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Diversity and team outcomes: the moderating effects of outcome interdependence and group longevity and the mediating effect of reflexivity

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Summary

Reflexivity—the extent to which teams reflect upon and modify their functioning—has been identified as a possible key factor in the effectiveness of work teams. We examined the extent to which team composition affected team process (i.e., reflexivity) and in turn team outcomes (i.e., satisfaction, commitment, and performance). The results of diversity research thus far have been inconclusive in terms of positive or negative effects of team composition on team process and outcomes. In the current research, group longevity and outcome interdependence were expected to moderate the relationship between diversity on the one hand and reflexivity and team outcomes on the other hand. Reflexivity was expected to mediate these interaction effects. The current field study was conducted among 54 work teams from 13 different organizations. As predicted, few main effects were found. Instead, analyses showed interaction effects of diversity and outcome interdependence on the measures of reflexivity, satisfaction, and performance. As predicted, interaction effects were also found for diversity and group longevity on the measures of reflexivity, satisfaction, and performance. Three-way interactions were found for satisfaction and commitment. Also, reflexivity was shown to mediate these relationships, indicating that the moderating effects of outcome interdependence and group longevity on the relation between diversity and team outcomes are due to the effects on process. Copyright © 2003 John Wiley & Sons, Ltd.

Introduction

As organizations become more and more team-based, managing diversity forms a major challenge for organizations. Folk wisdom has it that ‘birds of a feather flock together’ but also that ‘opposites attract.’ These two proverbs predict opposite processes: similar people might work well together, but dissimilar people might like one another. Empirical findings support both. Some researchers have found positive effects of diversity. For instance, diverse groups consider a greater range of perspectives and generate more high-quality solutions (Hoffman & Maier, 1961; Watson, Kumar, & Michaelson,

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1993). Thus, diversity in team composition, if properly used, can be beneficial for team functioning (value-in-diversity hypothesis; Cox, Lobel, & McLeod, 1991).

However, higher levels of diversity have also been found to lead to higher levels of dissatisfaction and turnover (Jackson et al., 1991; Wagner, Pfeffer, & O'Reilly, 1984). Williams and O'Reilly (1998, p. 120), in reviewing 40 years of diversity research, concluded that: 'Under ideal conditions increased diversity may have the positive effects predicted by information and decision theories. However, consistent with social categorization and similarity/attraction theories, the preponderance of empirical evidence suggests that diversity in teams is most likely to impede group functioning.'

One of the reasons for this ambivalence in research findings might be that only a few attempts have been made to unravel the ways in which moderators may play a role in the diversity–outcome relationship. Most research has examined the direct impact of diversity on team process and team outcomes, neglecting the role of the situation. The main goal of this study is to shed light on whether and how the relationship between diversity and team outcomes is moderated by other variables, and mediated by team process. We will argue that diversity can have positive outcomes, but only under certain circumstances. Two possible moderators will be examined, namely outcome interdependence and group longevity. Having a shared goal (outcome interdependence) may counteract the negative consequences of diversity, and if teams are longer together (longevity) they may learn to accept each other (contact hypothesis). Team process (in this study operationalized as reflexivity—the extent to which teams reflect upon and modify their functioning, West, 2000)—is expected to mediate these interactions.

Previous research has often used teams from a single or a small number of large organizations and focused on a particular kind of team, for instance, only management teams or only production teams (cf. Williams & O'Reilly, 1998). The current study assesses moderating and mediating effects of several variables in a field context, using a heterogeneous set of teams. This may help to overcome the problem that some effects of diversity may be situation-specific, that is, that these effects will only hold in a specific set of teams or for specific types of tasks. Furthermore, according to Lubinski and Humphreys (1990) and Evans (1985), the existence of moderator effects is often harder to demonstrate in a field context than in a laboratory setting. If these effects were to be found, this would indicate that the results are to be taken seriously.

Diversity

Three theoretical frameworks are commonly used as the starting point in diversity research (Williams & O'Reilly, 1998). The first is social categorization, which describes the categorization of people based on salient attributes like gender or age, resulting in stereotyping on the basis of these differences (Turner, 1987). The second is similarity/attraction theory, referring to the idea that similarity on salient and non-salient attributes like race or values increases interpersonal attraction and liking (Berscheid & Walster, 1978). The third is information and decision-making theory, which assesses the effects of distribution of information and expertise in teams (Wittenbaum & Stasser, 1996). These theories lead to different and sometimes contradictory hypotheses regarding the effects of diversity on group process and performance. Social categorization and similarity-attraction theory predict negative effects, such as reduced satisfaction and commitment, and increased turnover. However, from an information and decision-making view, positive effects of diversity are hypothesized, mainly because more diverse teams are expected to process information differently, as team members may bring together differing viewpoints (Williams & O'Reilly, 1998). This, in turn, is expected to lead to more creativity and increased performance.

As stated, research has yielded mixed results (Girndt, 2000; Guzzo & Dickson, 1996). Williams and O'Reilly (1998) indicate that most diversity research focused on the direct effects of diversity on team process and outcomes. Far less research assesses *when* diversity has an effect on team process

and outcomes (for notable exceptions see Early & Mosakowski, 2000; Jehn, Northcraft, & Neale, 1999). Furthermore, most research supporting the contention that diversity is beneficial for team functioning was conducted in a laboratory or classroom setting, rather than in an organizational context (Williams & O'Reilly, 1998). Findings from the field tend to be more ambiguous than those from more controlled settings. The mixed results in field settings might be due to the variety of possible combinations regarding team composition (Pelled, 1996), differences in tasks the teams perform (King & Anderson, 1990; Shaw, 1981), and the developmental phase of the teams (Bales & Strodtbeck, 1951; Tuckman, 1965; Watson, Johnson, Kumar, & Critelli, 1998). In the current study we will test, in a field setting, under which circumstances diversity has beneficial or negative effects on one aspect of team process (reflexivity), and several team outcomes (satisfaction, commitment, and performance). Several types of diversity can be taken into account, which potentially can all have negative as well as positive effects (Van Knippenberg, De Dreu, & Homan, 2003). In the current research, the main focus will be on overall diversity.

Team process: reflexivity

Team process concerns the team's actions and behaviors. Team process is often investigated in terms of communication, social integration, or conflict, and increasingly in terms of reflexivity. Several researchers have argued that team process mediates between diversity and team outcomes (e.g., Jehn et al., 1999; O'Reilly, Caldwell, & Barnett, 1989; Pelled, 1996). However, again, the results are inconclusive. Contrary to their expectations, Smith et al. (1994) found frequency of communication to be negatively related to performance, as measured by ROI and sales growth. Ancona and Caldwell (1992) also found a negative relationship between communication frequency and self-rated performance. They hold that communication frequency may have indicated conflict, which hampered team performance. Such findings suggest content rather than frequency of communication may need to be considered. Such content can be operationalized as reflexivity. Reflexivity refers to the extent to which teams discuss task-related issues (e.g., evaluating finished tasks) as well as processes (e.g., the way in which the team communicates).

Reflexivity is defined here as 'the extent to which group members overtly reflect upon, and communicate about the group's objectives, strategies (e.g., decision-making) and processes (e.g., communication), and adapt them to current or anticipated circumstances' (West, Garrod, & Carletta, 1997). In the literature on organizational learning, reflection is mentioned as a crucial condition in learning. Tjosvold (1991), for example, regarded reflection as an important instrument for recognizing how certain current ways of operating can be obsolete, because of environmental changes. Following West (2000), in the current study, we will refer to this construct as reflexivity. Research shows that reflexivity is positively related to creativity and team performance (e.g., Carter & West, 1998; De Dreu, 2002; Schippers, Den Hartog, & Koopman, 2001, 2002). Reflexivity is seen as most important for teams with complex jobs, because evaluating and reflecting on methods is more important when a task is non-routine and the environment of the team is uncertain (West, 1996).

The opposite of reflexivity is the use of habitual routines (cf. Gersick & Hackman, 1990) to guide behavior. According to Gersick and Hackman (1990, p. 69) a habitual routine 'exists when a group repeatedly exhibits a functionally similar pattern of behavior in a given stimulus situation without explicitly selecting it over alternative ways of behaving.' This definition suggests that when using a habitual routine, groups do not explicitly discuss whether or not this way of proceeding is better or worse than alternatives. Not discussing and reflecting on alternatives can lead to faulty decision-making and decreased team functioning, described by Janis as groupthink (e.g., Janis, 1982a, 1982b). Although habitual routines can be advantageous in terms of saving time and energy in task performing, teams with

complex and novel tasks need to maintain some reflexivity, instead of relying on habitual routines (cf. Highhouse, 2001; Kahneman & Tversky, 1996). We expect that reflexivity, as a process variable, mediates between diversity and team outcomes such as satisfaction, commitment, and performance.

Affective consequences and team performance

Affective consequences and team performance are often used as indicators of the team's effectiveness (Cohen & Bailey, 1997). Here we focus on satisfaction, commitment, and performance. Satisfaction is the extent to which individuals express a positive affective orientation towards the work environment; commitment is the extent to which individuals are involved in and identify with their work environment (Curry, Wakefield, Price, & Mueller, 1986). Team performance is often operationalized as productivity and/or client satisfaction (Campion, Medsker, & Higgs, 1993). In the current study, for a sample of work teams with very divergent tasks and hence incomparable measures of performance, we chose to measure performance as the extent to which team members consider their team to be performing well compared to other teams (Costa, 2000; Roe, Dienes, Ten Horn, & Zinovieva, 1995). Although this procedure of self-ratings increased the possibility of common method bias, it does enable us to compare teams on self-rated performance. Furthermore, research by Evans (1985) suggests that artifactual interaction cannot be created by common method bias and that true interactions may even be attenuated. Thus, common method bias might even work against finding interactions.

Numerous studies have examined the affective consequences of diversity. As mentioned above, diversity is said to enhance performance on creative and innovative tasks, while at the same time having a negative effect on satisfaction and commitment (e.g., Milliken & Martins, 1996). Similarity-attraction theory (Byrne, 1971) predicts that similar people will like each other more than dissimilar people. Thus, diversity in teams will lead to less liking and lower affective outcomes. Milliken and Martins (1996) indeed found that sick leave and turnover were positively related to diversity in teams. Tsui, Egan, and O'Reilly (1992) found declining levels of organizational commitment when diversity in gender and race increased. No negative effects were found for age, education, and organizational tenure. In a study of top management teams, Wagner et al. (1984) found that heterogeneity in tenure and age was positively related to turnover. These findings point to the fact that the type of diversity may matter as well, although it is not always clear which types of diversity are related to which types of outcomes.

Several studies examined the effect of diversity on performance. Ancona and Caldwell (1992) assessed the effects of organizational tenure and functional diversity in new product teams. Tenure diversity was positively related to internal task processes (i.e., the setting of goals and priorities), which in turn were positively related to team members' ratings of their performance. Functional diversity was positively related to external communication, which in turn was positively related to managerial ratings of team innovation. However, the direct effect of diversity on team performance was negative. Recent meta-analyses regarding diversity and group performance do not report reliable effects (Bowers, Pharmer, & Salas, 2000; Wood, 1987; Webber & Donahue, 2001), indicating that moderators may play a role.

Moderators

Outcome interdependence

Interdependence can be defined as the extent to which team members are dependent on each other at work. Outcome interdependence refers to the extent to which team members are provided with group goals or receive group feedback (Van der Veegt & Emans, 2000; Wageman, 1995). This form of interdependence is also referred to as goal interdependence (Van der Veegt, Emans, & Van der Vliert, 2001).

The importance of common group goals in counteracting the negative effects of stereotyping and social categorization was already demonstrated powerfully decades ago (Sherif et al., 1954). Creating such a common goal was shown to reduce in-group/out-group biases and to promote solidarity. Williams and O'Reilly (1998) mentioned common goals and a common identity as possible moderators of the relationship between diversity and outcome variables such as attraction to the group, commitment, and implementation ability. Research findings (e.g., Gaertner et al., 1990; Mullen & Copper, 1994) indeed suggest that emphasizing common goals and identities may enhance group process and performance. For instance, Chatman and Flynn (2001) found that the effect of diversity on several team outcomes was mediated by cooperative norms.

Why would outcome interdependence moderate the relationship between diversity and team outcomes? We argue that when teams do not have shared goals to pull individuals together, teams in which members are more similar (which facilitates shared understandings, values, and norms) will tend to be more communicative and reflexive compared to more diverse teams. Similarly, low levels of diversity and a shared goal might decrease the (felt) need for communication and reflexivity as team members understand the goal and each other and can move forward effectively with relatively low levels of reflection and communication. Teams low on diversity and without common goals require more communication and reflexivity despite their members' similarities, because their objectives are less clear and will need to be discussed. In short, we expect that having shared goals (i.e., being outcome interdependent) will buffer the negative effects of diversity on reflexivity and affective outcomes. More specifically, we hypothesize that outcome interdependence will moderate the relationship between diversity and reflexivity as well as the relationship between diversity and team outcomes, such as commitment and performance.

Hypothesis 1a: There is an interaction between diversity and outcome interdependence, such that highly outcome-interdependent teams with high levels of diversity will be more reflexive than highly diverse teams with low outcome interdependence. Highly outcome-interdependent teams with low levels of diversity will be less reflexive than highly diverse teams low on outcome interdependence.

Clear group goals and feedback may trigger task-related conflict, productive dissent, and disagreement (Gersick & Hackman, 1990; Jehn et al., 1999), and enhance reflexivity. We expect that highly outcome-interdependent diverse teams will be more satisfied and committed, because they will have fewer dysfunctional conflicts (Jehn, 1995) than low outcome-interdependent diverse teams. In contrast, for teams with lower levels of diversity, we expect that a common goal (high on outcome interdependence) will be less important for reflexivity and team outcomes. Were this relationship to be found, we can conclude that outcome interdependence can act as a buffer against the 'product losses' (Steiner, 1972) often associated with higher levels of diversity.

Hypothesis 1b: There is an interaction between diversity and outcome interdependence, such that members of highly outcome-interdependent teams with high levels of diversity will be more satisfied with and committed to the team, and such teams will outperform diverse teams with low outcome interdependence. Highly outcome-interdependent teams with low levels of diversity will be lower on satisfaction, commitment, and performance than highly diverse teams low on outcome interdependence.

Group longevity

Group longevity refers to the time a team has existed and differs from team tenure, which refers to the length of time an individual has been with the team. King and Anderson (1990) asserted that short-lived groups might be more creative, but expected group longevity to help cohesiveness. Research by

Goodman and Leyden (1991) suggests that teams need some time to get to know each other, before they can become a 'well-functioning' team. However, research by Katz (1982) showed that after 2–3 years teams tended to communicate less with important information providers, monitored the environment less, and communicated less with important groups outside the team than they did before. Also, group longevity was negatively related to the performance of the teams. This suggests that important matters may be seen as self-evident after a while, and team members assume such matters do not need to be discussed anymore. In other words, team reflexivity may decrease over time. How can the differences in results that were found in these studies be explained? One explanation may be that the diversity of the team can play a role. Less diverse teams may need less time to get to know each other. In line with this, such teams may be more reflexive when the team is recently formed, but they may quickly routinize their behavior and become less reflexive over time. Team members of highly diverse teams, in contrast, may need more time to get to know each other. This may mean they will be less reflexive and effective at first, but be more reflexive some time after they are formed. Consistent with this line of reasoning, Watson et al. (1993) found that at the end of the term diverse groups scored better on two aspects of performance, while in the first period less diverse groups scored higher on all performance measures and reported a more effective process. This supports the idea that diverse groups need some time to overcome the negative diversity-related effects, but may eventually over time benefit from the different viewpoints leading to enhanced creativity. However, the study used a student sample and focused mainly on racial diversity. Field research by Pelled, Eisenhardt, and Xin (1999) found that group longevity moderated the relationship between diversity and conflict, such that task and emotional conflict were lower in diverse teams with more longevity. They concluded that those teams either develop a shared understanding of tasks or learn to anticipate and deflect opposition to their ideas.

There are two possible and contrasting ways in which group longevity can moderate the relationship between diversity and team process and outcomes. One possibility is that highly diverse teams, which are higher on group longevity, will be more reflexive than less diverse teams, because in diverse groups people will spend more time exploring and reflecting on the differences in opinion and insight. Teams with low levels of diversity, on the other hand, will be more reflexive at the outset, because they are more familiar with each other from the start. In a later stage, they may routinize their behavior, and become less reflexive as a result. We expect reflexivity to decline in less diverse teams over time, whereas more diverse teams will be more reflexive later on. The same is expected for commitment and satisfaction.

Hypothesis 2a: There is an interaction between diversity and group longevity such that teams high on group longevity with high levels of diversity will be more reflexive than highly diverse teams low on group longevity. Teams high on group longevity with low levels of diversity will be less reflexive than highly diverse teams low on group longevity.

Hypothesis 2b: There is an interaction between diversity and group longevity such that teams high on group longevity that are highly diverse will be more committed and satisfied with the team, and outperform diverse teams low on group longevity. Teams high on group longevity that are less diverse will be more committed and satisfied with the team, and outperform diverse teams low on group longevity.

An alternative possibility is that the effect of group longevity will be the exact opposite. It is plausible that in diverse teams heated discussions and reflexivity take place early in their existence. Teams with similar team members may communicate and reflect more and more as such interactions can be experienced as pleasant. Studies by Zenger and Lawrence (1989) and Wiersema and Bantel (1992) suggest that communication in homogeneous teams is of a self-reinforcing nature. March and Simon (1958) asserted that the frequency of communication increases with the ease or efficiency of communication. This suggests that more homogeneous teams will be more communicative some time after they are

formed. Thus, less diverse teams may need some time to get acquainted and will become more reflexive after a while, whereas highly diverse teams will start exploring the different viewpoints and score higher on reflection in the first phase of their existence. Later on, those teams might become less reflexive, because of incompatible viewpoints. Thus we also formulate the following alternative hypotheses, contradicting Hypotheses 2a and 2b:

Hypothesis 2c: There is an interaction between diversity and group longevity such that teams high on group longevity with low levels of diversity will be more reflexive than less diverse teams low on group longevity. Teams high on group longevity with high levels of diversity will be less reflexive than highly diverse teams low on group longevity.

Hypothesis 2d: There is an interaction between diversity and group longevity such that teams high on group longevity that are less diverse will be more committed and satisfied with the team, and outperform less diverse teams low on group longevity. Teams high on group longevity that are highly diverse will be less committed and satisfied with the team, and will perform less well than highly diverse teams low on group longevity.

We also expect a three-way interaction. Teams which have existed for some time (high longevity) under conditions of outcome interdependence seem likely to be more reflexive, committed, and satisfied than teams that are low on group longevity and/or outcome interdependence. We expect the relation between diversity and affective outcomes to be more complex than was assessed in previous research, in that outcome interdependence and group longevity may both moderate this relationship. Highly diverse teams with low levels of outcome interdependence may be less satisfied and committed than low outcome-interdependent teams with lower levels of diversity, because more diverse teams may need common goals to pull them together. Highly outcome-interdependent teams with high levels of diversity may be more satisfied and committed than highly diverse teams low on outcome interdependence, because common goals pull these teams together, resulting in higher satisfaction and commitment. Highly outcome-interdependent teams with lower levels of diversity will be more satisfied and committed after some time, because of the reinforcing nature of their interaction, maintained by having shared goals, stimulating them to interact. The following three-way interaction is expected:

Hypothesis 3: A three-way interaction between diversity, group longevity, and outcome interdependence is expected, such that teams that are both low outcome interdependent and highly diverse will be less satisfied and committed than low outcome-interdependent teams with lower levels of diversity, regardless of their level of group longevity. In contrast, highly outcome-interdependent teams that are highly diverse will be more satisfied and committed, whereas highly outcome-interdependent teams with lower levels of diversity that are low on group longevity will be less satisfied and committed.

Figure 1 depicts the hypothesized relationships.

Mediating effect of reflexivity

As described above we expect that the moderation of the link between diversity and team outcomes by outcome interdependence and group longevity is mediated by reflexivity. We expect that diversity is positively related to team reflexivity and in turn to team outcomes, and that these relationships are moderated by outcome interdependence and group longevity (see Figure 1).

Hypothesis 4: Reflexivity will mediate the relationship between the interactional effects of outcome interdependence and group longevity on the link between diversity on the one hand and team outcomes (satisfaction, commitment, and performance) on the other hand.

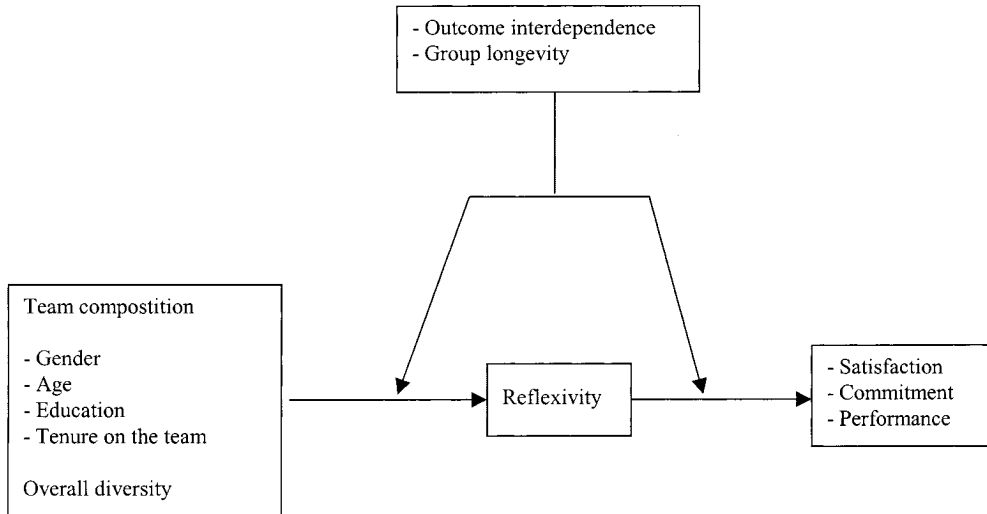


Figure 1. A model of demographic impacts on reflexivity and team outcomes

Types of diversity

The types of diversity considered in this study are gender, age, educational level, and tenure. Teams can vary on all of the aforementioned dimensions of diversity. According to Van Knippenberg et al. (2003) various dimensions of diversity can have positive or negative effects, depending on situational and informational differences affecting the team. We will therefore focus on the combined effects of the different types of diversity by computing overall diversity (Flynn, Chatman, & Spataro, 2001), although we will assess separate effects as well. Thus, for all hypotheses, the separate as well as the combined effects of diversity are assessed. We do not expect different relationships for the different types of diversity.

In many settings other types of diversity may also matter, such as racial and functional diversity. However, we did not include these variables in the current study, as they were not relevant in our sample. Racial diversity was not considered because the studied teams were hardly diverse in this respect and functional diversity was not considered because it was nearly impossible to assess in this study, as our sample consisted of teams performing very different tasks (described below).

Organizational Context

General

The sample consisted of 54 teams from 13 different organizations including 10 management teams, 13 production teams, nine service teams, 11 school management teams, and 10 facilitating teams. The teams were drawn from companies in the IT, insurance and banking sector, government, and the chemicals industry. The teams were all Dutch; some of the companies were large international companies. At the time of the survey, the economy was relatively buoyant. All participating teams received a full research report, with their scores on the constructs, a comparison with the mean score of all teams, and recommendations for improving reflexivity in their team.

The Teams

Healthcare corporation

A total of 25 teams (13 production teams, nine service teams, two management teams and one works council) were from a healthcare company. The company is part of a worldwide healthcare corporation. In the Netherlands, the activities of production and R&D are focused on diagnostics for infectious diseases to be used in clinical laboratories and blood banks. The business environment can be characterized as turbulent, caused by issues such as an ongoing centralization of the competition through mergers and joint ventures, a pressure on prices due to centralization of buyers and the funding systems of the authorities, and the need for a 'short time to market.'

To be able to meet these demands, a review of the operations organization was started in 1997. This resulted in a change of the organization's structure. In 1998, the functional structure was changed into a structure based on processes linked with products and product lines. To enhance the effect of the structure, working in teams was introduced at the same time. The teams are responsible for the production of a product or product line. To be able to perform their task, all necessary functions are incorporated in the team's activities.

Task. The team's activities range from release of specific raw materials up to the release of the finished packed products as well as activities to improve the performance, which were originally performed by supporting staff departments. This requires a level of cross-functionality of the operators and a mutual understanding of the activities as well as the motivation and willingness to perform other tasks as the situation demands. The management team was responsible for the work process and strategic issues regarding the service and production teams.

School management teams

Eleven teams were school management teams. These teams were mostly teams that were responsible for a single school. Several schools were multi-site or were part of a school association. Interviews with two former principals (who quit the job less than a year ago) revealed that the school management teams often consist of former teachers, who have not been formally trained as managers.

In the last decade, schools have had to deal with quite a lot of changes enforced by the government as well as environmental changes, such as professionalization (since the late 1990s, schools have received a budget ('lump sum'), to be spent at the school's discretion, rather than the government deciding how much to be spent on what), change of teaching methods, mergers, and a changing student population (some districts have changed from white to colored neighborhoods, often resulting in a change of students for the school). Many schools have trouble responding to these changes, resulting in high absenteeism and turnover.

Task. The task of the administrative teams involves keeping track of the latest developments within and outside the school, formulating and propagating a school concept and strategy, as well as keeping track of the effectiveness and the results of the school. Moreover, the administrative teams are responsible for creating a good working climate as well as the management of resources. In addition, within the team, the creation of a climate in which team members work together and learn as a team is considered important.

IT sector

Three teams were drawn from a large international computer concern. This concern is a manufacturer of a wide variety of computer hardware, software, and peripherals. Two teams were management teams from the HRM department. One team was responsible for education within the company.

Three management teams were drawn from a large international information technology services provider. The main business is consulting, systems integration and managed operations, including outsourcing and on-line services. The company employs 28 000 employees in 30 countries. The

team's task was to integrate several businesses throughout the Netherlands and to reflect on and implement strategic issues.

Insurance

Seven teams were drawn from an insurance company, namely one management team and six administrative teams. The administrative teams are responsible for effecting life insurances for clients, handling questions of insurance agents and clients, as well as making quotations. All teams have their own job responsibilities and needed to exchange information and work together to complete the job.

Other

Other companies included a temping agency (two teams), a land registry (one team), a bank (one team) and a hospital (one team).

Method

Sample

The initial sample consisted of 60 teams from 13 different organizations, including management teams, self-regulating teams, production teams, teams in government service, executive teams in schools and facilitating teams. The teams were drawn from companies in the IT, insurance and banking sector, government, and the chemicals industry. Following Hackman (1987) we considered teams as composed of individuals who both see themselves and are seen by others as an interdependent social entity. Teams are embedded in a larger organization, and the team's performance affects others, for instance suppliers or customers. Only teams that met these criteria were considered for participation. In most cases team members were assigned to the teams when they were first formed. Thus, teams did not select members themselves. The team tasks differed widely, from administrative work or production work to leading a company.

Using a team member response rate criterion of 66 per cent (i.e., two-thirds of the team), the final sample includes 54 teams. Teams averaged 7.52 members ($SD = 3.40$, range 3–21). 406 respondents were included in the final sample. The average age was 39.1 years (ranging from 19 to 60, $SD = 9.32$) and 68 per cent were male. The average team member tenure was 2.2 years ($SD = 2.6$). The mean group longevity was 2.9 years ($SD = 2.9$).

Procedure

Teams were recruited by phone. For 33 teams, questionnaire packages were mailed to team leaders who had agreed to participate in the study. Team leaders then handed the questionnaires to team members. A cover letter described the purpose of the study and assured anonymity of respondents. Instructions for the completion of the questionnaire were given on the first page of the questionnaire. All individual team members returned the questionnaires directly to the researchers. The second procedure, used in 26 teams, involved the researchers administering and collecting the questionnaire in the workplace.

Measures

Diversity

Diversity questions regarded age, gender, education, and team tenure. An entropy-based diversity index was used, which shows the degree of distribution in the team using the mathematical equation

proposed by Teachman (1980). This index was also used in previous studies (e.g., Cady, 1999; Lovelace, Shapiro, & Weingart, 2001). The index is: $H = P_i (\ln P_i)$, where P_i represents the proportion of the team that has this demographic characteristic. In order to be able to compare the four different types of diversity, the formula was adapted by dividing the outcome of the formula by $\ln[k]$, the natural logarithm of the number of categories (for gender, for instance, $k = 2$). In this way, the measures of diversity all have the same weight. This allowed us to form a combined measure of diversity, which we used in subsequent analyses.

The diversity index ranged from 0 to 1, where a higher score indicates a greater distribution of this characteristic within the team (i.e., more diversity). If a characteristic is uniform in the team, the value assigned is zero; if a characteristic is evenly distributed within the team, the value assigned is one. For instance, if one is assessing gender diversity and the work team is composed of nine individuals, two female and seven male, their diversity index is 0.76; if all members are female, the diversity index is 0.00. The combined measure of diversity was created by calculating the mean of the four types of demographic diversity, consisting of gender, age, educational level, and team member tenure. This overall diversity index ranged also from 0 to 1, where a higher score indicates a greater distribution of demographic characteristics within the team, and thus indicating higher levels of diversity within the team. For the sample of teams in this study, overall diversity ranged from 0.16 to 0.78 ($M = 0.51$, $SD = 0.18$).

Reflexivity

Reflexivity was measured with the 'Reflexivity in teams questionnaire' (Schippers et al., 2002). This combined scale consisted of 24 items. Examples of items are: 'We regularly examine whether our objectives are still appropriate,' 'In this team the results of actions are evaluated,' 'The methods used by the team to get the job done are often discussed,' and 'We regularly discuss whether the team is working effectively together.' Respondents were asked to rate the items on a five-point scale (1 = strongly disagree, 5 = strongly agree, $\alpha = 0.91$).

Outcome interdependence

Outcome interdependence was measured using a two-item scale developed by Van der Vegt (1998). The items were: 'Group members are informed about the goals they should attain as a group' and 'Group members receive feedback on the basis of their collective performance' (1 = strongly disagree, 5 = strongly agree), $\alpha = 0.73$.

Commitment

Commitment to the team was measured using a four-item scale developed by Van der Vegt and Emans (2000). The items were: 'I feel proud to belong to this team,' 'I am glad I belong to this team and not to another team,' 'I feel very committed to this team,' and 'I am willing to exert extra effort for the success of this team' (1 = strongly agree, 5 = strongly disagree, $\alpha = 0.75$).

Satisfaction

Satisfaction was measured by a two-item scale developed by Van der Vegt and Emans (2000). The items were: 'I am satisfied with my present colleagues' and 'I am satisfied with working in this team' (1 = strongly agree, 5 = strongly disagree, $\alpha = 0.75$).

Performance

Team performance (self-rated) was measured using nine items based on Roe et al. (1995). The items were reformulated in order to fit a team context. Sample items are: 'Our team deserves a positive evaluation,' 'There are no or few complaints about the quality of our work,' and 'Our performance exceeds the performance of other teams' (1 = strongly disagree, 5 = strongly agree, $\alpha = 0.92$).

Analyses

The items measuring reflection, outcome interdependence, and performance were phrased focusing on the team as unit of analysis. Two scales took an individual viewpoint, but were aggregated to the team level, namely commitment and satisfaction. Before aggregating any individual-level scores, however, the viability of this procedure has to be examined. To check whether aggregation to the team level was justified, we ran two tests. First, we performed one-way analyses of variance to determine whether between-group differences were stronger than within-group differences (Rousseau, 1985). All variables passed this test. Next, we computed the within-group agreement ($r_{wg(j)}$) for each variable and each team (James, Demaree, & Wolf, 1984). The mean $r_{wg(j)}$ values were above the generally acceptable level for good agreement of 0.70 (George, 1990) for reflexivity, satisfaction, performance, and outcome interdependence. The average $r_{wg(j)}$ was somewhat lower for commitment (0.54), indicating that an extensive amount of variation is at the individual level. Since we were interested primarily in the consequences of diversity for commitment and satisfaction in the teams, we decided to analyze the data on commitment at the group level of analysis, despite this rather low $r_{wg(j)}$. However, the low $r_{wg(j)}$ value does mean some caution is needed in interpreting the results for this variable.

Results

Descriptive statistics

As was expected, the team-level correlations between the measures of diversity and reflexivity as well as the outcomes showed no significant intercorrelations. The correlations are presented in Table 1.

An interesting finding is that group longevity is negatively related to the measures of diversity, with the exception of educational level. This finding indicates that teams that have existed longer are more homogeneous (at least on age, gender, and tenure), lending indirect support to the ASA model (Schneider, Goldstein, & Smith, 1996), which states that through the process of attraction, selection, and attrition, organizations tend to become more homogeneous over time. In line with this, O'Reilly et al. (1989) found that more 'distant' group members are more likely to leave. The only exception is diversity in level of education, which was unrelated to group longevity in the current study (See Table 1).

From the table, we can conclude that larger teams are more diverse. This seems logical: large teams have more opportunities to be diverse. The table also shows that more outcome-interdependent teams are more reflexive ($r = 0.34$, $p < 0.05$). Furthermore, more reflexive teams rated their performance higher ($r = 0.73$, $p < 0.001$). Since team size seems to matter, we ran all analyses with and without team size as a control variable. Since doing so did not change our results significantly, for reasons of power, the results of the analyses without the control variable are reported.

Moderators

In order to test Hypotheses 1 through 4, we used a general linear model to examine the effects of diversity and the interactions on reflexivity and team outcomes. We entered the main effects of the types of diversity, overall diversity, outcome interdependence, and group longevity in the first step, their two-way interactions in the second step, and the three-way interactions in the third, and final, step. In our mediational model, reflexivity was added as a mediator in the first step. In the analyses, we decided to

Table 1. Means, standard deviations, and aggregate-level intercorrelations (N = 54 teams)

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Overall diversity	0.51	0.18	—											
2. Gender	0.55	0.42	0.86***	—										
3. Age	0.53	0.18	0.55***	0.30*	—									
4. Educational level	0.49	0.20	0.42***	0.11	0.23	—								
5. Tenure on the team	0.48	0.25	0.66***	0.45***	0.15	0.02	—							
6. Team size	7.52	3.40	0.53***	0.39**	0.40**	0.25	0.35**	—						
7. Group longevity	2.90	2.94	-0.43***	-0.39**	-0.31*	0.05	-0.37**	-0.28*	—					
8. Outcome interdep.	3.10	0.53	0.17	0.20	0.05	-0.13	0.20	0.06	-0.12	—				
9. Reflexivity	3.21	0.32	0.05	0.01	0.14	0.05	-0.02	0.05	0.08	0.34*	—			
10. Satisfaction	3.82	0.51	0.02	0.06	0.06	0.09	-0.15	-0.09	0.04	0.22	0.71***	—		
11. Commitment	3.92	0.37	-0.18	-0.14	-0.06	-0.07	-0.18	-0.12	0.15	0.21	0.60***	0.74***	—	
12. Self-rated perf.	3.31	0.40	-0.06	-0.02	0.01	-0.01	-0.16	-0.17	0.13	0.23	0.73***	0.71***	0.57***	—

*p < 0.05; **p < 0.01; ***p < 0.001; two-tailed.

use a median split only for the moderator variables. This was done because in screening the data it turned out that group longevity had a rather irregular distribution, which could not be corrected by transformation. This was (to a much lesser extent) also the case for outcome interdependence. In order to make the analyses comparable, we followed one approach (using the median split for both moderators). Thus, a median split ($Mdn = 2.19$ for group longevity and $Mdn = 3.02$ for outcome interdependence) was used to discern between teams high and low on group longevity and teams high and low on outcome interdependence.

An overview of the analyses is given in Tables 2 and 3. The first step shows that teams high on outcome interdependence were more reflexive than teams low on this variable. Also, teams high on group longevity are higher on reflexivity, satisfaction, commitment, and self-rated performance. Below, we will describe the two- and three-way interactions that were found.

Moderating effect of outcome interdependence

Hypothesis 1a predicts that outcome interdependence moderates the relationship between diversity and reflexivity. Results shown in Table 2 and Figure 2 indicate that the predicted interaction was found. Outcome interdependence moderated the relationship with several diversity measures, including overall diversity (supporting Hypothesis 1a). The significant interaction for overall diversity suggests that teams high on outcome interdependence are more reflexive when they are more diverse, whereas teams low on outcome interdependence are more reflexive when they are less diverse ($F(1, 50) = 8.60$, $p < 0.01$) (see Figure 2). The same interactions were found for the separate effects for diversity in gender ($F(1, 50) = 8.30$, $p < 0.01$) and diversity in tenure on the team ($F(1, 50) = 4.59$, $p < 0.05$). The interaction with age diversity was not significant ($F(1, 50) = 3.27$, $p = 0.076$), and no interaction was found for educational diversity.

Hypothesis 1b predicted a moderating effect of outcome interdependence on the diversity–team outcomes relationship. First, supporting Hypothesis 1b, a significant interaction for overall diversity shows that team members from teams low on outcome interdependence are more satisfied with the team if the team is less diverse, whereas team members from teams high on outcome interdependence are more satisfied with the team if it is highly diverse ($F(1, 50) = 3.86$, $p < 0.05$). The same interaction was found for performance ($F(1, 50) = 4.17$, $p < 0.05$). The slope and direction of these interactions were similar to that shown for reflexivity in Figure 2. The moderating effect of outcome interdependence was not significant for commitment. These results indicate that outcome interdependence moderates the relationship between overall diversity and satisfaction and performance, but does not significantly moderate the relationship between diversity and commitment. Thus, we found partial support for Hypothesis 1b.

Moderating effect of group longevity

Hypotheses 2a and 2c predict that group longevity moderates the relationship between diversity and reflexivity. The results presented in Table 2 and Figure 3 show that group longevity indeed moderated this relationship. The significant interaction for overall diversity shows that teams high on group longevity are more reflexive when they have lower levels of diversity, whereas teams low on group longevity are more reflexive when they have higher levels of diversity ($F(1, 49) = 7.62$, $p < 0.01$), lending support to Hypothesis 2c, rather than 2a (See Figure 3).

The same interaction was found for educational diversity ($F(1, 49) = 7.14$, $p < 0.01$). No significant interactions were found for the other types of diversity when considered separately. This

Table 2. Results of the general linear model analysis (N = 54 teams)

	Reflexivity			Satisfaction			Commitment			Self-rated perf.		
	F	R ²	ΔR ²	F	R ²	ΔR ²	F	R ²	ΔR ²	F	R ²	ΔR ²
Step 1: Main effects												
Overall diversity (OD)	0.021	0.06		0.04	0.03		2.49	0.07		0.23	0.05	
Outcome int. (OI)	5.46*			2.72			2.16			2.48		
Group longevity (GL)	9.29**			6.29*			4.01*			4.72*		
Step 2: Two-way interactions												
OI × OD	8.60**	0.31	0.25**	3.86*	0.18	0.15*	3.20	0.17	0.10	4.17*	0.27	0.22**
GL × OD	7.62**			4.48*			3.37			4.17*		
OI × GL	4.45*			8.24**			4.45*			2.54		
Step 3: Three-way interactions												
OI × GL × OD	2.57	0.34	0.04	5.52*	0.27	0.09*	3.73†	0.23	0.07†	0.51	0.29	0.01

*p < 0.05; **p < 0.01; †p < 0.10; two-tailed.

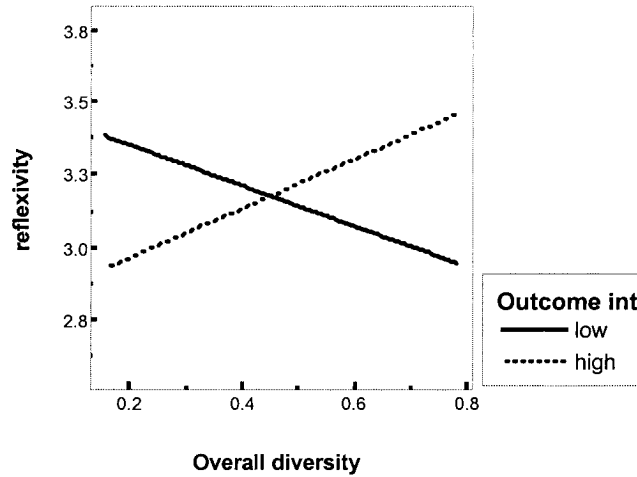


Figure 2. Reflexivity as a function of outcome interdependence and overall diversity

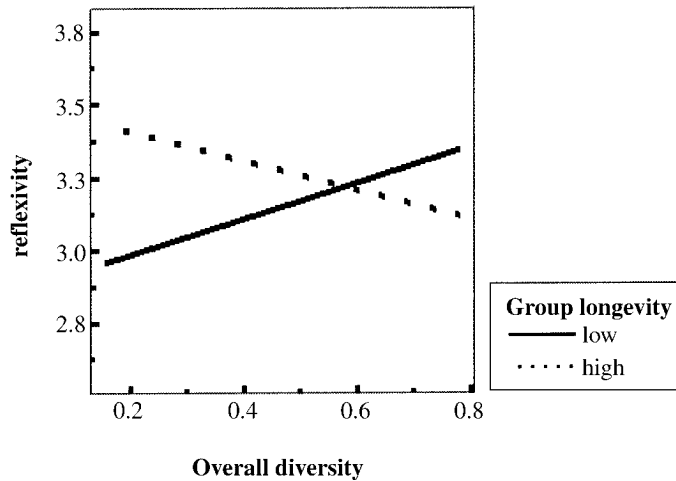


Figure 3. Reflexivity as a function of group longevity and overall diversity

might be due to the fact that less diversity existed in teams higher on group longevity, as was shown in Table 1.

In line with Hypothesis 2d, group longevity was found to significantly moderate the relationship between diversity and the outcome variables satisfaction and self-rated performance. This disconfirms Hypothesis 2b. Although the relationship for commitment pointed in the same direction, it was not significant. Again, the direction of the relationships supported Hypothesis 2c, rather than 2a. The shape and direction of the interaction were comparable to that shown for reflexivity in Figure 3.

The significant interaction for overall diversity shows that teams that are high on group longevity are more satisfied and perform better when they have lower levels of diversity, whereas teams low on group longevity are more satisfied when they have higher levels of overall diversity

($F(1, 49) = 4.48, p < 0.05$ for satisfaction and $F(1, 49) = 4.17, p < 0.05$ for self-rated performance). No significant separate effects were found for the different types of diversity.

Diversity–satisfaction and the diversity–commitment relationship

The relationship between diversity and satisfaction and commitment might be even more complex. Hypothesis 3 predicted a three-way interaction for diversity, longevity, outcome interdependence, and affective outcomes. First, a significant three-way interaction showed that for low outcome-interdependent and less diverse teams satisfaction was higher than for low outcome-interdependent, more diverse teams, irrespective of group longevity. However, for high outcome-interdependent less diverse teams with *higher* group longevity, satisfaction was higher than for high outcome-interdependent, more diverse teams that were *low* on group longevity. The reverse was true for more diverse outcome-interdependent teams: Teams *low* on group longevity were *more satisfied* than the same kind of teams *high* on group longevity ($F(1, 45) = 5.52, p < 0.05$). For the separate types of diversity, a similar effect was found for diversity in gender ($F(1, 45) = 6.93, p < 0.05$). The direction and shape of this three-way interaction were similar to those for overall diversity described above. No separate effects were found for age, education, and tenure.

A similar three-way interaction was found for commitment although the p -value is slightly above 0.05 ($F(1, 45) = 3.73, p = 0.06$) (see Figure 4). No separate effects were found for the different types of diversity.

Mediation of reflexivity

To examine whether reflexivity mediates the interaction effect of diversity and team outcomes (Hypothesis 4), four steps are followed (this is an example of ‘mediated moderation,’ as described by Baron & Kenny, 1986). First, we need to demonstrate that an interaction effect of diversity and outcome interdependence on team outcomes as well as an interaction effect of diversity and group longevity on team outcomes exists. The preceding analyses revealed that these interaction effects with outcome interdependence as well as group longevity were significant for satisfaction and performance, but not for commitment. Furthermore, for both moderators, three-way interactions were obtained for satisfaction, and, to a lesser extent, commitment.

Second, the interaction effect of diversity and outcome interdependence as well as the interaction effect of diversity and group longevity on reflexivity should be significant. The preceding analyses indeed confirmed these interactions were significant. In the third step, the unique association of the mediator (i.e., reflexivity) with the measures of team outcomes should be demonstrated. Hence, satisfaction, commitment, and performance were each, in turn, regressed simultaneously onto diversity, outcome interdependence, group longevity, their interaction, and reflexivity. These analyses revealed that reflexivity was significantly associated with satisfaction, $F(1, 45) = 30.02, p < 0.001$, commitment, $F(1, 45) = 13.33, p < 0.01$, and performance, $F(1, 45) = 32.52, p < 0.001$.

As a final and fourth step, in order to examine whether the interaction effect of diversity and outcome interdependence and the interaction effect of diversity and group longevity on the measures of satisfaction, commitment, and performance were mediated by reflexivity, we added reflexivity in the general linear model used to assess the interaction effects. As can be seen in Table 3, the interaction effect of diversity and outcome interdependence and the interaction effect of diversity and group longevity were then no longer significant for satisfaction and performance. The three-way interactions for satisfaction and commitment were also no longer significant. This also holds for the simple main effects of group longevity on the measures of team outcomes. These findings provide support for Hypothesis 4, predicting mediation by reflexivity.

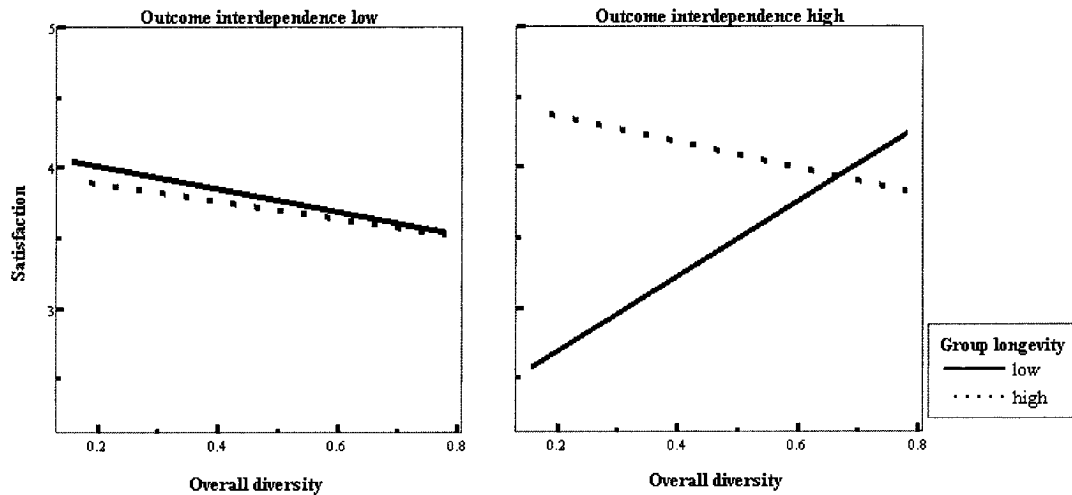


Figure 4. Satisfaction as a function of group longevity and diversity for low and high outcome-interdependent teams

Table 3. Results of the general linear model analysis with reflexivity as a mediator ($N = 54$ teams)

	Satisfaction			Commitment			Self-rated perf.		
	<i>F</i>	<i>R</i> ²	ΔR^2	<i>F</i>	<i>R</i> ²	ΔR^2	<i>F</i>	<i>R</i> ²	ΔR^2
Step 1a: Main effects		0.03			0.07			0.05	
Overall diversity (OD)	0.02			3.46 [†]			0.57		
Outcome int. (OI)	0.04			0.13			0.00		
Group longevity (GL)	0.44			0.30			0.05		
Step 1b: Mediator		0.53	0.50**		0.39	0.32**		0.54	0.49**
Reflexivity	30.02**			13.33**			32.52**		
Step 2: Two-way interactions		0.54	0.01		0.39	0.00		0.58	0.05
OI \times OD	0.01			0.15			0.02		
GL \times OD	0.18			0.28			0.09		
OI \times GL	3.49 [†]			1.38			0.07		
Step 3: Three-way interactions		0.57	0.03		0.41	0.02		0.58	0.00
OI \times GL \times OD	2.74			1.62			0.18		

* $p < 0.05$; ** $p < 0.01$; [†] $p < 0.10$; two-tailed.

Discussion

Although intuitively appealing, to date, only few studies assess the possible moderating role of outcome interdependence and group longevity in the diversity–team process and the diversity–team outcomes relationship. In the current study, several such moderating effects were found, as well as a mediational effect of reflexivity.

Outcome interdependence and group longevity both moderated the relationship between diversity and reflexivity in teams. Highly outcome-interdependent and diverse teams were more reflexive than their less outcome-interdependent counterparts. Thus, striving for a common goal may help diverse teams to be reflexive. In contrast, when teams do not have shared goals to pull members together

(i.e., outcome interdependence is low), teams in which individuals are more similar tend to be more reflexive than teams that are more diverse. Also, when members of less diverse teams do perceive a shared goal (i.e., outcome interdependence is high), less need for communication and reflexivity may exist as team members understand the goal and each other and feel they can move forward effectively without extensive communication. When teams are low on diversity but do not share common goals, more communication and reflexivity are required despite team member similarity, because objectives are less clear.

Group longevity was shown to moderate the relationship between diversity and reflexivity, such that 'older,' less diverse teams, as well as 'younger,' highly diverse teams, are higher on reflexivity than both 'young,' less diverse teams and 'old' highly diverse teams. Thus, diverse teams high on group longevity were found to be less reflexive. Teams with low levels of diversity may become reflexive over time, because of the self-reinforcing nature of the interactions. Highly diverse teams might start exploring the different viewpoints early in their existence and thus may score higher on reflexivity. Later on, those teams might become less reflexive if viewpoints prove incompatible. Obviously, the cross-sectional nature of the data prevented us from testing such a longitudinal relationship directly. Future research could test these hypotheses using a longitudinal design.

The degree of reflexivity may decline over time in highly diverse teams for two reasons: (1) when conflicts arise high diversity may increase the likelihood they are perceived as relational, and (2) team member's problem-solving abilities may erode over time as members believe conflicts are linked to personal differences (age, gender, education, tenure) that cannot be resolved through increased communication. In contrast, less diverse teams may become more reflexive over time for two reasons: (1) when conflicts arise they may tend to be (perceived as) task related rather than relational, and (2) when the team has been together for a longer period of time, members may have developed effective problem-solving skills, involving integration and discussion of ideas.¹ This study also showed the moderating effect of outcome interdependence on the relationship between diversity and commitment to the team. It was found that highly outcome-interdependent teams that were more diverse showed more commitment to the team than less diverse teams that were low on outcome interdependence.

Three-way interactions showed that for low outcome-interdependent teams satisfaction and (to a lesser extent) commitment decreased with increasing diversity. For highly outcome-interdependent teams, the interactions with respect to satisfaction and commitment showed that satisfaction and commitment were high for diverse teams, but this only held for 'young' teams. Highly outcome-interdependent teams with low levels of diversity that were high on group longevity seemed to be most satisfied and committed compared to other teams. These findings refine findings reported in the diversity literature that suggest that less diverse teams are more satisfied and committed than highly diverse teams. Our findings show that group longevity and outcome interdependence moderate these relationships.

For highly outcome-interdependent teams, satisfaction and commitment were relatively high in diverse teams, but only for a short period of time. Satisfaction and commitment seemed highest when teams (a) were highly outcome interdependent, (b) had low levels of diversity, and (c) were together for some time (high on group longevity).

Finally, reflexivity was shown to mediate these relationships. Specifically, the above-mentioned two- and three-way interactions disappeared when reflexivity was added into the regression equation, while the main effect of reflexivity on satisfaction, commitment, and performance was highly significant. These results suggest that the effects of outcome interdependence and group longevity on the relationship between diversity and team outcomes are due to the effect on process.

¹The authors thank an anonymous reviewer of the *Journal of Organizational Behavior* for suggesting this interpretation.

Practical implications

Together, our results suggest that diverse teams might benefit most in terms of reflexivity and team outcomes if they are outcome interdependent, and that this effect becomes more pronounced over time. This may have implications for managers. Providing teams with (or help them define) clear goals as well as giving feedback on their collective performance may increase reflexivity in diverse teams. Katz (1982) found that teams which were together for some time communicated less. The results of this study suggest that this may only apply to highly diverse teams; teams with lower levels of diversity seem to reflect *more* when they have been together longer. Ensuring open discussion norms through training and feedback may help counteract the declining level of reflection and performance in diverse teams over time. Furthermore, the results run counter to the idea that highly diverse teams need more time to function well as a team, while members of less diverse teams would start reflecting right away. In contrast, the present results suggest that teams with lower levels of diversity need some time together and before becoming a well-functioning team, as was suggested by Zenger and Lawrence (1989). More diverse teams are more reflexive at first, exploring whether members' viewpoints differ. Members of such teams may become increasingly isolated from each other when perspectives prove incompatible. This process may lead to less reflexivity over time, and lower team performance. Clearly, longitudinal studies are needed to provide more insight into the effects of diversity on team reflexivity and team outcomes over time.

Strengths and limitations of the study

This is one of the first studies on diversity that attempts to investigate the moderating role of outcome interdependence and group longevity alongside the mediating effect of team process. The study was conducted among different types of teams from a variety of organizations. Thus, reasonable generalizability is expected. It is often difficult to obtain moderator effects in a field setting (McClelland & Judd, 1993). Here they were found using a relatively small sample of teams. More such research seems needed.

The study of course has several limitations. First, our data were self-reported. However, the likelihood of problems due to common method variance is low for two reasons. First, although the diversity measures were self-rated, it seems unlikely that inaccurate answers were given, since the variables ask factual questions regarding gender, age, education, and tenure on the team and group longevity. Second, as described earlier, found interactions are more likely to be attenuated than non-existent (Evans, 1985).

The cross-sectional nature of the study is another limitation. This design does not allow for testing of directionality of the results. For instance, rather than follow teams over time, we asked team members how long the team had been together as a team, and compared 'young' and 'old' teams. Additional longitudinal and experimental research is necessary to study team development over time.

Finally, the sample of teams was relatively small. Despite this relatively small sample, we did find many predicted interactions. However, the small sample size might have been problematic for testing the three-way interactions. Future research might test such interactions with a larger number of teams.

Conclusion

This study shows that the relationship between diversity and team processes as well as the relationship between diversity and team outcomes is not as straightforward as was proposed in previous work.

Outcome interdependence and group longevity were found to moderate the relationship between diversity and reflexivity. The benefits of diversity for team process and outcomes only applied to highly outcome-interdependent teams and teams low on group longevity. Reflexivity mediated the relationships, which supports a process model of diversity (Williams & O'Reilly, 1998). This study assessed conditions under which 'birds of a feather flock together' or 'opposites attract.' The combined effects of diversity and group longevity, as well as the combined effects of diversity and interdependence, were important for predicting reflexivity and in turn team outcomes. In order to increase reflexivity, diverse teams should be made more outcome interdependent, for instance, through the use of rewards based on team performance. Also, these teams should be made aware of the possible decline in levels of reflexivity over time, for instance, as part of a team training.

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