

# Group cohesion: Relationships with work team culture

José C. Sánchez and Amaia Yurrebaso  
Universidad de Salamanca

The aim of this study was to examine the relationships between group cohesion and the perceived culture and desired culture of work teams. Two separate studies were carried out with a time interval of one year. The first study had a sample of 50 work teams belonging to different organizations and the second study had a sample of 75 work teams. We used Lindell's index of agreement to estimate the culture and cohesion variables. Multiple and hierarchical regression analysis in both studies confirmed our initial hypothesis, showing that perceived and desired culture were positively related to group cohesion, and that culture gap had a negative association with cohesion. To a lesser extent, control variables such as job tenure and gender had a positive relationship with cohesion. The implications of these results are discussed along with the importance of considering the group level as analysis.

*Cohesión grupal: relaciones con la cultura de los equipos de trabajo.* El objetivo de este estudio fue examinar las relaciones entre cohesión grupal y la cultura percibida y deseada de los equipos de trabajo. Se realizaron dos estudios independientes con un intervalo de un año entre ambos. El primer estudio lo integraron 50 equipos de trabajo pertenecientes a diferentes organizaciones y el segundo estudio tuvo una muestra de 75 equipos de trabajo. Para estimar las variables de cultura y cohesión utilizamos el índice de acuerdo de Lindell. Los análisis de regresión múltiple y jerárquica en ambos estudios confirmaron nuestra hipótesis inicial, mostrando que tanto la cultura percibida como la cultura deseada estaban positivamente relacionadas con la cohesión grupal, y que el desfase cultural se relacionaba negativamente con la cohesión. En menor medida, las variables de control como antigüedad en el trabajo y género tenían una relación positiva con la cohesión. Se discuten las implicaciones de estos resultados junto con la importancia de considerar el nivel grupal como análisis.

In scientific research, cohesion has been considered as the most important determinant of success in small groups (Carron & Brawley, 2000) to the extent that many authors have attempted to define and operationalize this concept (e.g., Cota, Evans, Dion, Kilik, & Longman, 1995). Traditionally, cohesion has been defined as a unitary construct (Mullen & Copper, 1994; Zaccaro, 1991) inherited to a large degree from the contribution of Festinger (1950) who regarded cohesion as the total field of forces which act on members to remain in the group, in fact Forsyth (1999) sees cohesion as analogous to the «glue» that holds the group together. Thus, cohesion has been operationalized as the attraction to the group and is evaluated by asking the members how much alike they are or how long they wish to remain in the group.

More recently, a multidimensional view of cohesion has been defended. This point of view argues that task commitment should be added to interpersonal attraction (Zaccaro, 1991). Carless and De Paola (2000) suggest a three-factor model: task cohesion, social cohesion, and individual attraction to the group. These findings along with the growing body of literature (e.g., Mullen &

Cooper, 1994), supports the view that cohesion is a multidimensional construct. This article sticks on this view and conceptualizes cohesion as the degree of commitment to the task, the extent to which members interact socially, and the extent to which individual team members see the group as an attractive social group.

Research demonstrates that cohesive groups generally seem to outperform non-cohesive groups, have greater job and personal satisfaction (McGrath, 1984), and that in general, group cohesion has positive effects on an individual's contribution to a group (Carron, Colman, Wheeler, & Stevens, 2002). Given these positive outcomes, it is important to understand the factors that promote cohesion. The literature identifies several of these factors including degree of interaction, team size, nature of the task, and degree of conflict (Wright & Drewery, 2006). Nevertheless, there are very few studies that have considered group culture as a factor promoting cohesion. The present work tries to fill this gap and focuses on analyzing to what extent the culture of work teams contributes to strengthening the cohesion in these teams.

## Organizational vs Group Culture

Despite the fact of considering an organization from its goal orientation (Rodríguez Fernández, 1993), organizational culture has been defined as a system of shared meanings —schemas—, held by members that distinguish the organization from other organizations (e.g., Erez & Gati, 2004; Fernández-Ríos, Rico, &

San Martín, 2004). Schein (1983) sees organizational culture as the pattern of basic assumptions which a group has invented, discovered or developed in learning to cope with its problem of external adaptation and internal integration. Deshpande and Webster (1989) provide us with a similar definition: «a pattern of shared values and beliefs that help individuals understand organizational functioning and thus provide them with norms for behavior in organizations» (p. 4). Thus, an organization's culture is closely linked to the underlying shared values and beliefs and norms that people hold regarding the way they should behave during certain activities.

Certainly, if groups have different goals and interpreting systems, it is less feasible that all of them will develop the same assumptions or meanings that can be described as the culture of the organization. Tushman (1977), although without referring specifically to organizational culture, describes our position adopted in this work, and supported by the scholars previously mentioned, when suggesting that in order to understand organizational behavior, the unit of analysis must be the basic subunits that constitute an organization.

From a system perspective, organizational behavior can be regarded as the result of the interaction between subunits within the organization. Van Maanen and Barley (1985), for example, have focused on subcultures and their formation within organizations. They maintain that there are multiple subcultures within organizations and each has its own agenda and perspective. Certainly, this does not mean that the «monolithic» vision of organizational culture is wrong, but we think that it represents a very narrow scope of the dynamics and attributes of the culture.

Briefly, given that any group of workers can develop their own culture (Levine & Moreland, 1991) and that organizations nowadays are regarded more as being made up of work teams rather than of individuals, we have to consider the culture of the groups in the organization and that these cultures can lead to the creation of organizational culture through their own interactive processes.

The concept of *group culture* has been used with different meanings. Some of them refer to group culture as an interpretive scheme (Fiol, Hatch, & Golden-Biddle, 1998), historically developed and socially maintained (Geertz, 1973), which the subjects use to give meaning to and to structure their own actions and those of others (Golden, 1992). Others maintain that group culture is defined by people's understanding of the social system to which they belong (Sánchez, 2002). In any case, two components emerge from the conceptions of culture that are related to each other: the socially shared knowledge and the set of customs.

Thus, we would have a definition of culture that synthesizes these multiple views «The set of suppositions, values and norms whose meanings are collectively shared in a particular social unit (work team or group) at a specific time» (Sánchez & Alonso, 2003, p. 23).

Previously given definitions of culture (whether organizational or group) allow us to assert that culture presents different levels of analysis. According to Schein (1985), the most visible, but at the same time, most superficial level is considering culture as a pattern of behaviors e.g. the norms, stories, symbols as expressions of these shared beliefs. This behavioral pattern reflects a second, deeper, level of culture, which is the firm's system of shared values. Shared values are, in turn, driven by the third and most

fundamental level of culture: shared assumptions. Kotter and Heskett (1992) base their definition on Schein (1985), but eliminate the distinction between beliefs and values.

The present study comes within the first level of analysis and considers the behavioral norms as components for evaluating the team culture. Norms define the accepted and expected behavior. They do not need to be written but exert influence on the behavior and attitudes of group members. Individual and group perceptions are what constitute acceptable or unacceptable behavior in the work place. Forsyth (1999) defines them as the «standards that regulate group members' behaviors» (p. 121). In other words, they are the perceptions of «the way we do things around here». The set of these shared norms shapes the group culture.

There are scarce studies which have attempted to analyze the relationship between group culture and cohesion. The vast majority of such studies have analyzed these relationships according to the transcultural aspects of these teams, considering the level of analysis as the current values in a given society, e.g., individualistic vs. collectivistic cultures, (Hofstede, 1980). However, when we take into account the group as the level of analysis and consider the values, beliefs or specific norms - whether written or not- that can be shared among the group members (group culture) and not so much the values of the society they come from, studies are practically non-existent.

When we discussed cohesion we referred to terms such as attraction. From our point of view, this attraction has its basis in values, in shared assumptions. As Wright and Drewery (2006) point out: «group dynamics are influenced by individual perceptions of cohesion and conflict that are grounded in [shared] cultural values and backgrounds» (p. 45). And as we have previously pointed out, these values find their way of expression in behavioral norms. Supposedly we can say that the higher the adherence to these behavioral norms, the higher the level of cohesion in the group. That is to say, the more the group members share values, beliefs, and cultural norms, the more they will feel attracted and thus the greater the group cohesion level. It has also been suggested that the interaction among group members leads to higher levels of cohesiveness (Harrison, Price, & Bell, 1998). We argue that it is not the interaction itself, but rather the content, meanings and topics of interaction which are grounded in shared beliefs, in other words, these elements are what we call *actual group culture*. Thus, it was hypothesized that actual group culture will positively affect group cohesion.

Organizational culture has been found to have some important ties to organizational outcomes (e.g., Topa, Lisbona, Palaci, & Alonso, 2004) but some of these links can be explained when considering that culture provides meaning, direction and mobilization, and is the social energy that moves the group towards action, the energy that stems from mutual influence «one for all, and all for one», and «spirit of corps». Hence, it is reasonable that group members will seek to share norms, behaviors, basic assumptions that they feel would improve their group's performance, job satisfaction and morale. The search for these norms, values or ideal behaviors that group members think will improve performance and satisfaction constitutes what we call *ideal group culture*. The differences between these actual and desired norms create «culture-gaps». Culture gaps are used to take the form of lack of disposition to adopt new work methods and innovation, lack of support for programs of improvement of quality and productivity. The bigger these gaps are, the greater the

probability of deterioration of group morale, lack of commitment (Sánchez, Lanero, Yurrebaso, & Tejero, 2007) and performance. Therefore, we can hypothesize that the more the norms or ideal behaviors are shared, the greater the group cohesion and that the bigger the culture gaps, the lower the group cohesion.

#### STUDY 1

##### Method

##### Participants

A total of 280 subjects, pertaining to 50 work teams (ranging from 5 to 7 participants each) took part in this study. The work teams had the following characteristics: they were dependent on the same manager, were members of the same department or division, and did not carry out a similar function or job. These work teams belonged to different types of organizations, both in the public and private sector, and their composition was not homogenous regarding to sex, age and mean time on the work team. Of the total sample, 53.8% were male and 46.2% were female, with an age interval ranging between 19 and 55 years old, and with a mean age of 33 ( $SD= 9.5$ ). Of the total number of workers, 45.5% belonged to a public organization, while 53.8% belonged to the private sector. The mean time on the work team was 13.29 years ( $SD= 13.40$ , the maximum number of years was 48) and job tenure was 13.72 years ( $SD= 12.53$ , the maximum number of years was also 48). The educational background of the sample was: University, 57.9%; Vocational Training, 14.7%, High School Diploma, 17.6%, secondary education, 8.6%. The rest of the percentage was entered as a missing value.

##### Instruments

*Actual group culture.* The Normative Organizational Behavior Questionnaire (C.N.O.) by Sánchez and Alonso (1998) was used to measure actual group culture. The questionnaire consists of 65 items that are distributed on then different scales and that describe actual behaviors in a work team. Using a Likert-type scale ranging from 0 (not at all characteristic) to 4 (very characteristic), participants were instructed to respond: «please, think of your work team only and indicate to what degree the behavior described is characteristic of your work team». Previous works (e.g., Sánchez & Alonso, 1998, 2003) revealed that this scale has suitable reliability indexes, which justifies its use in this study.

*Ideal group culture.* The CNO was also used to evaluate the participants' ideal group culture, but instructions were different: «please, put yourself in the hypothetical situation that your team has achieved a favorable environment for the team, indicate to what extent each of the behaviors is characteristic of your work team». To prevent potential common-method variance concerns, participants were given this measure two months later.

*Culture gap.* The culture gap score was the difference between an individual's perception of actual group culture and their ideal group culture profiles (both profiles measured with the CNO). Data collected from this questionnaire reveal both actual normative behaviors and desirable normative behaviors, which were subsequently used to calculate the culture gaps.

*Group cohesion.* Group cohesion was measured using the Group Cohesion Questionnaire (GCQ, Carless & De Paola, 2000).

This questionnaire is made up of 10 items that are distributed on three different scales (task cohesion, social cohesion and members' attraction to the group). These items are rated by participants on a 5-point Likert scale ranging from 1, *strongly disagree*, to 5, *strongly agree*. Reliabilities for these scales were .75, .70 and .50, respectively, thus, we disregarded the attraction scale because its reliability was below .70.

*Control variables.* We used as control variables: age, gender, education, type of organization, mean time on the work team and job tenure.

##### Procedure

Data were collected at two different moments, consistent with past research (Cable & Judge, 1996; Sánchez & Alonso, 2004). The first time, participants were asked to complete the following measures: the actual group culture, the group cohesion scale and the control variables. Two months after, participants were asked to respond the ideal group culture measure.

*Culture group agreement within the groups.* As we have previously stated that shared norms are within the concept of culture, we needed to verify to what extent there was consensus among the members of each work team so we could define the actual group culture. Empirically, the degree to which shared norms or behaviors are present can be determined with the index of agreement,  $r_{wg(j)}$  (James, Demaree, & Wolf, 1984). The index of agreement,  $r_{wg(j)}$ , provides a statistical measure of the extent to which members of a group or team show consensus in their perceptions of a target stimulus (e.g., their norms). However, Lindell, Brandt and Whitney (1999) have provided us with a revised index which does not behave irregularly and has the added advantage of linearity. Sánchez and Alonso (2004) revealed that the index of agreement by Lindell et al. (1999) was a more suitable and valid strategy than the revised index by James et al. (1984) for evaluating the intragroup agreement on scales with multiple items. That is why we used the index of interrater agreement proposed by Lindell et al. (1999). Interrater agreement coefficients were calculated for each cultural subscale. A  $r_{wg(j)} \geq .70$  is considered an acceptable level of interrater agreement (Sánchez & Alonso, 2004; Van Vianen, 2000;). Thus, the *actual group culture* variable was entered as the number of cultural subscales that presented an intergroup agreement of  $\geq .70$ . Consequently, this variable presented values between 0 and 10.

In a similar way we obtained the value of the *ideal group culture* variable. In order to obtain the culture gaps we found the difference, in absolute terms, between the scores in the ideal group culture variable and the actual group culture variable in each one of the groups ( $culture\ gap = |ideal\ group\ culture - actual\ group\ culture|$ ). This procedure has also been used by other authors (e.g. Kilman & Saxton, 1983)

*Cohesion degree within the groups.* Given that the cohesion construct refers to the forces that act on the group, it seems reasonable to consider this construct at the group level (Beal, Cohen, Burke, & McLendon, 2003). To do this, interrater agreement coefficients were calculated for each cohesion subscale. We established as a criterion that the interrater agreement index should have a value equal to or higher than .70. Thus, the *group cohesion* variable was entered as the number of subscales that presented an interrater agreement of  $\geq .70$ . This variable presented values between 0 and 2.

## Results

Regarding to the degree of actual group culture, it was found that 27 groups (54%) showed no intragroup agreement on any of the scales, or at most, on one scale. The rest of the groups showed intragroup agreement on two scales (3 groups), three scales (5 groups), four scales (4 groups), five scales (7 groups), six scales (1 group) and nine scales (3 groups). The agreement indexes on ideal group culture were also analyzed. Of the 50 groups, 15 did not show any agreement or at the most they did so on one of the culture subscales (three groups). Ten work teams showed agreement on 2, 3 or 4 culture subscales; sixteen groups did it on 5 or 6 culture subscales and the remaining nine groups showed agreement on 7 or more culture subscales.

The intragroup agreement on the degree of group cohesion showed that of the 50 work teams, 65% showed no intragroup agreement on any of the scales, 20% showed intragroup agreement on one scale, and 15% showed intragroup agreement on two scales.

The means, standard deviations and correlations among cohesion, actual group culture, ideal group culture, culture gaps, and outcome variables are shown in table 1. Significant correlations were found between some control, independent and dependent variables. The results suggest that, subjects with superior educational levels, less job tenure and mean time on the work team, presented higher agreements on actual group culture and ideal group culture. The type of organization (private) also had a positive correlation with actual group culture. Independent variables such as actual group culture and ideal group culture correlated positively with group cohesion. As expected, we found a negative correlation between actual group culture and gaps ( $r = -.13, p < .05$ ) and a positive correlation between ideal group culture and gaps ( $r = .60, p < .01$ ). The relationship between gaps and cohesion was not significant.

Multiple regression analysis was used to examine the predictors of group cohesion. Consistent with past research (Cable & Judge, 1996; O'Reilly, Chatman, & Caldwell, 1991) demographic attributes were included to control for the possibility

that some groups were more likely to perceive themselves as cohesive. The results are shown in table 2. Overall, the variables accounted for 60% ( $R^2$ ) of the variance in cohesion.

The actual group culture ( $\beta = .54$ ), ideal group culture ( $\beta = .21$ ), and culture gaps ( $\beta = -.24$ ) predicted the group cohesion. The regression analysis is in line with the hypothesis arguing that cultural variables will affect the group cohesiveness. According to the regression, gender ( $\beta = .12$ ), type of organization ( $\beta = -.11$ ), job tenure ( $\beta = -.45$ ), and mean time on the work team ( $\beta = .43$ ) also had significant effects on group cohesion.

In order to assess the separate influence of the control variables on cohesion, a hierarchical regression was undertaken entering gender, type of organization, job tenure and mean time on the work team in the first step, and actual group culture, ideal group culture and culture gaps in the second step, when predicting cohesion. This approach is statistically and conceptually appropriate in order to determine the degree of influence of the demographic variables (as opposed to actual and ideal group culture, and culture gaps) on cohesion. The results indicate that the change in  $R^2$  ( $R^2 = .49$ ) resulting from the exclusion of the control variables was highly significant ( $F = 67.73; p < .000$ ), indicating that despite the overall significant effect of the control variables, the actual group culture, ideal group culture, and culture gaps were better predictors of group cohesion as can be seen in table 3.

## STUDY 2

To confirm the results found in the first study we carried out a second study. Between the study 1 and study 2 there was a time interval of one year.

## Method

### Participants

The sample for this study was formed by 375 subjects who belonged to 72 work teams in different organizations (both in the public and private sector) from those in the first study. The

Table 1  
Means, standard deviations and correlations among variables (study 1)

Variables	M	SD	1	2	3	4	5	6	7	8	9
<i>Control variables</i>											
1. Age	33.40	9.50									
2. Gender (M= 1; F= 2)	1.46	.49	-.11								
3. Education	1.84	1.26	.34**	-.14*							
4. Type of organization (Pu= 1; Pr= 2)	1.59	.80	-.09	.05	-.10						
5. Job tenure	13.72	12.53	.05	-.16*	.11	-.03					
6. Mean time on the work team	13.29	13.40	.01	-.11	.17*	.01	.91**				
<i>Independent variables</i>											
7. Actual group culture	2.26	2.59	-.07	.02	-.19**	.12*	-.24**	-.24**			
8. Ideal group culture	3.69	2.94	.01	.10	-.26**	.04	-.29**	-.28**	.49**		
9. Culture gaps	2.25	2.16	.11	.04	-.05	-.02	-.07	-.07	-.13*	.60**	
<i>Outcome variable</i>											
10. Cohesion	.26	.55	-.09	.16**	-.24**	-.05	-.24**	-.23**	.66**	.41**	-.10

\*  $p < .05$ ; \*\*  $p < .01$  (two-tailed)  
Notes: M= male; F= female. Pu= Public; Pr= Private

characteristics of these work teams were the same as the work teams in study 1. Their composition, as well in study 1, was not homogeneous in relation to sex, age and mean time on the work team. Regarding to the genre, 55.8% were male and 44.2% were female, with ages ranging between 18 and 59, and with a mean age of 35 years old ( $SD= 7.5$ ). The organizational profile of the subjects was: 41% of the workers pertained to the public sector, whereas 58.5% worked in the private sector. The mean time they have spent within the work team was 14.5 years ( $SD = 10.40$ ), the job tenure was 18.20 years ( $SD= 10.53$ ). The education background of the subjects was: University, 61.3%; Vocational Training, 17.3%; High School Diploma, 13.3% and some secondary school, 8.2%.

### Instruments

We used the same questionnaires as those in study 1: the Normative Organizational Behavior Questionnaire (CNO); (Sánchez & Alonso, 1998) and the Group Cohesion Questionnaire

by Carless and De Paola (2000). Reliability analyses for both scales and subscales showed coefficients superior to .70, except the subscale of «attraction of the members of the group» of the Group Cohesion Questionnaire ( $\alpha= .51$ ), and thus, this subscale was eliminated.

### Procedure

As in the first study, the same steps were followed. The culture and group cohesion questionnaires were administered. The culture questionnaire, besides allowing us to obtain scores on actual and desired culture, also allows us to determine the culture gaps in each group. The ideal group culture questionnaire, as in study 1, was also answered after two months.

### Results

Regarding the degree of actual group culture, it was found that 27 work teams did not show intragroup agreement on any of the scales, or at the most, on one scale. The rest of the work teams (45) showed an intragroup agreement on two scales (21%), three scales (10%), four scales (6%), five scales (9%), six scales (7%), nine scales (4%), and ten scales (4%). The indexes of agreement on ideal group culture aspects were also analyzed. Results indicate that, in general, 49 work teams showed a lack of agreement on the culture subscales. On the other side, 16 work teams showed agreement on 2, 3 or 4 culture subscales, 4 groups did it on 5 or 6 culture subscales and the remaining groups showed agreement on 7 or more culture subscales. With respect to culture gaps, 68% of the work teams showed 0 or 1 culture gap, 23% of the work teams, 2, 3 or 4 culture gaps, and 9% of the work teams showed 5 or more culture gaps. The intragroup agreement on the degree of group cohesion showed that of the 72 work teams, 47 of them did not show intragroup agreement on any of the scales, 18 work teams showed intragroup agreement on one scale, and 7 work teams showed intragroup agreement on two scales.

The means, standard deviations and correlations among cohesion, actual group culture, ideal group culture, culture gaps, and control variables are shown in table 4. Actual group culture is significantly correlated, in a negative way, with education and culture gaps, and positively related with the type of organization, ideal group culture and cohesion. Ideal group culture correlated negatively with education, mean time on the work team and positively with culture gaps and cohesion. The culture gap variable is negatively correlated with gender, mean time on the work team and job tenure.

To analyze the influence that independent variables have on group cohesion, we carried out a regression analysis. Demographic variables were added as control variables. The results of this analysis are presented in table 5. This analysis showed that both the control variables as well as the cultural variables accounted for 27% ( $R^2$ ) of the variance in cohesion ( $F= 10.80$ ,  $p<.000$ ). As can be seen in table 5, the cultural variables were the only predictors that showed a significant effect on the dependent variable. According to the regression results, the actual group culture ( $\beta= .46$ ) and ideal group culture ( $\beta= .15$ ) variables appeared to have a similar positive effect on cohesion. The culture gap variable ( $\beta= -.19$ ) showed a negative effect on cohesion. The regression analysis is in line with the hypothesis arguing that cultural variables (actual group culture, ideal group culture, and

Variable	B	SE	Beta	t
Age	.01	.01	.11	1.83
Gender	.16	.06	.12	2.38*
Education	-.02	.04	-.03	-.65
Type of organization	-.09	.04	-.11	-2.12*
Job tenure	-.02	.01	-.45	-3.09**
Mean time on the work team	.02	.01	.43	3.00**
Actual group culture	.12	.01	.54	6.68**
Ideal group culture	.04	.02	.21	2.15*
Culture gaps	-.07	.02	-.24	-2.70**
Df	9.152			
F	25.52**			
R <sup>2</sup>	.60			

\*  $p<.05$ ; \*\*  $p<.01$

Model	Variable	B	SE	Beta	t
1	Gender	.19	.09	.15	2.14*
	Type of organization	-.06	.06	-.07	-1.01
	Job tenure	-.02	.01	-.42	-2.26*
	Mean time on the work team	.01	.01	.20	1.08
	Df	4.170			
	F	4.72**			
	R <sup>2</sup>	.10			
2	Actual group culture	.138	.01	.59	7.40***
	Ideal group culture	.044	.02	.20	2.08*
	Culture gaps	-.051	.02	-.17	-2.05*
	Df	3.170			
	F change	67.73***			
	R <sup>2</sup>	.49			

\*  $p<.01$ ; \*\*  $p<.001$ ; \*\*\*  $p<.001$

*Table 4*  
Means, standard deviations and correlations among variables (study 2)

Variables	M	SD	1	2	3	4	5	6	7	8	9
<i>Control variables</i>											
1. Age	33.60	10.69									
2. Gender	1.60	.59	-.41**								
3. Education	1.90	1.10	-.01	.09							
4. Type of organization	1.64	.54	-.27**	-.16**	-.02						
5. Job tenure	97.51	103.82	.70**	-.20**	.17**	-.30**					
6. Mean time on the work team	58.52	76.20	.52**	-.15**	.27**	-.19**	.73**				
<i>Independent variables</i>											
7. Actual group culture	1.60	2.12	.05	.00	-.23**	.18**	-.06	-.04			
8. Ideal group culture	3.28	3.01	-.01	-.02	-.12**	.05	-.04	-.10*	.48**		
9. Culture gaps	1.68	2.76	-.16**	-.08	-.04	-.02	-.14**	-.20**	-.26**	.33**	
<i>Outcome variable</i>											
10. Cohesion	.13	.34	-.00	-.06	-.04	.09	.01	.06	.34**	.15**	.01

\*  $p < .01$ ; \*\*  $p < .001$ ; \*\*\*  $p < .001$

*Table 5*  
Multiple regression analysis with cohesion as dependent variable (study 2)

Variable	B	SE	Beta	t
Age	-.01	.01	-.10	-1.29
Gender	-.04	.03	-.07	-1.25
Education	-.01	.01	-.01	-.12
Type of organization	.04	.03	.06	1.13
Job tenure	-.01	.01	.03	0.29
Mean time on work team	.01	.01	.14	1.74
Actual group culture	.07	.01	.46	6.27***
Ideal group culture	-.02	.01	-.15	-2.07*
Culture gaps	.02	.01	.19	2.8**
Df	9.314			
F	10.80**			
R <sup>2</sup>	.27			

\*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$

culture gaps) will affect group cohesion. Contrary to the first study, the control variables did not show a significant effect on group cohesion, so the hierarchical regression was not undertaken.

### Discussion

The implications of this study for future research and practical applications are important. Our main goal was to analyze the relationships between cohesion and culture in work teams, considering both constructs from the group perspective analysis, which is rarely been found in other studies. We argue against analyzing these constructs at the individual level because they are concepts constructed from the group due to the interaction involved. It is therefore not really suitable to assess cohesion and culture based on average scores from the components of the group without previously considering whether or not there is a real group agreement about its cohesion or culturality. Thus, on one hand, the scarcity of studies on the measurement of group

cohesion in the context of organizations justifies the merit of the present study.

On the other hand, the relationship between cohesion and culture in work teams studied here —again, scarcely covered in the literature— has shown the importance that culture has for group cohesion. Both of our studies described herein confirm our hypotheses and yield very similar results, although there are some differences between them. In agreement with our hypothesis we found that the cultural variables of the group (actual group culture, ideal group culture and culture gap) determine the degree of group cohesion. The more the shared actual behavioral norms, the more the number of shared ideal behavioral norms and the less the difference between them (gap), the greater was the group cohesion. The high percentage of variance explained by these variables (60% in the first study) confirms the influence that culture has on cohesion. This is particularly important due to the increasing number of transcultural work teams being trained in companies and Non-Governmental organizations, as well as an increasing number of executives that have international responsibilities. People from different cultures experience group dynamics in quite different ways. If we wish such teams to be successful, it is necessary to examine the group experience from the perspective of the others and then to explore what these meanings have in common and to what extent they are shared. Thus, those whose description of ideal group culture is closest to the existent group culture will experience more group cohesion.

In line with other studies that have demonstrated the role of demographic variables on group cohesion, we included variables such as age, gender, educational level, type of organization and mean time on the work team and job tenure. Our results partially confirm the influence of these demographic variables. In the first study we found that these variables explained 10% of the variance in cohesion, particularly gender and job tenure. In work teams where women were prevailing they showed more cohesion, and when the job tenure was larger, the smaller was the team cohesion. Nevertheless, in the second study we did not find any significant influence of demographic variables. An important difference between both studies is job tenure and mean time on the work team. In the second study, job tenure was higher in comparison to the first

study. This difference was also noticed in the scores of cohesion, actual culture, desired culture and gap variables. The scores of these variables in the first study were higher than those in the second study. One line of research should be conducted to determine even more the role that demographic variables have on the relationship of culture and group cohesion. Here we have considered some of them, but other variables such as team size, task nature, etc., must be considered as well (Wright & Drewery, 2006).

Another line of future research would be to analyze the implications that the relationship culture-cohesion has with other variables, such as organizational commitment. Different authors (e.g., Sánchez, Tejero, & Alonso, 2004) have demonstrated, for example, that cultural groups show a higher level of commitment to the organization than non-cultural groups. It would be a good idea for subsequent research to analyze the relationship between cohesion, culture and commitment and how they affect the performance of the organization. Finally, we should point out the usefulness of determining how leadership behavior contributes to the development of consensus and the consequences of consensus for both the individual and the group.

One limitation of this study is that the index of agreement ( $r_{wg(j)}$ ) was evaluated according to the proposal formulated by Lindell et al. (1999). Some authors (Carron et al., 2004) have questioned the index of agreement; from their point of view it does not necessarily tell us whether a set of individuals is a group or not. For example, a set of people waiting for a bus can show consensus about the arrival time of the bus, the route it takes, etc., but common sense tells us that these persons waiting for a bus are not really a group. These authors also defend that a low index of

agreement does not necessarily tell us when a set of individuals is a group. The consideration of possible determinants and moderators, such as those we have indicated above, can lead us to a clearer vision of the amount of shared agreement that can be expected or that is needed before aggregating the answers of the members of the group to study its effects. Some works are already heading in this direction by considering not only intragroup agreement but also group potential (e.g., Sánchez, Tejero, Alonso, & Julca, 2005). Other authors (e.g., Moritz & Watson, 1998) suggest using another statistical criterion for evaluating intragroup agreement, as the intraclass correlation coefficient (ICC) and eta-squared statistics. Future research should determine the scope of each of these statistical protocols.

From an applied perspective, the results of this study have implications for teambuilding. The literature about cohesion has been focused from an isolated perspective, and has scarcely considered the culture that develops in the work teams as a key component of this cohesion. Culture shapes the core values and norms of its members. These values are shared and transmitted from one generation to another through social learning processes of modeling an observation, as well as through the effects of individual actions (Bandura, 1986). Therefore, culture is defined as what a group learns over a period of time as the group gradually solves its problems of survival in an external environment and its problems of internal integration (Schein, 1992). Given that a variety of methods exist to increase group cohesiveness and given that cohesiveness has the potential to increase effort or enhance performance, it is important to bear in mind the effect of culture on cohesion.

## References

- Bandura, A. (1986). *Social foundations of thought and Action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice Hall.
- Beal, D.J., Cohen, R.R., Burke, M.J., & McLendon, C.L. (2003). Cohesion and performance in groups: A meta-analytic clarification of construct relations. *Journal of Applied Psychology, 88*(6), 989-1004.
- Cable, D., & Judge, T.A. (1996). Person-organization fit, job choice decisions and organizational entry. *Organizational Behavior and Human Decision Processes, 67*(3), 294-311.
- Carless, S.A., & De Paola, C. (2000). The measurement of cohesion in work teams. *Small Group Research, 31*(1), 107-118.
- Carron, A.V., & Brawley, L.R. (2000). Cohesion: Conceptual and measurement issues. *Small Group Research, 31*(1), 89-106.
- Carron, A.V., Brawley, L.R., Bray, S.R., Eys, M.A., Dorsch, K.D., Estabrooks, P. et al. (2004). Using consensus as a criterion for groupness: Implications for the cohesion-group success relationship. *Small Group Research, 35*(4), 466-491.
- Carron, A.V., Colman, M.M., Wheeler, J., & Stevens, D. (2002). Cohesion and performance in sport: A meta-analysis. *Journal of Sport and Exercise Psychology, 24*, 168-188.
- Cota, A.A., Evans, C.R., Dion, K.L., Kilik, L., & Longman, R.S. (1995). The structure of group cohesion. *Personality and Social Psychology Bulletin, 21*, 572-580.
- Deshpande, R., & Webster, F. Jr. (1989). Organizational culture and marketing: Defining the research agenda. *Journal of Marketing, 53*, 3-15.
- Erez, M., & Gati, E. (2004). A dynamic, multi-level model of culture: From the micro level of the individual to the macro level of a global culture. *Applied Psychology: An International Review, 53*(4), 583-598.
- Fernández-Ríos, M., Rico, R., & San Martín, R. (2004). Organizations as meaning systems: Time for clarity. *Psicothema, 16*(2), 222-228.
- Festinger, L. (1950). Informal social communication. *Psychological Review, 57*, 271-282.
- Fiol, C.M., Hatch, M., & Golden-Biddle, K. (1998). Organizational culture and identity: What's the difference anyway? In D.A. Whetten & P.C. Godfrey (Eds.): *Identity in organizations* (pp. 56-59). Thousand Oaks, CA: Sage.
- Forsyth, D. (1999). *Group dynamics*. Needham Heights, MA: Allyn & Bacon.
- Geertz, C. (1973). *The interpretation of cultures*. New York: Basic Books.
- Golden, K. (1992). The individual and organizational culture: Strategies for action in highly-ordered contexts. *Journal of Management Studies, 29*, 1-21.
- Harrison, D.A., Price, K.H., & Bell, M.B. (1998). Beyond relational demography: Time and the effects of surface—and deep—level diversity on work group cohesion. *Academy of Management Journal, 41*(1), 96-107.
- Hofstede, G. (1980). *Culture's consequences: International differences in work-related values*. Beverly Hills, CA: Sage Publishing.
- James, L.R., Demaree, R.G., & Wolf, G. (1984). Estimating within-group interrater reliability with and without response bias. *Journal of Applied Psychology, 69*, 85-98.
- Kilmann, R.H., & Saxton, M.J. (1983). *The Kilmann-Saxton Culture Gap Survey*. Pittsburgh, Penn: Organizational Design Consultants.
- Kotter, J.P., & Heskett, J.L. (1992). *Corporate Culture and Performance*. New York, NY: The Free Press.
- Levine, J.M., & Moreland, R.L. (1991). Culture and socialization in work groups. In L.B. Resnick, J.M. Levine & S.D. Teasdale (Eds.): *Perspectives on Socially Shared Cognition* (pp. 257-279). Washington DC: American Psychological Association.
- Lindell, M.K., Brandt, C.J., & Whitney, D.J. (1999). A revised index of inter-rater agreement for multi-item ratings of a single target. *Applied Psychological Measurement, 23*, 127-135.

- McGrath, J.E. (1984). *Groups: Interaction and process*. Englewood Cliffs, NJ: Prentice Hall.
- Moritz, S.E., & Watson, C.B. (1998). Levels of analysis issues in group psychology: Using efficacy as an example of a multilevel model. *Groups Dynamics: Theory, Research and Practice*, 2, 285-298.
- Mullen, B., & Copper, C. (1994). The relations between group cohesiveness and performance: An integration. *Psychological Bulletin*, 115, 210-227.
- O' Reilly, C.A., Chatman, J., & Caldwell, D.F. (1991). People and organizational culture: A profile comparison approach to assessing person-organization fit. *Academy of Management Journal*, 34, 487-516.
- Rodríguez Fernández, A. (1993). La cultura en las organizaciones públicas y privadas. *Psicothema*, 5(1), 237-260.
- Sánchez, J.C. (2002). *Psicología de los grupos: teorías, procesos y aplicaciones*. Madrid: McGraw Hill.
- Sánchez, J.C., & Alonso, E. (1998). La cultura y el clima como determinantes del compromiso de los grupos de trabajo. Paper presented at the I Hispanic-Portuguese Congress of Psychology. Santiago, Spain.
- Sánchez, J.C., & Alonso, E. (2003). La cultura de los equipos de trabajo y su relación con la cohesión e identificación grupal. *Encuentros en Psicología Social*, 1(4), 22-25.
- Sánchez, J.C., & Alonso, E. (2004). Acuerdo intragrupal: una aplicación a la evaluación de la cultura de los equipos de trabajo. *Psicothema*, 16(1), 88-93.
- Sánchez, J.C., Tejero, B., & Alonso, E. (2004). The relationships between culture gap and organizational commitment of work teams. In *21st Annual International Conference of the AoM / IaoM: Vol. 21* (pp. 357-360). Virginia: Maximilian Press Publishers.
- Sánchez, J.C., Tejero, B., Alonso, E., & Julca Meza, E. (2005). La intensidad cultural de los equipos de trabajo y sus relaciones con el compromiso organizacional: primeras evidencias. In J. Romay et al. (Eds.): *Psicología de las Organizaciones, del Trabajo, Recursos Humanos y de la Salud* (pp. 341-346). Madrid: Editorial Biblioteca Nueva.
- Sánchez, J.C., Lanero, A., Yurrebaso, A., & Tejero, B. (2007). Cultura y desfases culturales de los equipos de trabajo: implicaciones para el compromiso organizacional. *Psicothema*, 19(2), 218-224.
- Schein, E.H. (1983). The role of the founder in creating organizational cultures. *Organizational Dynamics*, Summer, 13-29.
- Schein, E.H. (1985). *Organizational culture and leadership: A dynamic view*. San Francisco, CA: Jossey Bass.
- Schein, E.H. (1992). *Organizational culture and leadership*. San Francisco, CA: Jossey-Bass.
- Thusman, M.L. (1977). A political approach to organizations: A review and rationale. *Academy of Management Review*, 2, 206-216.
- Topa, G., Lisbona, A., Palaci, F., & Alonso, E. (2004). La relación de la cultura de los grupos con la satisfacción y el compromiso de sus miembros: un análisis multigrupo. *Psicothema*, 16(3), 363-368.
- Van Maanen, J., & Barley, S.R. (1985). Cultural organization: Fragments of a theory. In P.J. Frost et al. (Eds.): *Organizational culture* (pp. 31-53). Newbury Park, CA: Sage Publications.
- Van Vianen, A.M. (2000). Person-organization fit: The match between newcomers' and recruiters' preferences for organizational cultures. *Personnel Psychology*, 53(1), 113-149.
- Wright, N.S., & Drewery, G.P. (2006). Forming cohesion in culturally heterogeneous teams. Differences in Japanese, Pacific Islander and Anglo experiences. *Cross Cultural Management*, 13(1), 43-53.
- Zaccaro, S.J. (1991). Nonequivalent associations between forms of cohesiveness and group related outcomes: Evidence for multidimensionality. *Journal of Social Psychology*, 131, 387-399.