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Goal Orientation in Teams: The Role of Diversity



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By

Anne Nederveen Pieterse

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**Doel oriëntaties in teams:
De rol van diversiteit**

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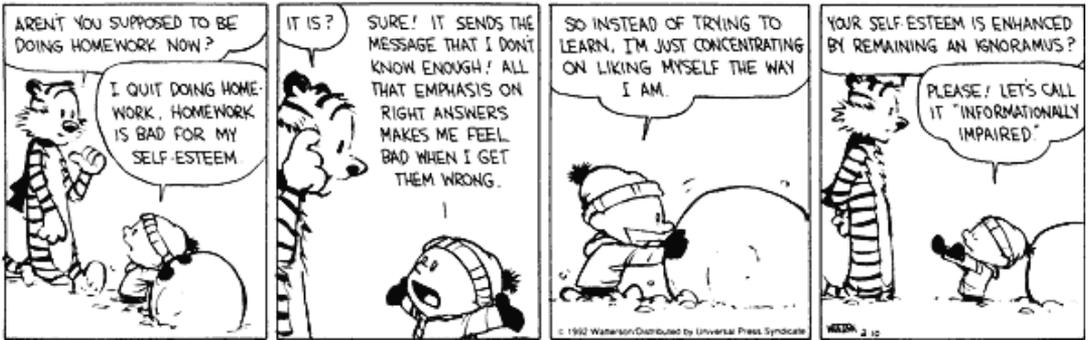
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Chapter 1

Introduction

Present-day organizations make increasingly use of team-based structures (DeShon, Kozlowski, Schmidt, Milner, & Wiechman, 2004; Ilgen, 1999; LePine, 2003). Therefore, determining what drives team performance is more and more important for organizations. Teams can be defined as collectives composed of two or more interdependent individuals who interact and share common responsibilities or objectives (Ilgen, 1999; Sundstrom, DeMeuse, & Futrell, 1990). A great amount of research has revealed important insights on team functioning over the past decades, but still much needs to be done (Mathieu, Maynard, Rapp, & Gilson, 2007). Even though we know relatively much about antecedents of individual motivation and performance, how these findings extrapolate to a team context remains largely unclear. Research on goals is one of the central themes of the applied psychology literature where substantial progress has been made. Remarkably though, we know relatively little on how goal directed behavior plays out in a team context (DeShon et al., 2004). One of the most relevant and at present most studied theories in this respect is goal orientation theory (Dweck, 1986; Dweck & Leggett, 1988). This theory focuses on how people respond to achievement settings. It has shown that people may be oriented towards performance or learning in these settings, which relates to several differing outcomes for individuals. The theory received a substantial body of research and has proven its value for predicting numerous outcomes for individuals in educational as well as organizational settings (e.g., Elliot & Church, 1997; Payne,

Youngcourt, & Beaubien, 2007; VandeWalle, Brown, Cron, & Slocum, 1999). However we know relatively little on how goal orientation plays out in a team context.

Research into team functioning as well as goal orientation are central themes in today's applied psychology literature that stayed remarkably separate. We argue that integrating these literatures is important to fully grasp the effects of goal orientation as well as team functioning in organizations. Therefore, the central question of the present dissertation is:

What is the role of goal orientation in team functioning?

Over the past year the workforce is becoming increasingly diverse, making it increasingly relevant for organizations to uncover how differences between team members affect team functioning. Indeed, team diversity is one of the focal area's in team research at present. Notwithstanding the extreme popularity and importance of the theme, research has not yielded coherent conclusions (van Knippenberg & Schippers, 2008). Some studies found positive effects whereas other studies found negative effects of team diversity, which holds for most types of demographic diversity, but also for diversity in individual differences variables. This lead researchers to argue that any type of diversity may have positive as well as negative effects, depending on the circumstances (van Knippenberg, De Dreu, & Homan, 2004). Thus, researchers called for the study of contingencies of the effects of diversity. Uncovering the determinants of positive as well as negative effects of diversity in teams is an important area in the applied psychology literature where important progress still needs to be made. Therefore, team diversity will receive special attention within our effort to answer the central question of the dissertation.

GOAL ORIENTATION

Goal orientation theory originated in educational psychology several decades ago. Several researchers Eison (e.g., 1979), Nichols (e.g., 1975), Ames (e.g., Ames & Ames, 1976; Ames, 1984), and Dweck (e.g., 1975; 1986; Diener & Dweck, 1978), were working on related theories concerning why some people show more adaptive learning patterns whereas others have more maladaptive or helpless patterns, which appeared to be unrelated to cognitive ability. Dweck's work received the most attention throughout the literature. She argued that people have preferences for certain goals in achievement setting and these goal choices affect how people respond in achievement situations. Adaptive 'mastery' patterns are argued to relate to challenge seeking and effective persistence, whereas the maladaptive or helpless pattern relates to challenge avoidance, negative self cognitions, and low persistence. The different goal orientations argued to cause these differences are learning (or mastery) orientation and performance orientation. Learning orientation is a focus on developing competence and performance orientation reflects a focus on demonstrating competence (Dweck, 1986). Dweck and colleagues argued that at the base of these goal orientations lie different implicit intelligence theories (Diener & Dweck, 1978). Learning oriented individuals were argued to have an incremental belief structure, which means that these individuals believe that ability can be increased by effort and practice. Performance orientation on the other hand is related to an entity belief structure; the belief that ability is fixed. A tremendous amount of research in the educational field examined and found support for goal orientation theory (e.g., Dweck, 1986, 1999). Farr, Hofmann, and Ringenbach (1993) introduced goal orientation to the work domain and argued that the theory holds great potential for understanding important differences in work motivation and performance in organizations. Since this introduction goal orientation has become one of the most frequently studied motivational variables in applied psychology (DeShon & Gillespie, 2005).

In the late 90's researchers argued that performance orientation should be subdivided into approach or prove and avoid or avoidance dimensions (Elliot &

Harackiewicz, 1996; VandeWalle, 1997). Following this development mainly performance avoidance orientation was shown be detrimental for performance (e.g., Payne et al., 2007). Performance approach orientation is less consistently negative, and has been shown to have some positive outcomes (e.g., Payne et al., 2007; Porath & Bateman, 2006). More recently researchers have reasoned that learning orientation may also entail avoidance motivations (Elliot & McGregor, 2001). However, little research has demonstrated the value of this addition, as many studies have not incorporated learning avoidance dimensions or found no relationships for this dimension (e.g., DeShon & Gillespie, 2005; Kaplan & Maehr, 2006).

In the organizational literature, studies have shown the importance of goal orientation for several outcomes. For example Janssen and van Yperen (2004) demonstrated that goal orientation was related to individual job performance, innovation, job satisfaction, and leadership. Other researchers examined goal orientation in sales settings and found that goal orientation was related to sales performance, feedback seeking, proactive behavior, emotional control, effort, learning behaviors, and social competence (Porath & Bateman, 2006; VandeWalle et al., 1999). Also a recent meta-analysis confirmed the role of goal orientation in job performance (Payne et al., 2007). These studies have shown that the argument of Farr and colleagues (1993) that goal orientation is a valuable theory for organizational behavior was warranted.

Even though there has been a tremendous amount of attention into goal orientation (for example in Google scholar: 20,800 hits or in ISI web of knowledge 1,112 hits related to goal orientation), we know little on how goal orientation plays out in a team context which is an important hiatus in the literature as knowledge on team functioning is increasingly important for organizations today.

GOAL ORIENTATION IN TEAMS

A study that may be relevant to our research question, even though focused on the individual level, is a study by Kristof-Brown and Stevens (2001). They examined the effects of congruence between an individual's and other team members' perceived and actual goal orientation on individual level outcomes. Congruence between own performance orientation and the perceived performance orientation of others was found to relate to individual satisfaction and contributions. However, perceived learning goals of other team members were a stronger predictor of individual satisfaction and contributions than congruence of them with an individual's own learning goals. Effects for other member's actual goals were found to be much smaller. Obviously, this study did not focus on team outcomes or on performance outcomes. However, it shows preliminary evidence that other members' goal orientation may affect team members functioning, which may extrapolate to the team level.

Goal orientation can affect team functioning in a number of ways. First, team goal orientation can be viewed as a collective construct. A team as a whole can focus more or less on learning as well as performing. At present two studies followed this approach and studied goal orientation as a collective construct. DeShon and colleagues (2004) found that teams that focus highly on learning had higher levels of team efficacy and team goal commitment. Teams that focused strongly on performance only had higher levels of team efficacy. Another study focused only on team learning orientation and found that medium levels of team learning orientation were most optimal for team performance and too much emphasis on learning may hurt team performance (Bunderson & Sutcliffe, 2003).

However, goal orientation in teams does not only play out in team climate. The goal orientations of the team members may also affect team functioning, which is studied by examining team composition in goal orientation. As research has shown that goal orientation greatly affects individual behavior, the goal orientations of individual in teams should also play an important role in team functioning. Two recent studies examined team composition in goal orientation

(LePine, 2005; Porter, 2005). Both of these studies examined average levels of the team members on learning and performance (approach) orientation. These studies showed that member's learning orientation was positively related to team efficacy, backing up behavior, team commitment, and - although dependent on goal difficulty - team adaptation (LePine, 2005; Porter, 2005). However, unexpectedly no relationship with team performance was found (Porter, 2005). Mean levels of performance orientation were also not found to relate to team performance (Porter, 2005), but they have been found to be negatively related to team adaptation (depending on goal difficulty), and team efficacy (dependent on performance levels) (LePine, 2005; Porter, 2005). High mean levels of performance orientation have also been related to team commitment; when performance was high a positive relationship was found (Porter, 2005).

OVERVIEW OF THE DISSERTATION

Clearly little is known on how goal orientation plays out in a team context, but considering the large impact on the individual level, team members' goal orientation may play a major role in team functioning. The first studies in this area have indeed shown the potential impact of team composition in goal orientation for team functioning (Lepine, 2005; Porter, 2005). In the present dissertation we thus aim to clarify the role of team composition in goal orientation on team functioning. We address a number of gaps in present knowledge that cause important flaws in our understanding.

Chapter 2 Ethnic diversity as a double edged sword: The moderating role of goal orientation

The workforce is becoming more and more diverse. Therefore, more and more attention is being paid to the study of the impact of ethnic diversity. Over the past decade numerous studies have tried to uncover whether ethnic diversity is positively or negatively related to team performance. However, the results were inconsistent with some studies finding ethnic diversity was beneficial and others that it was detrimental (e.g., Williams & O'Reilly, 1998; van Knippenberg & Schippers, 2007). In chapter 2 we argue that mean goal orientation can help in determining when diversity in ethnicity may be beneficial and when it may be detrimental. Members with high learning (approach) orientation make more use of deep-level information processing (e.g. Elliot, McGregor, & Gable, 1999) and may employ less social categorization and ingroup bias (cf. Dweck, 1999). Therefore, a high average learning orientation should help teams employ their differing perspectives and make ethnic diversity a valuable resource for the team. On the other hand, we argue that team members with high levels of performance avoidance orientation employ more social categorization, in-group bias, and surface-level information processing (Elliot et al., 1999; cf. Dweck, 1999). Hence, an increase in performance avoidance orientation should be related to a more negative relationship between ethnic diversity and team performance. An interesting side-effect of this study is that this may also help in understanding the previous inability to uncover effects of mean levels of goal orientation on team performance (Porter, 2005). We study these hypotheses in a semi-field study with business students working on a business simulation over a period of two weeks.

Chapter 3 Diversity in goal orientation, team reflexivity, and team performance

As previously described a few recent studies showed that mean levels of goal orientation are important for team functioning (LePine, 2005; Porter, 2005).

However, team members can also differ from each other in their goal orientation. Differences between team members may substantially affect the functioning of a team (van Knippenberg & Schippers, 2007). No research has examined the effects of diversity in goal orientation, which we argue is an important hiatus in our present knowledge. In chapter 3, we argue that diversity in goal orientation plays a large role in team functioning as differences in goal orientation are related to different approaches to task work (e.g., Payne et al., 2007), which should make team interaction more difficult. Due to decreases in group information elaboration and efficiency this should decrease group performance. As aligning goals and strategies should eliminate these issues, we examine team reflexivity as a means to counteract these negative effects. We make use of a laboratory setup to examine these hypotheses to enable more control and the use of non-intrusive measures to examine mediating group processes.

Chapter 4 Goal orientation diversity and team leadership

In this study, we make use of manipulated goal orientation diversity to extend the applicability to settings where work goals affect team behavior instead of individual differences (state versus trait goal orientation). Moreover, in organizations both performance and learning is important. Therefore, having a focus on both learning and performance may be promising for teams instead of only a source of interaction difficulties. Thus, we are interested in uncovering circumstances in which diversity in goal orientation may have beneficial effects. Potentially a variable that may diminish coordination issues would eliminate the negative impact of diversity in goal orientation on information elaboration and therewith enable the positive outcomes to emerge. Therefore, we expect that a coordinating team leader may help teams make use of the positive potential of having members focus on learning and on performance, without suffering interaction difficulties. We examine these issues with an experiment, to make more solid conclusions about causality.

Chapter 5 Goal orientation in teams: A general discussion

The final chapter contains an overview of the main findings and contributions of the dissertation. In addition, future research opportunities are identified.

Chapter 2

Ethnic Diversity as a Double-Edged Sword: The Moderating Role of Goal Orientation

As the workforce is becoming increasingly diverse, knowledge of under what circumstances ethnic diversity may be beneficial or detrimental is very important for organizations. In the present study we uncover team composition in terms of goal orientation as a moderator of the effects of ethnic diversity. In a study with groups working on a complex business simulation we show that high learning orientation helps teams reap the benefits of ethnic diversity, whereas low learning orientation is detrimental for the effects of ethnic diversity. In addition, high performance avoidance orientation is associated with a negative ethnic diversity - performance relationship.

Throughout the world the workforce is becoming more and more ethnically diverse (e.g., van Knippenberg & Schippers, 2007). As most organizations make use of teams as their basic structure, this has spawned an incredible amount of research attention to the effects of ethnic diversity on team performance (Milliken & Martins, 1996; Jackson, Joshi, & Erhardt, 2003; Williams & O'Reilly, 1998). However, research has been unable to consistently predict effects of ethnic diversity (van Knippenberg & Schippers, 2007). Researchers consequently termed diversity a double edged sword (Milliken & Martins, 1996), as some studies found positive effects (e.g., Cady & Valentine, 1999; McLeod, Lobel, & Cox, 1996; Phillips, Northcraft, & Neale, 2006), whereas others found negative effects (Kooij-de Bode, van Knippenberg, & van Ginkel, in press; Riordan & Shore, 1997). Therefore, researchers have called for more sophisticated theories of diversity that take into account contingencies of the effects (e.g. Pelled, Eisenhardt, & Xin, 1999; van Knippenberg, De Dreu, & Homan, 2004; van Knippenberg & Schippers, 2007). Undeniably, identifying when teams are able to benefit from ethnic diversity and when ethnic diversity will be detrimental is of great importance to organizations in today's business world.

The motivation to make use of diverse information and learn from differing perspectives has been identified as key in determining positive effects of ethnic diversity (Ely & Thomas, 2001; van Knippenberg et al., 2004), whereas the tendency to employ social categorization and intergroup bias has been argued to foster the negative effects of ethnic diversity (Gaertner & Dovidio, 2000; van Knippenberg et al., 2004). Combining both of these contingencies when studying possible moderators is vital for getting a comprehensive picture of the effects of ethnic diversity and being able to predict both positive and negative consequences (van Knippenberg et al., 2004). We argue that goal orientation is of particular interest in this respect. From social psychology we know that goals, and in particular information processing goals, are not only related to information processing but also to social categorization (Pendry & Macrae, 1996). However, the role of goals in the effects of diversity has been neglected in the organizational literature, even though research on goals is a central theme of the field. Over the past decades especially goal orientation has received a tremendous amount of

attention of organizational researchers, showing its relevance in organizational settings (e.g., Porath & Bateman, 2006; VandeWalle, Brown, Cron, & Slocum, 1999). We argue that goal orientation plays an important role in determining the effects of diversity, as goal orientation is related to tendencies to use thorough or shallow information processing (Fisher & Ford, 1998; Ford, Smith, Weissbein, Gully, & Salas, 1998; Meece, Blumenfeld, & Hoyle, 1988; Radosevich, Vaidyanathan, Yeo, & Radosevich, 2004). Moreover, goal orientation has been related to competitiveness and to the extent people are motivated to protect their self-worth (Martin, Marsh, Debus, & Williamson, 2003) which have both been related to increased use of intergroup bias (Gaertner & Dovidio, 2000; Sassenberg, Moskowitz, Jacoby, & Hansen, 2007; Rubin & Hewstone, 1998). Therefore, we propose that goal orientation plays an important role in determining when ethnic diversity will be harmful for team performance and when it will be beneficial.

Interestingly, the present study also extends our understanding of the impact of goal orientation in teams. Goal orientation has received a tremendous amount of attention on the individual level showing it is related to numerous outcomes, as for example satisfaction, performance, and task approach (e.g., Janssen & van Yperen, 2004; Payne, Youngcourt, & Beaubien, 2007; VandeWalle et al., 1999). However, far less attention has been paid to goal orientation in a team context. Recently a few studies have shown that team composition in goal orientation indeed also plays an important role in team processes, but effects on team performance have been less pronounced (LePine, 2005; Porter, 2005). We argue that the role of goal orientation in team performance may depend on the need for thorough information processing and on the extent to which competitiveness and fear of failure may be harmful, as with high ethnic diversity.

THEORY AND HYPOTHESES

Ethnic diversity in teams

People from different ethnic groups differ in cultural identity, which may or may not relate to differences in physical features. Members of cultural identity groups share certain worldviews, sociocultural heritage, norms, and values (Cox, 1993; Ely & Thomas, 2001; Worchel, 2005). Research in ethnic diversity has typically emphasized social categorization or information/decision making perspectives (Williams & O'Reilly, 1998; van Knippenberg & Schippers, 2007). The social categorization perspective argues that social categories are activated upon encountering people with different ethnic backgrounds. Ethnic diversity in teams is thus a source of subgroup categorization, giving rise to intergroup biases and decreased satisfaction and performance. The information/decision making perspective, on the other hand, maintains that ethnic diversity can have positive consequences due to a larger pool of informational resources. People from different ethnic backgrounds may have different belief structures, priorities, perceptions, assumptions about future events, beliefs about the role of peripheral information, or methods to process issues (e.g., multiple issues at the same time or process issues sequentially) (e.g., Cox & Blake, 1991; Ely & Thomas, 2001; Hall, 1976; Maznevski, 1994; Tsui & O'Reilly, 1989; cf., Hambrick and Mason, 1984; Pelled et al., 1999). These differences may translate into different perspectives on the task and a focus on different information. The information/decision making perspective argues that these different perspectives and information are a valuable resource for the team and thereby ethnic diversity should have positive consequences. Both information/decision making and social categorization perspectives received a fair amount of research attention. However, results support neither of these perspectives consistently (for reviews see van Knippenberg & Schippers, 2007 and Williams & O'Reilly, 1998).

A recent model the categorization-elaboration model (CEM), argues for the simultaneous application of social categorization and information/decision making

perspectives instead of the singular use of either of them (van Knippenberg et al., 2004). An important proposition in the model is that diversity can elicit both positive and negative consequences. Whether diversity has positive consequences depends largely on the extent to which team members are willing to invest the extra effort needed to elaborate on the diverse information and perspectives. Indeed, research has shown that the presence of differing perspectives does not automatically mean that groups make use of these larger pools of information. Even more, the contrary seems more prevalent (Stasser, 1999; Wittenbaum & Stasser, 1996; Van Ginkel & van Knippenberg, 2008). This led researchers to argue that motivation to thoroughly process information is a key moderator of diversity effects (van Knippenberg et al., 2004). On the other hand, the degree of intergroup bias was argued to determine whether diversity will be harmful for performance. Research has shown that under some circumstances team members are more likely to make use of “us” vs “them” thinking (e.g., Gaertner & Dovidio, 2000). Variables that affect the ease of cognitive activation of social categories, the extent to which these social categories make subjective sense, and feelings of threat, were posited as important moderators of the negative effects of diversity.

Thus, identifying moderator variables that integrate both the motivation to elaborate on information and the tendency to develop intergroup bias would be crucial in adequately predicting the effects of ethnic diversity in teams. We argue that team composition in goal orientation is related to both of these contingencies and therefore is a key moderator of ethnic diversity effects.

Goal orientation

Goal orientation is an individual difference dimension related to certain goal preferences in achievement contexts. These goals affect an individual’s actions and reactions in these situations (Dweck, 1986; Dweck & Leggett, 1988; VandeWalle, Cron, & Slocum, 2001). Learning orientation is associated with a focus on developing knowledge and increasing competence and performance orientation is a focus on demonstrating competence by gaining positive evaluations, avoiding

negative evaluations, and outperforming others (Dweck, 1986). Learning orientation has been related to the belief that competence can be developed (incremental theory). Performance orientation on the other hand has been associated with the belief that ability is fixed (entity theory). Therefore, performance orientation has been related to fear of failure and the loss of face associated with it, as to people with high performance orientation low performance is an indication of low ability (Colquitt & Simmering, 1998; Dweck, 1999). Goal orientation has been shown to be a relatively stable trait that may be influenced by situational characteristics (Button, Mathieu, & Zajac, 1996).

Researchers have argued and demonstrated that performance and learning orientation should be further subdivided into approach and avoidance dimensions (Elliot & Church, 1997; Elliot & McGregor, 2001; VandeWalle, 1997). Since this distinction, research showed that performance avoidance orientation is mostly dysfunctional and effects of performance approach orientation are less distinctly negative (e.g., Elliot & McGregor, 1999; Payne et al., 2007; Porath & Bateman, 2006). Therefore, researchers concluded that primarily the performance avoidance dimension underlies the negative effects previously ascribed to performance orientation (Brophy, 2004; Payne et al., 2007). To date, little is known on the effects of learning avoidance orientation. Previous research on learning orientation that did not explicitly refer to approach or avoidance dimensions in effect had an approach focus and thus can be equated with a learning approach orientation. Learning avoidance orientation is relatively new and little examined, therefore the predictive pattern still needs to be established (Cury, Elliot, Da Fonseca, & Moller, 2006).

Goal orientation has received a tremendous amount of attention of researchers at the individual level, demonstrating its relevance for outcomes as task approach, motivation, and performance (e.g., Elliot & Church, 1997; Payne et al., 2007; Phillips & Gully, 1997). Moreover, even though early research in the area focused on children and students in academic settings (e.g., Licht & Dweck, 1984; Meece et al., 1988), research has shown that results extend to organizational settings (Janssen & van Yperen, 2004; Payne et al., 2007; Porath & Bateman, 2006; Sujan, Weitz, & Kumar, 1994; VandeWalle et al., 1999). Recently research has started to

uncover the effects on team functioning. Studies have shown that team composition in goal orientation is related to team efficacy (Porter, 2005), backing up behavior (Porter, 2005), team commitment (Porter, 2005), and team adaptation (LePine, 2005). These studies demonstrate that team composition in goal orientation plays an important role in team member attitudes and behavior. However, the relationship with team performance has been less pronounced (Porter, 2005). Thus, while the focus of the current study clearly is on ethnic diversity, as an interesting and potentially important aside the study may also be interpreted as pertaining to a moderator of the relationship between team member goal orientation and team performance.

Ethnic diversity and goal orientation

In the next sections we will discuss how the dimensions of goal orientation may affect the impact of ethnic diversity on team functioning, starting with the dimensions of learning orientation followed by the dimensions of performance orientation.

Learning orientation. Because the research that focused on learning orientation entailed an approach focus and therefore can be equated with learning approach orientation, we will start our discussion of learning orientation with learning approach orientation. We argue that learning approach orientation may be beneficial for dealing with ethnic diversity. Individuals higher in learning approach orientation are interested in developing their competence on tasks. Therefore, they will be inclined to put more effort into getting a thorough understanding of the task (Fisher & Ford, 1998). Consequently, they make more use of deep-level information processing (Elliot, McGregor, & Gable, 1999; Ford et al., 1998; Meece et al., 1988; Radosevich, et al., 2004). These group members will be more motivated to explore different perspectives within a team (Gully & Phillips, 2005). Thus, for these groups diversity in ethnicity may be beneficial for performance, as they are motivated to explore - and thereby are able to make use of - the more

elaborate pool of available information inherent in ethnic diversity. Moreover, for individuals high in learning orientation a challenge is an additional motivator as research has shown that learning oriented individuals are motivated more by high effort learning situations (cf., Ames, Ames, & Felker, 1977; Ames & Archer, 1988). As interactions in diverse teams are less self evident and team members may have differing perspectives on the task, diversity has been dubbed a challenge for teams. This would imply that learning oriented team members will be stimulated by ethnic diversity. Moreover, in the face of difficulty or challenge learning oriented people have been argued to focus on exploring the task and possible strategies (Farr, Hofmann, & Ringenbach, 1993). This will also tend to increase the likelihood that these individuals will be able to profit from the diverse perspectives within the team and will benefit from diversity.

In addition, because of the innate tendency to engage in more deep-level information processing people high in learning orientation may have been less inclined to use surface level information processing, such as heuristics (i.e. stereotyping), throughout their lives. Therefore, for these people social categorization may be less cognitively accessible. Moreover, for people high in learning orientation social categorization may be less meaningful for task-related issues. Also, research has shown that information-processing goals may diminish stereotyping (Pendry & Macrae, 1996). In addition, researchers have argued that people high in learning orientation are more accepting of diverse points of view (Gully & Phillips, 2005) and more open-minded (Kroll, 1988). Moreover, research has shown that the basis of learning orientation, the belief that people can change (incremental theory), is related to diminished stereotyping (Dweck, 1999; Levy, Stroessner, & Dweck, 1998). Thus, in short, we expect that learning approach orientation may not only diminish the negative effects of ethnic diversity, but also stimulate the use of the differing perspectives inherent in ethnic diversity, and therefore may make ethnic diversity a valuable asset for team performance.

Hypothesis 1: The relationship of ethnic diversity with group performance is moderated by learning approach orientation, such that ethnic diversity is negatively related to group performance for groups with members lower in

learning approach orientation and positively related to group performance for groups with members higher in learning approach orientation.

Learning avoidance orientation reflects a focus on avoiding a negative event and a comparison with an individual's own past performance (Elliot & McGregor, 2001). Therefore, it shares the self-referent norm for evaluating performance with learning orientation and the focus on avoiding something negative with performance avoidance orientation. Because of this combination researchers have found it hard to make predictions for learning avoidance orientation (e.g. Elliot & McGregor, 2001) or did not incorporate it in their research as they argued it should only be applicable to a small subset of people (DeShon & Gillespie, 2005). Moreover, learning avoidance orientation has not been related to information processing strategies (Elliot & McGregor, 2001; Kaplan & Maehr, 2007). As we also have no reason to expect learning avoidance orientation to affect the use of intergroup bias, we do not expect learning avoidance orientation to moderate the effects of ethnic diversity. However, we will include learning avoidance orientation in our study to provide a comprehensive test of the role of goal orientation in the effects of ethnic diversity and to explore the effects in a team context.

Performance orientation. As previously described researchers have argued that performance avoidance orientation is the dimension underlying the prior found negative effects of performance orientation (Payne et al., 2007). Therefore, we will start our reasoning with the performance avoidance dimension of goal orientation. Individuals high in performance avoidance orientation are focused on avoiding that others perceive them as incompetent. Thus, developing a thorough understanding of the task is not their aim. Therefore, people high in performance avoidance orientation are less inclined to use deep-level information elaboration (e.g., Elliot & McGregor, 2001; Elliot et al., 1999; Radosevich et al, 2004). Also, because of their concern with their relative competence in combination with increased anxiety and worry (Elliot & McGregor, 1999), they may be more prone to feel threatened by different perspectives and less motivated to explore them. Moreover, as

previously discussed, diversity adds an extra challenge to group interactions. For individuals high in performance (avoidance) orientation additional challenges have been argued to engender feelings of anxiety and shame, and more defensive attitudes towards the task, such as devaluing the task. When facing these challenges or difficulties, individuals with high performance avoidance orientation will focus their attention on the difficulty and on task-irrelevant thoughts such as worrying about ability perceptions, instead of putting extra effort into the task by for example exploring task strategies (Dweck & Leggett, 1988; Elliot & McGregor, 1999; Farr et al, 1993). This may result in defensive behaviors such as task withdrawal or self-handicapping (e.g., Midgley & Urda, 1995). This may not only result in decreased performance due to a decline in task focused effort, but also due to decreased utilization of diverse perspectives. Thus, groups with members high in performance avoidance orientation are less inclined to elaborate extensively on task-relevant information when working in a diverse team. As a result, in these groups diversity in ethnicity will tend to have no beneficial effects.

Moreover, individuals high on performance avoidance orientation are more likely to use surface-level information processing (e.g., Elliot & McGregor, 2001; Elliot et al., 1999), such as heuristics. Therefore, stereotyping may be more meaningful to them. Furthermore, as they thus may have made more use of stereotyping throughout their lives, stereotypes are likely to be also more cognitively accessible to them. This makes social categorization in ethnically diverse teams more salient to these individuals. Also intergroup bias may be more readily activated due to feelings of threat, as these individuals are more inclined to have a fear of failure, to feel anxious about losing face upon poor performance, and to be more competitive. Due to the higher salience of social categories, the competitiveness may shift from an individual focus to a sub-group focus. This may make these individuals feel more easily threatened in their subgroup identity. Intergroup competition has indeed been related to increased intergroup bias in previous research (e.g., Gaertner & Dovidio, 2000; Sassenberg et al., 2007). Moreover, entity theory - the belief that people's attributes are fixed -, which is the base of performance orientation, has indeed been shown to relate to increased stereotyping (e.g., Dweck, 1999; Levy et al., 1998). Also, performance orientation

has been related to heightened self-awareness, which has been argued to have the potential to shift to other areas of the self and thereby evoke “stereotype threats” (Kaplan & Maehr, 2007). These effects should be especially prevalent in ethnically diverse teams where ethnicity may be a basis for social categorization and stereotype threat. Moreover, it can be more difficult to talk to and understand people from different ethnic backgrounds. This may cause individuals high in performance avoidance orientation to withdraw into their own subgroup, making it more likely they will make use of social categorization and intergroup bias.

Therefore, we expect performance avoidance orientation to interact with ethnic diversity, making diversity negatively related to performance when performance avoidance is high. This leads to the following hypothesis.

Hypothesis 2: The relationship of ethnic diversity with group performance is moderated by performance avoidance orientation, such that ethnic diversity is negatively related to group performance for groups with members higher in performance avoidance orientation and less strongly related to group performance for groups with members lower in performance avoidance orientation.

Performance approach orientation involves an approach motivation and therefore represents a focus on positive outcomes. Therefore, researchers have argued that it may not be as negative as previously assumed for performance orientation (e.g., Harackiewicz, Barron, Pintrich, Elliot, & Thrash, 2002; Kaplan & Maehr, 2007). Individuals high in performance approach orientation may see challenges as opportunities and are sensitive to success-relevant information (Porath & Bateman, 2006). Research has shown that it is indeed mainly performance avoidance that is related to negative outcomes and performance approach orientation is less harmful (e.g., Elliot & McGregor, 1999; Payne et al., 2007; Porath & Bateman, 2006). Moreover, performance approach orientation has been related to several positive outcomes (e.g., Elliot & Church, 1997; Harackiewicz et al., 2002; Kaplan & Maehr, 2007). On the other hand, individuals high in performance approach orientation are competitive, as they are motivated to

perform better than others. This may be related to increased use of social categorization and intergroup bias (e.g., Sassenberg et al., 2007). Moreover, some researchers have disagreed with the positive side of performance approach orientation (Midgley, Kaplan, & Middleton, 2001). Therefore, there seem to be arguments for positive and negative effects of performance approach orientation on the outcomes of ethnic diversity, which may cancel each other out. Moreover, performance approach orientation has been found unrelated to various outcomes, including information processing strategies and anxiety and worry (e.g., Radosevich et al., 2004; Elliot et al., 1999; Elliot & McGregor, 1999). Therefore, we do not expect the effects of ethnic diversity to be moderated by performance approach orientation. Again, we will include performance approach orientation in our study to provide a comprehensive test of the role of goal orientation in the effects of ethnic diversity.

METHOD

Sample and procedure

Respondents in this study were students of a large business school in the Netherlands enrolled in an HRM class. The students worked intensively for a period of 2 weeks in teams of 4¹ on a business simulation. Each team represented a company and they were to make several decisions on how to run the company on a daily basis, making the teamwork comparable to teams in organizations. Before the simulation started surveys were sent by email to the students. Three hundred seventy six usable questionnaires were returned by the students (94 percent). Twenty two incomplete teams were deleted from the study, leaving a sample of 79 complete teams and 312 students. Seventy three percent were male and mean age was 22.57 (*SD* = 2.06). Seventy five percent were Dutch, 5 % were from Surinam background, 5 % Chinese, 3 % Indonesian, 3 % Antillean, and the remaining 8 %

were from various ethnic backgrounds (e.g., Moroccan, Serb, Vietnamese, etc.). Fifty one percent of the teams had at least one team member with a different ethnic background compared to the other team members.

Measures

Goal orientation. To measure goal orientation an adjustment of the 12-item questionnaire by Elliot and McGregor (2001) was used. Each scale of goal orientation was measured with 3 items (learning approach orientation, learning avoidance orientation, performance approach orientation, performance avoidance orientation). Sample items are “I want to learn as much as possible from studying at college” (learning approach), “My goal in my schoolwork is to avoid performing poorly” (performance avoidance) rated on a 7-point scale ranging from 1 (*totally disagree*) to 7 (*totally agree*). Confirmatory factor analysis showed that the intended four-factor structure fitted the data satisfactorily ($\chi^2 = 127.09$, $df = 48$, CFI = .94, GFI = .94, RMSEA = .07, $p < .001$). In addition, this model had a significant better fit than a 1-factor solution ($\chi^2 = 808.60$, $df = 54$, CFI = .45, GFI = .64, RMSEA = .22, $p < .001$; $\Delta \chi^2 = 681.51$, $p < .001$), a 2-factor solution with learning versus performance orientation ($\chi^2 = 534.09$, $df = 53$, CFI = .65, GFI = .75, RMSEA = .17, $p < .001$; $\Delta \chi^2 = 407.00$, $p < .001$), and a 2-factor solution with approach versus avoidance dimensions ($\chi^2 = 384.35$, $df = 53$, CFI = .76, GFI = .81, RMSEA = .14, $p < .001$; $\Delta \chi^2 = 257.26$, $p < .001$).

Numerous researchers have argued that the nature of the team task (disjunctive, conjunctive, compensatory, or additive; Steiner, 1972) partly determines the appropriate operationalization of individual difference variables (e.g., Barrick, Stewart, Neubert, & Mount, 1998; LePine, 2003). The task in the present study contains additive elements where performance is determined by joint effort. All team members contribute their piece to the puzzle and therefore the team’s performance is not dependent on only the best member’s performance, making it not a true disjunctive tasks. Also the weakest team member did not solely determine the team’s performance. Moreover, our research purpose focuses

on dealing with diversity for which the responses of all team members play a role. Dealing with diversity is thus an additive task for teams. As our aim is not to study the main effect of an individual difference variable on task performance, we argue that this is a more important indicator of the appropriate operationalization than the nature of the task itself. Therefore, we used the average level of the dimensions of goal orientation as an indicator of members' goal orientation².

Ethnic diversity. Participants were asked to fill out their ethnic background. In the diversity literature the recommended index for calculating diversity of categorical variables (diversity as variety; Harrison & Klein, 2007) is Blau's index of heterogeneity (1977). The formula is $1 - \sum (P_i)^2$, where P_i is the proportion of a team's members in the i^{th} category.

Team performance. Team performance was determined by the team's performance on four group assignments and the simulation. The assignments consisted of writing a business plan for the organization, writing a management audit on their organization's performance half way through the simulation, and writing an evaluation report at the end of the simulation. During the simulation they were to make several decisions, which they were to bundle with their rationale into a fourth team assignment. Z-scores were calculated for each assignment and their performance on the simulation, and averaged into an overall performance score.

Control variables. Past research has argued that team member familiarity may affect team performance and diversity effects (e.g., Gruenfeld, Mannix, Williams, & Neale, 1996; Phillips, Mannix, Neale, & Gruenfeld, 2004). Therefore, we took in member familiarity as a control variable. Respondents were to judge how well they knew each team member on a scale from from 1 (*not at all*) to 5 (*very well*). These scores were added together and aggregated to the team level to create a team score of familiarity. No index for within group agreement was calculated as a team member not knowing any of his or her team mates will have a different score from the team member that besides that one member knows all

other team members very well. In this situation the team score would still be an accurate reflection of member familiarity (cf. Gruenfeld et al., 1996).

RESULTS

Preliminary analyses

Table 1 displays correlations among all variables. Only member familiarity was found to correlate significantly with team performance.

Table 1. Descriptive statistics and correlations among the variables

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6
1 Familiarity	2.85	0.91	-					
2 Ethnic diversity	0.24	0.27	-.25*	-				
3 Learning approach orientation	5.30	0.50	.03	.11	(.76)			
4 Learning avoidance orientation	4.16	0.72	-.07	.18	.25*	(.86)		
5 Performance approach orientation	4.29	0.73	.11	-.03	.54**	.26*	(.85)	
6 Performance avoidance orientation	4.37	0.61	.15	.07	.39**	.56**	.32**	(.60)
7 Team Performance	0.00	0.57	.26*	-.10	-.05	-.10	.13	.03

Note. Cronbach alphas are reported on the diagonal between brackets

N = 77

* *p* < .05

** *p* < .01

Hypothesis testing

Two outliers were removed from analysis based on significant mahalanobis distances ($\chi^2 = 29.86$, $p < .001$; $\chi^2 = 30.06$, $p < .001$). We used hierarchical multiple regression to test our hypotheses. In the first step the regression model included member familiarity, ethnic diversity, learning approach orientation, learning avoidance orientation, performance approach orientation, and performance avoidance orientation. Only familiarity was marginally related to team performance. In the second step the interactions of each aspect of goal orientation with ethnic diversity were added. The second step had a significant added value over the model in the first step.

Table 2. Hierarchical regressions of team performance

Variable	Step 1				Step 2			
	<i>b</i>	<i>SE b</i>	β	<i>t</i>	<i>b</i>	<i>SE b</i>	β	<i>t</i>
Familiarity	.14	.08	.22	1.79 [†]	.16	.07	.25	2.10*
Ethnic diversity	-.01	.25	-.01	-.05	-.08	.23	-.04	-.32
Learning approach orientation	-.19	.16	-.16	-1.16	-.07	.15	-.06	-.41
Learning avoidance orientation	-.11	.11	-.14	-1.02	-.17	.11	-.21	-1.53
Performance approach orientation	.16	.11	.21	1.51	.25	.11	.32	2.39*
Performance avoidance orientation	.07	.14	.08	.51	.04	.13	.04	.32
Learning approach * ethnic diversity					2.05	.58	.43	3.52**
Learning avoidance * ethnic diversity					-.05	.46	-.02	-.11
Performance approach * ethnic diversity					.45	.38	.17	1.20
Performance avoidance * ethnic diversity					-1.43	.50	-.40	-2.86**

$R^2 = .11$ for Step 1; $\Delta R^2 = .33^*$ for Step 2

$N = 77$

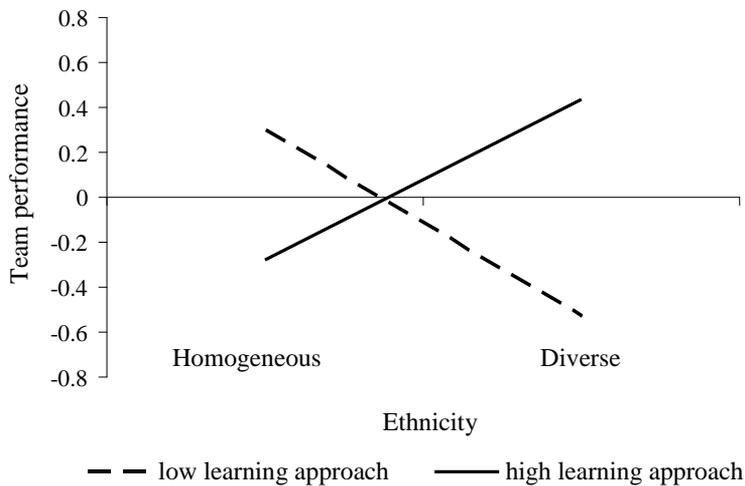
[†] $p < .10$

* $p < .05$

** $p < .01$

As expected the interaction between ethnic diversity and mean learning approach orientation was significant (see Table 2; see Figure 1). To establish the nature of this interaction, we performed simple slopes analysis (Aiken & West, 1991). Following expectations, ethnic diversity was negatively related to team performance when learning approach orientation was low (minus 1 SD) ($b = -1.11$, $\beta = .52$, $p < .01$). When learning approach orientation was high (plus 1 SD) ethnic diversity was positively related to team performance ($b = .96$, $\beta = .45$, $p < .05$). Thus, Hypothesis 1 is supported.

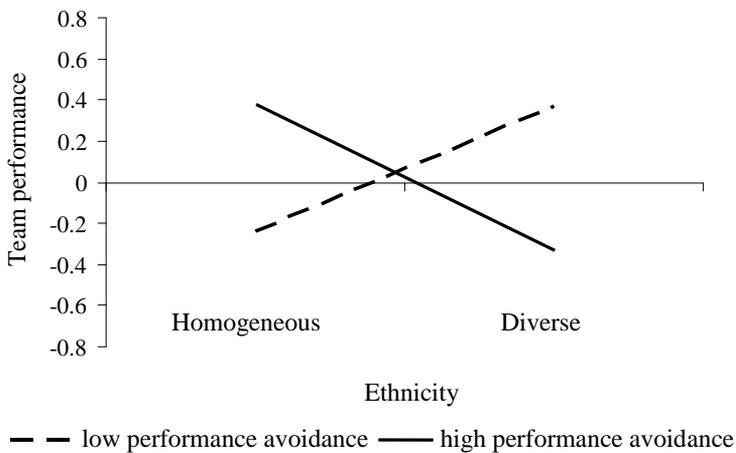
Figure 1. The interaction between ethnic diversity and learning approach orientation on team performance.



Following Hypothesis 2 an interaction was found between ethnic diversity and mean performance avoidance orientation (see Table 2; see Figure 2). Simple slopes analysis showed that, following expectations, ethnic diversity was negatively related to team performance when performance avoidance orientation was high ($b = -.95$, $\beta = -.45$, $p < .05$). With low performance avoidance orientation ethnic

diversity was marginally positively related to team performance ($b = .80, \beta = .38, p < .05$). No interactions between ethnic diversity and learning avoidance orientation or performance approach orientation were found (see Table 2).

Figure 2. The interaction between ethnic diversity and performance avoidance orientation on team performance.



DISCUSSION

The aim of the present study was to bring to light when ethnic diversity is beneficial and when it is detrimental for team performance, as past research has found inconsistent results and therefore termed diversity a ‘double edged sword’ (Milliken & Martins, 1996; van Knippenberg et al., 2004). The present study establishes goal orientation as an important contingency of both positive and negative effects of ethnic diversity in teams. As expected we found that the

relationship of ethnic diversity to team performance was moderated by both learning approach orientation and performance avoidance orientation. Ethnic diversity was negatively related to team performance with low learning approach orientation and high performance avoidance orientation. Ethnic diversity was positively related to team performance when teams were highly motivated to master the task, i.e. with high learning approach orientation.

Theoretical implications

The present study highlights that ethnic diversity can indeed be both helpful and harmful for team functioning, even when teams are working on the same task. This finding underlines the argument made in the CEM model that integrating information processing/decision making perspectives and social categorization perspectives is a more promising avenue for predicting effects of ethnic diversity than either of them in isolation (van Knippenberg et al., 2004). Moreover, the finding that ethnic diversity can have both positive and negative outcomes stresses the importance of studying contingencies of these effects of ethnic diversity.

In addition, the results indicate that goal orientation may be a promising avenue for research on ethnic diversity. Previous research has shown that although goal orientation is a relatively stable trait, it can be influenced by situational factors (Button et al., 1996). This implies that antecedents of goal orientation may also be valuable moderators of the relationship of ethnic diversity to team performance. Goal orientation may thus serve as a mediator for the effects of other variables. Previous research has shown that several variables may affect an individual's goal orientation. For example research has argued that normative feedback (performance relative to others) should heighten performance orientation of employees relative to self-referent feedback systems (e.g. Farr et al., 1993). A similar argument can be made for reward systems (i.e., based on self- or other-referenced performance). In addition, leaders may instigate higher learning or performance orientation through creating performance approach, performance avoidance, or learning oriented work group climates (Dragoni, 2005). Moreover,

setting individual or group development goals or more performance approach or avoidance goals may also affect team members state goal orientation. Considering our findings of goal orientation, it may be interesting to extend research to goal research more generally. Future research may for example study whether goal content may also serve as a valuable moderator for ethnic diversity effects.

The present study shows that individual differences may play an important role in the effects of ethnic diversity in teams. Thus, our results extend the recent finding of the impact of openness to experience on the effects of diversity (Homan, Hollenbeck, Humphrey, van Knippenberg, Ilgen, & Van Kleef, 2008). Goal orientation theory, however, is more specific to achievement settings such as organizations and may therefore be more relevant in these settings.

The present study was the first to examine the impact of the sub-dimensions of goal orientation in a team context. Previous studies on team composition goal orientation and team functioning only examined the broader categories of learning and performance orientation (LePine, 2005; Porter, 2005). Furthermore, the finding that goal orientation can affect the way groups deal with diversity is an important extension of our understanding of the impact of goal orientation in teams. Previous research has shown that goal orientation can affect team processes such as team efficacy and commitment, but was unable to show effects on team performance (Porter, 2005). The present study shows that this may be contingent on the circumstances. Learning orientation may only be useful for teams when deep information processing is valuable, which corresponds to arguments made by previous authors that learning orientation may be mainly beneficial for new and relatively complex tasks or when individuals need to adapt to changing circumstances (e.g., LePine, 2005; Seijts, Latham, Tasa, & Latham, 2004; VandeWalle et al., 2001). The impact of performance avoidance orientation on team performance may also depend on the need for extensive information processing or on the harmfulness of competitiveness and fear of failure. This opens up intriguing research opportunities for research on goal orientation in teams. For example performance avoidance may be more harmful in situations where intense cooperation between team members is needed, such as teams with distributed information or functional diversity. Learning orientation may also be more

advantageous for teams with distributed information as information elaboration is particularly important in these teams (Van Ginkel & van Knippenberg, 2008).

A few studies on team functioning have examined goal orientation as a collective construct instead of as a team composition variable and found that collective goal orientation also plays an important role (DeShon, Kozlowski, Schmidt, Milner, & Wiechmann, 2004; Bunderson & Sutcliffe, 2003). Bunderson and Sutcliffe (2003) found that collective learning orientation is curvilinearly related to team performance, where the most beneficial results were found for medium level learning orientation. Therefore, they argued that increased learning orientation is not always beneficial. To some extent a team should focus on what it already knows and use this knowledge to perform well. Our findings corroborate and extend their arguments, as team composition in learning orientation was only beneficial with high ethnic diversity; when knowledge gathering and integration was needed.

Past research has argued that not enough attention has been paid to the role of goal orientation in social contexts (Darnon, Butera, & Harackiewicz, 2007; Janssen & van Yperen, 2004). Most research has focused on individuals and how they deal with their task, however people often work in social environments. The way people respond to other people may also be affected by goal orientation (Darnon et al., 2007). The present study contributes to this relatively unexplored area in the literature by demonstrating that goal orientation may affect the impact of the social environment of team members. Thus, not only do we shed light on the role of goal orientation in a team context, but also how the impact of ethnic differences between team members may be shaped by goal orientation. Furthermore, Janssen and van Yperen (2004) demonstrated that learning oriented individuals have higher quality relationships with their leaders. Based on the results of the present study future research may examine whether this relationship may be even more pronounced when the leader has a different ethnic background or may extrapolate to co-workers with differing ethnic backgrounds.

Practical implications

The confirmation that ethnic diversity can have both positive and negative consequences highlights the importance of managing diversity for organizations. Countering diversity is not only unfair and hardly possible with today's workforce, it may also cause organizations to pass up on the competitive advantage ethnic diversity may hold. Properly managing how teams deal with diversity may determine whether an organization will reap the promising gains of the increasingly diverse workforce.

Moreover, the present study points to some intriguing options of dealing with diversity that differ from the more commonly argued methods. Within the literature ethnic diversity is argued to be more positively related to performance when a team has a shared superordinate identity (recategorization), or sees itself as separate individuals (decategorization) (Gaertner & Dovidio, 2000; Gaertner, Dovidio, Banker, Houlette, Johnson, McGlynn, 2000), or when attitudes valuing different ethnic backgrounds are highlighted (Homan, van Knippenberg, van Kleef, de Dreu, 2007). However, these strategies have disadvantages, such as that they may be difficult to apply in practice, make social categories more salient, induce identity-threat, or may only be able to negate the detrimental effect and not harvest the potential and thereby may be counter-productive (e.g, Swann, Polzer, Seyle, & Ko, 2004). Our findings indicate that for stimulating positive or less negative consequences of ethnic diversity, it is not necessary to focus on social or ethnic identities. As an alternative, organizations can focus on the goal orientation of members of ethnically diverse teams (or perhaps more practically; all teams, as usually employees switch between teams quite regularly).

Based on the present study we would concur with arguments made by researchers that it may be valuable to select employees on the basis of goal orientation (e.g., VandeWalle et al., 1999). Goal orientation may not only be useful in and of itself, but it may also help teams profit or at least not suffer from ethnic diversity. As the work force is becoming increasingly diverse this may become more and more valuable for organizations in years to come.

In addition, organizations may wish to influence effects of ethnic diversity in existing teams. As goal orientation can be influenced by situational factors (Button et al., 1996), inducing a high learning approach orientation and preventing to provoke a performance avoidance orientation may help teams deal with ethnic diversity. Possible ways to do this may be emphasizing the importance of team and personal development, de-emphasizing competition in corporate communication, and creating an environment where employees feel secure and mistakes are seen as learning opportunities and are not punished. This can be highlighted by training and appropriate compensation and feedback systems (Farr et al., 1993, VandeWalle et al., 1999). In addition, leaders may be made aware of the role of goal orientation in teams through training and learn how to heighten learning orientation and diminish performance avoidance orientation. However, by measuring the level of goal orientation within diverse teams, organizations may examine whether any of these interventions are needed before making any investments. Also, organizations can decide to take appropriate action only in teams or departments where it is needed.

Limitations and future research

One limitation of our study is the use of a student sample. However, we made use of a task similar to work in organizations where performance on the task is personally relevant to the participants. In addition, there is no reason to expect students to differ from other populations in their behavior in achievement settings (Brown & Lord, 1999; Dipboye, 1990; van Knippenberg & van Knippenberg, 2005, Wofford, 1999). Nevertheless, replicating the current findings in an organizational setting would be valuable.

Another limitation is that we were unable to collect any process measures. However, previous research has repeatedly shown the relationships underlying our arguments, the relationship between learning orientation and deep-level information processing and performance avoidance orientation and feelings of threat, anxiety and competition (e.g., Elliot, McGregor, 1999; Elliot et al., 1999;

Ford et al., 1998; Meece et al., 1988; Radosevich, et al., 2004). Nonetheless, we acknowledge that a moderated mediation model would be beneficial to show the merit of our underlying rationale.

Finally, as we made use of a survey design we cannot make any conclusions based on causality. Replication in a laboratory study would be valuable to establish our anticipated chain of events.

Conclusion

With today's fast changing workforce making use of the potential of ethnic diversity may be vital for organizations. The present study demonstrates that team members' goal orientations play an important role in how ethnic diversity plays out in a team context. We show that high learning orientation may be vital for teams to reap the benefits of ethnic diversity, whereas high performance avoidance orientation may bring about detrimental consequences. Thus, goal orientation is key in determining ethnic diversity effects.

FOOTNOTES

¹ A few teams consisted of 3 members instead of 4. Therefore, we examined team size as a control variable. Incorporating team size in our model did not alter our findings. Moreover, team size was not related to team performance. Therefore, we did not incorporate team size in our final model.

² As there is no reason to expect team members to have similar personalities no RWG_j or ICC values were calculated.

Chapter 3

Diversity in Goal Orientation, Team Reflexivity, and Team Performance

Although recent research highlights the role of team member goal orientation in team functioning, research has neglected the effects of diversity in goal orientation. We argue that diversity in learning and performance orientation is related to decreased group performance, due to reduced information elaboration and group efficiency. In addition, we propose that team reflexivity can counteract the negative effects of diversity in goal orientation. A laboratory study with groups working on a complex problem-solving task largely supports these hypotheses, suggesting that models of goal orientation in groups should incorporate the effects of diversity in goal orientation.

Arguably, much of the behavior at work is goal-directed. Accordingly, dispositional differences in goal-orientation – individual differences in preferred goals in achievement situations (Dweck, 1986; Dweck & Leggett, 1988) – have been shown to exert a powerful influence on individual motivation, emotion, task strategies, and performance at work (e.g., Payne, Youngcourt, & Beaubien, 2007; Porath & Bateman, 2006). Given that teams and workgroups are often the primary unit of organization (DeShon, Kozlowski, Schmidt, Milner, & Wiechmann, 2004; Guzzo & Salas, 1995; Kozlowski & Bell, 2003) and the abundant evidence for the influence of goal orientation at the individual level, the question arises how goal orientation plays out in a group performance context. Only recently researchers set foot in this underdeveloped area (Bunderson & Sutcliffe, 2003; DeShon, Kozlowski, Schmidt, Milner, & Wiechman, 2004; LePine, 2005; Porter, 2005). Their studies looked at team goal orientation (either operationalized as the mean of individual goal orientation or as a collective state) and showed that goal orientation also plays an important role in team functioning. Yet, teams bring in another dimension not applicable to the individual level, namely differences between team members (e.g., Kozlowski & Bell, 2003) – i.e., diversity in goal orientation. The effects of diversity in goal orientation have been disregarded so far, and in the present study we aim to put these effects on the research agenda by outlining how diversity in goal orientation may influence group processes and performance.

We propose that diversity in goal orientation is related to differences in task approach, leading to decreased group information elaboration and group efficiency, which in turn diminish team performance. This is especially true for more complex tasks that inherently leave more room for differences in task goals and strategies to materialize. Moreover, as the problems associated with diversity in goal orientation originate in differences in goals and strategies, collectively considering common goals and strategies should diminish the detrimental effects of diversity in goal orientation. Jointly reflecting on team goals and strategies (i.e., team reflexivity; West, 1996) helps teams to build a common understanding of appropriate goals and strategies. Accordingly, we propose that team reflexivity attenuates the negative relationship between diversity in goal orientation and team performance.

THEORY AND HYPOTHESES

Goal orientation

Goal orientation is a predisposition to adopt and pursue certain goals in achievement contexts (Dweck & Leggett, 1988; VandeWalle, 1997). In this respect, a distinction is made between learning orientation and performance orientation (Dweck, 1986). Learning orientation is associated with a focus on developing knowledge and increasing competence. Performance orientation is a focus on demonstrating competence by gaining positive evaluations and outperforming others. It has been associated with a general avoidance of difficult tasks, due to a fear of failure and the loss of face associated with it (Colquitt & Simmering, 1998; Dweck, 1999). Goal orientation is mostly seen as a relatively stable trait that may be influenced by situational characteristics (Button, Mathieu, & Zajac, 1996). Although learning orientation and performance orientation were originally seen as opposing poles (Dweck, 1986), researchers have argued that individuals often have multiple, competing goals (Button et al., 1996). Indeed research has shown that learning orientation and performance orientation are best portrayed as two separate and independent dimensions (Button et al., 1996). Thus, people can be high (or low) in both learning and performance orientation.

Goal orientation has received a tremendous amount of attention of researchers at the individual level, but research has only recently started to explore effects of team composition in goal orientation on team functioning. Studies have shown that mean levels of learning orientation of team members was positively related to team efficacy (Porter, 2005), backing up behavior (Porter, 2005), team commitment (Porter, 2005), and team adaptation (moderated by goal difficulty; LePine, 2005), but no relationship with team performance has been found (Porter, 2005). Team members' performance orientation has also not been related to team performance, but research has shown that it can be negatively related to team adaptation (depending on goal difficulty; LePine, 2005) and team efficacy (depending on performance levels; Porter, 2005). Team members mean levels of performance

orientation have also been related to team commitment; when performance was high a positive relationship was found (Porter, 2005). There thus is strong evidence that goal orientation may affect team member attitudes and behavior. None of these studies, however, has made clear what role diversity in goal orientation plays in team functioning, and this is the issue we put center-stage in the present study.

We argue that diversity in goal orientation can have clear consequences for groups. Goal orientation is related to various variables associated with task approach in individuals (e.g., Payne et al., 2007). These differences in task approach make it hard for teams diverse in goal orientation to work together effectively, decreasing their propensity to elaborate on information and making them less efficient. This will be particularly problematic for groups involved in relatively complex tasks that inherently leave more room for differences in task strategies and goals to play out.

Diversity in goal orientation

There is an extensive literature on the effects of diversity, but research in the area has mainly focused on demographic differences and on differences closely associated with the job itself such as functional and educational background. Differences in personality and individual disposition have received far less attention and studies yield few if any clear conclusions (van Knippenberg & Schippers, 2007; Williams & O'Reilly, 1998). Accordingly, rather than relying on diversity models that are tailored to explain the effects of demographic or functional diversity or have delivered little results in personality diversity, we focus our analyses on what we know from goal orientation research specifically. We apply these insights to derive hypotheses about the influence of goal orientation diversity. As discussed previously, trait learning orientation and performance orientation are best portrayed as independent dimensions instead of as opposing poles, making the study of diversity in goal orientation revolve around two dimensions of diversity: diversity in learning orientation and diversity in performance orientation.

Learning orientation has been related to numerous process variables, such as feedback seeking (e.g., Payne et al., 2007; VandeWalle & Cummings, 1997), effort (Fisher & Ford, 1998), persistence (Dweck & Leggett, 1988), deep-level information processing (Ford, Smith, Weissbein, Gully, & Salas, 1998), proactive behavior (Farr, Hofmann, & Ringenbach, 1993), self-set goals (Payne et al., 2007), and learning strategies (e.g., Fisher & Ford, 1998; Payne et al., 2007). Consequently, group members that differ in learning orientation can be expected to proceed differently on a task. These differences in preferred task approach are likely to make communication and coordination difficult. As team members value different aspects of the task at different points in time, they will have more difficulty getting on the same page. We argue that these difficulties of team members to relate to each other will affect two processes important for performance on complex tasks, group information elaboration and group efficiency.

Group information elaboration has been defined as the exchange, discussion, and integration of task relevant information and perspectives (van Knippenberg, De Dreu, & Homan, 2004) and has repeatedly been identified as an important determinant of group performance in complex tasks (Homan, van Knippenberg, Van Kleef, & De Dreu, 2007; van Ginkel & van Knippenberg, 2008; cf. Dahlin, Weingart, & Hinds, 2005). Groups may not only differ in the extent to which they engage in a process of information elaboration, but also in their efficiency in doing so. Due to for instance communication problems and misunderstandings, some groups will need more time to reach the same level of elaboration (i.e., to ‘cover the same ground’) compared to others. Diminished group efficiency may bring about time management problems, such as running out of time at the end of the project and being under elevated time pressure. In turn these time management problems will decrease team performance (e.g., Bluedorn & Dernhardt, 1988; Doob, 1973, Kelly & McGrath, 1985; cf. Macan, Shahani, Dipboye, & Phillips, 1990).

First, in regard to information elaboration members of groups diverse in learning orientation may have more trouble building on each other’s information and perspectives. As they are working on different issues at the same point in time,

team members' comments may seem less relevant. Therefore, they are less likely to follow-up on the information provided. As a consequence, subsequent information exchange may also seem less inviting as other members' responses to comments have not been very encouraging. Therefore, these groups may have lower information elaboration compared to groups homogeneous in learning orientation. This proposition is consistent with the more general notion that diversity may disrupt group information elaboration (van Knippenberg et al., 2004). Research on demographic diversity for instance suggests that team members may be less open to others' communication in diverse groups (cf. Bhappu, Griffith, & Northcraft, 1997; Kooij-de Bode, van Knippenberg, & van Ginkel, in press). Also, in a recent meta-analysis group heterogeneity (member dissimilarity) was related to diminished information sharing (Mesmer-Magnus & DeChurch, 2008). Thus, as information elaboration is highly valuable for group performance, we argue that diversity in learning orientation is negatively related to group performance, mediated by information elaboration.

The second process we argue to be affected by the difficulties in interaction coming from diversity in learning orientation is group efficiency. Differences in task approach between team members associated with differences in learning orientation may make group interaction less smooth and self-evident, as team members have more trouble relating to each other. We posit that besides diminishing information elaboration, this may make teams proceed more slowly on the task as team members may need more time to get on the same page. These teams may spend more time discussing less relevant information and on coordinating team members' preferences. Also they may be more hesitant and indecisive, as they are less sure about their team members' points of view, again making the interaction less time-efficient. Differences in point of view on how tasks should be accomplished have indeed been related to decreased performance and prolonged task completion, causing time-management problems such as difficulty in meeting deadlines (e.g., Jehn, 1997). Thus, we also expect group efficiency to mediate the negative relationship of diversity in learning orientation with performance.

A similar argument can be made for diversity in performance orientation, as performance orientation has also been related to several variables associated with task approach. Individuals with high performance orientation have been found to focus their attention on performance indicators and less on the task and on possible mistakes (Button et al., 1996). Also, performance orientation has been related to the use of strategies that minimize the need for effort (Fisher & Ford, 1998) and to learning strategies (Payne et al., 2007). Therefore, we argue that differences between group members in performance orientation will also lead to differences in task approach, resulting in the same problems as proposed to follow from diversity in learning orientation. Hence, we expect diversity in goal orientation to be related to decreased performance, mediated by group information elaboration and efficiency.

We propose that differences in preferred task approach may cause diversity in goal orientation to be detrimental to performance. This allows us to also identify moderators of the relationship between diversity in goal orientation and group process and performance. This further development of our analysis with a moderator variable is not only important in terms of theory development, but also in terms of the practical implications of our analysis. A moderator variable that may attenuate the negative relationship between diversity in goal orientation and performance that is under managerial control would be a valuable tool in the management of teams. We argue that because the problems caused by differences in goal orientation within groups originate in differing task strategies, the development of more common goals and strategies may diminish the negative effects of diversity in goal orientation. Collectively reflecting on the team's goals and strategies (i.e., team reflexivity; West, 1996) can help groups develop agreement on appropriate task strategies, neutralizing detrimental effects of diversity in goal orientation.

Team reflexivity

Team reflexivity is defined as ‘the extent to which group members overtly reflect upon, and communicate about the group’s objectives, strategies and processes, and adapt them to current or anticipated circumstances’ (West, Garrod, & Carletta, 1997, p. 296). Over the past years more and more attention is being paid to the relatively new concept of team reflexivity (e.g., De Dreu, 2002; Schippers et al., 2003; 2007; West, 1996; 2000). It has been found to relate to satisfaction, commitment, performance, and team innovation (Carter & West, 1998; Schippers et al., 2003; Tjosvold, Tang, & West, 2004). Reflexivity helps groups to clarify their goals and strategies and to reach a more common understanding of and agreement about these strategies and goals (Gurtner, Tschan, Semmer, & Nagele, 2007). Reflexivity may therefore be instrumental in overcoming the problems associated with diversity in goal orientations. While individual differences in learning and performance orientation predispose individuals to approach tasks in certain ways, team reflexivity may help groups to in a sense move beyond these dispositional differences and to reach a more shared understanding of the task.

Building on our earlier proposition that diversity in learning orientation and diversity in performance orientation lower group performance through group information elaboration and group efficiency, we may thus advance the hypothesis that this influence is contingent on team reflexivity. Groups that engage in reflexivity may overcome dispositional differences in goal orientation, and therefore diversity in goal orientation will no longer be associated with diminished information elaboration and efficiency. That is, we expect that information elaboration and group efficiency mediate the interactions of diversity in learning orientation and diversity in performance orientation with team reflexivity on group performance. In sum, we advance the following hypotheses.

Hypothesis 1a: Diversity in learning orientation is negatively related to group performance for non-reflexive groups and not related to group performance for reflexive groups.

Hypothesis 1b: The interaction between diversity in learning orientation and reflexivity on group performance is mediated by information elaboration.

Hypothesis 1c: The interaction between diversity in learning orientation and reflexivity on group performance is mediated by group efficiency.

Hypothesis 2a: Diversity in performance orientation is negatively related to group performance for non-reflexive groups and not related to group performance for reflexive groups.

Hypothesis 2b: The interaction between diversity in performance orientation and reflexivity on group performance is mediated by information elaboration.

Hypothesis 2c: The interaction between diversity in performance orientation and reflexivity on group performance is mediated by group efficiency.

We tested these hypotheses in an experiment with three-person groups involved in complex problem solving tasks. This set-up allowed us to manipulate team reflexivity and thus to establish causality in the proposed role of reflexivity. Moreover, the controlled set-up made it possible to assess group processes through relatively objective behavioral measures with relatively high validity (Weingart, 1997).

METHOD

Participants & design

Participants were 147 students, assigned to 49 three-person groups. One group had to be eliminated from the study due to logistical errors. The mean age of the participants was 20 ($SD = 1.83$) and 66.7% were male. The majority of these participants were enrolled in business administration or economics (97%). A compensation of 15 euro (approximately 18 USD) was paid out to participants.

Groups were randomly assigned to either the reflexive or the non-reflexive condition and measures of learning orientation diversity and performance orientation diversity were added to the design as continuous variables.

Task

Groups worked face-to-face on a collective rule induction task (Laughlin & Hollingshead, 1995). We used a collective induction task, as this is a complex problem solving task highly relevant for organizations. Moreover, as most more complex tasks in organizations, it entails performance as well as learning elements. Through collective induction groups cooperatively search for explanatory generalizations, rules and principles, by observations of patterns and relationships and by testing and revising hypotheses. Examples of collective induction teams are scientific research teams and specialized medical teams.

Groups were to discover card sorting rules (e.g., Laughlin & Hollingshead, 1995; Laughlin, VanderStoep, & Hollingshead, 1991). A standard deck of 52 playing cards was partitioned into exemplars and non-exemplars of the sorting rule. Instructions explained that the rule could be based on any attribute of the cards (e.g., suit, color, numerical and logical sorting rules, alternation, etc.) and several examples were given. The task consisted of four rules. With each rule the task started with one exemplar of the rule. Then participants were to think individually what they thought the rule might be. Consequently they were to come up with and write down a group hypothesis through communicating with fellow group members. Then, as a group they were to choose any of the 52 playing cards and place it above the last card. Next, they called the experimenter, who gave feedback by placing the card next to the last exemplar (when the card was an exemplar of the rule) or below the last exemplar (when the card was a non-exemplar). Groups received no further feedback during the rounds of each rule. A maximum of 10 rounds (coming up with individual hypothesis, group discussion, writing down of group hypothesis, playing a card, receiving feedback) and 10 minutes were given per rule. Lastly, groups were to write down their final group

hypothesis. After this, the experimenter informed the groups about the correct rule. Then groups received the first exemplar of the next rule, etc.

Goal orientation

Goal orientation was measured using the validated 16-item questionnaire of Button et al. (1996), with 8 items measuring performance orientation ($\alpha = .71$, $M = 3.77$, $SD = .49$) and 8 items measuring learning orientation ($\alpha = .65$, $M = 3.98$, $SD = .38$). Sample items include “The things I enjoy the most are the things I do the best” (performance orientation) and “The opportunity to learn new things is important to me” (learning orientation). The items were rated on a 5-point scale, ranging from 1 (completely disagree) to 5 (completely agree). Diversity was calculated as the standard deviation on each scale within each group (Harrison & Klein, 2007).

Experimental manipulation of reflexivity

Reflexivity was manipulated through written instructions. Reflexive groups were informed that to do well on the task it was important to discuss as much as possible how they are doing. Before starting on the task they were given two minutes to discuss the best approach or strategy for the task. In addition after each rule reflexive groups were given one minute to discuss their team work, whether they used the right approach to the task, what caused mistakes to occur, and how they could do better. They were encouraged to use the given time fully for this purpose, and to continue to reflect during the task. In the non-reflexive condition groups were given no extra instructions. These groups were given two minutes waiting time before the first rule and one minute after each rule.

Group performance

Group performance was operationalized as the total number of correct final group hypotheses, ranging from 0 (no correct final hypotheses) to 4 (all final hypotheses are correct) ($M = 1.56$, $SD = .99$).

Group information elaboration and group efficiency

Information elaboration was measured using audio-video recordings of 44 groups (4 groups had to be omitted due to technical problems). A coding scheme was developed adjusted from van Ginkel and van Knippenberg (2008), rooted in concrete behavioral anchors, such as sharing optional solutions, discussing evidence for or against possible solutions, explaining trains of thought to other group members, remarks inviting information elaboration (e.g., “let’s keep our options open, what else could it be?”), and elaboration avoidant remarks (e.g., “just do whatever, it doesn’t matter anyway”). Two coders blind to the conditions rated the groups on information elaboration giving a score from 1 to 5, where a higher score represented more information elaboration. One coder rated all groups, and the second coder rated a subset of 30% of the groups to determine interrater reliability ($M = 2.99$, $SD = 1.17$, $r = .92$).

Group efficiency was operationalized by the time taken for group discussion as used by Brodbeck and Greitemeyer (2000; $M = 31.53$, $SD = 4.98$). Note that a higher score means lower efficiency. Previous research suggests the independence of time efficiency and information elaboration in group work (c.f. Scholten, van Knippenberg, Nijstad, & De Dreu, 2007). Indeed in the present study group information elaboration and group efficiency were not related ($r = -.12$, ns). Moreover, our analyses enabled us to control for information elaboration when examining group efficiency.

Manipulation check and controls

As a manipulation check for the reflexivity manipulation four questions were adjusted from Schippers et al. (2007; $M = 3.25$, $SD = .71$, $\alpha = .61$). A sample item is “As a group we reviewed various approaches to the task” 1 (completely disagree) to 5 (completely agree).

In addition we measured to what extent team members liked the task, as people may vary greatly in the extent they like specific tasks and this may have an effect on performance independent from our model of diversity in goal orientation. By controlling for differences in task predilection, we can take out its influence on performance. It was measured with 3 items on a 5-point scale, ranging from 1 (completely disagree) to 5 (completely agree). A sample item is “I liked working on the task” ($M = 3.87$, $SD = .67$, $\alpha = .66$).

We also added mean learning orientation and mean performance orientation to the model. Previous studies have indicated that goal orientation is related to several team level variables and we were interested in effects of diversity in goal orientation independent of mean levels.

Procedure

On arrival in the laboratory participants were seated separately and asked to fill out a questionnaire. When finished they read the instructions for the group task and in the reflexivity condition they were given the reflexivity instructions (see above). When all group members finished reading all instructions they were seated at one table as a group. The experimenter repeated the basic task instructions and in the reflexivity condition repeated the reflexivity instruction and gave them two minutes to discuss the best way to approach the task. In the non-reflexive condition groups received no extra instructions and were given their first exemplar after waiting two minutes. Then groups started on the task as described above. After 5 minutes groups were warned that they had 5 minutes left. After each rule the reflexive groups were given one minute to reflect and the non-reflexive groups

waited for one minute for the next exemplar. After the final rule group members were seated separately again and were given a questionnaire, after which they were debriefed, thanked, and paid out for their participation. The entire experiment took approximately one and a half hours.

RESULTS

Preliminary analyses

Table 1 displays correlations among all variables. No significant correlations were found between the independent variables and control variables. Group information elaboration, group efficiency, and task liking were related to team performance (see Table 1).

Table 1. Correlations among the variables

Variable	1	2	3	4	5	6	7	8
1 Task liking								
2 Mean learning orientation	.24							
3 Mean performance orientation	.22	.14						
4 Diversity in learning orientation	-.05	.04	-.24					
5 Diversity in performance orientation	.09	.14	-.08	-.27				
6 Reflexivity	.08	.01	.24	-.07	.12			
7 Group efficiency	-.21	-.06	.02	-.15	.25	-.16		
8 Information elaboration	.43**	-.12	.25	.02	-.10	-.07	-.12	
9 Team performance	.52**	-.02	.08	-.06	-.17	-.11	-.45**	.58**

N = 48, for correlations with group efficiency and information elaboration *N* = 44

** *p* < .01

Manipulation check

$A_{wg(1)}$ values were calculated to check whether agreement on the manipulation check of reflexivity warranted analysis at the group level. A value of .85 was found well above the most frequently mentioned threshold of .70 (Brown & Hauenstein, 2005), giving justification for analyzing the manipulation check at the group level. A regression analysis of the reflexivity manipulation check measure on the reflexivity manipulation, diversity in learning orientation, diversity in performance orientation, the control variables, and interactions of reflexivity with diversity in learning orientation and diversity in performance orientation was performed. Only a main effect of the reflexivity manipulation was found ($b = .31, \beta = .30, p < .05$), such that groups in the reflexive condition had higher scores on the measure than groups in the non-reflexive condition. No interactions or other main effects were found. These findings indicate the effectiveness of the reflexivity manipulation.

Hypothesis testing

We used hierarchical multiple regression to test the hypotheses. Centered variables were used, following Aiken and West (1991). In the first step the regression model included the control variables task liking, mean learning orientation, mean performance orientation, reflexivity (dummy coded -.5 and +.5), diversity in learning orientation, and diversity in performance orientation. Task liking was, as expected, positively related to group performance. No other main effects were found. In the second step the interactions of reflexivity with diversity in learning orientation and diversity in performance orientation were added. The second step had a significant added value over the model in the first step. Table 2 shows the results of these analyses.

As expected (Hypothesis 1a) we found moderation by reflexivity of the relationship between diversity in learning orientation and group performance. Next we performed simple slopes analysis, following Aiken and West (1991). For groups in the non-reflexive condition a negative relationship of diversity in

learning orientation with group performance was found ($b = -2.86, \beta = -.48, p < .05$). For the reflexive groups no relationship between diversity in learning orientation and performance was found ($b = 1.16, \beta = .19, ns$).

In line with Hypothesis 2a, an interaction was found between reflexivity and diversity in performance orientation on group performance. Simple slopes analysis showed that for non-reflexive groups diversity in performance orientation had a negative relationship with group performance ($b = -2.49, \beta = -.58, p < .01$). For the reflexive groups no relationship between diversity in performance orientation and performance was found ($b = .50, \beta = .12, ns$).

Table 2. Hierarchical regressions

Variable	Step 1				Step 2			
	<i>b</i>	<i>SE b</i>	β	<i>t</i>	<i>b</i>	<i>SE b</i>	β	<i>t</i>
Task liking	1.30	.29	.58	4.41**	1.66	.29	.75	5.74**
Mean learning orientation	-.50	.58	-.11	-.86	-.79	.54	-.18	-1.48
Mean performance orientation	-.14	.49	-.04	-.28	-.34	.45	-.10	-.76
Diversity in learning orientation	-.63	.81	-.11	-.77	-.85	.74	-.14	-1.15
Diversity in performance orientation	-.96	.59	-.22	-1.64	-1.00	.53	-.23	-1.87
Reflexivity	-.25	.26	-.13	-.99	-.25	.23	-.13	-1.08
Diversity in learning orientation * reflexivity					4.01	1.52	.33	2.64*
Diversity in performance orientation * reflexivity					2.98	1.07	.34	2.78**

$R^2 = .36^{**}$ for Step 1; $\Delta R^2 = .14^{**}$ for Step 2

* $p < .05$

** $p < .01$

$N = 48$

Until recently little attention had been paid to the methodology of simultaneous testing of multiple mediators (Preacher & Hayes, 2008). An obvious

reason is the complexity of these models. However, simultaneous testing has some clear advantages over the testing of several simple mediations. Preacher and Hayes (2008) advocate the importance of incorporating all mediators in one analysis, as it reduces parameter bias and it is possible to test whether specific mediators mediate the effect of x on y conditional on other mediators in the model. Therefore, they argue against using the causal steps method by Baron and Kenny (1986) for testing models with multiple mediators. In addition, various authors have argued that the use of bootstrapping techniques is generally most appropriate for testing indirect effects, as the sampling distribution is rarely normal or symmetrical, violating the assumptions of the normal-theory tests for mediation (e.g., Preacher & Hayes, 2008; Shrout & Bolger, 2002). Bootstrapping is a non-parametric test, which does not require assumptions of normality of the sampling distribution, again arguing against the use of the causal steps approach (Baron & Kenny, 1986). Bootstrapping involves repeated resampling from the dataset to estimate an empirical approximation of the sampling distribution of the indirect effects. Bootstrapping has been frequently used in former research to test for mediation (e.g., Giessner & van Knippenberg, 2008). Therefore, we used the Preacher and Hayes method for multiple mediation to test whether information elaboration and group efficiency mediated the interactions of reflexivity with diversity in learning orientation and diversity in performance orientation on group performance (Hypotheses 1b, 1c, 2b, and 2c). The method allows for simultaneous testing of direct and indirect (through mediators) effects of independent variables on the dependent variable. Full mediation can be concluded when the specific indirect effect of the interaction on the dependent variable through the mediator is significant, and the total (indirect + direct) effect of the interaction on the dependent variable is significant, but the direct effect of the interaction on its own is not significant.

The specific indirect effect of the interaction of diversity in learning orientation with reflexivity on performance through information elaboration was significant (point estimate = 1.62, $SE = 1.12$, 90% CI: .22 to 3.88), as well as the specific indirect effect through group efficiency (point estimate = 1.20, $SE = .77$, 90% CI: .26 to 2.97). The total effect (indirect + direct) of the interaction of diversity in learning orientation with reflexivity on performance was also

significant (point estimate = 4.09, $SE = 1.66$, $t = 2.47$, $p < .05$), whereas the direct effect alone was not (point estimate = 1.28, $SE = 1.65$, $t = .77$, ns), showing full mediation. Consequently, Hypotheses 1b and 1c are confirmed.

The specific indirect effect of the interaction between diversity in performance orientation and reflexivity on group performance through information elaboration was not significant (point estimate = .32, $SE = .55$, 90% CI = -.33 to 1.47), rejecting Hypothesis 2b. The specific indirect effect through group efficiency, however, was significant in line with expectations (point estimate = .63, $SE = .52$, 90% CI = .04 to 1.78). The total effect (indirect + direct) of the interaction on performance was significant (point estimate = 2.85, $SE = 1.12$, $t = 2.54$, $p < .05$). However, the direct effect of the interaction between diversity in performance orientation and reflexivity was not significant on its own (point estimate = 1.90, $SE = 1.03$, $t = 1.86$, ns), showing full mediation. Consequently, Hypotheses 2c is confirmed.

DISCUSSION

An extensive body of research has established the importance of goal orientation for individual functioning in organizations. More recently researchers have demonstrated that goal orientation also plays an important role in group functioning (e.g., LePine, 2005; Porter, 2005). However, research has neglected the role of diversity in goal orientation, which is unmerited as the present study shows. We add to the literature by showing the importance of diversity in goal orientation. Results confirmed our propositions that diversity in learning orientation as well as diversity in performance orientation have a negative relationship with group performance, which can be counteracted by reflexivity. Also, results give insight into the underlying processes by showing that the relationship of diversity in learning orientation with group performance was mediated by group information

elaboration and group efficiency and the relationship of diversity in performance orientation with group performance by group efficiency.

Theoretical implications

The effects of diversity in learning orientation as well as diversity in performance orientation were mediated by group efficiency. This finding supports our argument that dealing with differences in task approach coming from diversity in performance orientation takes time. Group members have more trouble relating to each other as they are focused on different aspects of the task at any point in time. Communication and coordination are more difficult and lengthy, and getting on the same page uses up more time. This decrease in efficiency makes these groups less successful.

Results also confirmed that the effects of diversity in learning orientation were mediated by group information elaboration. Indeed differing task strategies, associated with diversity in learning orientation seemed to hamper the exchange, discussion, and integration of information and perspectives in groups. Diversity in performance orientation, unexpectedly, did not seem to be related to information elaboration. An explanation for this finding may be that performance orientation is less consistently related to task approaches concerning information processing than learning orientation, which has been related to several information processing strategies (e.g., deep-level information processing; Ford et al., 1998). It might be that only differences in information processing strategies are related to diminished information elaboration, perhaps because team members highly inclined towards information elaboration become discouraged by team members low in inclination towards information elaboration. However, as this finding was unexpected more research is needed before any conclusions can be drawn.

The finding that diversity in goal orientation plays an important role in group functioning demonstrates the role of goal orientation in social interactions. Relatively little attention has been paid to this area of research, and the present research adds to claims of the importance of this relatively new area in the

literature (e.g., Darnon, Butera, & Harackiewicz, 2007; Janssen & van Yperen, 2004). Our study shows that goal orientation is not merely an intra-psychic phenomenon with effects occurring only within individuals, but it has clear intragroup effects.

Results for the moderating effect of reflexivity suggest support for our claim that aligning task strategies may help dealing with diversity in goal orientation. Although we did not measure sharedness of group goals and strategies, previous research has underlined the relationship between reflexivity and sharedness of task strategies (Gurtner et al., 2007). This implies that other variables that affect sharedness of task strategies may also help in dealing with diversity in goal orientation. For example, variables that have been related to shared mental models may be beneficial, such as team size or team experience (Rentsch & Klimoski, 2001). Another variable of interest may be leadership. Leaders may instigate a shared mental model (cf. Kozlowski, Gully, McHugh, Salas, & Cannon-Bowers, 2003). Also leaders may align task strategies of team members, possibly decreasing detrimental effects of diversity in goal orientation. In addition, group level goals and strategies may be helpful for teams in dealing with diversity in goal orientation. As research has shown that goal orientation can be induced by situational characteristics (Button et al., 1996), stimulating similar (state) goal orientations within a team may also be beneficial.

The present research has implications for research on diversity in individual difference variables more generally. Research in this area has to date been unable to paint a clear picture of effects of diversity in individual difference variables (van Knippenberg & Schippers, 2007). The present study suggests that closely analyzing effects of the specific individual difference variable under study may be more promising than overarching models for diversity in individual differences variables (i.e., similarity attraction or complementary model; Kristof, 1996; Muchinsky & Monahan, 1987). With this finding the present study is in line with previous studies arguing that the applicability of complementary versus supplementary models depends on the specific trait under study (Humphrey, Hollenbeck, Meyer, & Ilgen, 2007). Also the findings of a recent meta-analysis on team composition and team performance underline this argument (Bell, 2007).

Results of the present research indicate that particularly studying variables related to individual task strategies may be a promising avenue for research on diversity in individual differences variables. Consequently, other individual differences variables that are related to task strategies may be promising for future research on diversity, for example need for structure (Neuberg & Newsom, 1993), self regulatory focus (Higgins, 1997), and procrastination (Milgram, Mey-Tal, & Levison, 1998).

An interesting outcome of the present study is that diversity in goal orientation was a stronger determinant of group processes and performance than mean levels of goal orientation. Previous research has shown the value of mean goal orientation for group member attitudes and behavior, but no relationship with group performance was found (e.g., Porter, 2005). This points to the relative importance of diversity in goal orientation. However, future replications are needed to fully warrant this conclusion. Nonetheless, when developing models of team composition in goal orientation it seems important to incorporate the role of diversity in goal orientation.

An implication for goal setting research more generally may be that strengthening motivation for goal achievement may not be desirable under all circumstances. When specific and difficult goals strengthen motivation for goal achievement (Locke & Latham, 1990), perhaps under these circumstances diversity in goal orientation in teams will be more detrimental and harder to overcome. This may be an interesting avenue for future research.

Limitations and suggestions for future research

The present study is not without limitations. Our study made use of a laboratory setting with a student sample. Although obvious benefits are increased control and evidence for causality, the use of a laboratory setting may raise questions concerning generalizability. However, previous studies have demonstrated that findings in the laboratory are often replicated in the field and there is no reason to expect students to differ from other populations in their

behavior in achievement settings (Brown & Lord, 1999; Dipboye, 1990; Locke, 1986; van Knippenberg & van Knippenberg, 2005; Wofford, 1999). The goal of the present study was not to demonstrate external validity, but to study underlying relationships for which a laboratory setting is most appropriate (cf. Brown & Lord, 1999; Mook, 1983). However, to address concerns some may have with issues of generalizability, replicating the present findings in the field would be valuable..

A second limitation may be that we did not differentiate performance orientation in sub-dimensions. Research suggests that performance orientation may be subdivided into prove (or approach) and avoid dimensions (Elliot & Harackiewicz, 1996; VandeWalle, 1997). However, the measure of Button et al. (1996) is thoroughly validated and used by most recent research on the topic (e.g., Porter, 2005; Yeo & Neal, 2004). Moreover, we would not expect different effects for the sub-dimensions of performance orientation. Yet, it may be valuable for future studies to consider measures that distinguish performance prove (approach) and avoid orientations.

Also, the present research focuses on relatively complex tasks, which fits many team tasks in organizations. The results may not be generalizable to teams performing relatively simple tasks with little interdependence, where differing task strategies and goals are less likely to affect group performance. Indeed we would predict that the extent to which the task is complex, non-routine, and with a relatively undefined task process would moderate the extent to which goal orientation diversity influences group process and performance.

In addition, even though the pattern of the results underline our reasoning that diversity in goal orientation is related to differences in task approach and that sharedness of group goals and strategies underlie the effects of reflexivity as a moderator, we did not measure these processes directly. However, we did measure group processes and as previously indicated prior research has underlined the relationship between reflexivity and sharedness of task strategies (Gurtner et al., 2007). Nonetheless, future research in this area would be valuable.

Managerial implications

Several studies have advanced the suggestion of selecting employees on the basis of goal orientation (e.g., VandeWalle, Brown, Cron, & Slocum, 1999). Based on the present study we would add that organizations may be well-advised to take into account the goal orientation of other team members when making selection decisions. When forming teams selecting team members with similar levels of goal orientation may be worthwhile. In general, results of the present study imply that it may be useful to base the profile of the ideal applicant on the team members he or she will be working with instead of forming some general profile for a specific job or the entire company as is common practice in most organizations.

Moreover, organizations may counter negative effects of diversity in goal orientation of existing teams. One way in which they might go about this is through training leaders to instruct their diverse teams to reflect, because groups in organizations have a natural tendency not to reflect (West, 1996). Another possible avenue to counter detrimental effects of diversity in goal orientation is by aligning task strategies by other means, for example by giving clear directions for the best strategy. In addition, although goal orientation is a relatively stable trait, it can be affected by situational factors (Button et al., 1996). Therefore, inducing a common state goal orientation may help teams be more effective, for example by emphasizing the importance of learning and personal improvement, or emphasizing performance and competition. In addition suitable compensation and feedback systems may be used. Of course, as the present study was the first to examine the effects of diversity in goal orientation, more studies are needed to make more confident recommendations for practice.

Conclusion

As organizations make more and more use of teams as their basic units, the study of what affects team functioning and performance is becoming increasingly relevant. Recent research has shown the important role of team composition in goal

orientation for team functioning. The present study fills an important gap in the literature by demonstrating the relative importance of diversity in goal orientation for team processes and performance. In addition, the identification of the underlying processes and a means to counteract the effects opens up promising future research opportunities.

Chapter 4

Goal Orientation Diversity and Team Leadership

Recent research has shown that team member goal orientation (i.e., an individual's tendency to focus on learning or performance in achievement settings) plays an important role in team functioning. However, diversity in goal orientation has been neglected in the literature. We argue that as focusing on learning as well as performance is extremely important for teams in organizations, diversity in goal orientation may be promising for team performance. However, team members with different goal orientations focus on different issues at the same point in time. Therefore, diversity in goal orientation tends to decrease group information elaboration. In the present study we show how the nature of the team leader role determines whether diversity in goal orientation decreases group information elaboration and thereby group performance or in fact, increases group performance as compared with homogeneous goal-oriented groups.

Teams, defined as “small groups of interdependent individuals who share responsibility for specific outcomes,” have played an increasingly important role in contemporary organizations (DeShon, Kozlowski, Schmidt, Milner, & Wiechmann, 2004; Ilgen, 1999; Lepine, 2003; Sundstrom, DeMeuse, & Futrell, 1990). Longitudinal surveys of Fortune 1,000 firms have shown a steady increase in the use of team-based structures moving from less than 20% in 1980, to roughly 50% in 1990, to over 80% in 1999 (Garvey, 2002). In a corresponding fashion, there has also been an increase in research on teams and the variables that predict team processes and team performance (Mathieu, Maynard, Rapp, & Gilson, 2008). A common practice toward this end has been to examine how variables known to affect individual behavior in organizations play out in a team context, such as general cognitive ability (LePine, 2003), personality traits (Stewart, Fulmer, & Barrick, 2005) or self-efficacy (Tasa, Taggar, & Seijts 2007).

One variable that has received an impressive amount of attention over the past years, and which has been shown to be of great importance for individual behavior in organizations is goal orientation (e.g., Dweck, 1986). Research has shown that goal orientation plays an important role in determining outcomes such as individual performance, innovation, satisfaction, and motivation in organizations (e.g., Janssen & van Yperen, 2004; Payne, Youngcourt, & Beaubien, 2007; Porath & Bateman, 2006; Sujan, Weitz, & Kumar, 1994; VandeWalle, Brown, Cron & Slocum, 1999). Recent research has shown that goal orientation also plays an important role in team functioning and researchers have argued that its impact within teams is highly similar to the role this variable plays at the individual level (Bunderson & Sutcliffe, 2003; DeShon et al., 2004; LePine, 2005; Porter, 2005).

Most research that has examined the role of individual level variables in team outcomes, including goal orientation, has focused on the average score of the team on some characteristic, or on some other operationalization that is meant to capture the team’s overall level of the characteristic (e.g., minimum or maximum score, Bell, 2007). However, the overall level of the team on some characteristic is not the only way that individual level variables affect team functioning, and theoretical attention has been increasingly directed at examining how variance in individual differences affects team outcomes (Humphrey, Hollenbeck, Meyer, & Ilgen, 2007).

Team members may be similar or different from one another, and these differences may have a substantial impact on the functioning of the team (van Knippenberg & Schippers, 2007). Indeed diversity has received a substantial amount of attention over the past decades (van Knippenberg & Schippers, 2007; Williams & O'Reilly, 1998), but it has been neglected in goal orientation research.

It is neither intuitive nor obvious how having both performance oriented and learning oriented team members is likely to affect team functioning. On the one hand, team members with different goal orientations will have different foci and different preferences regarding task strategies. Thus, goal orientation diversity could make it more difficult for teams to work together effectively and decrease group information elaboration and thereby team performance (cf. Nederveen Pieterse, van Knippenberg, & van Ginkel, 2008). However, it could also be true that differences in goal orientation may help groups find a middle ground between learning (exploration) and performing (exploitation), two necessary but in some cases, mutually exclusive orientations (Brown & Eisenhardt, 1998). Thus, having team members that focus on learning and members that focus on performing may be more advantageous for team performance on both the short and long term than an entire team focusing on either of them (cf. Elliot & McGregor, 1999). As diversity in goal orientation may be both beneficial and detrimental, it is important to uncover what may encourage positive outcomes.

As the detrimental effects of diversity in goal orientation should be due to difficulties with working together, a coordinating team leader may diminish this negative effect, opening up the opportunity for beneficial results. Even though self-managing teams received a considerable amount of attention (e.g., Manz & Sims, 1993; Sundstrom et al., 1990), many teams in organizations have a team leader that is responsible for coordinating the team's efforts. A formal team leader can, thus, eliminate the negative effect of goal orientation diversity on information elaboration and thereby enable that diverse groups elaborate on their differing perspectives. This should facilitate that diverse teams take both learning and performance into account allowing the team to benefit from their diversity in goal orientation. Thus, in the present study we examine the effects of diversity in goal orientation and whether leadership may help in dealing with diversity.

THEORY AND HYPOTHESES

Goal orientation

Goal orientation theory argues that people can pursue different goals in achievement settings, i.e. learning or performance goals (Dweck & Leggett, 1988). Learning orientation reflects a focus on developing knowledge and increasing competence and performance orientation is a focus on demonstrating competence.¹ Goal orientation has been studied as a trait as well as a state, as research has shown that goal orientation is relatively stable but may be influenced by the environment (Button, Mathieu, & Zajac, 1996). Early research on goal orientation was aimed at educational and academic settings (e.g., Ames & Archer, 1988; Dweck, 1986; Elliot & Church, 1997; Harackiewicz, Barron, Carter, Lehto, & Elliot, 1997; Licht & Dweck, 1984; Meece, Blumenfeld, & Hoyle, 1988). These studies demonstrated that students or children holding learning goals have more adaptive response patterns versus maladaptive or helpless patterns held by performance oriented students. Learning orientation has been related to the belief that competence can be enlarged by effort and practice. Performance orientation on the other hand has been associated with the belief that competence is fixed (Dweck, 1986). Therefore, to people with high performance orientation low performance is an indication of low ability (Colquitt & Simmering, 1998; Diener & Dweck, 1978; Dweck, 1999). An enormous amount of research in the educational and academic domain has shown that goal orientation is related to numerous outcomes at the individual level, such as motivation, task approach, and performance (e.g., Elliot & Church, 1997; Payne, Youngcourt, & Beaubien, 2007; Phillips & Gully, 1997). More recently researchers have become interested in the effects of goal orientation in organizational settings (Farr, Hofmann, & Ringenbach, 1993). Indeed, research has shown that also in organizational settings goal orientation plays an important role in individual outcomes as performance, satisfaction, innovation, motivation, feedback seeking, and emotion (e.g., Janssen & van Yperen, 2004; Payne,

Youngcourt, & Beaubien, 2007; Porath & Bateman, 2006; Sujan, Weitz, & Kumar, 1994; VandeWalle, Brown, Cron & Slocum, 1999).

Even though there has been a substantial interest in goal orientation in applied settings, only very recently research has examined goal orientation on group functioning (Bunderson & Sutcliffe, 2003; DeShon et al., 2004; LePine, 2005; Porter, 2005). These studies have found that higher average levels of learning orientation were positively related to team backing up behavior (Porter, 2005), team commitment (Porter, 2005), team adaptation (moderated by goal difficulty; LePine, 2005), and team efficacy (Porter, 2005), but no effects on team performance were found (Porter, 2005). Average levels of performance orientation were negatively related to team adaptation depending on goal difficulty (LePine, 2005), negatively related to team efficacy depending on performance levels (Porter, 2005), and unrelated to team performance (Porter, 2005). However, a positive relationship was found with team commitment when performance was high (Porter, 2005).

Other researchers have examined team goal orientation as a collective construct instead of looking at the average of team member characteristics (Bunderson & Sutcliffe, 2003; DeShon et al., 2004). These researchers found that both team performance orientation and team learning orientation were positively related to team efficacy (DeShon et al., 2004). Team learning orientation was also positively related to team goal commitment (DeShon et al., 2004). Also researchers demonstrated a curvilinear relationship with team performance, where a medium focus on learning was found most optimal for team performance (Bunderson & Sutcliffe, 2003). This finding is in line with our argument that a too strong focus on learning orientation may not be beneficial, but some focus on performance is also needed. However, as we noted above, having team members with different goal orientations may also have a large impact on group functioning, but this has not been examined in the literature thus far.

Diversity in goal orientation

Unlike what might be the case in academic contexts, in organizational settings, both learning and performance are important. Indeed, several researchers have argued that in organizations a performance orientation may be necessary and important (e.g., Button et al., 1996; Farr et al., 1993). In organizational settings errors may be costly, especially in high-reliability organizations (Bigley & Roberts, 2001; Roberts, 1990; Weick, Sutcliffe, & Obstfeld, 1999). Indeed research has shown that both learning and performance (approach) orientation can have positive outcomes, especially in contexts where high performance is important as in organizations (e.g., Barron & Harackiewicz, 2001; Button et al., 1996; Harackiewicz et al., 1997; Porath & Bateman, 2006; Elliot & Church, 1997; McGregor & Elliot, 2002; VandeWalle et al., 1999). Arguably both are essential for organization's survival. Therefore, one might expect that having some members focus on performance and other members on learning may be particularly effective.

However, learning and performance orientation have been associated with other approaches to tasks, because their basic aim for working on the task differs. As learning oriented individuals wish to get a thorough grasp of the task and increase their skills and abilities, they are motivated to use task strategies such as feedback seeking (e.g., Payne et al., 2007; VandeWalle & Cummings, 1997), high effort (Fisher & Ford, 1998), high persistence (Dweck & Leggett, 1988), deep-level information processing (Ford, Smith, Weissbein, Gully, & Salas, 1998), and proactive behavior (Farr et al., 1993). Performance oriented individuals, on the other hand, aim to demonstrate their ability by outperforming others. Therefore, they are prone to approach the task in a different manner. Individuals with high performance orientation focus more on cues about their performance and that of others instead of the task (Button et al., 1996) and as they do not believe extra effort will result in better performance, they are less inclined to use task strategies that require high effort (Fisher & Ford, 1998). They tend to focus on strategies that are known to affect performance and less inclined to experiment in order to find more effective approaches (cf. Farr et al., 1993). Therefore, groups with both

learning oriented and performance oriented group members will have members that make use of different task strategies.

Thus, in spite of the potential benefit of focusing on both learning and performing within a team, the ensuing differing task strategies make it hard for the team members to work together effectively. This will induce a decrease in group information elaboration. Group information elaboration has been defined as the exchange, discussion, and integration of task relevant information and perspectives (van Knippenberg, De Dreu, & Homan, 2004). As at any point in time different group members focus on different issues, the members will find it more difficult to relate to information provided by other members because it seems less relevant to them. Thereby, they are less inclined to build on this information, resulting in a negative spiral decreasing overall group information elaboration (cf. Nederveen Pieterse et al., 2008).

Indeed in a recent study, diversity in trait learning orientation and diversity in trait performance orientation were related to decreased group information elaboration and group performance (Nederveen Pieterse et al., 2008). Also, a recent meta-analysis demonstrated that group heterogeneity (member dissimilarity) is related to less information sharing (Mesmer-Magnus & DeChurch, 2008). As group information elaboration has been recognized as one of the most important determinants of group performance on relatively complex tasks (Homan, van Knippenberg, Van Kleef, & De Dreu, 2007; van Ginkel & van Knippenberg, 2008; cf. Dahlin, Weingart, & Hinds, 2005), we expect diversity in goal orientation to diminish group performance. This argument relates to the categorization-elaboration model, which argues that group information elaboration is a central mediator for the effects of diversity in teams (van Knippenberg, et al, 2004). Indeed for diverse teams information elaboration may be particularly important, as they need to integrate their differing perspectives.

In short, goal orientation diversity holds the potential for promising outcomes, but problems with group information elaboration and in turn performance may arise due to difficulties with working together. We argue that having a team leader that coordinates the team may eliminate these issues and thereby determine whether outcome may be positive.

The Nature of team leadership

Although the use of team-based structures has increased steadily over time (e.g., Garvey, 2002; Ilgen, 1999), the evidence for changes in the role of leadership within these teams has been more mixed. On the one hand, there has been a substantial amount of interest by both researchers and practitioners in self-managing teams over the past decades (e.g., Langfred, 2007; Kirkman & Shapiro, 1997; Sundstrom et al., 1990). It has been claimed that the autonomy associated with self-managing teams increases members' sense of responsibility and motivation causing improvements in performance and satisfaction (e.g., Hackman & Oldham, 1980; Manz & Sims, 1993; cf. Kirkman & Rosen, 1999). Nevertheless, research indicates that a self-managing structure is not always advantageous for teams (e.g., Kauffeld, 2006; Langfred, 2007; Manz & Sims, 1982), and due to the need for accountability and coordination, many organizations still employ hierarchical structures where there is a leader who is responsible for managing the team. This is especially true in high reliability organizations where problems associated with lack of coordination places limits on how autonomous each individual member can be or in contexts where individual team members may simply disagree on the best means to a common goal.

Disagreements in how to pursue goals might be especially problematic in teams that are high on goal orientation diversity. In this case, the negative aspects of diversity in goal orientation described above may be mitigated by a formal and active leader that manages conflicting perspectives and coordinates the differing task strategies within the team. In self-managing teams difficulties with working together due to different goal orientations have to be solved by the team itself, which is highly challenging. However, having a formal team leader that is responsible for coordinating the team's actions should eliminate these difficulties. This is likely to decrease the detrimental effects of diversity in goal orientation on group information elaboration and thereby on group performance.

Furthermore, by taking over the coordination, a team leader can enable teams to find an optimal balance between learning and performing. As the team members focus on different elements of the task, sharing and discussing these elements holds

the promise of making use of a more elaborate pool of information and perspectives. This, should not only diminish the negative effects of diversity in goal orientation, but also enable the positive outcomes of goal orientation diversity to emerge.

Hypothesis 1: The relationship between goal orientation diversity and group performance is moderated by the nature of the team leadership structure, such that diversity is positively associated with performance for teams with a formal team leader but negatively associated with performance in self-managed teams.

Hypothesis 2: The interaction between goal orientation diversity and leadership on group performance is mediated by group information elaboration.

METHOD

Participants & design

Participants were 280 students at a large Midwestern university in the United States of America clustered in 56 four-person groups. The participants were enrolled in a business administration class and received extra course credit in exchange for their participation. In addition, participants were able to receive a cash prize based upon the fulfillment of their assigned goal (see manipulation of goal orientation below). The mean age of the participants was 21.73 ($SD = 2.71$) and 61.1% were male. The research design was a 2 X 2 experiment where goal orientation diversity (homogeneous versus diverse) and leadership structure (hierarchical versus self-managed) were manipulated. Participants were randomly assigned to the four conditions created by crossing these manipulations.

Procedure

On arrival in the laboratory participants were seated behind computer screens and asked to fill out several questionnaires. When finished they were given a standardized PowerPoint presentation to explain the task. After this a leader or assistant was selected based on the randomly assigned condition of the team. The leader or assistant was to take place behind the master-screen, and then the four team members were randomly allocated computer stations for the task. Then, participants received extensive hands-on training on the task for approximately 40 minutes. After the training the teams engaged in a 30-minute experimental task. When finished the participants filled out a number of questionnaires and were thanked and debriefed.

Task

Groups worked on a dynamic computer simulation. The task was a modified version of the Distributed Dynamic Decision-Making (DDD) simulation (see Miller, Young, Kleinman, & Serfaty, 1998). Although the task was originally developed for the Department of Defense of the United States of America, no military experience was required. Groups were to monitor and defend a geographic region against enemy targets. However, also friendly targets would pass through, which should not be attacked. The region was divided into 4 equal geographic quadrants assigned to each of the four team members. The leader or assistant worked on a master-screen on which the entire restricted area could be monitored (see leadership manipulation). Each of the team member's quadrants was divided into 3 areas; the neutral zone, the restricted zone, and the highly restricted zone. Teams lost points whenever enemy targets entered the restricted zone, these points doubled as soon as the targets entered the highly restricted zone. Also eliminating any friendly target or eliminating enemy targets in the neutral zone made the teams lose points.

Each team member was assigned a base in the middle of their assigned quadrant and 4 vehicles to identify and attack targets. Each base had a detection ring, in which the assigned team member was able to detect targets. When targets moved closer into the next ring, the identification ring, the team member was able to identify the characteristics of the target (friendly, unfriendly, and power level). Outside these rings team members were only able to see and identify targets close to any of their vehicles, as each vehicle was also equipped with a detection ring and an identification ring. Team members were highly interdependent to coordinate their actions. They were not able to see any targets in the rings of any of their team mates unless it was also in one of their own rings. Therefore communication and coordination is highly valuable for teams to perform well on this task (Homan, Hollenbeck, Humphrey, van Knippenberg, Ilgen, & Van Kleef, 2008).

In addition to the ‘normal’ targets which could be identified when they were within team members’ identification rings, several unidentified targets entered the game area during the task. With these targets only a code was displayed upon identification attempt. Their power levels and nature (friendly or unfriendly) could only be identified by trial-and-error through attacking the targets and taking into account the consequences of each attack. For example, when an unidentified target could not be destroyed by a jet (which has power 1) the team member could draw the conclusion that the target had a power level higher than 1. When in the next encounter the target with that same code could be destroyed by a helicopter (power 3), the team member could know it must be power 3. If it could not be destroyed by a helicopter it must be a tank with power 4. If the target could be destroyed by any vehicle and minus points appeared on the screen after eliminating the target, then the conclusion could be drawn that it was a friendly target. A more extensive description of the task and computer screen can be found in Beersma, Hollenbeck, Humphrey, Moon, Conlon, and Ilgen (2003).

Manipulations and measures

Leadership manipulation. The leader and assistant were not able to attack any targets, did not have any vehicles, and did not have their own base. As they were working on the ‘master-screen’ they were able to see the entire game playing area. Both were able to help the team by identifying targets and transferring these identities to their teams. The leaders were told they were responsible for the team’s actions. They were to coordinate the team’s actions and give instructions and advice as much as possible. Assistants on the other hand were instructed that they were to assist the team by identifying targets. They were instructed that they were not to coordinate the team as this was the team’s responsibility not theirs and that previous research had indicated that teams perform best when the assistant did not interfere in the team process.

Goal orientation manipulation. Team members in the homogeneous learning oriented condition and half of the team members in the diverse goal oriented condition received the learning goal manipulation. The other half of the team members in the diverse condition and the team members in the homogeneous performance oriented condition received the performance goal manipulation. Similar to previous studies (e.g., Elliot & Harackiewicz, 1994, 1996; Elliot, Shell, Henry, & Maier, 2005; Seijts, Latham, Tasa, & Latham, 2004) we alternated the evaluative standard of the goals (self-referent versus normative) and the focus on learning new skills and strategies versus performing well on the task.

The learning goal manipulation read as follows: “The current study is interested in how people improve their performance by developing their DDD skills. The game allows you to learn a lot of new things while you play. Throughout the game, you should focus on developing new skills and strategies for playing the game. The development of DDD knowledge and skills is valued, expected, and rewarded. Thus, your goal is to learn as much as possible about the game.” They were given an example of an important thing to learn, which was the identity of the unknown targets.

The performance goal manipulation was the following: “The current study is interested in how people perform well at the DDD compared to other players. The game allows you to demonstrate your DDD ability. Some players stand out because of their strong performance. Throughout the game, you should focus on performing well on the game. Performing well is valued, expected, and rewarded. Thus, your goal is to perform better than others during the game“. They were given an example of an important thing to do in order to perform well, which was to eliminate targets in the forbidden zone as fast as possible.

All team members and all leaders/assistants were instructed that each team would be eligible to receive a cash prize of 125 dollars (25 dollars per person) based on how well the team members reached their given goals. Each team member was instructed on how they could contribute to receiving the reward. The leader or assistant was not given a goal orientation manipulation.

Group performance. Each team started the task with 50,000 points and lost 1 point for every second an unfriendly target was in the restricted zone of any of the team members and 2 points per second it was in the highly restricted zone. In addition 300 points were subtracted for eliminating any friendly target (e.g., Hollenbeck et al, 2002; Homan et al., 2008). The average score was 27554.45 ($SD = 4681.83$).

Group information elaboration. Group information elaboration was measured after completion of the task using a 4-item scale based on the definition of group information elaboration (van Knippenberg et al., 2004; $M = 3.38$, $SD = .51$, $\alpha = .63$). The items were “In our group we regularly talked about our ideas about the game”, “In the group we discussed possible consequences of choices”, “My group members often said things about the task that made me think”, and “During the task, the group members did not listen to information provided by the other group members (reverse coded)” 1 (completely disagree) to 5 (completely agree).

Manipulation check. A learning goal is a focus on developing skills and strategies. The participants that received the learning goal manipulation were told

that learning the identity of the unknown targets was an important strategy to learn the task. A performance orientation is a focus on performing well and these participants were informed that eliminating targets as fast as possible was an important way to accomplish this. Thereby, the manipulation check tapped into whether they were to focus on 0 - 'learning the identity of the unknowns' or 1 - 'eliminating targets as fast as possible' and whether their goal was to 0 - 'learn the game' or 1 - 'perform well'. These items were added together where a lower score represents a learning orientation and a higher score represents a performance orientation ($\alpha = .70$).

The role of the assistant or leader was manipulated by giving leaders the authority to coordinate the teams' actions and assistants the instruction to focus on identifying and transferring target information. Therefore, the participants playing the master screen were asked what their primary role was in the team: 0 - 'identify and transfer target information' or 1 - 'coordinate the team'. The team members were asked the same question about the person sitting behind the master screen.

RESULTS

Preliminary analyses

ICC_1 and $a_{wg(1)}$ values were calculated for group information elaboration to determine whether analysis on the group level was warranted (Bliese, 2000; James, 1982; Brown & Hauenstein, 2005). An ICC_1 of .28 and $a_{wg(1)}$ of .85 were found supporting our argument that group information elaboration is a group level variable.

Manipulation check

We tested our manipulations with an oneway-ANOVA. A lower score on the manipulation check represents a learning orientation and a higher score reflects a performance orientation. Participants that received a learning goal manipulation scored significantly lower on the manipulation check ($M = .37$) compared to participants that received a performance goal ($M = 1.69$, $F(1, 220) = 294.87$, $p < .001$). No effect of the leadership manipulation or an interaction between the leadership and goal orientation manipulation was found on the manipulation check for goal orientation.

Of participants given the leader role 96% indicated that they were to lead the team, and 93% of the participants given the master screen without the leader role were clear that they were not to lead the team. Also for the team members it was clear that the leader was given the leader role (91%) and the non-leader the assistant role (82%; $\chi^2 = 123.46$, $p < .001$). No effect of the goal orientation manipulation or of the interaction was found.

Hypothesis testing

We used hierarchical multiple regression to test the hypotheses on team performance. For goal orientation the homogeneous conditions were collapsed, such that diversity could be contrasted with homogeneity (coded 0 for homogeneous and 1 for diversity)². In the first step the regression model included goal orientation diversity and leadership (coded 0 for self-managing structure and 1 for leadership; following Aiken & West, 1991). No main effects were found on team performance. In the second step the interaction between goal orientation diversity and leadership was added. The second step had significant added value over the model in the first step.

As expected the interaction was significant (see Table 1; see Figure 1). Simple slopes analysis shows that, following expectations, in the self-managing structure diverse groups performed worse than homogeneous teams ($b = -4077.42$, $\beta = -.41$,

$p = .01$, one-tailed). With a leader diverse groups performed better than homogeneous groups ($b = 3115.72$, $\beta = .31$, $p < .05$, one-tailed). Also according to expectations, diverse groups performed better with a leader than in a self-managing structure ($b = 3777.67$, $\beta = .41$, $p < .05$, one-tailed).

Table 1. Hierarchical regressions

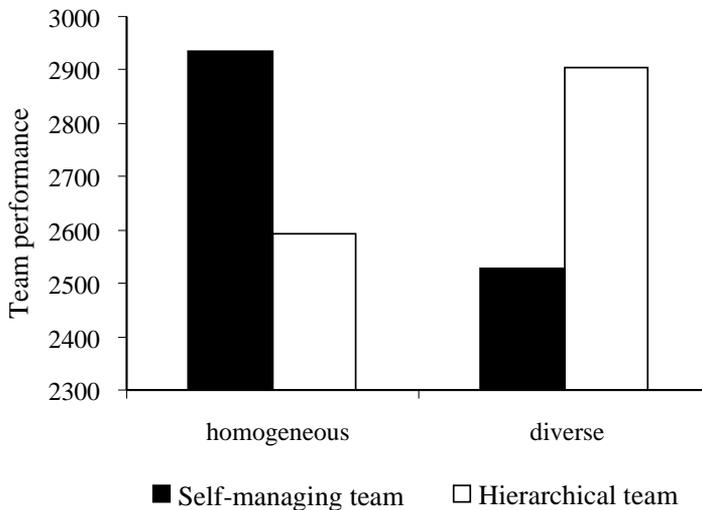
Variable	Step 1				Step 2				ΔR^2
	<i>b</i>	<i>SE b</i>	β	<i>t</i>	<i>b</i>	<i>SE b</i>	β	<i>t</i>	
Diversity in goal orientation	-541.81	1353.22	-.06	.40	-4077.42	1783.68	-.41	2.29*	.00
Leadership	-1099.04	1264.78	-.12	-.87	-3415.47	1443.76	-.37	-2.37*	.01
Diversity * Leadership					7193.14	2544.16	.57	2.83**	.13**

* $p < .05$, one-tailed

** $p < .01$, one-tailed

$N = 56$

Figure 1. The interaction between diversity in goal orientation and team leadership structure on team performance.



Mediation analysis. Next, we tested whether information elaboration mediated the interaction between diversity in goal orientation and leadership on team performance. We found significant interaction between diversity in goal orientation and team leadership on information elaboration ($b = .62$, $\beta = .44$, $p = .02$, one-tailed). Simple slopes analysis showed that indeed groups diverse in goal orientation elaborated more with a leader compared to without a leader ($b = .61$, $\beta = .60$, $p < .01$, one-tailed). For groups without a leader diversity in goal orientation was related to diminished information elaboration ($b = -.42$, $\beta = -.38$, $p < .05$, one-tailed). For groups with a leader diversity in goal orientation was not related to information elaboration ($b = .20$, $\beta = .18$, $p > .05$). Group information elaboration was positively related to group performance ($b = 2245.12$, $\beta = .25$, $p < .05$, one-tailed).

Recently several authors (e.g., MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002; Preacher & Hayes, 2004) have advocated the use of bootstrapping techniques for testing mediation over the often used causal steps approach of Baron and Kenny (1986) and the use of the overly conservative Sobel test. Bootstrapping does not impose the assumption of normality on the sampling distribution making it more appropriate for most samples. Bootstrapping enables higher power while maintaining reasonable Type I error rates. The method involves repeated resampling from the dataset to estimate an empirical approximation of the sampling distribution of the indirect effect. The method allows for estimation of the significance of the indirect effect through the mediator by estimating the product of the relationship between the independent variable and the mediator and the relationship between the mediator and dependent variable, which is equal to the difference between the total and direct effect of the independent variable on the dependent variable. This method has been used in prior research (e.g., Grant, Dutton, & Rosso, 2008). Therefore, in the present study we make use of bootstrapping to estimate the indirect effect of the interaction between diversity in goal orientation and leadership on group performance through group information elaboration. Following Hypothesis 2, the indirect effect through group information elaboration was significant, showing mediation (point estimate = -1384.49, $SE = 838.88$, 95 % CI: -3676.67 to -136.75).

DISCUSSION

Prior studies have shown that team composition in goal orientation plays an important role in team functioning (LePine, 2005; Porter, 2005), however differences between team members have been neglected in goal orientation research. The present study identified diversity in state goal orientation as an important predictor of team performance. Teams with members focused on performance and members focused on learning performed worse than teams with all members having a similar goal orientation, but only in a self-managing structure. Having a team leader helped these teams perform better than their homogeneous counterparts. In addition, we showed that group information elaboration mediated this effect.

Theoretical implications

We demonstrate that having some members in a team focus on performance and other members focus on learning has important effects on team functioning. This finding is in line with previous research that studied diversity in trait learning orientation and trait performance orientation (Nederveen Pieterse et al., 2008). However, state goal orientation diversity has implications for situations where work goals instead of individual differences drive goal directed behavior, as in many organizational settings. This is important as individual differences can not be affected, but work goals are often shaped by organizations and their leaders. Thus, our study into state goal orientation highlights opportunities for managers and organizations to intervene.

An important implication of the present study is that we argue and show that state goal orientation diversity may have promising effects. As in organizations teams should both learn and perform having members focus on both was shown to have the potential to make teams incorporate both aims and have the most optimal results. In contrast, diversity in trait goal orientation was only found to have

detrimental effects, which may be mitigated but not reversed (Nederveen Pieterse et al., 2008). The finding that it may indeed be beneficial to focus on both performance and learning fits arguments made in preceding research (Chen & Mathieu, 2008; Elliot & McGregor, 1999; Harackiewicz, Barron, Tauer, & Elliot, 2000). However, it extends these arguments to a team context where the focus on learning or performing does not lie in one individual but in different members of a team. These findings greatly increase our understanding of how goal orientation plays out in a team context.

Moreover, determining the circumstances when diversity in goal orientation may be beneficial or detrimental is an important contribution to present knowledge. The presence of a coordinating team leader was found to be able to help a team diverse in goal orientation to reap the benefits of a focus on both elements. Because the differing task approaches and foci make it hard for a team to work together, having a team leader to coordinate their cooperative effort is helpful to eliminate this detrimental effect. This enables the more positive consequences of having both perspectives represented in a team to emerge. This indicates that other variables that may help teams coordinate their effort may also act as moderators of diversity in goal orientation. Examples may be clear official work procedures, turn taking in decision making, or appointing an internal team leader.

In addition, we showed that group information elaboration mediates the effects of diversity in goal orientation on group performance. Having different orientations within one team, and thus different perspectives and a focus on different aspects of a task at any point in time, makes it harder to elaborate collectively on relevant information. A group leader coordinates the differing perspectives and thereby makes it possible for the team to elaborate on these perspectives, which enables these teams to make use of their differing insights. This in turn is beneficial for team performance. This finding is in line with arguments made by previous researchers that group information elaboration is the central mediator for effects of diversity in teams (van Knippenberg et al., 2004). Moreover, this finding identifies other potentially important moderators of the effects of diversity in state goal orientation. Variables known to relate to increased group information elaboration - especially for diverse groups, should also moderate

the effects of goal orientation diversity, for example psychological safety (Edmonson, 1999), and team efficacy (Durham, knight, & Locke, 1997; Tasa et al., 2007).

In addition, the present study showed that a self-managing structure may be only helpful for teams with members with similar goals and strategies. Indeed diverse groups did not benefit from the often argued enhanced motivation coming from increased autonomy and flexibility in self-managing teams. This is an important finding for the literature on self-managing teams. Most research in this area has examined the main effects of self-managing (versus hierarchical) team structures on team outcomes (e.g., Cohen & Bailey, 1997; Heller, 2003; Kauffeld, 2006). Moreover, of the few authors that have argued that other variables may affects this relationship most have not provided empirical evidence for this argument (e.g., Kirkman & Shapiro, 1997). Our findings may explain results of previous studies that self-management is not always beneficial for team performance (e.g., Cotton, 1993; Langfred, 2007; Manz & Sims, 1982). This opens up interesting and important research opportunities, as also other variables may serve as moderators of the effectiveness of self-managing team structures. For example, future research may examine whether teams diverse in demographic characteristics, such as ethnicity or gender, may also work better with a team leader. As the workforce is becoming increasingly diverse, this may become more and more relevant in years to come.

Managerial implications

By practitioners the argument is often made that it is important to make sure that all employees are pulling in the same direction (e.g., over 3 million hits on Google). The present study shows that by doing this organizations (or at least the more hierarchical structured) may lose important benefits that could be gained from multiple perspectives. We show that in a classical hierarchical structure teams perform most optimally when their goals and strategies differ. Therefore, within these organizations goal orientation diversity may be encouraged. This may have

particular consequences for sales teams, as in these departments human resources procedures are mostly aimed at heightening performance orientation of all their sales team members (e.g., selection procedures, competitive feedback and reward structures). The present study highlights that it may be beneficial to use less uniform strategies.

As on the short and long term both learning and performance are needed in today's business world, organizations may aim to ensure their teams focus on both goals. However, little is known on how organizations may accomplish this. The present study shows that having teams with some members aimed at learning and other members aimed at performance may be an effective strategy for companies with hierarchical teams. Encouraging this may be done by selecting members with different goal orientations for each team. For existing teams assigning certain team members to be responsible for team learning and others for team performance may be a feasible approach. Other often mentioned strategies for heightening state learning or performance orientation are training and appropriate feedback or reward systems (e.g., Janssen & van Yperen, 2004; VandeWalle, et al., 1999) , but it may be difficult to differentiate these within teams for ethical reasons.

When setting up self-managing teams, organizations may be well-advised to create teams that are more homogeneous in goal orientation. In this instance, appropriate feedback and reward systems may be useful strategies. Obviously selection and goal setting can also be used in this context. Self-managing teams diverse in goal orientation may aim to decrease the detrimental effects of diversity and reap its benefits. An example may be to appoint an internal (rotating) team leader.

Furthermore, the present study shows that organizations should not simply promote self-managing teams. They should either decide the optimal structure based on the characteristics of the teams, or combine the use of self-managing teams with unifying strategies as mentioned above. Notwithstanding these grounded recommendations, we would argue for future replications to more strongly advice organizations on appropriate strategies.

Limitations and future research

We made use of a laboratory design as this entails the most appropriate test of hypothesized causal relationships (cf. Brown & Lord, 1999; Mook, 1983), which was the aim of our study. Nevertheless, a laboratory setting with business students as participants may raise issues of generalizability. However, an argument often made against laboratory settings is that no real consequences are attached to participants' behaviors. In our study, participants received a monetary reward depending on how well they reached their goals. Therefore, real outcomes were attached to their behavior. Moreover, results from experimental settings usually do not deviate from findings in field settings (Anderson, Lindsay, & Bushman, 1999; Brown & Lord, 1999; Colquitt, 2008; Dipboye, 1990; Locke, 1986; van Knippenberg & van Knippenberg, 2005). However, it would be relevant to replicate these findings in field settings.

Learning orientation is likely to be most useful on new tasks where the investment of time to learn appropriate strategies will pay off in increased performance (Seijts, Latham, Tasa, & Latham, 2004; VandeWalle, Cron, & Slocum, 2001). Indeed the participants in the present study did not have prior knowledge of the task. Therefore, groups diverse in goal orientation could profit from a learning orientation in addition to a performance orientation. For tasks that are well-known, repetitive, or very simple, the potential benefit of a learning orientation may be less strong. Performance orientation may have benefits for most tasks in organizations, as even new tasks contain elements that are known to the team members. Thus, the biggest potential of diversity in goal orientation may be for teams working on tasks with medium to high complexity and novelty in more competitive business environments (cf. Seijts et al., 2004).

Research shows that performance orientation and learning orientation may be separated into prove (approach) and avoid (avoidance) dimensions (Elliot & Harackiewicz, 1996; Elliot & McGregor, 2001; VandeWalle, 1997). The present study focused only on approach or prove goals, as the avoidance dimensions seemed less relevant to our research question (see footnote 1). Nevertheless, future research may include avoid dimensions of performance orientation and perhaps

learning orientation when examining the impact of goal orientation diversity in teams.

Conclusion

As organizations in today's business environment continually need to adapt to changing circumstances, a focus on learning as well as performance is essential for teams. However, previous research showed that diversity in goal orientation may hold negative consequences due to differing task strategies that limit group information elaboration. The present study shows that a way to extract the potential benefit of a focus on both performance and learning is to make a team leader responsible for a team's coordination. This team leader was able to stimulate group information elaboration and thereby groups could obtain the benefit of multiple perspectives.

FOOTNOTES

¹ Researchers have argued that learning and performance orientation should be subdivided into approach or prove and avoid or avoidance dimensions (Elliot & Harackiewicz, 1996; Elliot & McGregor, 2001; VandeWalle, 1997). The basic aim of our study was to uncover when goal orientation diversity may have beneficial effects, as teams in organizations should focus on achieving both performance and learning. Therefore, we focus only on the approach dimensions, as these involve a focus on achieving performance and learning. A focus on avoiding incompetence is thus less relevant in our context.

² The aim of the present study is to examine the effects of diverse versus homogeneous goal oriented groups. Therefore, the theoretically appropriate test of our hypotheses would be to examine diverse groups against homogeneous groups (collapsed). To examine whether collapsing the two conditions is also empirically supported by our data, we tested whether there were any differences between learning oriented and performance oriented groups. No differences were found on group information elaboration and group performance over all leader structure conditions or within self-managing groups or groups with a team leader.

Chapter 5

General Discussion

Organizations increasingly make use of teams as their basic structure (DeShon, Kozlowski, Schmidt, Milner, & Wiechmann, 2004), making it more and more important for organizations to determine the antecedents of optimal team functioning. At present little is known about goal directed behavior in a team context, which is surprising given the large amount of research at the individual level (De Shon et al., 2004). Goal orientation is very relevant in this respect and one of the most frequently studied motivational constructs in the applied psychology literature of the present time (DeShon & Gillespie, 2005). The concept has been able to explain differences in numerous outcome variables at the individual level (e.g., Payne, Youngcourt, & Beaubien, 2007). However, only recently researchers started to explore the role of team members' goal orientation in team functioning (LePine, 2005; Porter, 2005). These first studies found preliminary confirmation that goal orientation may also play an important role in team functioning, however many questions were left unanswered. The present dissertation, thus, focused on uncovering the role of team composition in goal orientation on team functioning, with special emphasis on diversity effects as this area in the literature is in need of further clarification. In the next section I will briefly summarize the main findings of the dissertation.

SUMMARY OF THE MAIN FINDINGS

In the first study I examined the hypothesis that goal orientation would be able to predict whether ethnic diversity would have a positive or negative relationship with team performance. Rooted in goal orientation and diversity research we argued that learning approach orientation should help teams not only to diminish the negative effects of ethnic diversity due to diminished use of social categories, but also to reap the benefits of the differing perspectives due to the inherent increase in deep-level information processing especially when faced with a challenge. Performance avoidance orientation, on the contrary, was argued to instigate more shallow information processing and increased feelings of anxiety and competitiveness. Moreover, challenges are seen as threats by these individuals. Thus, performance avoidance orientation may increase the detrimental effects of ethnic diversity. As predicted we found that the relationship of ethnic diversity to team performance was moderated by both learning approach orientation and performance avoidance orientation in the expected directions.

The second study focused on diversity in trait goal orientation, an arguably influential, but previously neglected variable. We argued that diversity in learning and performance orientation is related to differences in task approach, which makes group interaction more difficult and thereby diminishes group information elaboration and efficiency. In a laboratory setting we found support for our predictions and showed that diversity in learning orientation was related to decreases in group information elaboration and efficiency, which in turn decreased group performance. The relationship of diversity in performance orientation to group performance was only mediated by group efficiency. In addition, we found that group reflexivity was able to counteract the negative effects of both diversity in learning orientation and diversity in performance orientation.

The final study examined whether state goal orientation diversity was also detrimental for performance due to diminished group information elaboration. Moreover, we aimed to uncover a means to help these teams make use of the potential inherent in a focus on performance as well as learning. We expected that

a hierarchical team leader who coordinates the team's actions would be able to help teams harvest this potential more effectively than groups having to manage their coordination themselves (self-managing groups). In an experiment with manipulated goal orientation diversity and team leadership structure we tested and found support for our predictions. State goal orientation diversity was found to relate to diminished group performance in a self-managing structure, but to increased performance in a hierarchical structure with a team leader. This effect was mediated by group information elaboration.

THEORETICAL IMPLICATIONS

Diversity in goal orientation

The findings in chapter 3 and 4 clearly underline our arguments for the importance of diversity in goal orientation for team functioning. We found that both state and trait diversity in goal orientation play an important role in team performance. Past research only examined effects of mean goal orientation (LePine, 2005; Porter, 2005), collective goal orientation (Bunderson & Sutcliffe, 2003; DeShon et al., 2004), or focused on individual level outcomes (Kristof-Brown & Stevens, 2001). Moreover, team composition in goal orientation had not been related to team performance as of yet (Porter, 2005). Therefore, this is an important addition to our knowledge on the impact of goal orientation in teams.

Another important contribution of the present dissertation is made by clarifying the underlying process in the effects of diversity in goal orientation. The results indicate that group information elaboration is an important mediator of the effects of diversity in both trait (albeit only learning orientation) and state goal orientation. These results support the Categorization-Elaboration model in the argument that group information elaboration is a central mediator of the effects of diversity in teams (van Knippenberg, De Dreu, & Homan, 2004).

In chapter 3, group efficiency was also found to be a mediator of the effects of goal orientation diversity¹. Within the team literature in applied psychology team efficiency is largely neglected as a mediator. However as groups in organizations need to perform within a specific time frame, group efficiency may be an important aspect of team functioning that may have a large influence on team performance in organizations. Future research may examine the importance of team efficiency for varying task types in organizations and incorporate it team research along with other process measures to measure their relative importance.

Contingencies. Chapter 3 and 4 demonstrate important contingencies of the effects of diversity in goal orientation. Group reflexivity was found to be able to counteract the detrimental effects of goal orientation. This underlines our argument that aligning group goals and strategies may help these teams deal with their inherent differences. However, although diminishing the differences between team members may reduce difficulties, more is needed to reap the benefits. To quote Swann and colleagues “*it is tantamount to arguing that the best way to exploit a resource (in this case, the unique characteristics of diverse group members) is to minimize and disregard that resource!*” (Swann, Polzer, Seyle, & Ko, 2004, pp. 10). Thus, to reap the benefits of diversity more is needed than eliminating or reducing differences. Chapter 4 illustrated that a hierarchical team leadership structure may be a means to benefit from diversity in goal orientation by taking over the coordination of the team. These findings may extend to other variables that may serve as moderators. Thus, although variables that reduce the differences between team members’ goal orientation may help counteract the detrimental effects, variables that uphold the differences but diminish the ensuing problems with coordination and interaction may be needed to help reap the benefits of diversity in goal orientation. This opens up many research opportunities that may prove valuable for our understanding of goal orientation in a team context.

A point of note is that although chapter 4 indicates the detrimental effects of goal orientation diversity for self-managing teams, results from chapter 3 show that goal orientation diversity is not necessarily detrimental for these teams. Indeed team reflexivity (or aligning team goals and strategies) can help these teams

counteract the detrimental outcomes. Future research may show whether strategies related to reducing issues with interaction may help self-managing teams diverse in goal orientation obtain positive outcomes.

Finally, as information elaboration was shown to be an important mediator of the effects of goal orientation diversity, diversity in goal orientation may be particularly important when teams are working on tasks for which performance is highly dependent on information elaboration and thus less influential when working on tasks for which no information elaboration is needed. Similar arguments can be made for efficiency, even though only one study demonstrated its relevance directly.

State versus trait goal orientation. The findings of the present dissertation show that both trait and state goal orientation diversity are influential on team functioning. An important difference in the study of trait and state goal orientation is that state goal orientation is usually operationalized by contrasting the different dimensions with each other, for example learning versus performance orientation (as we did in our study). Our arguments for the potential benefits of diversity in goal orientation are mainly based on the reasoning that both a focus on learning and a focus on performance are important. Whether trait goal orientation diversity also has the potential of positive effects may be the focus of future research endeavors. However, one might expect that for example for learning approach orientation diversity may facilitate not too much or too little emphasis on information processing and analysis.

Mean goal orientation

Mean levels of goal orientation were not found to have direct (main) effects on team performance in any of the studies. Our first study demonstrates a possible reason for this finding, as the relationship of the mean of members' goal orientation with team performance may depend on the circumstances. When deep-level information processing is valuable or feelings of anxiety and competitiveness

are harmful, goal orientation may be particularly influential. This finding may also explain why previous studies found no relationship between team members' goal orientation and team performance (Porter, 2005).

Moreover, an interesting finding of the studies in the present dissertation is that groups with high average learning (approach) orientation did not necessarily engage in more information elaboration than groups with low mean learning orientation or high performance (approach) orientation. Study 2 and 3 showed that level of trait learning orientation as well as differences between homogeneous learning and performance oriented groups were not related to differences in group information elaboration. This finding is noteworthy as learning orientation has repeatedly been related to deep-level information processing at the individual level (Elliot, McGregor, & Gable, 1999; Ford, Smith, Weissbein, Gully, & Salas, 1998; Meece, Blumenfeld, & Hoyle, 1988; Radosevich, Vaidyanathan, Yeo, & Radosevich, 2004). Therefore, in a group context one would expect this to translate to the group level (cf. DeShon et al., 2004), such that groups high in learning orientation would be more active in discussing and integrating information relevant to the task. However, the present dissertation demonstrates this is not necessarily the case. These results indicate that goal orientation may have different effects on the group level compared to the individual level. It may be that individuals high in learning orientation are indeed inclined to engage in more deep-level information processing, but not necessarily discuss their thoughts with their teammates. It may be that something extra is needed to make them engage in group discussions, for example psychological safety (Edmondson, 1999) or high levels of extraversion (Costa & McCrea, 1985). This is an important and interesting avenue for future research on goal orientation in teams.

In the present dissertation we examined both diversity and mean level effects. We found that both mean and diversity effects are dependent on circumstances. Nevertheless, in both chapter 3 and 4 we found goal orientation diversity to play a larger role than mean levels of goal orientation. This points to the importance of the contribution of diversity in goal orientation to previous knowledge of the role of goal orientation in teams.

Ethnic diversity

Our findings in the first study show not only that ethnic diversity can have both positive and negative outcomes for teams, but also identifies means to establish the beneficial effects. The results show that goal orientation may be an important addition to existing interventions for ethnic diversity effects, with no need to address social categories or diversity directly. Also, the findings open up interesting lines of research on other important moderators of ethnic diversity effects (antecedents of goal orientation). As organizations become more and more diverse, uncovering how the potential of ethnic diversity may be harvested and any potential harm avoided is vital for organizations' competitive edge.

Diversity in general

Within the diversity literature some researchers argued that team diversity has many promising outcomes, whereas other researchers argued that it has mainly detrimental effects (van Knippenberg & Schippers, 2007). Researchers highlighted the potential negative impact on performance due to social categorization (or similarity attraction) and interaction difficulties or accentuated its potentially increased pool of knowledge and thereby its positive consequences. However, neither perspective has been able to consistently predict diversity effects. All studies in the present dissertation studied team diversity, either in ethnicity or in goal orientation. And both types of diversity were found to have the potential to have positive effects or negative effects depending on the circumstances. Our findings strongly support the recent tradition in the diversity literature (van Knippenberg & Schippers, 2007) for studying contingencies of diversity effects and stifles discussions on whether diversity is good or bad...*it can be both.*

Main contributions to other area's in the literature

The present dissertation makes several contributions to literatures outside the main area of interest. Most contributions have been mentioned in the corresponding chapters. However, we will briefly recapture the most important contributions here.

Previous research has shown that overarching models (e.g., social categorization versus information/decision making) are unable to consistently make accurate predictions of effects of diversity in individual differences (van Knippenberg & Schippers, 2007). The findings of chapter 3 demonstrate the usefulness of focusing on the effects of the specific trait under study instead of making use of overarching models when predicting diversity effects and examining possible moderators (even though not focused on a trait variable, the findings of chapter 4 underline this argument). Moreover, chapter 3 shows that individual difference variables related to task approach may be important for team performance, which opens up opportunities for future research.

The findings of chapter 4 make an important contribution to the self-managing team literature. Although self-managing teams have been advocated to enhance team performance, results in the literature have not been unequivocally positive (Kauffeld, 2006; Langfred, 2007; Manz & Sims, 1982). The present study is one of the few empirical studies that shows when a self-managing structure may be more or less beneficial than a hierarchical structure for team functioning. We found that it was only beneficial when team members were similar in goals and strategies, i.e. homogeneous in goal orientation. This is an important addition to the literature. We show that self-managing teams may indeed be an important performance enhancer under the right circumstances. More research into the contingencies of the efficiency of self-managing teams is clearly needed.

STRENGTHS, LIMITATIONS, AND FUTURE RESEARCH

A strength of the present dissertation is that we made use of multiple methods to test our hypotheses. Not only did we use experiments, quasi-experiments, and (quasi-) field studies, we also examined both state and trait diversity in goal orientation and found similar effects. We did make use of student samples in all studies, but we have no reason to expect this population to differ from the general public on any of the variables we examined or their relationships (Brown & Lord, 1999; Dipboye, 1990; van Knippenberg & van Knippenberg, 2005; Wofford, 1999). Replicating our findings in organizational settings would nevertheless be a valuable addition to our studies.

Our studies on goal orientation diversity focused only on approach dimensions. As research on performance avoidance orientation has shown that it is has mainly detrimental effects (e.g., Payne et al., 2007), we would expect that including this dimension when examining goal orientation diversity may make diversity less likely to have positive effects. Perhaps this question is less relevant for organizations than focusing on the approach dimensions, as instigating an aim to avoid poor performance may be less often an aspiration for managers. Nevertheless, future research may examine the role of learning avoidance and performance avoidance orientation in goal orientation diversity.

Our findings reveal several interesting research opportunities. Many have already been indicated in our theoretical implications section. However, we will discuss a number of research opportunities here we deem deserve special attention. Diversity in goal orientation was shown to be important for team performance on the relatively short term. It would be interesting to examine the effects of diversity in goal orientation over a longer period, for example a year, as many teams in organizations work together for longer periods of time. Moreover, it may be interesting to examine how the effects of diversity in goal orientation develop over time. Many researchers have called for the incorporation of the dynamics of team work into team research (e.g., Kozlowski & Bell, 2003), however little research has answered these calls. Obvious causes are data availability and complexity.

However relationships not necessarily stay unchanged over time. Diversity in goal orientation, for example, may in particular be an issue early on in a team's interaction, as teams may develop a means to 'deal with it' or develop more similar goal orientations over time.

In the second chapter we found that team members' learning orientation may be useful and performance avoidance orientation detrimental for handling ethnic diversity. The same underlying rationale may be applicable to other kinds of team diversity, as for example diversity in gender. We would expect this to mainly hold for surface level diversity and be less strongly true for deep level diversity. As deep level diversity is not readily visible, social categorization processes will not likely affect its outcomes. Moreover, it is not necessarily related to differing information and perspectives or challenge appraisals. Corresponding with our earlier argument (see *main contributions to other area's in the literature*), we state that whether mean goal orientation affects the impact of deep level diversity would depend on the deep level variable of interest. For example, for diversity in goal orientation we would not necessarily predict the effect to be moderated by mean goal orientation due to the above arguments concerning the lack of an apparent relationship with social categorization and unique information. However, future research may examine this further.

In the present dissertation we considered the impact of mean levels of members' goal orientation on the effects of ethnic diversity. We reasoned that members with a high learning orientation will make less use of social categorization and in-group bias and more use of information processing, which potentially opens up the enhanced pool of knowledge in diverse teams. Members' with a high performance approach orientation on the other hand will tend to make more use of social categorization and in-group bias and less of information processing. An interesting next step in this research may be to examine whether this holds for all members, or that this may differ for minority members or majority members. For example it may be that it is particularly important that majority members are high in learning orientation as they have the power to make use of or neglect the information potential of minority members. For minority members it may be particularly important to have a low performance avoidance orientation, as

these members need persistence in their efforts to make their perspectives heard. Another possibility may be that learning orientation or performance avoidance orientation may be important for different subgroups for different reasons. For example majority members may need a focus on learning orientation to make use of the information potential of minority members, but for minority members learning orientation may be important to learn the best way to make their perspective heard and understood by majority members.

PRACTICAL IMPLICATIONS

Besides theoretical implications the present dissertation has several important practical implications. Even though most were mentioned in the corresponding chapters, we will recapitulate the main implications for organizations in the next sections.

Selection

The studies in the present dissertation highlight the potential benefit of making use of trait measures of goal orientation for selection purposes. Many studies have shown the importance of goal orientation for individual behavior and performance and argued for selecting employees high in learning orientation. The present dissertation focused on the team context and we would also suggest that selecting team members high in learning orientation and low in performance avoidance orientation seems beneficial. However, it seems important to take into account the other members of a team when selecting team members. Hiring an employee with a high learning orientation seems mainly advantageous when the employee will be working in an ethnically diverse team. Moreover, for hierarchically structured teams it may be advisable to search for more performance

oriented applicants when the other team members are high in learning orientation and search for more learning oriented applicants when the other team members are high in performance orientation. For self-managing teams on the other hand selecting members with similar goal orientations may be more sensible.

Besides recommendations for the use of goal orientation in selection the present dissertation also has implications for the selection of ethnic minorities. The findings underline that affirmative action and other diversity enhancing programs may have value on top of serving purposes of social fairness. Not pursuing diversity may bereave organizations of a valuable competitive advantage. This is an important finding which may increase the public support for these programs. Moreover, it may enhance the position of the minorities hired through these programs as they are appreciated more as an important asset to the organization instead of a legal obligation or a social duty, which is important for their motivation, emotions, and future career opportunities.

In general, the present dissertation underlines the importance of taking the future team members into account when evaluating the profile of an applicant. A selection decision should, therefore, not only be based on the profile of the applicant him or herself. This is important as for teams not only the individual's functioning is important, but also the functioning of the team, and information relevant for the performance of the team would be neglected if the team members are not included in the equation.

Existing teams

Besides the implications for selection, interventions for existing teams may be highly useful for organizations. As research has shown that goal orientation can be affected by the environment, organizations or leaders may focus specifically on the goal orientation of team members. For enhancing the outcomes of ethnically diverse teams it may be valuable to encourage an increase in learning approach orientation and a decrease in performance avoidance orientation. Moreover, depending on the leadership structure of the teams, organizations may be well-

advised to take into account the diversity in goal orientation. When self-managing teams are constructed, creating more homogeneity in state goal orientation of the members may prove valuable. On the other hand leaders of teams may increase the functioning of their teams by increasing the diversity in goal orientation, for example by making specific team members responsible for performance and others for learning.

In the literature several ways to stimulate learning or performance orientation are mentioned, which can be also be used for encouraging more homogeneous or diverse groups. Examples of interventions are emphasizing the importance of team and personal development, (de-)emphasizing competition, creating a secure environment where mistakes are seen as learning opportunities and not as reasons for disciplinary action, reward structures, and feedback systems (e.g., Farr et al., 1993; Janssen & Van Yperen, 2004; VandeWalle, Brown, Cron, & Slocum, 1999).

However, organizations can also enlarge their outcomes by focusing interventions on creating more shared goals and strategies through stimulating teams to reflect on them (team reflexivity). This will not enable teams to reap the benefits of diversity in goal orientation but may diminish a negative impact of diversity on the team's interaction and performance. When organizations aim to profit from a focus on performance as well as learning, an hierarchical structure seems advisable.

Finally, by measuring the goal orientation of team members and taking into account how certain organizational features (e.g., reward of feedback systems) may impact state goal orientation, organizations may examine whether any of these interventions are necessary to prevent making redundant investments. Organizations may choose to take appropriate action only in specific teams or departments.

CONCLUSION

As most organizations make use of some form of teams due to the increasing complexity of today's business environment, the study of what affects team performance is an important area in the literature. Even though a substantial amount of research showed the importance of goal orientation for individual behavior and performance, little was known on goal orientation in a team context. Especially effects of team composition in goal orientation on team performance were unclear. The present dissertation shows that to understand the influence of goal orientation in teams we need to take at least two important factors into account; First, moderators of the relationship of mean goal orientation with team performance, specifically the extent to which the task is challenging and requires an open mind to new information and perspectives; Second, the role of goal orientation diversity.

FOOTNOTES

¹ In chapter 4 group efficiency was an inherent part of the performance measure of the experimental task of that study (groups lost points for each second an enemy target was in their forbidden zone). Therefore, we did not test group efficiency separately as a mediator in this study. However, as we found strong effects on performance, results seem to underline the value of efficiency also in this study.

References

- Aiken, J. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. New York: Sage.
- Ames, C., Ames, R., & Felker, D. (1977). Effects of competitive reward structure and valence of outcome on children's achievement attributions. *Journal of Educational Psychology, 69*, 1–8.
- Ames, C., & Archer, J. (1988). Achievement goals in the classroom: Students' learning strategies and motivation processes. *Journal of Educational Psychology, 80*, 260–267.
- Anderson, C. A., Lindsay, J. J., & Bushman, B. J. (1999). Research in the Psychological Laboratory: Truth or Triviality? *Current Directions in Psychological Science, 8*, 3-9.
- Barrick, M. R., Stewart, G. L., Neubert, M. J., & Mount, M. K. (1998). Relating member ability and personality to work-team processes and team effectiveness. *Journal of Applied Psychology, 83*, 377-391.
- Barron, K. E., & Harackiewicz, J. M. (2001). Achievement goals and optimal motivation: testing multiple goal models. *Journal of Personality and Social Psychology, 80*, 706-722.
- Barron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*, 1173-1182.
- Beersma, B., Hollenbeck, J. R., Humphrey, S. E., Moon, H., Conlon, D. E., & Ilgen, D. R. (2003). Cooperation, competition, and team performance: Towards a contingency approach. *Academy of Management Journal, 46*, 572–590.

- Bell, S. T. (2007). Deep-level composition variables as predictors of team performance: A meta-analysis. *Journal of Applied Psychology, 92*, 595-615.
- Bhappu, A. D., Griffith, T. L., & Northcraft, G. B. (1997). Media effects and communication bias in diverse groups. *Organizational Behavior and Human Decision Processes, 70*, 199-205.
- Bigley, G. A., & Roberts, K. H. (2001). The incident command system: High-reliability organizing for complex and volatile task environments. *Academy of Management Journal, 44*, 1281-1299.
- Blau, P.M. (1977). *Inequality and Heterogeneity*. New York: The Free Press.
- Bliese, P. D. (2000). Within-group agreement, non-independence and reliability: Implications for data aggregation and analysis. In K. J. Klein & S. W. J. Kozlowski (Eds.), *Multilevel theory, research, and methods in organizations: Foundations, extensions, and new directions* (pp. 349-381). San Francisco: Jossey-Bass.
- Bluedorn, A.C., & Denhardt, R. B. (1988). Time and organizations. *Journal of Management, 14*, 299-320.
- Brodbeck, F. C., & Greitemeyer, T. (2000). A dynamic model of group performance: Considering the group members' capacity to learn. *Group Processes and Intergroup Relations, 3*, 159-182.
- Brophy, J. (2004). *Motivating students to learn (2nd ed.)*. Mahwah, NJ: Erlbaum.
- Brown, D. J., & Lord, R. G. (1999). The utility of experimental research in the study of transformational/charismatic leadership. *The Leadership Quarterly, 10*, 531-539.
- Brown, R. D., & Hauenstein, N. M. A. (2005). Interrater agreement reconsidered: An alternative to the rwg indices. *Organizational Research Methods, 8*, 165-184.
- Brown, S.L., & Eisenhardt, K.M. (1998). *Competing on the Edge: Strategy as Structured Chaos*, Harvard Business School Press, Boston, MA.
- Bunderson, J. S., & Sutcliffe, K. M. (2003). Management team learning orientation and business unit performance. *Journal of Applied Psychology, 88*, 552-560.

- Button, S. B., Mathieu, J. E. & Zajac, D. M. (1996). Goal orientation in organizational research: A conceptual and empirical foundation. *Organizational Behavior and Human Decision Processes*, 67, 26-48.
- Cady, S. H., & Valentine, J. (1999). Team innovation and perceptions of consideration: What difference does diversity make? *Small Group Research*, 30, 730-750.
- Carter, S. M., & West, M. A. (1998). Reflexivity, effectiveness and mental health in BBC production teams. *Small Group Research*, 29, 583-601.
- Chen, G. & Mathieu, J. (2008). Goal orientation dispositions and performance trajectories: The roles of supplementary and complementary situational inducements. *Organizational Behavior and Human Decisions Processes*, 106, 21-38.
- Colquitt, J. A. (2008). From the editors: Publishing laboratory research in AMJ: A question of when, not if. *Academy of Management Journal*, 51, 616-620.
- Colquitt, J. A., & Simmering, M. J. (1998). Conscientiousness, goal orientation, motivation to learn during the learning process: A longitudinal study. *Journal of Applied Psychology*, 83, 654-665.
- Cohen, S. G. and Bailey, D.E. 1997. What makes teams work: Group effectiveness research from the shop floor to the executive suite. *Journal of Management*, 23, 239-290.
- Cotton, J. L. (1993). *Employee involvement: Methods for improving performance and work attitudes*. London: Sage.
- Cox, T., Jr. (1993). *Cultural diversity in organizations: Theory, research, and practice*. San Francisco: Berret-Koehler.
- Cox, T., Jr., & Blake, S. (1991). Managing Cultural Diversity: Implications for Organizational Competitiveness. *Academy of Management Executive*, 5, 45-56.
- Cury, F., Elliot, A. J., Da Fonseca, D., & Moller, A. C. (2006). The social-cognitive model of achievement motivation and the 2 x 2 achievement goal framework. *Journal of Personality and Social Psychology*, 90, 666-679.
- Dahlin, K. B., Weingart, L. R., & Hinds, P.J. (2005). Team diversity and information use. *Academy of Management Journal*, 48, 1107-1124.

- Darnon, C., Butera, F., & Harackiewicz, J. M. (2007). Achievement goals in social interactions: Learning with mastery vs. performance goals. *Motivation and Emotion, 31*, 61-70.
- De Dreu, C. K. W. (2002). Team innovation and team effectiveness: The importance of minority dissent and reflexivity. *European Journal of Work and Occupational and Organizational Psychology, 70*, 285-298.
- DeShon, R. P., & Gillespie, J. Z. (2005). A motivated action theory account of goal orientation. *Journal of Applied Psychology, 90*, 1096–1127.
- DeShon, R. P., Kozlowski, S. W. J., Schmidt, A. M., Milner, K.R., & Wiechmann, D. (2004). A multiple-goal, multilevel model of feedback effects on the regulation of individual and team performance. *Journal of Applied Psychology, 89*, 1035-1056.
- Dipboye, R. L. (1990). Laboratory vs. field research in industrial and organizational psychology. In C. L. Cooper & I. T. Robertson (Eds.), *International review of industrial and organizational psychology (vol. 5)*. Chichester, UK: John Wiley.
- Doob, L. W. (1971). *Patterning of time*. New Haven, CT: Yale University Press.
- Diener, C.I., & Dweck, C.S. (1978). An analysis of learned helplessness: Continuous changes in performance, strategy and achievement cognitions following failure. *Journal of Personality and Social Psychology, 36*, 451-462.
- Dragoni, L. (2005). Understanding the emergence of state goal orientation in organizational work groups: The role of leadership and multilevel climate perceptions. *Journal of Applied Psychology, 90*, 1084–1095.
- Durham, C.C., Knight, D., & Locke, E. A. (1997). Effects of leader role, team-set goal difficulty, efficacy, and tactics on team effectiveness. *Organizational Behavior and Human Decision Processes, 72*, 203-231.
- Dweck, C. (1986). Motivational processes affecting learning. *American Psychologist, 41*, 1040-1048.
- Dweck, C. S. (1999). *Self-theories: Their role in motivation, personality, and development*. Philadelphia, PA: Psychology Press.

- Dweck, C. S., & Leggett, E. L. (1988). A social-cognitive approach to motivation and personality. *Psychological Review*, *95*, 245-273.
- Edmondson, A. (1999). Psychological Safety and Learning Behavior in Work Teams. *Administrative Science Quarterly*, *44*, 350-383.
- Elliot, A. & Church, M. (1997). A hierarchical model of approach and avoidance achievement motivation. *Journal of Personality and Social Psychology*, *72*, 218-232.
- Elliot, A. J., & Harackiewicz, J. M. (1994). Goal setting, achievement orientation, and intrinsic motivation: A mediational analysis. *Journal of Personality and Social Psychology*, *66*, 968-980.
- Elliot, A. J., & Harackiewicz, J. M. (1996). Approach and avoidance achievement goals and intrinsic motivation: A mediational analysis. *Journal of Personality and Social Psychology*, *70*, 461-475.
- Elliot, A. J., & McGregor, H. A. (1999). Test anxiety and the hierarchical model of approach and avoidance achievement motivation. *Journal of Personality and Social Psychology*, *76*, 628-644.
- Elliot, A. J., & McGregor, H. A. (2001). A 2 × 2 achievement goal framework. *Journal of Personality and Social Psychology*, *80*, 501-519.
- Elliot, A. J., & McGregor, H. A., & Gable, S. (1999). Achievement goal, study strategies, and exam performance: A mediational analysis. *Journal of Educational Psychology*, *91*, 549-563.
- Elliot, A.J., Shell, M.M., Henry, K., & Maier, M. (2005). Achievement goals, performance contingencies, and performance attainment: An experimental test. *Journal of Educational Psychology*, *97*, 630-640.
- Ely, R. J., & Thomas, D. A. (2001). Cultural diversity at work: The effects of diversity perspectives on work group processes and outcomes. *Administrative Science Quarterly*, *46*, 229-273.
- Farr, J. L., Hofmann, D. A., & Ringenbach, K. L. (1993). Goal orientation and action control theory: Implications for industrial and organizational psychology. In C. L. Cooper & I. T. Robertson (Eds.), *International review of industrial and organizational psychology* (pp. 193-232). New York: Wiley.

- Fisher, S. L., & Ford, J. K. (1998). Differential effects of learner effort and goal orientation on two learning outcomes. *Personnel Psychology, 51*, 397-420.
- Ford, J. K., Smith, E. M., Weissbein, D. A., Gully, S. M., & Salas, E. (1998). Relationships of goal orientation, metacognitive activity, and practice strategies with learning outcomes and transfer. *Journal of Applied Psychology, 83*, 218-233.
- Gaertner, S. L., & Dovidio, J. F. (2000). *Reducing Intergroup Bias: The Common Ingroup Identity Model*. Philadelphia, PA: Psychology Press.
- Gaertner, S. L., Dovidio, J. F., Banker, B., Houlette, M., Johnson, K., & McGlynn, E. (2000). Reducing intergroup conflict: From superordinate goals to decategorization, recategorization, and mutual differentiation. *Group Dynamics: Theory, Research and Practice, 4*, 98-114.
- Garvey, C. (2002). Steer teams with the right pay. *HR Magazine*, 19-20.
- Giessner, S. R., & van Knippenberg, D. (2008). "License to fail": Goal definition, leader group prototypicality, and perceptions of leadership effectiveness after leader failure. *Organizational Behavior and Human Decision Processes, 105*, 14-35.
- Grant, A. M., Dutton, J. E., & Rosso, B. D., (2008). Giving commitment: Employee support programs and the prosocial sensemaking process. *Academy of Management Journal, 51*, 898-918.
- Gruenfeld, D. H., Mannix, E. A., Williams, K. Y., & Neale, M. A. (1996). Group composition and decision making: How member familiarity and information distribution affect process and performance. *Organizational Behavior and Human Decision Processes, 67*, 1-15.
- Gully, S. M., & Phillips, J. M. (2005). A multilevel application of learning and performance orientations to individual, group, and organizational outcomes. In J. Martocchio (Ed.), *Research in personnel and human resource management* (Vol. 24, pp. 1-51). Greenwich, CT: JAI Press/Elsevier Science.
- Gurtner, A., Tschan, F., Semmer, N. K., & Nägele, Ch. (2007). Getting groups to develop good strategies: Effects of reflexivity interventions on team process,

- team performance, and shared mental models. *Organizational Behavior and Human Decision Processes*, 102, 127-142.
- Guzzo, R. A., & Salas, E. (1995). *Team effectiveness and decision making in organizations*. San Francisco: Jossey-Bass.
- Hackman, J. R. & Oldham, G. R. (1980). *Work redesign*. Reading, MA: Addison-Wesley.
- Hall, E. T. (1976). *Beyond Culture*. New York: Doubleday.
- Hambrick, D. C., & Mason, P. A. (1984). Upper echelons: The organization as a reflection of its top managers. *Academy of Management Review*, 9, 193-206.
- Harackiewicz, J. M., Barron, K. E., Carter, S. M., Lehto, A. T., & Elliot, A. J. (1997). Determinants and consequences of achievement goals in the college classroom: Maintaining interest and making the grade. *Journal of Personality and Social Psychology*, 73, 1284-1295.
- Harackiewicz, J. M., Barron, K. E., Tauer, J. M., Carter, S. M., & Elliot, A. J. (2000). Short-term and long-term consequences of achievement goals: Predicting interest and performance over time. *Journal of Educational Psychology*, 92, 316-330.
- Harackiewicz, J. M., Barron, K. E., Pintrich, P. R., Elliot, A. J., & Thrash, T. M. (2002). Revision of achievement goal theory: Necessary and illuminating. *Journal of Educational Psychology*, 94, 638– 645.
- Harrison, D. A., & Klein, K. J. (2007). What's the difference? Diversity constructs as separation, variety, or disparity in organizations. *Academy of Management Review*, 32, 4, 1199-1228.
- Heller, F. (2003). Participation and power: A critical assessment. *Applied Psychology: An International Review*, 52, 144-163.
- Higgins, E. T. (1997). Beyond pleasure and pain. *American Psychologist*, 52, 1280–1300.
- Hollenbeck, J. R., Moon, H., Ellis, A. P. J., West, B. J., Ilgen, D. R., Sheppard, L., et al. (2002). Structural contingency theory and individual differences: Examination of external and internal person-team fit. *Journal of Applied Psychology*, 87, 599–606.

- Homan, A. C., Hollenbeck, J. R., Humphrey, S. E., van Knippenberg, D., Ilgen, D. R., & Van Kleef, G. A. (2008). Facing differences with an open mind: openness to experience, salience of intra-group differences, and performance of diverse work groups. *Academy of Management Journal*, *58*.
- Homan, A. C., van Knippenberg, D., Van Kleef, G. A., & De Dreu, C. K. W. (2007). Bridging faultlines by valuing diversity: The effects of diversity beliefs on information elaboration and performance in diverse work groups. *Journal of Applied Psychology*, *92*, 1189-1199.
- Humphrey, S. E., Hollenbeck, J. R., Meyer, C. J. & Ilgen, D. R. (2007). Trait configurations in self-managed teams: A conceptual examination of the use of seeding to maximize and minimize trait variance in teams. *Journal of Applied Psychology* *92*, 885-892.
- Ilgen, D. R. (1999). Teams embedded in organizations. *American Psychologist*, *54*, 129-139.
- Ilgen, D. R., Hollenbeck, J. R., Johnson, M., & Jundt, D. (2005). Teams in organizations: From Input-Process-Output models to IMO models. *Annual Review of Psychology*, *56*, 517-43.
- Jackson, S. E., Joshi, A., & Erhardt, N. L. (2003). Recent research on team and organizational diversity: SWOT analysis and implications. *Journal of Management*, *29*, 801-830.
- James, L. R. (1982). Aggregation bias in estimates of perceptual agreement. *Journal of Applied Psychology*, *67*, 219-229.
- Janssen, O. & van Yperen, N. W. (2004). Employees' goal orientations, the quality of leader-member exchange, and the outcomes of job performance and job satisfaction. *Academy of Management Journal*, *47*, 368-384.
- Jehn, K. A. (1997). A qualitative analysis of conflict types and dimensions in organizational groups. *Administrative Science Quarterly*, *42*, 530-557.
- Kaplan, A., & Maehr, M. L. (2007). The contributions and prospects of goal orientation theory. *Educational Psychological Review*, *19*, 141-184.
- Kauffeld, S. (2006). Self-directed work groups and team competence. *Journal of Occupational and Organizational Psychology*, *79*, 1-21.

- Kelly, J.R., & McGrath, J. E. (1985). Effects of time limits and task types on task performance and interaction of four-person groups. *Journal of Personality and Social Psychology*, *49*, 395-407.
- Kirkman, B. L., & Rosen, B. (1999). Beyond self-management: Antecedents and consequences of team empowerment. *Academy of Management Journal*, *42*, 58-74.
- Kirkman, B. L., & Shapiro, D. L. (1997). The impact of cultural values on employee resistance to teams: Toward a model of globalized self-managing work team effectiveness. *Academy of Management Review*, *22*, 730-757.
- Kooij-De Bode, H. J. M., van Knippenberg, D., & van Ginkel, W. P. (in press). Ethnic diversity and distributed information in group decision making: The importance of information elaboration. *Group Dynamics*.
- Kozlowski, S.W. J., Bell, B.S. (2003), Work groups and teams in organizations, in Borman, W.C., Ilgen, D.R., Klimoski, R.J. (Eds), *Handbook of Psychology: Industrial and Organizational Psychology* (vol. 12, pp. 333-375), London: Wiley.
- Kozlowski, S.W. J., Gully, S. M., McHugh, P. P., Salas, E., & Cannon-Bowers, J. A. (1996). A dynamic theory of leadership and team effectiveness: Developmental and task contingent leader roles. *Research in Personnel and Human Resources Management*, *4*, 253–305.
- Kristof, A. L. (1996). Person-organization fit: An integrative review of its conceptualizations, measurement, and implications. *Personnel Psychology*, *49*, 1–49.
- Kristof-Brown, A. L., & Stevens, C. K. (2001). Goal congruence in project teams: Does the fit between members' personal mastery and performance goals matter? *Journal of Applied Psychology*, *86*, 1083-1095.
- Kroll, M. D. (1988). Motivational orientations, views about the purpose of education, and intellectual styles. *Psychology in the Schools*, *25*, 338–343.
- Langfred, C. W. (2007). The downside of self-management: A longitudinal study of the effects of conflict on trust, autonomy, and task interdependence in self-managing teams. *Academy of Management Journal*, *50*, 885-900.

- Laughlin P. R., & Hollingshead, A. B. (1995). A theory of collective induction. *Organizational Behavior and Human Decision Processes*, *61*, 94-107.
- Laughlin, P. R., VanderStoep, S. W., & Hollingshead, A. B. (1991). Collective versus individual induction: Recognition of truth, rejection of error, and collective information processing. *Journal of Personality and Social Psychology*, *61*, 50-67.
- LePine, J. A. (2003). Team adaptation and post-change performance: Effects of team composition in terms of members' cognitive ability and personality. *Journal of Applied Psychology*, *88*, 27-39.
- LePine, J. A. (2005). Adaptation of teams in response to unforeseen change: Effects of goal difficulty and team composition in terms of cognitive ability and goal orientation. *Journal of Applied Psychology*, *90*, 1153-1167.
- Levy, S. R., Stroessner, S. J., & Dweck, C. S. (1998). Stereotype formation and endorsement: The role of implicit theories. *Journal of Personality and Social Psychology*, *74*, 1421-1436.
- Licht, B.G., & Dweck, C.S. (1984). Determinants of academic achievement: The interaction of children's achievement orientations with skill area. *Developmental Psychology*, *20*, 628-636.
- Locke, E. A. (1986). Generalizing from laboratory to field: Ecological validity or abstraction of essential elements. In E. A. Locke (Ed.), *Generalizing from laboratory to Field Settings* (pp. 3-9). Lexington, MA: Lexington Books.
- Locke, E. A., & Latham, G. P. (1990). *A theory of goal setting and task performance*. Englewood Cliffs, NJ: Prentice Hall.
- Macan, T. H., Shahani, C., Dipboye, R. L., & Phillips, A. P. (1990). College students' time management: Correlations with academic performance and stress. *Journal of Educational Psychology*, *82*, 760-768.
- MacKinnon, D. P., Lockwood, C. M., Hoffman, J. M., West, S. G., & Sheets, V. (2002). A comparison of methods to test mediation and other intervening variable effects. *Psychological Methods*, *7*, 83-104.
- Manz, C. C., & Sims, H. P. (1982). The potential for "groupthink" in autonomous work groups. *Human Relations*, *35*, 773-784.

- Mathieu, J., Maynard, M. T., Rapp, T., & Gilson, L. (2008). Team effectiveness 1997-2007: A review of recent advancements and a glimpse into the future. *Journal of Management*, 34, 410-476.
- Maznevski, M. L. (1994). Understanding our differences: Performance in decision-making groups with diverse members. *Human Relations*, 47, 531-552.
- Martin, A. J., Marsh, H. W., Debus, R. L. & Williamson, A. (2003). Self-handicapping, defensive pessimism, and goal orientation: A qualitative study of university students. *Journal of Educational Psychology*, 95, 617-628.
- McGregor, H. A., & Elliot, A. J. (2002). Achievement goals as predictors of achievement-relevant processes prior to task engagement. *Journal of Educational Psychology*, 94, 381-395.
- McLeod, P. L., Lobel, S. A., & Cox, T. H. Jr. (1996). Ethnic diversity and creativity in small groups. *Small Group Research*, 27, 246-264.
- Meece, J. L., Blumenfeld, P. C., & Hoyle, R. H. (1988). Students' goal orientations van cognitive engagement in classroom activities. *Journal of Educational Psychology*, 80, 514-523.
- Mesmer-Magnus, J. R., & DeChurch, L. A. (2008). Information Sharing and Team Performance: A Meta-Analysis. *Paper presented at the 23rd annual conference of Society for Industrial and Organizational Psychology*, San Francisco, CA.
- Midgley, C., Kaplan, A., & Middleton M. J. (2001). Performance-approach goals: Good for what, for whom, under what circumstances, and at what cost? *Journal of Educational Psychology*, 93, 77-86.
- Midgley, C., & Urdan, T. (1995). Predictors of middle school students' use of self-handicapping strategies. *The Journal of Early Adolescence*, 15, 389-411.
- Milgram, N.A., Mey-Tal, G., & Levison, Y. (1998). Procrastination, generalized or specific, in college students and their parents. *Personality and Individual Differences*, 25, 297-316.
- Milliken, F.J., & Martins, L. L. (1996). Searching for common threads: Understanding the multiple effects of diversity in organizational groups. *Academy of Management Review*, 21, 402-433.

- Miller, D. L., Young, P., Kleinman, D., & Serfaty, D. (1998). *Distributed dynamic decision-making simulation Phase 1 release notes and user's manual*. Woburn, MA: Aptima, Inc..
- Mook, D. G. (1983). In defense of external invalidity. *American Psychologist*, *38*, 379-387.
- Muchinsky, P. M., & Monahan, C. J. (1987). What is person-environment congruence? Supplementary versus complementary models of fit. *Journal of Vocational Behavior*, *31*, 268-277.
- Nederveen Pieterse, A., van Knippenberg, D., & van Ginkel, W. (2008). *Group composition in goal orientation: The role of diversity*. Paper presented at 12th International Workshop on Teamworking, Birmingham, United Kingdom.
- Neuberg, S. L., & Newsom, J. T. (1993). Personal need for structure: Individual differences in the desire for simple structure. *Journal of Personality & Social Psychology*, *65*, 113-131.
- Payne, S. C., Youngcourt, S. S., & Beaubien, J. M. (2007). A Meta-analytic examination of the goal orientation nomological net. *Journal of Applied Psychology*, *92*, 128-150.
- Pelled, L. H., Eisenhardt, K. M., & Xin, K. R. (1999). Exploring the black box: An analysis of work group diversity, conflict, and performance. *Administrative Science Quarterly*, *44*, 1-28.
- Pendry, L. F., & Macrae, C. N. (1996). What the disinterested perceiver overlooks: Goal-directed social categorization. *Personality and Social Psychology Bulletin*, *3*, 250-257.
- Phillips, J. M., & Gully, S. M. (1997). Role of goal orientation, ability, need for achievement, and locus of control in the self-efficacy and goal-setting process. *Journal of Applied Psychology*, *82*, 792-802.
- Phillips, K. W., Mannix, E. A., Neale, M. A., & Gruenfeld, D. H. (2004). Diverse groups and information sharing: The effects of congruent ties. *Journal of Experimental Social Psychology*, *40*: 497-510.
- Phillips, K. W., Northcraft, G. B., & Neale, M. A. (2006). Surface-level diversity and decision-making in groups: When does deep-level similarity help? *Group Processes & Intergroup Relations*, *9*, 467-482.

- Porath, C. L., & Bateman, T. S. (2006). Self-regulation: From goal orientation to job performance. *Journal of Applied Psychology, 91*, 185-192
- Porter, C. O. L. H. (2005). Goal orientation: Effects on backing up behavior, performance, efficacy, and commitment in teams. *Journal of Applied Psychology, 90*, 811-818.
- Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, & Computers, 36*, 717-731.
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods, 40*, 879-891.
- Radosevich, D. J., Vaidyanathan, V. T., Yeo, S. & Radosevich, D. M. (2004). Relating goal orientation to self-regulatory processes: A longitudinal field test. *Contemporary Educational Psychology, 29*, 207-229.
- Rentsch, J.R., & Klimoski, R. J. (2001). Why do great minds think alike?: Antecedents of team member schema agreement. *Journal of Organizational Behavior, 22*, 107-120.
- Riordan, C., & Shore, L. (1997). Demographic diversity and employee attitudes: Examination of relational demography within work units. *Journal of Applied Psychology, 82*, 342-358.
- Roberts, K. H., (1990). Some characteristics of high reliability organizations. *Organization Science, 1*, 160-177.
- Rubin, M., & Hewstone, M. (1998). Social identity theory's self-esteem hypothesis: A review and some suggestions for clarification. *Personality and Social Psychology Review, 2*, 40-62.
- Sassenberg, K., Moskowitz, G. B., Jacoby, H. & Hansen, N. (2007). The carry-over effect of competition: The impact of competition on prejudice towards uninvolved outgroups. *Journal of Experimental Social Psychology, 43*, 529-538.
- Schippers, M. C., Den Hartog, D. N., Koopman, P. L., & Wienk, J. A. (2003). Diversity and team outcomes: The moderating effects of outcome

- interdependence and group longevity, and the mediating effect of reflexivity. *Journal of Organizational Behavior*, 24, 779-802.
- Schippers, M. C., Den Hartog, D. N., & Koopman, P. L. (2007). Reflexivity in teams: A measure and correlates. *Applied Psychology: An International Review*, 56, 189-211.
- Scholten, L., van Knippenberg, D., Nijstad, B. A., & De Dreu, C. K. W. (2007). Motivated information processing and group decision-making: Effects of process accountability on information processing and decision quality. *Journal of Experimental Social Psychology*, 43, 539-552.
- Seijts, G.H., Latham, G.P., Tasa, K., & Latham, B.W. (2004). Goal setting and goal orientation: An integration of two different yet related literatures. *Academy of Management Journal*, 47, 227-239.
- Shrout, P. E., & Bolger, N. (2002). Mediation in experimental and nonexperimental studies: New procedures and recommendations. *Psychological Methods*, 7, 422-445.
- Stasser, G. (1999). The uncertain role of unshared information in collective choice. In L. L. Thopmson, J. M. Levine, D. M. Messick (Eds.), *Shared cognition in organizations: The management of knowledge* (pp. 49-69). Mahwah, NJ: Erlbaum.
- Steiner, I. D. (1972). *Group processes and productivity*. New York: Academic Press.
- Stewart, G., Fulmer, I., & Barrick, M. (2005). An exploration of member roles as a multilevel linking mechanism for individual traits and team outcomes. *Personnel Psychology*, 58, 343-65.
- Sujan, H., Weitz, B. A., & Kumar, N. (1994). Learning orientation, working smart, and effective selling. *Journal of Marketing*, 58, 39-52.
- Sundstrom, E., DeMeuse, K. P., & Futrell, D. (1990). Work teams: Applications and effectiveness. *American Psychologist*, 45, 120-133.
- Swann, W. B., Polzer, J. T., Seyle, D. C., & Ko, J. S. (2004). Finding value in diversity: verification of personal and social self-views in diverse groups. *Academy of Management Review* 29, 9-27.

- Tasa, K., Taggar, S., & Seijts, G.H. (2007). The development of collective efficacy in teams: A multilevel and longitudinal perspective. *Journal of Applied Psychology, 92*, 17-27.
- Tjosvold, D., Tang, M. M. L., & West, M. (2004). Reflexivity for team innovation in China: The contribution of goal interdependence. *Group & Organizational Management, 29*, 540-559.
- Tsui, A.S., & O'Reilly, C.A. (1989). Beyond simple demographic effects: The importance of relational demography in superior-subordinate dyads. *Academy of Management Journal, 32*, 402-423.
- VandeWalle, D. (1997). Development and validation of a work domain goal orientation instrument. *Educational and Psychological Measurement, 57*, 995-1015.
- VandeWalle, D., Brown, S. P., Cron, W. L., & Slocum, J. W. (1999). The influence of goal orientation and self-regulation tactics on sales performance: A longitudinal field test. *Journal of Applied Psychology, 84*, 249-259.
- VandeWalle, D., Cron, W. L., & Slocum, J. W. (2001). The role of goal orientation following performance feedback. *Journal of Applied Psychology, 86*, 629-640.
- VandeWalle, D., & Cummings, L. L. (1997). A test of the influence of goal orientation on the feedback-seeking process. *Journal of Applied Psychology, 82*, 390-400.
- van Ginkel, W., & van Knippenberg, D. (2008). Group information elaboration and group decision making: The role of shared task representations. *Organizational Behavior and Human Decision Processes, 105*, 82-97.
- van Knippenberg, D., De Dreu, C. K. W., & Homan, A. C. (2004). Work group diversity and group performance: An integrative model and research agenda. *Journal of Applied Psychology, 89*, 1008-1022.
- van Knippenberg, D. & Schippers, M. C. (2007). Work group diversity. *Annual Review of Psychology, 58*, 515-541.

- van Knippenberg, B. & van Knippenberg, D (2005). Leader self-sacrifice and leadership effectiveness: The moderating role of leader prototypicality. *Journal of Applied Psychology, 90*, 25-37.
- Weick, K. E., Sutcliffe, K. M., & Obstfeld, D. (1999). Organizing for high reliability: Processes of collective mindfulness. In B. M. Staw & R. Sutton (Eds.), *Research in organizational behavior*, vol. 23: 81-123, Greenwich, GT: JAI Press.
- Weingart, L. R. (1997). How did they do that? The ways and means of studying group process. *Research in Organizational Behavior, 19*, 189-239.
- West, M. A. (1996). Reflexivity and work group effectiveness: A conceptual integration. In M. A. West (Ed.), *Handbook of work group psychology* (pp. 555-579). Chichester, UK: Wiley.
- West, M. A. (2000). Reflexivity, revolution and innovation in workteams. In M. Beyerlein (Ed.), *Product development teams: Advances in interdisciplinary studies of work teams* (pp. 1-30). Greenwich, CT: JAI.
- West, M. A., Garrod, S., & Carletta, J. (1997). Group decision-making and effectiveness: Unexplored boundaries. In C. L. Cooper & S. E. Jackson (Eds.), *Creating tomorrow's organizations: A handbook for future research in organizational behavior* (pp. 293-316). Chichester, UK: Wiley.
- Williams, K. Y., & O'Reilly, C.A. (1998). Demography and diversity in organizations: a review of 40 years of research. *Research in Organizational Behavior, 20*, 77-140.
- Wittenbaum, G. M., & Stasser, G. (1996). Management of information in small groups. In J. L. Nye & A.R. Brower (Eds.), *What's social about social task representations? Research on socially shared task representations in small groups* (pp. 3-28). Thousand Oaks, CA: Sage.
- Wofford, J. C. (1999). Laboratory research on charismatic leadership fruitful or futile? *The Leadership Quarterly, 10*, 523-529.
- Worchel, S. (2005). Culture's role in conflict and conflict management: Some suggestions, many questions. *International Journal of Intercultural Relations, 29*, 739-757.

- Yeo, G. B., & Neal, A. (2004). A multilevel analysis of effort, practice, and performance: Effects of ability, conscientiousness, and goal orientation. *Journal of Applied Psychology, 89*, 231-247.

Samenvatting (Summary in Dutch)

Organisaties maken tegenwoordig steeds vaker gebruik van teams als essentieel onderdeel van hun structuur. Hierdoor wordt het steeds belangrijker te bepalen wat optimale team prestatie beïnvloedt. De doelen waarop mensen zich richten zijn van grote invloed gebleken op hun individuele. Er is echter weinig bekend over de rol van doelgericht gedrag in een team context. De laatste jaren is veel aandacht besteed aan doel oriëntatie theorie. Dweck en haar collega's (bijv., Dweck, 1986) hebben rond de jaren 80 aangetoond, dat mensen zich kunnen richten op leren of presteren in prestatie situaties en dat dit van grote invloed is op hun gedragingen. Sinds haar werk heeft een aanzienlijke hoeveelheid onderzoek aangetoond dat doel oriëntaties een grote rol spelen bij een grote verscheidenheid aan uitkomsten op individueel niveau. We weten echter zeer weinig over de rol van doel oriëntaties in een team context. Gezien de grote invloed op individueel niveau is het waarschijnlijk dat deze rol op team niveau eveneens aanzienlijk is. Dit heeft tot de centrale vraag van mijn proefschrift geleid:

Wat is de rol van doel oriëntaties in teams?

Een van de centrale thema's binnen team onderzoek op dit moment, is de rol van diversiteit. Deze interesse is in gang gezet door veranderingen in de beroepsbevolking (meer vrouwen, meer verscheidenheid in etniciteit, etc.), maar richt zich eveneens op diversiteit in persoonlijkheid en andere variabelen waarop individuen van elkaar kunnen verschillen. Ondanks de enorme aandacht voor onderzoek naar diversiteit zijn de resultaten niet eenduidig. Sommige onderzoeken vinden positieve effecten en andere vinden negatieve effecten van diversiteit. Naar

aanleiding van deze resultaten hebben onderzoekers beargumenteerd dat het zoeken naar hoofdeffecten van diversiteit niet tot de juiste inzichten kan leiden, aangezien elke vorm van diversiteit zowel positieve als negatieve uitkomsten kan hebben afhankelijk van de omstandigheden. Aangezien diversiteitonderzoek een belangrijk thema is binnen de groepsliteratuur waar nog veel verheldering noodzakelijk is, richten we ons op diversiteit binnen het beantwoorden van de centrale vraag van dit proefschrift.

DOEL ORIËNTATIE

Doel oriëntaties geven een voorkeur weer voor bepaalde doelen in prestatie situaties. Een leer oriëntatie is een focus op het *ontwikkelen* van kennis en kunde. Een prestatie oriëntatie is een focus op het *tonen* van kennis en kunde en het verkrijgen van positieve en het vermijden van negatieve evaluaties door anderen. Een leeroriëntatie is verbonden aan de overtuiging dat competentie ontwikkeld kan worden (incremental theory), waardoor het gerelateerd is aan veelal positieve uitkomsten zoals doorzetten bij tegenslagen. Aan de andere kant is prestatie oriëntatie gerelateerd aan de overtuiging dat competentie vaststaat (entity theory). Hierdoor is prestatie oriëntatie gerelateerd aan angst om te falen en gezichtsverlies, waardoor deze oriëntatie gekoppeld werd aan minder efficiënte gedragspatronen. Onderzoekers hebben laten zien dat doel oriëntatie een relatief stabiele trek (trait) is die tevens beïnvloed kan worden door de omgeving. Doel oriëntaties zijn als trait (trek) en als state (situationeel bepaald) onderzocht. Een enorme hoeveelheid onderzoek in onderwijs omgevingen heeft laten zien dat doel oriëntaties een grote rol spelen bij verscheidene uitkomsten op individueel niveau, zoals motivatie, taak aanpak, en prestatie. Recent hebben onderzoekers zich gericht op de rol van doel oriëntaties in organisaties. Onderzoek heeft aangetoond dat doel oriëntaties ook in organisaties van groot belang zijn voor uitkomsten als prestatie, tevredenheid, innovatie, motivatie, taak aanpak, en emotie.

Recentelijk hebben onderzoekers beargumenteerd dat prestatie oriëntatie en leer oriëntatie verder onderverdeeld moeten worden in approach (streven) en avoidance (vermijden) dimensies. Veel onderzoek laat zien dat met name prestatie avoidance oriëntatie negatieve gevolgen heeft en dat de effecten van prestatie approach oriëntatie niet eenduidig negatief zijn. Momenteel is nog weinig bekend over leer avoidance oriëntatie.

Ondanks dat ruimschoots is aangetoond dat doel oriëntaties een grote rol spelen bij het functioneren van individuen in onderwijs en organisatie omgevingen, is nog zeer weinig bekend op welke wijze en in hoeverre dit zich uit in teams. Pas recentelijk zijn onderzoekers gestart met onderzoek naar de rol van doel oriëntaties bij het functioneren van teams (bijv. LePine, 2005; Porter, 2005). Deze onderzoeken laten onder andere zien dat doel oriëntaties van teamleden gerelateerd zijn aan team efficacy, commitment, en hoe goed groepen zich aanpassen na veranderde omstandigheden. Doel oriëntaties spelen dus ook een rol bij het functioneren van teams. Echter, gezien de grote invloed op individueel niveau, veronderstellen wij dat op in teams doel oriëntaties een veel grotere rol spelen dan tot op heden is aangetoond en dat veel belangrijke relaties nog onbekend zijn. Om deze reden richt het huidige proefschrift zich op het verder verhelderen van de rol van doel oriëntaties in het functioneren van teams. Om een goed beeld te krijgen benaderen we de centrale vraag in enkele onderzoeken, elk met speciale aandacht voor diversiteit.

Het eerste onderzoek richt zich op de vraag of doel oriëntaties kunnen helpen bij het voorspellen van de consequenties van etnische diversiteit. Gebaseerd op doel oriëntatie theorie en de literatuur over etnische diversiteit beargumenteren wij dat leer approach en prestatie avoidance oriëntatie een grote rol kunnen spelen bij de relatie van etnische diversiteit met team prestatie. Binnen de diversiteit literatuur wordt de mate van sociale categorisatie en intergroep bias gezien als versterker van de negatieve gevolgen van etnische diversiteit. Echter de motivatie tot diepe informatie verwerking zou juist de positieve kant van etnische diversiteit vergroten. Aangezien doel oriëntatie gerelateerd is aan beide aspecten, zou het een belangrijke moderator voor de effecten van etnische diversiteit kunnen zijn.

Wij redeneren dat leer (approach) oriëntatie gerelateerd is aan zowel minder sociale categorisatie als meer diepe informatie verwerking. Om deze reden verwachten wij dat teams bestaande uit leden met een hoge leer oriëntatie niet alleen minder last hebben van negatieve gevolgen van etnische diversiteit, maar bovendien in staat zijn de positieve uitkomsten te oogsten. Aan de andere kant zou etnische diversiteit in een team bestaande uit leden met een hoge prestatie avoidance oriëntatie juist meer negatieve gevolgen hebben. Dit aangezien prestatie avoidance oriëntatie gerelateerd is aan meer oppervlakkige informatie verwerking, toegenomen bezorgdheid (anxiety) en competitie, welke allen de mate van sociale categorisatie en intergroupp bias versterken. Ook zal de positieve kant van etnische diversiteit minder tot uiting kunnen komen door een verminderde diepe informatie verwerking. Bovendien maakt etnische diversiteit de interactie tussen teamleden minder vanzelfsprekend. Door mensen met een hoge prestatie avoidance oriëntatie worden uitdagingen veelal gezien als een bedreiging, echter door mensen met een hoge leer oriëntatie juist als een interessante (leer) mogelijkheid of kans.

We onderzochten deze hypothesen onder 312 studenten die gedurende een periode van twee weken in groepen van 4 samenwerkten aan een business simulatie (79 teams). Voorafgaande aan de samenwerking hebben we de etniciteit van studenten gemeten en hun doel oriëntatie met een bestaande gevalideerde vragenlijst. De prestatie van de teams werd na afloop van de simulatie vastgesteld. Zoals verwacht vonden we dat de relatie van etnische diversiteit met groepsprestatie gemodereerd werd door zowel leer (approach) oriëntatie als prestatie avoidance oriëntatie in de voorspelde richtingen. Een interessante extra bevinding van dit onderzoek is, dat de interactie tussen gemiddelde niveaus van doel oriëntatie in teams en etnische diversiteit een verklaring kan zijn voor waarom eerder onderzoek geen relatie heeft kunnen vinden tussen gemiddelde niveaus van doel oriëntatie en team prestatie.

Het tweede onderzoek richt zich op diversiteit in doel oriëntatie. Eerder onderzoek naar team compositie in doel oriëntatie richtte zich enkel op de invloed van gemiddelde niveaus binnen teams. Echter, teamleden kunnen ook van elkaar verschillen in hun doel oriëntatie wat tevens van grote invloed kan zijn op het

functioneren van een team. Hier is tot op heden geen onderzoek naar gedaan, wat volgens ons een grote tekortkoming is binnen de literatuur. Zowel leer (approach) oriëntatie als prestatie (approach) oriëntatie zijn in meerdere onderzoeken gerelateerd aan verscheidene taakstrategieën of aanpak van taken. Daarom stellen wij dat diversiteit in leer (approach) oriëntatie en diversiteit in prestatie (approach) oriëntatie beide gerelateerd zijn aan verschillen tussen teamleden in de manier waarop ze de taak aanpakken, wat de interactie in deze teams lastiger maakt. Door een afname in informatie elaboratie en efficiëntie zou dit de team prestatie verlagen. Hiernaast waren we geïnteresseerd in manieren om deze negatieve gevolgen te verminderen. Aangezien wij redeneren dat de negatieve effecten veroorzaakt worden door verschillen in strategieën en doelen binnen een team, zou het creëren van meer gezamenlijke doelen en strategieën deze effecten moeten verminderen. Een variabele die hierbij een grote rol zou moeten spelen is team reflexiviteit. Team reflexiviteit is de mate waarin groepen gezamenlijk reflecteren op hun doelen, strategieën, en processen en is gerelateerd aan het bouwen van meer overeenstemming in doelen en strategieën in teams. Om deze reden verwachten we dat team reflexiviteit teams kan helpen minder negatieve consequenties te ondervinden van diversiteit in doel oriëntatie.

We hebben deze verwachtingen onderzocht in een laboratorium setting met 147 studenten onderverdeeld in 49 drie-persoons groepen. Doel oriëntaties waren vooraf gemeten met bestaande gevalideerde schalen en de mate van team reflexiviteit was gemanipuleerd. Zoals verwacht vonden we dat zowel diversiteit in leer oriëntatie als diversiteit in prestatie oriëntatie negatief gerelateerd waren aan team prestatie, gemodereerd door de mate van team reflexiviteit. Bovendien vonden we dat de relatie tussen diversiteit in leer oriëntatie en team prestatie gemedieerd werd door groeps informatie elaboratie en efficiëntie. De relatie tussen diversiteit in prestatie oriëntatie en team prestatie werd ook gemedieerd door groepsefficiëntie, maar niet door groeps informatie elaboratie.

Naast de rol van diversiteit in trait doel oriëntatie zijn wij geïnteresseerd in de rol van diversiteit in state (situationeel bepaald) doel oriëntatie, aangezien in een organisatie door de omgeving bepaalde werkdoelen (bijvoorbeeld door leider of

organisatie) ook een grote rol kunnen spelen. Bovendien is in organisaties zowel leren als presteren essentieel. Daarom lijkt het aannemelijk dat een focus op beide binnen een team tot optimale uitkomsten kan leiden. Echter, diverse doel oriëntaties zouden door verschillen in taak aanpak tot een moeizame samenwerking leiden. Het laatste empirische hoofdstuk is dus opgezet om te onderzoeken of en zo ja wanneer diversiteit in doel oriëntatie positieve gevolgen heeft voor team prestatie.

Aangezien wij redeneren dat diversiteit in doel oriëntatie door het bemoeilijken van de interactie en coördinatie negatieve consequenties heeft, zou een variabele die direct insteekt op de coördinatie in een team een belangrijke moderator kunnen zijn. Wij achten team leiderschap hiervoor van groot belang. Een coördinerend team leider zou een team kunnen helpen gebruik te maken van de focus op zowel leren als presteren door de afname van informatie elaboratie tegen te gaan. We hebben deze verwachtingen onderzocht in een experimentele setting, niet alleen om state doel oriëntaties te beïnvloeden, maar tevens om meer solide conclusies te kunnen trekken over causaliteit. In een studie met 56 groepen waarbij zowel diversiteit in doel oriëntatie (homogeen versus divers) als team leiderschap (zelfsturend team versus team met leider) gemanipuleerd werden, vonden we empirische steun voor de hierboven geschetste verwachtingen.

CONCLUSIE

Aangezien steeds meer organisaties gebruik maken van teams door de toegenomen complexiteit in het huidige bedrijfsleven en doordat doel oriëntaties van groot belang zijn gebleken voor het functioneren van individuen, richtte het huidige proefschrift zich op de vraag wat de rol is van doel oriëntatie in het functioneren van teams. Onze resultaten laten zien dat voor een goed begrip van doel oriëntaties in teams twee dingen van groot belang zijn; Ten eerste de belangrijke rol van diversiteit in doel oriëntaties in team prestatie, en ten tweede de rol van moderatoren van de relatie tussen gemiddelde niveaus van doel oriëntaties

in teams en team prestatie. Tevens verhelderen we de onderliggende processen (informatie elaboratie en efficiëntie) en team reflexiviteit en team leadership als moderatoren van de effecten van diversiteit in doel oriëntatie. Ook tonen we aan dat etnische diversiteit zowel negatieve als positieve uitkomsten kan hebben en hoe de positieve effecten bewerkstelligd kunnen worden. Verder draagt dit proefschrift op verscheidene manieren bij aan andere gebieden in de literatuur, zoals bijvoorbeeld de literatuur over zelfsturende teams. Als praktische implicatie onderstrepen onze resultaten dat het van waarde kan zijn doel oriëntaties van sollicitanten in acht te nemen bij het selecteren van teamleden, maar vooral dat het van groot belang is rekening te houden met de samenstelling van het gehele team. Eveneens duiden onze bevindingen op enkele belangrijke interventies voor bestaande teams.

Biography



Anne Nederveen Pieterse was born on September 17, 1978 in Amsterdam. After receiving her secondary education diploma in 1996, she started the study of Psychology at the University of Amsterdam. In 2001 she graduated in Work and Organizational Psychology. After spending some time travelling, she worked for about two years in Human Resource Management. In 2004 she started a PhD project at the Rotterdam School of Management at the Erasmus University Rotterdam. Part of the data collection was conducted at Michigan State University, East Lansing, MI, USA, during a four month visit. The research reported in this dissertation was collected from 2004 to 2008. Anne Nederveen Pieterse is now a post-doctoral researcher at the Human Resource Management & Organizational Behavior Department of the Faculty of Economics and Business of the University of Groningen.

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GOAL ORIENTATION IN TEAMS: THE ROLE OF DIVERSITY

Organizations increasingly make use of teams as their basic structure, making it more and more important to determine what enables optimal team functioning. Over the past decades, the goals people focus on in achievement settings (i.e. goal orientation) is shown to be highly important for individual behavior. Nevertheless, little is known on how this plays out in a team context. The present dissertation focuses on uncovering the role of team composition in goal orientation on team functioning, with special emphasis on the role of diversity.

In a series of experimental and field studies, we examine several important areas in need of clarification leading to several key insights. First, team members' goal orientation may help or hurt teams dealing with ethnic diversity. Second, effects of mean levels of goal orientation on team performance may be dependent on other factors (moderators). Third, diversity in goal orientation is an important overlooked variable in the literature that plays a large role in team performance. Fourth, both group information elaboration and group efficiency are relevant underlying processes of this relationship. Fifth, team reflexivity may counteract the negative effects of diversity in goal orientation. Finally, a coordinating team leader may bring about the positive potential of diversity in goal orientation.

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