seems to occur more easily within teams in which most of the members are of the same gender, thus yielding support to similarity as a source of emotional contagion within teams (Bakker et al., 2009). This finding also links to research on relational demography that points out that dissimilarity in terms of gender is related to higher emotional conflict, and thus to reduced cohesiveness (Pelled, 1996), which may hinder the contagion of positive emotions within teams (Totterdell et al., 1998).

Team members were more similar in their shared-state of work engagement when there was a greater imbalance in terms of company tenure between the team members. This may be explained by taking into account structural group characteristics that hinder the natural tendency of similar individuals to approach one another within the team, such as status. For example, Chattopadhyay, Tluchowska, and George (2004) showed how low-status group members may seek identity-affirmation by approaching and affiliating with high-status members, even if they pertain to different groups. Thus, the imbalance in company tenure will result in a tendency to converge in a shared state of team work engagement.

As an alternative explanation, people with less company tenure is usually less socialized and tend to require support and assistance from a more experienced team member (e.g., by answering questions or offering to help with formal procedures). The interactions with



tenured employees provide the newcomers not only with information (Ostroff & Kozlowski, 1992), but also with social support (Bauer, Morrison, & Callister, 1998). Hence, based on these interactions, some members are more likely to achieve a positive shared-state of team work engagement as they interact very frequently at an early stage within the organization.

Concerning our control variable, previous studies controlled for the influence of team size on the average team scores of work engagement concluding that the number of team members did not influence the average, team-level engagement levels (Bakker et al., 2006). In contrast with previous research though, our current findings suggest that team size did play a role in the convergence of team work engagement. The effect of team size on emotional convergence can be explained by the fact that the number of emotional referents is lower and, thus, in-group identification and similarity processes are more easily promoted (Cunningham & Chelladurai, 2004). As a consequence, it is conceivable that members of smaller work teams were more likely to enjoy a higher quality group experience and well-being (Aubé, Rousseau, & Tremblay, 2011), which may be related to an increase in the display of observable expressions of team work engagement (Torrente et al., 2012).

With regard to work engagement theory, previous research has tried to further elaborate the construct by taking a look at the measure, as well as the drivers and outcomes of work engagement at the team level of analysis (e.g., Torrente et al., 2012). In contrast, the current study delved into the underlying mechanisms of contagion, based on the role of similarity (Bakker et al., 2009). Similarity processes boosting the contagion of team work engagement are highly dependent on the specific variable under study. In fact, attending to the current findings, similarity in terms of gender was related to convergence in team work engagement, whereas similarity in terms of company tenure was inversely related. The findings broaden the application of emotional contagion theory to explain the emergence of a shared-state of team work engagement.

#### *Practical implications*

Research on similarity has traditionally considered diversity management in organizations as a desirable characteristic of teams with positive outcomes for them, such as creativity (Jassawalla & Sashittal, 1999) and group performance (Hauptman & Hirji, 1996). However, Cunningham, and Chelladurai (2004) already noticed the double-edged effects of diversity, which also led to increased employee stress (Keller, 2001) and less cohesion (Ancona & Caldwell, 1992). Likewise, similarity in terms of gender presents a comparable counter-intuitive effect as gender diversity has been related to higher performance (Barney, 2001). Based on the current study, however, the more similar the employees were in terms of gender, the more capable of sharing a positive common state of team work engagement they were. At this point, a practical advice consists of getting a balance between the positive and negative effects of similarity by means of developing cohesiveness among the team members. This may be achieved by promoting being kind to others (e.g., designating a “kindness day”), sharing good news through the habitual communication channels within the team, nurturing social relationships (e.g., socializing during work breaks or planning outdoor activities), and expressing gratitude (e.g., reinforcing expressions of gratitude through role-modeling, Schaufeli & Salanova, 2010).

Following Bakker et al. (2009), positive contagion may also be fostered by means of promoting social resources (e.g., a supportive team climate, coordination, and teamwork), which may ease team work engagement (Torrente et al., 2012). Following this rationale, the organization may implement practices aimed at increasing trust within teams and with the whole organization (Acosta, Salanova, &

Llorens, 2012; Salanova, Llorens, Acosta, & Torrente, 2013). Furthermore, organizations may carry out training and instruction in empathy as a competence to increase meaningful, supportive interactions between team members, as well as between members and supervisors (Schaufeli & Salanova, 2010).

The findings have also posited that dissimilarity in terms of company tenure could enhance convergence in terms of team work engagement. An example of this kind of asymmetry is the relation between an experienced worker and a new team member who he or she is helping. These behaviors are mainly performed by leaders or supervisors trying to increase the skills of their subordinates in a specific task, and providing them with social support (Bauer et al., 1998). As they interact frequently as a requirement for the training process, both mentor and mentees are exposed to emotional displays (e.g., facial expressions or positive comments on the task at hand), thus making the emergence of a shared-state of work engagement more likely (Sy, Côté, & Saavedra, 2005). Team leaders are a salient source of information in daily work, so it seems necessary to train them to promote positive states within their team, as this will create a shared-state with beneficial effects for all the members (Nielsen, Randall, Yarker, & Brenner, 2008). Following this reasoning, a transformational leadership style that promotes contact with employees and getting involved with their needs and well-being is expected to enhance positive emotional contagion (Cruz-Ortiz, Salanova, & Martínez, 2013).

In sum, the current findings present implications for practical purposes stressing a condition that may remain hidden and requires awareness on behalf of managers and supervisors: similarity characteristics that ease team work engagement convergence. This may result critical, but at the same time more easily managed, during the first stages of team formation or when implementing team cohesion practices (Harrison, Price, & Bell, 1998). Having said so, the management of diversity has deep ethical issues associated that may not be demeaned (Treviño & Brown, 2004). Taking all together, managers and supervisors may set the stage for a smooth and fluid spreading of team work engagement at work beyond taking measures to maximize its averaged levels.

#### *Limitations and further research*

The current research was aimed at analyzing similarity as a condition for team members to show convergence in team work engagement. We developed objective measures of team similarity to test their association with a shared-state of team work engagement. Nevertheless, the analysis of the contagion process itself fell beyond the scope of this work. Future studies may further analyze under what conditions this process is triggered and how it evolves over time in order to maximize the effect of a shared-state of team work engagement. Experimental studies are encouraged, as they can be designed to zoom in on specific processes and disentangle causal relations over time. Indeed, time especially may also exert an influence on the process, as for the case of newly-formed teams, in which there is no adequate level of cohesiveness (e.g., Harrison et al., 1998). Another line of research may look further into the combination of different members' attributes and the resulting subgroup divisions in the positive contagion of team work engagement and its convergence in work teams by taking a faultline perspective of diversity (Horwitz & Horwitz, 2007; Lau & Murnighan, 1998) or team processes (e.g., Marks, Mathiew, & Zaccaro, 2001). Further knowledge on the relationship between convergence and average levels of team work engagement may provide fruitful avenues for research connecting with previous literature on the topic (Bakker et al., 2006; Torrente et al., 2012).

Recent research points out the importance of studying both positive and negative emotions in the workplace simultaneously, so as to be able to draw conclusions aimed at integrating the role of

both positive and negative states into organizational behavior (George, 2011). Thus, future studies may want to consider the analysis of positive and negative work-related shared states, which would make it possible to draw practical recommendations from a more holistic and comprehensive point of view in the debate on emotional contagion at work.

### Final note

The current study aimed to establish similarity as a bridge in terms of demographics and a shared-state of team work engagement within teams. Findings provided mixed support for our hypotheses, which accounts for the complexity of understanding positive contagion of work engagement between members of the same work team. This perspective opens up future avenues of research and highlights the desirability of building teams composed of employees that are not only highly but also similarly engaged, which can be achieved by spreading engagement.

### Conflicts of interest

The authors of this article declare no conflicts of interest.

### Financial support

This research was funded by the Spanish Ministry of Economy and Competitiveness (#PSI2011-22400), and by the Generalitat Valenciana (Programa VALi+d).

### References

- Acosta, H., Salanova, M., & Llorens, S. (2012). How organizational practices predict team work engagement: The role of organizational trust. *Ciencia & Trabajo* (Special issue), 7–15.
- Ancona, D. G., & Caldwell, D. F. (1992). Demography and design: Predictors of new product team performance. *Organization Science*, 3, 321–341. doi: 10.1287/orsc.3.3.321
- Aubé, C., Rousseau, V., & Tremblay, S. (2011). Team size and quality of group experience: The more the merrier? *Group Dynamics*, 15, 357–375. doi: 10.1037/a0025400
- Bakker, A. B., Demerouti, E., & Verbeke, W. (2004). Using the job demands-resources model to predict burnout and performance. *Human Resource Management*, 43, 83–104.
- Bakker, A. B., & Leiter, M. P. (2010). Where to go from here? Integration and future research on work engagement. In A. B. Bakker & M. P. Leiter (Eds.), *Work engagement: A handbook of essential theory and research* (pp. 181–196). New York: Psychology Press.
- Bakker, A. B., Van Emmerik, H., & Euwema, M. C. (2006). Crossover of burnout and engagement in work teams. *Work and Occupations*, 33, 464–489. doi: 10.1177/0730888406291310
- Bakker, A. B., Westman, M., & Schaufeli, W. B. (2007). Crossover of burnout: An experimental design. *European Journal of Work and Organizational Psychology*, 16, 220–239. doi: 10.1080/13594320701218288
- Bakker, A. B., Westman, M., & Van Emmerik, H. (2009). Advancements in crossover theory. *Journal of Managerial Psychology*, 24, 206–219. doi: 10.1108/02683940910939304
- Bakker, A. B., & Xanthopoulou, D. (2009). The crossover of daily work engagement: Test of an actor-partner interdependence model. *Journal of Applied Psychology*, 94, 1562–1571.
- Baltes, B. B., & Young, L. M. (2007). Aging and work/family issues. In K. S. Shultz & G. A. Adams (Eds.), *Aging and work in the 21<sup>st</sup> century* (pp. 251–275). Mahwah, NJ: Lawrence Erlbaum Associates.
- Barney, J. B. (2001). Resource-based theories of competitive advantage: A ten-year retrospective on the resource-based view. *Journal of Management*, 27, 643–650. doi: 10.1177/014920630102700602
- Barsade, S. G. (2002). The ripple effect: Emotional contagion and its influence on group behavior. *Administrative Science Quarterly*, 47, 644–675.
- Bauer, T. N., Morrison, E. W., & Callister, R. R. (1998). Organizational socialization: A review and directions for future research. In G. R. Ferris (Ed.), *Research in Personnel and Human Resources Management* (pp. 149–214). Greenwich CT: JAI Press.
- Blau, P. M. (1977). *Inequality and heterogeneity*. New York: Free Press.
- Bliese, P. D. (2000). Within-group agreement, non-independence, and reliability: Implications for data aggregation and analyses. In K. J. Klein & S. W. Kozlowski (Eds.), *Multilevel theory, research, and methods in organizations: Foundations, extensions, and new directions* (pp. 349–381). San Francisco: Jossey-Bass.
- Bowers, C. A., Pharmer, J. A., & Salas, E. (2000). When member homogeneity is needed in work teams. *Small Group Research*, 31, 305–327.
- Bunderson, J. S., & Sutcliffe, K. M. (2002). Comparing alternatives conceptualizations of functional diversity in management teams: Process and performance effects. *Academy of Management Journal*, 45, 875–893.
- Byrne, D. (1971). *The Attraction Paradigm*. New York: Academic Press.
- Chattopadhyay, P., Tluchowska, M., & George, E. (2004). Identifying the ingroup: A closer look at the influence of demographic dissimilarity on employee social identity. *Academy of Management Review*, 29, 180–202.
- Cruz-Ortiz, V., Salanova, M., & Martínez, I. M. (2013). Liderazgo transformacional y desempeño grupal: Unidos por el engagement grupal [Transformational leadership and team performance: Linked through team work engagement]. *Revista de Psicología Social*, 28, 183–196.
- Cunningham, G., & Chelladurai, P. (2004). Affective reactions to cross-functional teams: The impact of size, relative performance and common in-group identity. *Group Dynamics: Theory, Research and Practice*, 8, 83–97. doi: 10.1037/1089-2699.8.2.83
- Fiske, S. T., & Neuberg, S. L. (1990). A continuum of impression formation, from category-based to individuating process: Influences of information and motivation of attention and interpretation. *Advances in Experimental Social Psychology*, 23, 1–74.
- George, J. M. (2011). Dual tuning: A minimum condition for understanding affect in organizations? *Organizational Psychology Review*, 1, 147–164. doi: 10.1177/2041386610390257
- Harrison, D. A., & Klein, K. J. (2007). What's the difference? Diversity constructs as separation, variety, or disparity in organizations. *Academy of Management Review*, 32, 1199–1228.
- Harrison, D. A., Price, K. H., & Bell, M. P. (1998). Beyond relational demography: Time and the effect of surface- versus deep-level diversity on group cohesiveness. *Academy of Management Journal*, 41, 96–107.
- Hatfield, E., Cacioppo, J., & Rapson, R. L. (1994). *Emotional contagion*. New York: Cambridge University Press.
- Hatfield, E., Rapson, R. L., & Le, Y. L. (2009). Primitive emotional contagion: Recent research. In J. Decety & W. Ickes (Eds.), *The social neuroscience of empathy* (pp. 19–30). Boston, MA: MIT Press.
- Hauptman, O., & Hirji, K. K. (1996). The influence of process concurrency on product outcomes in product development: An empirical study of cross-functional teams. *IEEE Transactions on Engineering Management*, 43, 153–164.
- Henry, K. B., Arrow, H., & Carini, B. (1999). A Tripartite Model of Group Identification: Theory and Measurement. *Small Group Research*, 30, 558–581. doi: 10.1177/104649649903000504
- Hofmann, D. A., Griffin, M. A., & Gavin, M. B. (2000). The application of hierarchical linear modeling to organizational research. In K. J. Klein & S. W. J. Kozlowski (Eds.), *Multilevel theory, research, and methods in organizations: Foundations, extensions, and new directions* (pp. 467–511). San Francisco: Jossey-Bass.
- Horwitz, S. K., & Horwitz, I. B. (2007). The Effects of Team Diversity on Team Outcomes: A Meta-Analytic Review of Team Demography. *Journal of Management*, 33, 987–1014. doi: 10.1177/0149206307308587
- Jassawalla, A. R., & Sashittal, H. C. (1999). Building collaborative cross-functional new product teams. *Academy of Management Executive*, 13, 50–63.
- Johnson, R. W., Mermin, G. B. T., & Resseger, M. (2011). Job demands and work ability at older ages. *Journal of Aging and Social Policy*, 23, 101–118.
- Jöreskog, K. G., & Sörbom, D. (2006). LISREL 8.8 for Windows [Computer software]. Lincolnwood, IL: Scientific Software International, Inc.
- Keller, R. T. (2001). Cross-functional project groups in research and new product development: Diversity, communications, job stress, and outcomes. *Academy of Management Journal*, 44, 547–555. doi: 10.2307/3069369
- Kooij, D. T. A. M., de Lange, A. H., Jansen, P. G. W., Kanfer, R., & Dikkers, J. S. E. (2011). Age and work-related motives: Results of a meta-analysis. *Journal of Organizational Behavior*, 32, 197–225. doi: 10.1002/job.665
- Lau, D. C., & Murnighan, J. K. (1998). Demographic diversity and faultlines: The compositional dynamics of organizational groups. *Academy of Management Review*, 23, 325–340.
- Lebreton, J. M., & Senter, J. L. (2008). Answers to 20 questions about interrater reliability and interrater agreement. *Organizational Research Methods*, 11, 815–852. doi: 10.1177/1094428106296642
- Lincoln, J. R., & Miller, J. (1979). Work and friendship ties in organizations: A comparative analysis of relation networks. *Administrative Science Quarterly*, 24, 181–199.
- Marks, M. A., Mathieu, J. E., & Zaccaro, S. J. (2001). A temporally based Framework and taxonomy of team processes. *Academy of Management Review*, 26, 356–376. doi: 10.2307/259182
- Mehra, A., Kilduff, M., & Brass, D. J. (1998). At the margins: A distinctiveness approach to the social identity and social networks of underrepresented groups. *Academy of Management Journal*, 41, 441–452. doi: 10.2307/257083
- Nielsen, K., Randall, R., Yarker, J., & Brenner, S. O. (2008). The effects of transformational leadership on followers' perceived work characteristics and psychological well-being: A longitudinal study. *Work & Stress*, 22, 16–32. doi: 10.1080/02678370801979430
- Ostroff, C., & Kozlowski, S. W. J. (1992). Organizational socialization as a learning process: The role of information acquisition. *Personnel Psychology*, 45, 849–874. doi: 10.1111/j.1744-6570.1992.tb00971.x
- Pelled, L. H. (1996). Relational demography and perceptions of group conflict and performance: A field investigation. *International Journal of Conflict Management*, 7, 230–246.
- Posthuma, R. A., & Campion, M. A. (2009). Age stereotypes in the workplace: Common stereotypes, moderators, and future research directions. *Journal of Management*, 35, 158–188. doi: 10.1177/0149206308318617
- Salanova, M., Agut, S., & Peiró, J. M. (2005). Linking organizational resources and work engagement to employee performance and customer loyalty: The mediation of service climate. *Journal of Applied Psychology*, 90, 1217–1227. doi: 10.1037/0021-9010.90.6.1217
- Salanova, M., Llorens, S., Acosta, H., & Torrente, P. (2013). Positive interventions in positive organizations. *Terapia Psicológica*, 31, 101–113.

- Salanova, M., Llorens, S., Cifre, E., & Martínez, I. M. (2012). We need a HERO! Towards a validation of the Healthy & Resilient Organization (HERO) Model. *Group & Organization Management*, 37, 785–822. doi: 10.1177/1059601112470405
- Salanova, M., Llorens, S., Cifre, E., Martínez, I. M., & Schaufeli, W. B. (2003). Perceived collective efficacy, subjective well-being and task performance among electronic work groups: An experimental study. *Small Group Research*, 34, 43–73. doi: 10.1177/1046496402239577
- Salanova, M., Schaufeli, W. B., Llorens, S., Peiró, J. M., & Grau, R. (2000). Desde el 'burnout' al 'engagement': ¿Una nueva perspectiva? [From 'burnout' to 'engagement': A new perspective?]. *Revista de Psicología del Trabajo y las Organizaciones*, 16, 117–134.
- Schaufeli, W. B. (2012). Work engagement: What do we know and where do we go? *Romanian Journal of Applied Psychology*, 14, 3–10.
- Schaufeli, W. B., & Bakker, A. B. (2010). The conceptualization and measurement of work engagement. In A. B. Bakker & M. P. Leiter (Eds.), *Work engagement: A handbook of essential theory and research* (pp. 10–24). New York: Psychology Press.
- Schaufeli, W. B., Bakker, A. B., & Salanova, M. (2006). The measurement of work engagement with a short questionnaire: A cross-national study. *Educational and Psychological Measurement*, 66, 701–716. doi: 10.1177/0013164405282471
- Schaufeli, W. B., Bakker, A. B., & Van Rhenen, W. (2009). How changes in job demands and resources predict burnout, work engagement, and sickness absenteeism. *Journal of Organizational Behavior*, 30, 893–917. doi: 10.1002/job.595
- Schaufeli, W. B., & Salanova, M. (2010). How to improve work engagement? In S. Albrecht (Ed.), *The handbook of employee engagement: Perspectives, issues, research and practice* (pp. 399–415). Northampton, MA: Edwin Elgar.
- Schaufeli, W. B., Salanova, M., González-Romá, V., & Bakker, A. B. (2002). The measurement of engagement and burnout: A two sample confirmatory factor analytic approach. *Journal of Happiness Studies*, 3, 71–92.
- Schneider, B., Salvaggio, A. N., & Subirats, M. (2002). Climate strength: A new direction for climate research. *Journal of Applied Psychology*, 87, 220–229. doi: 10.1037/0021-9010.87.2.220
- Simpson, E. H. (1949). Measurement of diversity. *Nature*, 163, 688. doi: 10.1038/163688a0
- Sy, T., Côté, S., & Saavedra, R. (2005). The contagious leader: Impact of the leader's mood on the mood of group members, group affective tone, and group processes. *Journal of Applied Psychology*, 90, 295–305. doi: 10.1037/0021-9010.90.2.295
- Tajfel, H., & Turner, J. C. (1986). The social identity theory of intergroup behavior. In S. Worchel & L. W. Austin (Eds.), *The psychology of intergroup relations* (pp. 7–24). Chicago: Nelson-Hall.
- Torrente, P., Salanova, M., Llorens, S., & Schaufeli, W. B. (2012). Teams make it work: How team work engagement mediates between social resources and performance in teams. *Psicothema*, 24, 106–112.
- Totterdell, P., Kellett, S., Teuchmann, K., & Briner, R. B. (1998). Evidence of mood linkage in groups. *Journal of Personality and Social Psychology*, 74, 1504–1515. doi: 10.1037/0021-9010.74.6.1504
- Treviño, L. K., & Brown, M. E. (2004). Managing to be ethical: Debunking five business ethics myths. *The Academy of Management Executive*, 18, 69–83.
- Tsui, A. S., & Gutek, B. A. (1999). *Demographic differences in organizations: Current research and future directions*. Lanham, MD: Lexington Books.
- Tsui, A. S., & O'Reilly, C. A. (1989). Beyond simple demographic effects: The importance of relational demography in superior-subordinate dyads. *Academy of Management Journal*, 32, 402–423. doi: 10.2307/256368
- Turner, J. C. (1987). *Rediscovering the social group: A self-categorization theory*. Oxford, England: Blackwell Publishing.