The innovation imperative:

The relationships between team climate, innovation, and performance in research and development teams.

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Abstract

Previous research has demonstrated the significance of a team's climate for innovation on work team innovativeness in different organizational settings (Anderson & West, 1998). This paper reports a study of the relationship between team climate and project team performance and innovation in Research and Development organizations. It is argued that research teams have greater scope for novel and innovative ideas than product development teams, and hence the relationship between team climate and innovation would be stronger in Research teams than Development teams. Members of 18 research teams and 13 development teams completed the Team Climate Inventory (Anderson & West, 1994), which measures four aspects of team climate for innovation: objectives, task orientation, participative safety and support for innovation. Team performance was measured on the number of innovations produced and ratings of team and individual innovation. No differences in mean scores were found between research and development teams on team climate or measures of innovation. However, the relationships between the four team climate factors and team and individual innovation were generally stronger for research teams than development teams. The significance of the findings for fostering innovation in teams engaged in knowledge work is discussed.

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Teams can be hotbeds of innovation. By drawing on the combined knowledge and expertise of individuals with different skills, perspectives, and backgrounds, they provide ideal conditions for generating new and useful products and processes (Lipman-Blumen & Leavitt, 1999).

Not surprisingly, however, the reality of producing innovations in teams is not straightforward, because teamwork involves social and psychological processes that can influence the generation, evaluation, acceptance and implementation of new ideas within the team. For example, team members are unlikely to generate and communicate novel and unusual ideas if they expect these to be summarily dismissed or criticized (Mumford & Gustafson, 1988; West & Anderson, 1996). Rather, what is required is a team and organizational environment that allows creative ideas to be openly communicated, fairly evaluated, and properly implemented (Amabile & Gryskiewicz, 1987). Climates conducive to innovation have been investigated at the organizational level (eg. Abbey & Dickson, 1983; Amabile & Gryskiewicz, 1987; Ekvall, Arvonen &Waldenström Lindblad, 1983). However, in team-based organizations, the climate for innovation at a team level takes on increasing importance (Anderson and West, 1998).

West (1990) proposed that team innovation can be encouraged in a team climate where creative ideas are valued and supported, can be presented without fear of reprisal, and where team members are focused on achieving both organizational and task objectives. He developed a four-factor model of team climate for innovation, comprising: "Participative Safety"(interpersonally non-threatening atmosphere and participation in teams), "Support for Innovation" (articulated and enacted support of attempts to introduce new and improved ways of doing things), “Objectives” (formerly “Vision”; clarity, visionary nature, attainability, and sharedness of team goals) and “Task Orientation” (shared concern with excellence of task performance).

Team climate for innovation has been examined in a range of settings, using a questionnaire developed to measure these constructs (Team Climate Inventory (TCI), Anderson & West, 1994). Agrell and Gustafson (1994), studying a sample of work teams drawn from different organizations, found that Participative Safety and Objectives correlated significantly with external ratings of innovative team production, but not with the quantity or quality of products. Burningham and West (1995) studied oil company teams and found that Participative Safety, Support for Innovation, and Task Orientation all correlated above .3 with external ratings of innovation. West and Anderson (1996) used a wide range of innovation measures in their investigation of hospital top management teams, including individuals’ and teams’ ratings of their innovation, lists of innovations, and experts’ ratings of the magnitude, radicalness and novelty of innovations listed by the teams.. They found that all TCI scales correlated above .5 with overall innovation and self-reported innovation, and Participative Safety and Support for Innovation correlated above .3 with the number of innovations indicated by these teams. Task Orientation was significantly correlated with experts’ ratings of innovation radicalness, and Support for Innovation with their ratings of innovation novelty. From these studies, it is clear that a team’s climate for innovation is associated with innovation, particularly where it is characterized by high Participative Safety, creating a safe forum for all team members to communicate new ideas and participate fully in the team’s work.

Innovations and innovations

Most teams would be expected to change and improve their practices over time, which will involve some form of innovation. For example, innovations over a six month period for West and Anderson's (1996) hospital teams included appointment of new staff, purchase of new equipment, establishing audits, and establishing support for clients with special language or emotional needs (see West & Anderson, 1992, for a more extensive list of innovations for these teams). As these were considered new and useful to the team/hospital, they were classified as innovations, but generally were only new to the team or organization. Most of these innovations were not highly novel or creative, or new to an industry or the world.

In contrast, teams working in a research and development (R&D) context typically have an imperative to produce major, novel and creative innovations. Teams in R&D are required to produce new knowledge, and/or apply knowledge in new ways. For example, they may be required to create a material that can withstand high pressures, or develop paint that is more weather-resistant than competitors' products. Innovation in this context often involves producing something that is not only useful, but is new to an industry, consumers, or even new to the world. There is an onus on teams to produce creative ideas, and translate these into tangible improvements in products, processes, or scientific knowledge. Moreover, to be an R&D innovation, an implemented idea must be more than new or useful, in comparison to the examples of administrative innovations in hospital management teams mentioned above. Rather, for R&D work to be deemed innovative, it must satisfy the particular and specific innovation requirements specified by customers, in terms of solving a particular problem, meeting specific performance criteria, or having required properties (eg. chemical or physical properties).

Due to the expectation of significant and important innovations, and the centrality of innovation to their existence, teams in R&D constitute a unique domain for studying factors that produce innovation. Although a team's climate for innovation has been associated with the production and implementation of new and useful ideas in other settings, its importance in producing innovations in an R&D setting has not been examined.

Team Climate for Innovation in Research and Development

As R&D work is focused on producing innovations, a team's climate for innovation is expected to be vitally important in this setting. The creative aspects required in the development of new knowledge involve high levels of risk, and creative ideas need to be tested and evaluated before they can be treated as innovations. Therefore, all four of the team climate dimensions identified by West (1990) are likely to be important. Participative Safety may be crucial, as a non-threatening and participatory atmosphere is likely to facilitate the generation and evaluation of creative ideas, and provide a safe forum for radical ideas that may catalyze major innovations. Support for Innovation is also important, as new ideas that arise in the team are likely to require significant supports and resources for further investigation and testing. Acceptance of objectives is important in ensuring that the innovation goals pursued are consistent with customer requirements, and a high Task Orientation will guide the search for the most elegant, effective, or parsimonious solution to the team's innovation task.

Even though R&D activity is focused on producing specific innovations, the scope for innovation for different types of R&D projects is likely to vary. A distinction can be made between basic/applied research (Research), which requires high levels of new knowledge creation, and technical service or development work (Development), involving the application of existing knowledge to a new setting or to solve particular problems (Leifer & Triscari, 1987). Research projects typically involve a large element of the 'unknown', with high levels of risk, but provide extensive opportunities to make major contributions to broad-based scientific and technological knowledge, as well as the application and implementation of this knowledge. In Development projects, objectives are usually tightly defined, with substantial opportunities to be innovative within the parameters of the project, but fewer opportunities to produce innovations of major scientific and technological significance. Hence, as the scope for innovations in these project types is wider for Research projects, it is expected that that a team climate supportive of innovation may have a greater effect on the innovativeness of Research teams than Development teams

A team's climate for innovation may also be supportive of a team's performance more generally. In addition to innovativeness, R&D team performance involves adhering to budgets and milestones, dealing with unavoidable difficulties, and improving the skills of team members. Teams characterized by clear objectives, a high concern for task performance, and a participative atmosphere, are likely to perform better overall than teams that are weak on these factors. Hence the association between team climate for innovation and R&D team performance is also examined.

In brief, in this study we investigate the relationship between West's (1990) four-factor theory of team climate for innovation and the performance and innovativeness of R&D teams. We examine whether the relationships between the four team climate factors and the level of innovation in the teams is moderated by the scope for innovation in the team's task (ie. Research or Development). The specific aims are to examine the relationship between team climate for innovation and the innovation/performance of Research and Development teams, and to test whether these relationships are stronger for Research teams than Development teams.

METHOD

Data were obtained from R&D workers from four Australian organizations with substantial R&D operations, as part of a longitudinal study of project teams in R&D organizations. From a total sample of 54 R&D project teams, teams were chosen for analyses if the project on which they worked: (1) could be classified as primarily Research or Development; and (2) team members (including the leader) displayed agreement in their ratings of team climate for innovation as indicated by a rwg rating (James, Demaree & Wolf, 1984, 1993) of more than .7 on at least three of the four Team Climate Inventory scales. This resulted in a sample of 31 teams (18 Basic/Applied; 13 Technical/Development) with 174 team members, including leaders (90 worked on Basic/Applied projects and 84 on Technical/Development projects).

Participants were mailed the following questionnaires as part of a larger questionnaire pack:

1. Team Climate Inventory (TCI; Anderson & West, 1994). The development and validation of this questionnaire is described in Anderson and West (1998). The reliabilities of the TCI scales for the R&D teams in this sample were all above .8 (Dunning, Pirola-Merlo, Hirst, Mann & Atkins, 1998);
2. Team performance was rated on a four-item scale, covering the selection of appropriate strategies and the achievement of task goals. A sample item is "The team has succeeded in meeting project objectives/milestones". Cronbach's alpha for this scale for R&D workers was .78. Although performance ratings from customers were obtained, these were not used in analyses due to low response rates, and so the team leader's ratings of performance were used
3. Four measures of innovation were obtained:

Team innovation. Team leaders' ratings of how innovative work on the project overall had been in the month before completing the questionnaire, using an 11-point scale labeled 0 “Not at all innovative” to 10 “Highly innovative”;

Individual innovation. Team members’ ratings of their own level of innovation in the month before completing the questionnaire; using the same 11-point scale;

Later team innovation. Team leaders’ ratings of the innovativeness of the project 15-18 months after questionnaire administration, to allow time for innovative outcomes to be more accurately assessed. This was a four-item scale rating the novelty, usefulness, creativity and innovativeness of the project’s outcomes, using 5-point scales from 1 ‘Not at all ’ to 5 ‘Very’;

Number of innovations. The number of new/improved products or processes generated by the project, as reported by the team leader.

RESULTS

Leaders rated the risk level of the project, reflected in the general view within the organization at the beginning of the project of the likelihood (percentage) that it would achieve its major objectives on time. Research projects were rated significantly lower on their likelihood of success (Mean, 41.3 percent, sd., 25.6) than Development projects (Mean, 59.3 percent, sd., 23.6; $F(1,29) = 4.17$, $p = .05$). This difference is consistent with our assumption that Research projects have more scope for innovation than Development projects.

Differences between scale scores for the Research projects and the Development projects are examined first, followed by analysis of the links between TCI scales and performance/innovation. Correlations were calculated using Pearson’s r.

No differences were found between Research and Development projects on any of the team climate for innovation, innovation, or performance measures. At the individual level, results for the TCI factors were all non-significant (for all factors, $F(1,181) < 1.0$, ns). Mean scores, aggregated to the team level, are shown in Table 1. Overall, almost all teams rated relatively highly on the TCI scales, with a minimum score of 2.7, to a maximum of 4.6.

The reported level of team innovation was similar for both project types, (6.3 for Research, 5.7 for Development). However, the mean number of innovations reported by the leader was higher for Research projects (6.8) than Development projects (4.1), although this difference was not significant ($F(1,21) = 1.2$, ns.). There was a very large variance for the number of innovations, especially for Research projects. The correlation between leader-rated team innovation and team performance was substantially, but not significantly, higher for Research projects (.35), than Development projects (-.03).

INSERT TABLE 1 ABOUT HERE.

Team climate for innovation and project effects on performance and innovation

TCI scales were correlated with the innovation and performance measures for Research and Development projects, with the results shown in Table 2. For the team-level innovation measures, later team innovativeness correlated significantly with number of innovations ($r = .47$, $p < .05$), and positively with team innovation ($r = .40$, $p = .05$). However, team innovation in the previous month was not correlated with the number of innovations ($r = .04$, ns.). The correlations between individual innovation and team innovation measures were not computed because they occur at different levels of analysis.

INSERT TABLE 2 ABOUT HERE.

Table 2 shows that for Research projects all scales showed moderate positive associations with individual innovation, and high correlations with team innovativeness over one year later. All TCI factors, except Objectives, showed moderate positive correlations with Team innovation in the previous month. However, no notable correlations were found between the TCI scales and the number of innovations the team produced. In contrast, for Development projects there were few relationships between TCI factors and innovation. Task Orientation had moderate associations with individual innovation, team innovation, and number of innovations, but was negatively related to team innovativeness more than a year later. The correlations between the Objectives factor and innovation measures were generally weak and negative for Development projects. One-tailed Fisher's z-tests indicated that the correlations between TCI scales and later team innovation were higher for Research projects than Development projects on the factors of Support for Innovation ($z = .86$, $p < .05$), Task Orientation ($z = .76$, $p = .05$), and Participative Safety ($z = .70$, $p = .07$). Although the Objectives factor was not significant in these analyses, consistent with expectations it had a significantly higher correlation with individual innovation for Research projects ($r = .23$) than for Development projects ($r = -.09$; $z = .3$, $p < .05$).

The TCI scale scores correlated strongly with leader-rated team performance for Research projects (Participative Safety, $r = .58$; Support for Innovation, $r = .58$; Task Orientation, $r = .44$; Objectives, $r = .34$). However, for Development projects the Objectives scale score had the highest correlation with team performance ($r = .36$).

DISCUSSION

As innovation is an essential goal for R&D teams, they provide a unique context in which to examine the impact on innovation of a positive team climate for innovation. Within this domain, it was found that Research projects were associated with higher levels of uncertainty than Development projects, although, contrary to expectations, there were no significant differences in the levels of innovation ratings between Research and Development teams. However, consistent with expectations, a team's climate for innovation was related to innovation and performance, and generally showed a stronger association with innovation and performance for Research projects than Development projects, with differences becoming significant in innovation ratings more than a year later.

The effects of team climate for innovation, however, were not consistent across all innovation measures. Correlations between innovation measures were generally not high, although correlations for the outcome measures (Later team innovation, Number of innovations) were significant and positive. As there are no perfect innovation measures, this result is encouraging because it shows a correspondence between more objective and subjective measures of performance. However, it appears that innovation in the short term often does not correspond closely to innovation in the longer term

For Research teams, all four innovative climate dimensions were correlated with later team innovation. Moderate, but not significant, correlations were found between team innovation in the previous month and team ratings of Participative Safety, Support for Innovation and Task Orientation in the team. All TCI scales had weak to moderate correlations with individual innovativeness, but there was little association with the number of innovations produced. Hence, where scope for innovation is high, it appears that a team's climate for innovation has a weak effect on the immediate innovativeness of teams and their members, but has a stronger effect over a longer period, leading to more novel, useful and creative outcomes, although it was not associated with more numerous innovations.

In contrast, for Development projects, where there is less scope for major innovation, team climate for innovation showed only limited effects on both innovation and performance. Task Orientation was the only climate factor significantly associated with any measure of innovation or performance. However, moderate, non-significant positive associations were found between the scales of Support for Innovation and Objectives, with later team innovation. Further, moderate positive correlations were found between Participative Safety, Support for Innovation, and Task Orientation, and team innovation. It may be that a participative, safe environment with a desire to excel on the task and support for new ideas helps innovativeness in Development work.

The differences in relationships between team climate for innovation and innovation across the different project types suggests that R&D teams need more than an innovative environment to produce innovations, as it is necessary to also have sufficient scope for innovation in the task. Where team objectives allow for major innovations, then team climate for innovation is associated with novel and creative outcomes. However, there was no link between team climate for innovation and the number of innovations, unlike West and Anderson's (1996) findings. This may be due to the domain-specific conception of innovation used in this study, in which quality of innovation is regarded more highly than quantity.

In relation to team performance, team climate factors generally showed significant and strong correlations with the performance of Research teams, although this relationship was weaker for the Objectives factor. Conversely, Objectives had the highest relationships with the performance of teams working on Development projects. Where there is great scope for innovation in a team's task, a team climate conducive to innovation helps teams pursue appropriate strategies and deliver on project milestones. However, where there is less scope, as in Development projects, a climate that provides a clear sense of objectives becomes most important.

As almost all teams were rated quite highly on the TCI scales, the evidence of strong correlations for Research teams indicates that innovation and performance are highly sensitive to changes in team climate. Even small differences in climate for innovation were related to leaders' ratings of the creativity, novelty, innovativeness and usefulness of the innovations produced by the team. Where the scope for innovation was lower (ie. Development teams), this relationship failed to emerge.

There was no single team climate factor that was most predictive across the various measures of innovation. For both Research and Development projects, Task Orientation was the only dimension associated with individual innovation, and Objectives was the only scale not showing moderate correlations with team innovation in the previous month. Overall, however, it appears that different aspects of a team's climate for innovation had varying relationships with innovation measures for Research teams. For Development teams, Task Orientation showed the strongest positive relationships with individual and team innovation over the previous month, but was negatively related to later innovation ratings. Perhaps Task Orientation facilitates innovation in the short term, but undue emphasis on performing well on the task suppresses the search for more 'left-field', innovative approaches.

These findings can be contrasted with those from previous studies investigating West's (1990) four-factor theory of team climate for innovation, where innovation was defined widely, and was not a central task objective. In these studies, Participative Safety showed the most consistent positive association with innovation measures, showing that for these teams innovation was most related to the generation and communication of ideas. In R&D teams, however, creating and communicating ideas is not generally a major problem, as the more crucial climate factors involve ensuring that ideas can be supported and implemented, and that the team is focused on ensuring those ideas can help them excel in achieving task requirements. Hence, in the R&D teams, Task Orientation and Support for Innovation emerge as important correlates of innovation, in addition to Participative Safety. However, in Development teams where there is less scope to produce innovative outcomes, the TCI factors have little relationship with measures of innovation.

These conclusions are based on findings from a small sample of 31 R&D teams, although these were comprised of a total of 174 team members who showed high levels of agreement on ratings of the TCI factors. Hence, analyses were based on teams with clear and consistent shared views of the team's climate, strengthening our confidence in the results. Of course, there is a need to replicate this study with a larger sample of R&D teams, and it would be interesting to investigate those teams with low agreement on team climate measures, to help understand the processes by which team climate conceptions are formed and develop. Although attempts were made to ameliorate the effects of biases in the measures used, it would be useful if future research on team innovation were to use multiple raters of performance, including external raters such as customers and experts. Expert ratings would be difficult in this setting, as the R&D teams in this study covered a wide range of scientific areas. However, attempts were made to obtain customer ratings of performance, but there were too few responses to conduct meaningful analyses.

A number of unanswered questions about team climate for innovation remain, some of which are currently under investigation. For instance, it is important to address the issue of the relative contribution of team climate for innovation as compared to other factors, such as leadership and organizational level supports in R&D, topics which we are currently investigating. We are also addressing changes over time in team climate, and the reciprocal influences of team climate for innovation and innovation. This study also shows how the relationships between team climate and innovation are a function of the specific focus and domain of the team's task. Further investigation of how team climate affects innovative ideas and outcomes across a range of different task activities and different organizational settings is warranted. The important issue of the processes involved in innovation is also not addressed, although this is currently being examined.

Overall, this study shows that a positive team climate for innovation significantly affects the innovativeness and performance of teams engaged in knowledge work. As predicted, this effect is more significant for Research teams, where the scope for major innovation is large, than for Development teams, where there is less scope. For Research teams, all dimensions of West's (1990) four factor theory of team climate for innovation contributed to higher innovation ratings and outcomes, and innovation appeared to be highly sensitive to small changes in climate. Unlike other settings where team climate for innovation has been investigated, innovation is the reason that R&D teams exist, and this study indicates that a strong team climate for innovation is extremely important in facilitating major and breakthrough innovations, especially in the longer-term.

REFERENCES

Abbey, A., & Dickson, J.W. (1983). R&D work climate and innovation in semiconductors. Academy of Management Journal, 26, (2), 362-368.

Agrell, A. & Gustafson, R. (1994). The team climate inventory (TCI) and group innovation: a psychometric test on a Swedish sample of work groups. Journal of Occupational and Organizational Psychology, 67, 143-151.

Amabile, T., & Gryskiewicz, S. S. (1987). Creativity in the R&D Laboratory. Technical Report Number 30. Greensboro, NC: Center for Creative Leadership.

Anderson, N.R., & West, M.A. (1994). The Team Climate Inventory. Windsor, England:ASE/NFER-Nelson Press.

Anderson, N.R., & West, M.A. (1998). Measuring climate for work group innovation: development and validation of the team climate inventory. Journal of Organizational Behavior, 19, 235-258.

Burningham, C., & West. M.A. (1995). Individual, climate, and group interaction processes as predictors of work team innovation. Small Group Research, 26,(1), 106-117.

Dunning, J., Pirola-Merlo, A., Hirst, G., Mann, L., & Atkins, L. (1998). A psychometric study of the Team Climate Inventory (TCI) in Research and Development Organisations. In Proceedings of the 1st International Work Psychology Conference. Sheffield, UK, July 1-3.

Ekvall, G., Arvonen, J., & Waldenström-Lindblad, I. (1983). Creative Organizational climate: Construction and validation of a measuring instrument. Report 2, The Swedish Council for Management and Organizational Behaviour, Stockholm

James, L.R., Demaree, R.G. & Wolf, G. (1984). Estimating within-group interrater reliability with and without response bias. Journal of Applied Psychology, 69, (1), 85-98.

James, L.R., Demaree, R.G. & Wolf, G. (1993). Rwg: An assessment of within-group interrater agreement. Journal of Applied Psychology, 78, (2), 306-309.

Lipman-Blumen, J., & Leavitt, H.J. (1999). Hot groups: Seeding them, feeding them, and using them to ignite your organization. NY: Oxford University Press.

Leifer, R., & Triscari, T., Jr. (1987). Research versus development: Differences and similarities. IEEE Transactions on Engineering Management, EM-34, 71-78.

Mumford, M. D., & Gustafson, S. B. (1988). Creativity syndrome: Integration, application and innovation. Psychological Bulletin, 103, (1), 27-43.

West, M.A. (1990). The social psychology of innovation in groups. In M.A. West & J.L. Farr (Eds.), Innovation and creativity at work: Psychological and organizational strategies. Chichester, England:Wiley, pp. 309-333.

West, M.A., & Anderson, N.R. (1992). Innovation, cultural values, and the management of change in British hospitals. Work & Stress, 6, (3), 293-310.

West. M.A., & Anderson, N.R. (1996). Innovation in top management teams. Journal of Applied Psychology, 81, (6), 680-693.

Table 1. Mean scores for projects on TCI, performance, and innovation measures (source of rating in parentheses).

Dimension/scale	Research projects (n=18) Mean (sd)	Development projects (n=13) Mean (sd)	All projects (n=31) Mean (sd)
TCI scales (team –level):			
Participative safety	3.7 (.4)	3.8 (.4)	3.8 (.4)
Support for innovation	3.7 (.3)	3.8 (.4)	3.7 (.4)
Objectives	4.0 (.3)	4.0 (.4)	4.0 (.3)
Task orientation	3.4 (.4)	3.5 (.3)	3.5 (.4)
Team innovation in last month (leader)	6.3 (1.8)	5.7 (2.0)	6.0 (1.8)
Later team innovation (leader)	3.9 (.6)	3.7 (.8)	3.8 (.7)
Number of innovations (leader)	6.8 (7.4)	4.1 (3.7)	5.5 (5.9)
Individual innovation in last month (member)#	5.0 (2.1) (n=84)	4.8 (2.3) (n=76)	4.9 (2.2) (n=160)
Team Performance	3.8 (.6)	3.8 (.6)	3.8 (.6)

#: reduced sample size due to missing data.

Table 2. Correlations between TCI scales (aggregated to the team level) and leader-rated team performance and innovation.

TCI Scales	Team innovation	Later team innovation	Number of innovations	Individual innovation	Team performance
Research projects	(n=15)	(n=16)	(n=10)	(n=83)	(n=17)
Participative Safety	.27	.66**	-.01	.18	.58**
Support for Innovation	.33	.81**	.10	.20*	.58**
Objectives	.01	.64**	.19	.23*	.34
Task Orientation	.42	.72**	.02	.20*	.44*
Development projects	(n=12)	(n=10#)	(n=10)	(n=76)	(n=13)
Participative Safety	.20	.09	-.11	.11	.27
Support for Innovation	.31	.26	.01	.08	.09
Objectives	-.23	.29	.10	-.09	.36
Task Orientation	.29	.15	.18	.25*	.21

Notes: Correlations of .32 and above represent at least 10% communality of variance;
*p < .05 (one-tailed); ** p < .01 (one-tailed)
One outlying case was identified and removed from this analysis.