Change-oriented leadership, satisfaction and performance in work groups: Effects of team climate and group potency

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Change-oriented leadership, satisfaction and performance in work groups

Effects of team climate and group potency

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Abstract

Purpose – To analyse the impact of change-oriented leaders on group outcomes. An explanatory model is proposed, in which the team climate (in particular as it relates to innovation) mediates between change-oriented leadership and group outcomes, while group potency reinforces this relationship.

Design/methodology/approach – This study is designed as a correlative and cross-level research. The sample comprises 318 health-care professionals in 78 health-care teams at different public hospitals throughout Spain.

Findings – Hierarchical regression analysis was used to evaluate mediating and moderating effects. Results offer considerable empirical support for the proposed model.

Research limitations/implications – It would be of interest to increase the sample, differentiate it by service, and to get samples from other sectors, as well as to carry out experimental and longitudinal research. It would also be interesting to further explore the conditions that implement change-oriented leadership impact, analysing environment, external relations and so on, to examine the relationships between other variables and to study their effects on new forms of work organisation and on virtual teams.

Practical implications – To make more useful change-oriented leader actions, it would be advisable to identify, modify or improve team climate, using strategies such as management by objectives, delegation and empowerment and so on. It would also be necessary to boost group potency before going ahead with change, for example, by developing the skills of team members, or by fostering the self-confidence of the team.

Originality/value – This paper contributes to developing actual research about how change-oriented leaders influence team outputs.

Keywords Transformational leadership, Team performance, Job satisfaction, Spain

Paper type Research paper

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Introduction

Teams form the basic functional unit of organisations (Mohrman *et al.*, 1995). Practically all them, including healthcare institutions (Heinemann and Zeiss, 2002; Poole and Real, 2003), use teams in one way or another. The organisational outcomes therefore depend on appropriate design and the proper functioning of work units and teams (Guzzo and Dickson, 1996). Research has revealed the importance of group structures and processes for team outcomes, and numerous models and constructs have been proposed (see Salas *et al.*, 2004).

One main variable is leadership, even so, only a few models (Avolio *et al.*, 1996; Gladstein, 1984; Kozlowski *et al.*, 1996; Stewart and Barrick, 2000) explicitly take leadership into account as a determining factor in team outcomes.

Nevertheless, leadership (or the lack of it) has been identified as a key variable for the functioning of teams and one of the main reasons for the success or failure with which team-based work systems are implemented (Katzenbach, 1997).

The leadership research is based on the classical bi-factorial models, although more recently has been developed "new paradigms", as charismatic and transformational leadership, among others. The links between different forms of leadership and team outcomes as proposed in these models are not, however, wholly consistent (Bass *et al.*, 2003; Stewart and Barrick, 2000), which suggests a need for further research.

The tri-dimensional leadership model, recently developed by Yukl (Yukl, 2004; Yukl *et al.*, 2002), identifies three major categories, adding change dimension to the classical bi-factorial models (task and relation-oriented leadership). By proposing the incorporation of the category of change, the tri-dimensional model allows the integration of the two major traditions of management and leadership theory, which have normally stood apart, each with its own literature. Rather than seeking to establish distinctions between managers and leaders, the two can be explained jointly using the same processes and models (Yukl, 2002). The view that both leaders and managers employ a mix of leadership and management behaviours appears much closer to reality so that they must combine the necessary skills to direct day-to-day affairs effectively (a role traditionally associated with management) while at the same time anticipating and managing change (leadership main role).

Change-oriented leadership

As a consequence of globalisation, application of new technologies, coping with a turbulent environment, etc., organisations face with ongoing processes of transformation. They assign the responsibility of anticipating change and providing guidance to their managers, executives and leaders (Kotter, 1990) who need new roles (Shamir, 1999). The transformational and charismatic leadership theories (Bass, 1985; Conger and Kanungo, 1988; House, 1977) refer to certain kinds of change-oriented behaviour, and there is considerable evidence that such patterns are related to effective leadership, as shown in the meta-analysis carried out by Lowe *et al.* (1996).

The tri-dimensional model proposed by Yukl (2004) is compatible with the transformational and charismatic leadership theories, although its aim is in fact to explain leadership processes at a different conceptual level of analysis. This model seeks to describe the influence of leaders on organisational processes (rather than on the motivation and perceptions of subordinates), analyse contingent (as opposed to universal) aspects of effective leadership, and highlight the importance of leadership

processes (instead of focusing on a leader figure). It also represents an effort to identify the behaviour patterns that make up each category, in such away that: each type of behaviour is observable, is potentially applicable to leaders of all kinds in organisations, is fundamentally relevant to the category in question, and is based on prior theory and research.

Change management is raised in a variety of organisational theories (Tushman and Romanelli, 1985) and is supported by current research (Ekwall and Arvonen, 1991; Gil *et al.*, 2003; Yukl, 1998; Yukl *et al.*, 2002). This category comprises the following behaviour sets: monitoring the environment, encouraging innovative thinking, explaining need for change, envisioning change, and taking personal risks.

Model of the relationship between change-oriented leadership, satisfaction and performance

The aim of this research is to analyse the influence the change-oriented leader can have on the team outcomes, performance and satisfaction, mediated by some team processes. We propose (see Figure 1) that the relationship between leadership and outcomes is mediated by the team climate, and that this mediation is reinforced by group potency.

Group climate

Team climate have been defined as shared perceptions referring to the "proximal work group". This is considered as the "permanent or semi-permanent team to which individuals are assigned, whom they identify with, and whom they interact with regularly in order to perform work-related tasks" (Anderson and West, 1998, p. 236). These authors developed the team climate inventory (TCI) applied to innovation and identified four factors: vision, participation, task orientation, and support for innovation. The last one is defined as "... the expectation, approval and practical support of attempts to introduce new and improved ways of doing things in the work environment" (West, 1990, in Anderson and West, 1998, p. 240). Of these four factors, support for innovation has been confirmed as the most consistent predictor of team innovations in external evaluations (Burningham and West, 1995). The TCI questionnaire was developed and is mainly used to evaluate the predictive dimensions of innovation, though it is also considered useful in appraisals of other group outcomes (Anderson and West, 1998).

Although leadership and climate are two variables that are implicitly interlinked in research, theoretical development and empirical research are limited. In the early theories and research, leadership is proposed as an organisational factor affecting

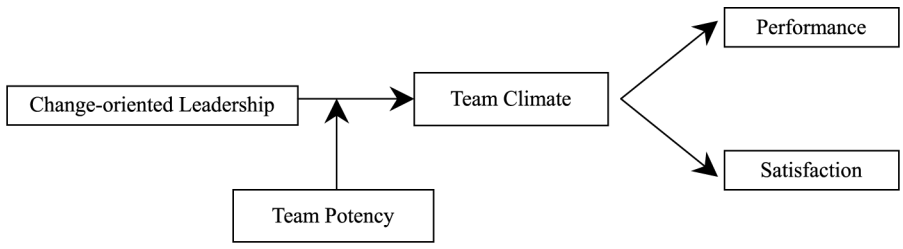

Figure 1.
Proposed model

perceptions of climate. In the classic study by Lewin *et al.* (1939), it was observed that varying leadership styles induced experimentally (authoritarian, democratic and *laissez faire*) influenced perceptions of climate and the behavioural responses of subjects. Litwin and Stringer (1968), who created organisations directed by leaders exhibiting styles (bureaucratic, cooperative and productivity-oriented), obtained similar results. Kozlowski and Doherty (1989) find that the interaction between the leader and the subordinate had a significant impact on perceptions of climate. González-Navarro *et al.* (1993) analysed leader-member relations in primary healthcare teams, confirming the positive relationship between leadership styles focusing on people or tasks and perceptions of climate in various dimensions (support, goals, innovation and rules). However, they were unable to substantiate other hypotheses related with perceptions of the influence of the coordinator. Mañas *et al.* (1999), meanwhile, performed a longitudinal study in which they demonstrated concurrent effects in the leader-members relationship, but not deferred effects.

Studies of the relationship between leadership and climate have been confined to exploring the links between the classical dimensions of leadership (focusing on the task and the relationship), in particular through the analysis of leader-member interactions (Kozlowski and Doherty, 1989; Mañas *et al.*, 1999; González-Navarro *et al.*, 1993), but they do not consider change or similar leadership dimension. Furthermore, the majority of these studies use measures of organisational climate rather than specific team climate measures such as those provided by the TCI. A model has recently been proposed (West and Hirst, 2003), in which these climate variables mediate the relationship between the context (both group and organisational) and innovation, assigning a moderating role to leadership, but this model has not been definitely proved.

A number of studies (Bass *et al.*, 2003; Carron, 1982; Spink, 1998) provide empirical support for the mediation effect of group processes between leadership and outcomes. Team climate, as it provides an indicator of significant group processes, has a mediating role between leadership and outcomes (performance and satisfaction). We propose the same relationship to change-oriented leadership, as well that to the climate of innovation, the most closely linked process.

H1. The relationship between change-oriented leadership and team performance is mediated by the global climate (*H1a*) and by the climate of innovation *(H1b*).

H2. The relationship between change-oriented leadership and team satisfaction is mediated by the global climate (*H2a*) and the climate of innovation (*H2b*).

Group potency

Potency is a construct between self-efficacy and collective motivation (Alcover and Gil, 2000), has been defined as "the collective belief in a group that it can be effective" (Guzzo *et al.*, 1993, p. 87). Teams differ from each other depending on the collective belief of their members in their potential effectiveness as such. This belief is related with current levels of effectiveness, appears to act both as cause and consequence, and is influenced by the contexts within which groups act.

Group potency has been identified as a significant cognitive influence on performance (Gil and Alcover, 2002; Guzzo *et al.*, 1993; Jordan *et al.*, 2002; Pearce *et al.*,

2002). Campion *et al.* (1993, 1996) found that group potency was a significant predictor not only of productivity, but also of the satisfaction of team members and management assessments of its performance. Group potency was the only variable that significantly predicted all measures in both studies. The meta-analysis recently carried out by Gully *et al.* (2002) confirms the positive relationship between potency and performance.

The relationship of a number of group variables with potency has also been explored. These include flexibility in the composition of teams (Alcover and Gil, 1999), leadership and, in particular, transformational and team leadership (Bass *et al.*, 2003; Kahai and Sosik, 1998; Sivasubramaniam *et al.*, 2002; Sosik *et al.*, 1997; Sosik *et al.*, 1998). Shamir *et al.* (1993) explain that charismatic leadership may boost participation in group effort and can be linked to the collective identity, increasing potency and performance. The majority of models and studies concerning the relationship between leadership and group performance treat potency as a mediating variable (Bass *et al.*, 2003; Lester *et al.*, 2002; Sivasubramaniam *et al.*, 2002).

Potency may also, however, be considered as a variable that moderates the relationship between leadership and other variables. For example, Foels *et al.* (2000) have confirmed the existence of this moderating effect between democratic leadership and satisfaction.

As far as leaders who promote change are concerned, the moderating effect of potency may be understood to the extent that it may be assumed teams will react differently to the leaders' demands depending on their group potency. Thus, where the demand for change brings uncertainty and risk, it is likely that the more self-confident teams will more readily accept this with a positive impact on group processes (climate, and especially the climate of innovation).

Referring to the challenges facing actual organisations, Shamir (1999) assigns to leaders the difficult tasks of instilling a sense of psychological safety to help people cope with the anxiety inherent in uncertainty and change, and of providing the conditions of stability and continuity necessary for individual and organisational learning. Some of these conditions will be met when teams have a high level of group potency.

Finally, though the influence of different group processes on potency has been examined (Lester *et al.*, 2002), one unexplored factor is the relationship between group potency and other beliefs about the team, in particular as regards the team climate.

We propose the following hypotheses in relation to the moderating effect of potency on team climate.

H3. The relationship between change-oriented leadership and team climate (*H3a*) and climate of innovation (*H3b*) are moderated by potency with positive effects.

Similarly, we predict a more general effect, such that potency influences the climate mediation process between leadership and outcomes variables.

H4. Potency positively reinforces global team climate (*H4a*) and climate innovation (*H4b*) mediation between change-oriented leadership and team performance.

H5. Potency positively reinforces global team climate (*H5a*) and climate innovation (*H5b*) mediation between change-oriented leadership and team satisfaction.

Method

Sample

The sample comprises 318 healthcare professionals of 78 healthcare teams at different public hospitals throughout Spain (Madrid, Barcelona, Málaga, La Coruña, Sevilla and Cádiz). A total of 11 teams were discarded because they do not complete an appropriate number of responses from members (teams with a response rate of below 30 per cent of total members) or because they lacked at least two external measures of performance. A total of 67 teams formed the final sample. In all cases, the organisations were formally designed around work units (teams). The work teams were defined in accordance with the proximal work group concept discussed above. The size of the work teams ranged from 3 to 24 members, with an average per team of 10.6 (SD = 5.33). The response rate obtained was 68.4 per cent. Females comprise 66.4 per cent of the sample. The average age of subjects was 41.4 years (SD = 8.65).

Measures

Because this study was performed at the level of the team, having collected questionnaires at the level of the individual, it was necessary first to aggregate data in order to obtain the team construct. The intra-class correlation (ICC) index provides an indication of the extent to which the perceptions of group members are shared, it compares the inter-group with the intra-group variance (Chan, 1998; Kenny and La Voie, 1985). The higher the ICC index, the greater is the variance at the individual level attributable to the relevant team. Normally, an ICC of over 0.20 is considered to indicate that a variable may be labelled a group attribute, justifying aggregation. All of the aggregate variables are significantly higher than this threshold: change-oriented leadership (0.60), group potency (0.59), team climate (0.55), climate of innovation (0.53) and satisfaction (0.52).

Change-oriented leadership. Behaviour associated with change-oriented leadership is evaluated using a recent version of questionnaire, managerial practices survey (TRCQ-15G), designed by Yukl on the basis of earlier inventories (Yukl *et al.*, 2002). The questionnaire comprises three scales: task, relation and change-oriented leadership. Earlier studies have demonstrated that the psychometric characteristics of this questionnaire are appropriate (Yukl, 1998; Yukl *et al.*, 2002; Gil *et al.*, 2003). The change-oriented leadership scale contains five subscales with four items each. These subscales are monitoring the environment ($\alpha = 0.90$); encouraging innovative thinking ($\alpha = 0.66$); explaining need for change ($\alpha = 0.95$); envisioning change ($\alpha = 0.93$); and taking personal risks ($\alpha = 0.96$). Some items of the first two subscales are: "analyses external events and trends to identify threats and opportunities" and "asks people to look at a problem from a different perspective".

The response emphasises magnitude rather than frequency (1 = not at all, 5 = to a great extent, with the option of "don't know" or "not applicable"). An aggregate measure was obtained at the team level (ICC = 0.60).

Team climate. We used the TCI designed by Anderson and West (1994). The inventory contains 38 items ($\alpha = 0.96$; ICC = 0.55) with five-point Likert responses (1 = disagree completely, 5 = completely agree) grouped into four factors comprising objectives (11 items, $\alpha = 0.93$); participation (12 items, $\alpha = 0.94$); task orientation (7 items, $\alpha = 0.84$); and innovation (8 items $\alpha = 0.82$, ICC = 0.53). Some items are "everyone's view is listened to, even if it is in a minority" (participation) and "the team is open and responsive to change" (innovation).

Group potency was assessed using Guzzo *et al.* (1993) scale of 8 items ($\alpha = 0.88$; ICC = 0.59). Some items are "this team believes it can become unusually good at producing high-quality work" and "this team feels it can solve any problem it encounters". Responses were scored using a six-point Likert scale (1 = disagree completely, 6 = completely agree).

Satisfaction. Team satisfaction was assessed using Gladstein's (1984) scale of three items ($\alpha = 0.85$; ICC = 0.52), which indicate the degree to which subjects display satisfaction with their colleagues, the manner of team working and with the team as a whole. Responses were scored using a five-point Likert scale (1 = disagree completely, 5 = completely agree).

Team performance. Team performance was assessed via external supervisors and managers with a good knowledge of the team. Each team has been scored as a unit. A scale applied by Ancona and Caldwell (1992) was used. This comprises of five items related to team's efficiency, quality of technical innovations, adherence to schedules, adherence to budgets and ability to resolve conflicts ($\alpha = 0.83$). Each dimension was scored by managers using a five-point Likert scale (1 = disagree completely, 5 = completely agree). Between two and three evaluations were obtained from various supervisors and managers (teams without at least two such evaluations were discarded), resulting in an inter-judge coefficient of 0.74.

Finally, the control measures employed were team size (number of team members) with an average of 10.6 (SD = 5.33), and team tenure (time each member form part of the team) with an average of 9.6 (SD = 5.49). The ICC was 0.59.

Procedure

Through human resources departments of each hospital we held meetings with chiefs and managers responsible for the work units concerned to explain the research project. Team members were invited to participate voluntarily by completing an individual and anonymous questionnaire. External supervisors and managers were also asked to complete a specific questionnaire, also individually and anonymously, to score group performance.

Results

Descriptive statistics and correlation coefficients for all of the variables are presented in Table I. The diagonal line reflects the Cronbach α for the scales used in this study. Firstly, the team size and tenure variables are not correlated with any of the variables

	M	DT	1	2	3	4	5	6	7	8
1. Change-oriented leadership	3.00	0.86	(0.94)							
2. Group potency	4.18	0.84	0.60**	(0.88)						
3. Team climate	3.34	0.61	0.63**	0.86**	(0.96)					
4. Team climate. Innovation	3.22	0.72	0.53**	0.83**	0.93**	(0.82)				
5. Team size	10.59	5.33	0.15	0.03	0.10	0.02	–			
6. Team tenure	9.58	5.49	0.07	0.09	0.05	0.00	0.16	–		
7. Team effectiveness	3.77	0.69	0.46**	0.54**	0.56**	0.56**	0.26*	0.15	–	
8. Satisfaction	3.49	0.75	0.51**	0.84**	0.85**	0.82**	0.09	0.18	0.55**	(0.85)

Notes: $^{*}p < 0.05$; $^{**}p < 0.01$; internal consistency of the scales on the diagonal

Table I.
Means, standard deviations and correlations of variables at team level

forming part of the model tested, with the exception of the first variable with group performance. Change-oriented leadership and potency are significantly correlated ($p < 0.01$ in both cases) with group performance and satisfaction respectively. The relationship between potency and satisfaction is particularly high ($r = 0.84$). The climate measures, meanwhile, are also significantly correlated among themselves ($p < 0.01$) and high with $r = 0.93$. These climate measures are also significantly correlated ($p < 0.01$) with performance and satisfaction, although these relationships are stronger over all in the latter case.

In order to test *H1a* and *H1b* regarding the mediation of team climate as group process in the relationship between change-oriented leadership and team performance, we carried out a set of hierarchical regressions along the lines described by Baron and Kenny (1986) for such cases. As shown in Table II, the global climate and the climate of innovation mediate the relationship between change-oriented leadership and performance. In both cases, the results reflected in Table II reveal that the effect of change-oriented leadership on team performance diminishes when the global climate and the innovation climate are controlled. Signification results for changes in the coefficients following the Sobel (1982) test were significant for global climate ($z = 2.93$; $p < 0.01$) and for the climate of innovation ($z = 2.72$; $p < 0.01$).

The hierarchical regression analysis used to test the mediating effect of team climate and innovation climate (*H2a* and *H2b*) on the relationship between change-oriented leadership and group satisfaction produced results to support both hypotheses (see Table II). Thus, we observed an increment of 0.48 and 0.43 respectively for R^2, both being significant at the level of 0.01 for the purposes of controlling the effect of the three perceptions of climate on the relationship between change-oriented leadership and satisfaction. Checks performed using the Sobel (1982) test were also significant in the case of the global climate ($z = 6.20$; $p<0.01$) and for the climate of innovation ($z = 4.83$, $p < 0.01$).

H3a and *H3b* respectively predicted that potency would have a moderating effect on the relationship between change-oriented leadership and the team members' perceptions of climate. These hypotheses were tested separately for global climate and for the innovation climate subscale using hierarchical regressions. This moderation would be supported by a significant change in the square of the multiple correlation

		Testing for mediation affecting[a]					
		Performance			Satisfaction		
Step	Independent variable	β	R^2	ΔR^2	β	R^2	ΔR^2
1	Team size	0.02	0.08	0.08	0.07	0.00	0.00
	Team tenure	−0.00			−0.00		
2	Change-oriented leadership	0.39**	0.25	0.17**	0.50**	0.25	0.25**
3	Change-oriented leadership	0.03	0.35	0.09*	−0.04	0.73	0.48**
	Team climate	0.47**			0.89**		
1	Team size	0.02	0.08	0.08	0.07	0.00	0.00
	Team tenure	−0.00			−0.00		
2	Change-oriented leadership	0.39**	0.25	0.17**	0.50**	0.25	0.25**
3	Change-oriented leadership	0.11	0.34	0.09**	0.10	0.68	0.43**
	Team climate. Innovation	0.41**			0.76**		

Notes: [a]$n = 67$ (teams); *$p < 0.05$; **$p < 0.01$

Table II.
Results of hierarchical regression analyses testing for mediation affecting performance and satisfaction

coefficient (R^2) where the interaction between change-oriented leadership and group potency was included. As reflected in Table III, such moderation does indeed appear for the global team climate ($\Delta R^2 = 0.02$; $p < 0.01$) and for the climate of innovation ($\Delta R^2 = 0.03$; $p < 0.01$) (see also Figures 2 and 3).

In order to verify *H4a* and *H4b* regarding the combination of effects moderating group potency in the mediation tested in *H1a* and *H1b* (mediation of team climate and innovation climate between change-oriented leadership and performance), the teams were divided using the median as the cut-off point (Mdn = 4.20) into high (M = 4.87; SD = 0.40) and low (M = 3.45; DT = 0.48) group potency classes. Separate hierarchical regression analyses were performed on each class. This verified the

Step	Independent variable	Team climate[a]	Team climate. Innovation[a]
1	Team size	0.01	0.02
	Team tenure	0.01	−0.14
	R^2	0.01	0.02
2	Change-oriented leadership	0.61**	0.51**
	R^2	0.37	0.28
	ΔR^2	0.36**	0.26**
3	Group potency	0.75**	0.82**
	R^2	0.75	0.71
	ΔR^2	0.36**	0.43**
4	Change-oriented leadership × group potency	0.16	0.17**
	R^2	0.78	0.74
	ΔR^2	0.02**	0.03**

Notes: [a]$n = 67$ (teams); *$p < 0.05$; **$p < 0.01$

Table III.
Results of hierarchical regression analyses testing for moderation

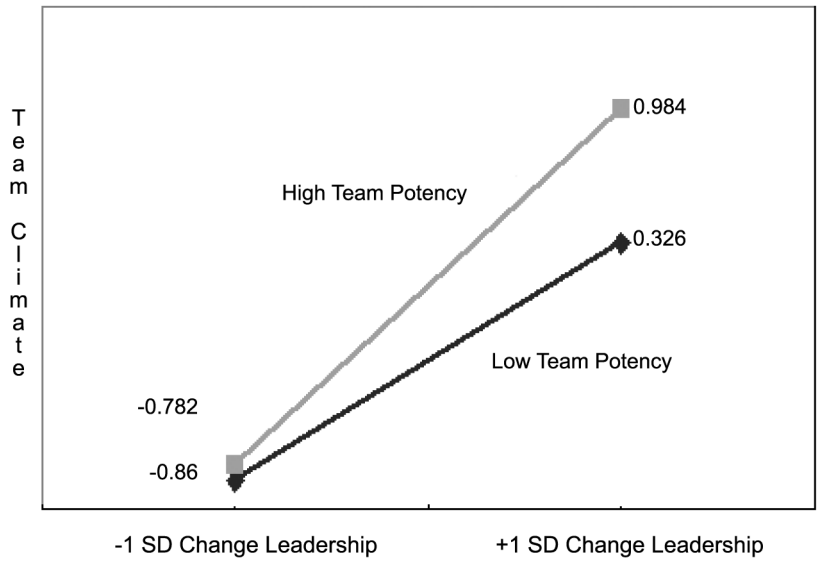

Figure 2.
Interaction effect of team potency and change-oriented leadership on team climate

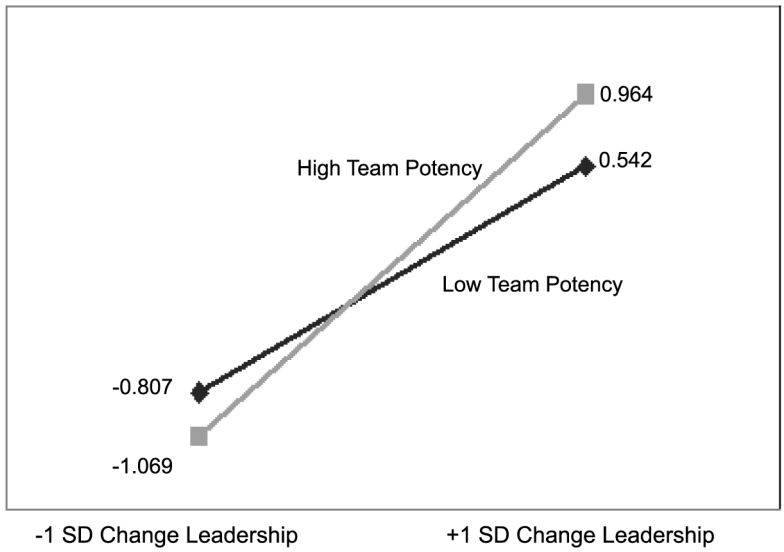

Figure 3.
Interaction effect of team potency and change-oriented leadership on team innovation climate

mediation of global climate and the innovation climate between change-oriented leadership and performance in high potency but not in low potency teams (see Table IV). The results reflected in this table reveal that the effect of change-oriented leadership on team performance diminishes when the global climate and the innovation climate are controlled, but only in teams with high group potency. Signification results for changes in the coefficients following the Sobel (1982) test were significant for global climate ($z = 2.47$; $p < 0.05$) and for the climate of innovation ($z = 1.97$; $p < 0.05$).

Teams were divided into high and low potency groups in the same way in order to test *H5a* and *H5b* regarding the existence of a combination of the moderating effect of group potency on the mediation of team and innovation climate between change-oriented leadership and satisfaction. This verified that there is no mediation of global climate and the innovation climate between change-oriented leadership and satisfaction in high potency teams. Such mediation was, however, found to exist in low potency teams (see Table IV). The results reflected in this table reveal that the effect of change-oriented leadership on team performance diminishes when the global climate and the innovation climate are controlled, but only in teams with low group potency. Signification results for changes in the coefficients following the Sobel (1982) test were significant for global climate ($z = 2.31$; $p < 0.05$), but not for the climate of innovation ($z = 1.14$; $p < 0.25$).

Discussion

Summary of results and conclusions

The results provide empirical support for *H1a* and *H1b* regarding performance, and for *H2a* and *H2b* regarding satisfaction. This confirms the existence of a general mediation effect of global climate, and of the innovation climate, on the relationship

Table IV.
Results of hierarchical regression analyses testing for mediation affecting performance and satisfaction for low and high potency teams

		Testing for mediation affecting[a]											
		Performance						Satisfaction					
		Low			High			Low			High		
Step	Independent variable	β	R^2	ΔR^2	β	R^2	ΔR^2	β	R^2	ΔR^2	β	R^2	ΔR^2
1	Team size	0.09	0.08	0.08	0.22	0.08	0.08	0.20	0.09	0.09	−0.01	0.00	0.00
	Team tenure	−0.05			0.00			0.07			−0.04		
2	Change-oriented leadership	0.26	0.20	0.12	0.29*	0.19	0.11*	0.33*	0.23	0.14*	0.15	0.04	0.03
3	Change-oriented leadership	0.21	0.23	0.02	−0.31	0.39	0.20**	0.13	0.57	0.33**	−0.24	0.61	0.57**
	Team climate	0.12			0.78**			0.76**			0.81**		
1	Team size	0.09	0.08	0.08	0.22	0.08	0.08	0.20	0.09	0.09	−0.01	0.00	0.00
	Team tenure	−0.05			0.00			0.07			−0.04		
2	Change-oriented leadership	0.26	0.20	0.12	0.29*	0.19	0.11*	0.33*	0.23	0.14*	0.15	0.04	0.03
3	Change-oriented leadership	0.21	0.24	0.01	−0.13	0.35	0.18**	0.26*	0.51	0.28**	−0.11	0.53	0.49**
	Team climate. Innovation	0.21			0.64**			0.61**			0.69**		

Notes: [a]$n = 33$ (teams); *$p < 0.05$; **$p < 0.01$

between change-oriented leadership and both team outcomes, performance and satisfaction.

Empirical support is also provided for *H3a* and *H3b* regarding the moderating effect of potency on the relationship between change-oriented leadership and global climate and innovation climate. This relationship is maximised in high potency teams, but is hardly visible for low potency teams.

Finally, we have found uneven empirical evidence for the last hypotheses. Thus, we found empirical support for *H4a* and *H4b* regarding performance to the extent that the mediation effect is reinforced in high potency teams but vanishes in low potency teams. Contrary to our expectations, in *H5a* and *H5b*, relatives to satisfaction, mediation is reinforced in low potency teams and vanishes in high potency teams.

In general, the results of present study offer considerable empirical support for the proposed model. The only unexpected result concerns the moderating effect of potency on the mediation of climate between leadership and satisfaction, which is contrary to the performance results. This may in part be because the two measures differ (aggregated subjective evaluations of satisfaction by the individual subjects in the first case, and external performance scorings by managers in the second). In any case, it is surprising that climate might mediate between the change-oriented leaders and satisfaction only in low potency teams. This fact might be explained by considering that proposals for change made by the leader may have certain attractiveness in that they presuppose innovation and improvement. Thus, satisfaction would increase to the extent that such proposals are launched in a favourable climate, since satisfaction is strongly associated with a positive climate. This does not, however, work for high potency teams, possibly because their own self-confidence is a powerful, and perhaps sufficient, source of satisfaction, which may diminish the influence of other variables, including the proposals made by the change-oriented leader or the existence of a positive climate. This explanation would need to be tested in subsequent research.

Theoretical and applied implications. The confirmation, for the most part, of the proposed model supports the findings obtained from other studies (Bass *et al.*, 2003; Carron, 1982; Sivasubramaniam *et al.*, 2002; Spink, 1998) into the mediating role played by group processes between leadership and team outcomes. The present study also confirms that this occurs when climate is taken as the measure of group processes, both in terms of global climate and the climate of innovation. However, the potency variable, that is normally considered as a mediating variable (Bass *et al.*, 2003; Guzzo *et al.*, 1993; Lester *et al.*, 2002; Mañas *et al.*, 1999; Sivasubramaniam *et al.*, 2002) together with other group processes, in the present study appears rather as a moderating variable, given the major differences observed between high and low potency teams.

These findings also have important applied implications. Firstly, given that the actions and strategies implemented by the change-oriented leader are mediated and moderated by other variables, it would be advisable to identify and, where necessary, modify such variables before embarking on such actions, which may at times give rise to considerable resistance. For example, if the influence of leadership on outcomes (in terms of both performance and satisfaction) is explained by climate, it may well be desirable for the leader to refrain from promoting change unless the climate is positive (and particularly in a climate that support the innovation). Where this is not so, is recommend undertaking prior actions to improve the different dimensions of the climate (e.g. objectives, participation, task orientation, support to innovation, etc.).

Various strategies oriented to these ends exist, such as management by objectives, delegation and empowerment and so on, all of which are widely recognised and actually applied within the organisations, including healthcare institutions. On the other hand, as this study itself shows, the behaviour of the change-oriented leader may contribute to foster a positive climate, especially in teams with high group potency. Other studies (González-Navarro *et al.*, 1993; González-Romá *et al.*, 1995; Mañas *et al.*, 1999) have demonstrated that the leader can mould the climate perceptions held by team members through social interactions, which may in itself improve the quality of working life.

Since the influence of leadership on performance is moderated by potency, any attempt by the leader to promote changes in low potency teams (i.e. where members are not confident of their potential) will be an exercise in futility, even where conditions are favourable (positive climate). In such cases, could be recommend any intervention to boost team potency before going ahead with change. This could be achieved, for example, by developing the skills of team members (including the skills necessary to take on new tasks and to work together as a team in a coordinated manner), or by fostering the self-confidence of the team. Training actions might be planned on the one hand and, on the other, activities and tasks could be designed that were, not only attractive and innovative, but also easily carried out by the team, providing a challenge within the range of its potential. To the extent that the team may have the necessary skills to undertake new tasks and has the opportunity to test them appropriately and obtain feedback and reinforcement, it is likely that self-confidence will increase (Guzzo *et al.*, 1993).

Since satisfaction appears strongly associated with climate, it is also essential to improve the dimensions of climate in the manner we have just described. In the case of high potency teams, where self-confidence is likely to be a major source of satisfaction, we would consider to implement previous interventions centred in strengthening potency.

Limitations and future directions. The present research is subject to certain limitations, which should be considered in future research. First, the sample; despite the relatively large number of individuals involved, the sample shrinks when the analysis is performed at the group level. It would also be of interest to use samples differentiated by service within the healthcare field, and from other sectors. It would also be interesting to fill out this correlative and cross-level study by carrying out experimental and longitudinal research to establish the direction of causality and explore the possible influence of team development over time.

The findings also invite to explore the conditions under which change-oriented leadership, insofar as it represents a strategic issue, will have the greatest impact, analysing the environment, external relations and so on, as well as the moderating role of leadership between these variables and climate, as proposed by West and Hirst (2003). Similarly, the relationships between other important variables need further examination, as task and objectives interdependence, empowerment and team autonomy, etc. It would likewise be of interest to study their effects on new forms of work organisation and on virtual teams.

To conclude, the importance of the leader's role in anticipating change and providing the team with guidance in fluid situations is beyond doubt, but his/her real influence will depend on having the appropriate allies, on a favourable team climate

and on the existence of teams that are confident of their own potential. In this context, we may cite the metaphor that West (2002) applies to innovation: teams may be "sparkling fountains" instead of "stagnant ponds".

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