Recognizing the benefits of diversity: When and how does diversity increase group performance?

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ABSTRACT

Diversity does not only bring positive consequences. It has often been recognized that heterogeneity in teams can reduce intra-group cohesiveness, and that it can lead to conflicts and misunderstandings which, in turn, can lower employee satisfaction, citizenship behaviors and increase turnover. On the other hand, there is also evidence for performance-increasing effects of diversity because it can improve creativity and innovation through the team members' greater variety of perspectives. Little is known, however, about the conditions and the psychological mechanisms required for increasing group performance under diverse settings. Answers to research questions such as how and when diversity influences performance at work are still limited. The purpose of the paper is to provide theoretical answers to these questions by proposing a model of managing diversity which draws on social psychology theories. The model brings a new perspective by identifying the process of learning from one another's identity within a group. This process underlies two different levels of mechanisms (individual and group level). The model proposes that when these social psychological mechanisms are activated, diversity will lead to an increase in group performance. The model also suggests that collective identity is salient and when psychological safety climate are the psychological conditions that activate these mechanisms.

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1. Introduction

Considering that workforce diversity has dramatically increased (Ragins & Gonzalez, 2003), practitioners (Childs, 2005; Ezine, 2003) acknowledge that having a diverse workforce may be a key for sustained competitive advantage by increasing creativity and innovation (Bassett-Jones, 2005; Richard, 2000). However, the empirical evidence supporting such predictions is limited. Rather, many studies have found that diversity leads to negative consequences such as rising conflicts or decreasing group cohesiveness. Thus, diversity may even lead to counterproductive work behaviors such as derogation, ostracism, and discrimination. Also, reviews of the literature (van Knippenberg & Schippers, 2007; Williams & O'Reilly, 1998) as well as meta-analyses (Bowers, Pharmer, & Salas, 2000; Webber & Donahue, 2001), could not establish consistent main effects of diversity on performance.

This paper first presents an extensive overview of the literature about diversity and performance. Secondly, it aims to reconcile inconsistent findings by proposing a conceptual multi-level model that addresses the questions of *when* (i.e. the conditions under which) and *how* (i.e., the mechanisms through which) diversity leads to positive rather than negative group performance. Overall, we suggest that identity salience and psychological safety climate moderate the relationship between diversity and the multi-level psychological mechanisms (i.e., empathy, self-disclosure, communication, group involvement and group trust), and that the multi-level psychological mechanisms, in turn, mediate the relationship between diversity and group performance. This model

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differentiates itself from previous attempts (i.e., Cox, 1991, 2001; Dietz & Petersen, 2005; Ely & Thomas, 2001; Posthuma, & Campion, 2009; Richard, Barnett, Dwyer, & Chadwick, 2004; for a review of these models see Dietz & Petersen, 2006; van Knippenberg, De Dreu, & Homan, 2004). It emphasizes social psychological constructs and adopts a social identity perspective to answer and explain the "when" and "how" questions related to the management of diverse workforce, instead of focusing on purely cognitive constructs such as reducing stereotypes. This social psychological perspective is valuable because it brings perspectives into the cognitive literature. Indeed, it sheds light on the multi-level process of learning from one another's identity within a group and the mechanisms that explain the development of intergroup relationships instead of focusing on stereotypes and prejudices reduction.

In this paper, a review of the literature will be offered followed by a theoretical model that adds to the previous literature by focusing on social psychological conditions and multi-level mechanisms that provide answers to the research questions. Fig. 1 provides an overview of the conceptual model. Drawing on social identity theory (Tajfel, 1978), self-categorization theory (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987) and research on groupthink (Janis, 1982), we propose that collective identity salience and a high level of psychological safety climate moderators of the relationship between group composition and the psychological mechanisms that lead, in turn, to group performance. Thus, these variables help to explain the conditions under which diversity leads to increased/decreased group performance. These two variables have been proposed by several researchers (Druskat, & Wolff, 2001; Edmondson, 1999; van der Vegt, & Bunderson, 2005) as important conditions under which diversity may increase group performance. However, there is limited theoretical discussion that explains the relationship between collective identity and psychological safety climate in diverse environments. There is also little empirical evidence that demonstrates the effects of these variables in diverse environment. By elaborating on our model, we will also provide further theoretical explanations about these concepts and some arguments for their respective role in diversity settings.

Moreover, the model identifies multi-level psychological mechanisms (House, Rousseau, & Thomas, 1995) on the individual- and the group level of analysis that are conceptualized as mediators of the relationship between group composition and group performance and therefore may explain how diversity leads to positive rather than negative outcomes. These social psychological mechanisms relate to the process of learning from one another's identity within a group, which is considered the core mechanism. At an individual level, empathy and self-disclosure are the variables of interest. At a group level, communication, group involvement and group trust are the focal points of attention. A multi-level conceptualization brings to the literature a greater comprehensive understanding of the social complexity that an effective management of diversity requires to help different group identities to work together and have healthy relationships. Finally, drawing on job performance literature (see Motowidlo, 2003), the model conceptualizes group performance in terms of in-role behavior (IRB) and extra-role behavior (ERB).

In the following sections, we will review the literature on workplace diversity from which we draw to develop the specific propositions outlines in our model. The literature review addresses four questions: (1) What does it mean being a diverse work group? (2) Does diversity lead to increased group performance? (3) When does diversity lead to increased group performance? (4) How does diversity lead to increased group performance? Then, the conceptual model and its propositions will be presented.

2. What does being a diversity work group mean?

Diversity has been defined at different conceptual levels. The generally accepted definition of diversity refers to differences between individuals on any attributes that may lead to the perception that another person is different from the self (Jackson, 1992; Triandis, Kurowski, & Gelfand, 1994; van Knippenberg, De Dreu, & Homan, 2004; Williams & O'Reilly, 1998). These attributes of interest may refer to demographic characteristics, informational/functional characteristics, personality traits, personal values as well as other types of diversity such as religious beliefs, sexual orientation, or mental and physical health and abilities. This first definition of diversity adopts an individual focus by referring to diversity as the perceived differences from the self. That conceptual definition addresses questions such as "Who am I, as an individual?" or "Who am I, as a group member?".
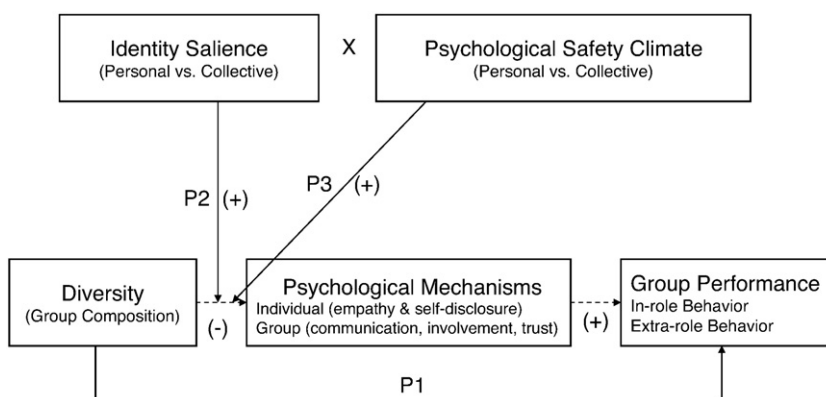

Fig. 1. Research model explaining when and how does diversity increase group performance.

A conceptual definition of diversity adopting a group focus has also been proposed. Nkomo and Cox (1996), for instance, refer to diversity as "a mixture of people with different *group identities* within the same social system (p. 339)". Another group-level definition has been proposed by Harrison and Sin (2005). According to these authors, diversity is "the collective amount of differences among members within a social unit" (p. 196). In contrast to the first definition, which emphasizes questions of individual identities, both of these latter definitions address questions of group identities such as "Who are we, as members of different groups?" Thus, according to both definitions, the concept of group identities is central to understanding the underlying relationships of workplace diversity. In particular, it helps to address and study research questions at a conceptual group level. For example, there are some recent studies that suggest that group-level variables, such as group personality composition, may moderate the relationship between diversity and group performance (e.g., Homan, Hollenbeck, Humphrey, van Knippenberg, Ilgen, & van Kleef, 2008; Kearney, Gebert, & Voelpel 2009). Such relationships could not be studied conceptually as well as empirically if researchers would not rely on a definition of diversity at a group level.

The current paper examines diversity from a group perspective as proposed by the two last definitions. The proposed model presented later on in this paper will therefore be conceptualized at a group level.

2.1. Classifying types of indicators of diversity

Diverse groups are constituted of individuals that belong to and identify themselves with different subgroups. There are a large number of indicators of diversity based on which people may be different from one another. The existence of a diverse workgroup is not only multidimensional but it may signify many implications. In order to be more parsimonious in understanding different indicators of diversity in groups, Harrison, Price and Bell (1998) proposed two distinct dimensions of diversity indicators: surface-level diversity and deep-level diversity. They have defined surface-level diversity as "differences among group members in overt, biological characteristics that are typically reflected in physical features" (p. 97). These attributes are visible and easily perceived by individuals. Examples of surface-level diversity would be age, gender, and race/ethnicity. Certain visible stigma such as physical handicap, disfigurement, as well as weight problems (i.e., obesity or anorexia) could also be classified under surface-level diversity. In contrast, deep-level diversity refers to more subtle attributes that cannot necessarily be directly and immediately observed. Such attributes refer to members' personalities, attitudes, beliefs and values. For instance, sexual orientation or religious beliefs could be classified under deep-level diversity.

To classify informational/functional indicators of diversity such as profession, occupation, vocation, expertise or status under either surface- or deep-level diversity, the context must be taken into account. For example, when role asymmetry is clear and obvious, such as during a discussion between a CEO and a front-line employee, status may then become considered a surface-level aspect of diversity. However, if the context does not make informational/functional characteristics salient, such indicators of diversity could be categorized as deep-level diversity. In the instance of three colleagues having lunch together, occupation would be considered deep-level which would arise only when one worker asks another about the nature of their occupation. Otherwise, different attributes, such as race, gender or age, may be more salient and thus classify under surface-level diversity.

Thus, whether the information/functional characteristics are categorized as falling into the category of surface-level diversity versus deep-level diversity depends on the context (Pelled, Ledford, & Mohrman, 1999), and more specifically on contextual variables that render such characteristics more or less salient. This can be true for any indicator of diversity. Indeed, whatever the indicator of diversity, the context needs always to be taken into account in order to determine the weight of the effects of different indicators of diversity. Some contextual variables may reduce or increase the salience of certain indicators of diversity and thus necessarily affect the social-categorization process, which will be addressed by answering "Does diversity lead to increased performance?".

3. Does diversity lead to increased performance?

Research drawing on information/decision making suggests that a diverse workforce leads to improved decision-making processes by increasing creativity and innovation (Bantel, & Jackson, 1989; De Dreu, & West, 2001; McLeod, Lobel, & Cox, 1996). More precisely, this theoretical approach proposes that heterogeneous groups are more likely to possess a broader range of task-relevant knowledge, skills, abilities and viewpoints that are distinct and non-redundant compared to those of individuals in homogeneous groups. By integrating diverse knowledge bases and differences in experience and opinion, this theoretical approach suggests that group heterogeneity may, in turn, lead to more creativity and innovation at work. A concrete application in organizations supportive of this theoretical argument would be the implementation of multidisciplinary teams, that is, cross-functional teams which combine representatives of different organizational functions to ensure diversity in knowledge and perspective.

However, studies providing evidence for diversity yielding increased group performance are rare. Studies supporting such predictions have examined informational-related dimensions such as education, occupation or functional background (Jehn, Northcraft, & Neal, 1999; Pelled, Eisenhardt, & Xin, 1999; Wanous & Youtz, 1986). Among studies that seek to understand demographic indicators, personality, values, or attitudes, few (see Joshi, Liao, & Jackson, 2006) have shown that diversity may indeed lead to positive outcomes (Bantel, & Jackson, 1989; Barrick, Stewart, Neubert, & Mount, 1998; Barry, & Stewart, 1997; Kristof-Brown, Barrick, & Stevens, 2005; McLeod, Lobel, & Cox, 1996).

However, several other studies examining the impact of diversity at an individual level have shown that when compared to similar individuals, people who are different (dissimilar individuals) have less attraction and trust in peers (Chatopadhyay, 1999), less frequent communication (Zenger & Lawrence, 1989), lower group commitment (Tsui, Egan, & O'Reilly, 1992), lower task

contributions (Kirchmeyer, 1993; Kirchmeyer & Cohen, 1992), lower perceptions of organizational fairness and inclusiveness (Mor-Barak, Cherin, & Berkman, 1998). At a group level, similar results have been found. Compared to homogeneous groups, heterogeneous groups are found to have reduced cohesiveness (Terborg, Castore, & DeNinno, 1976; Harrison et al. 1998), more conflicts and misunderstandings (Jehn, Chadwick, & Thatcher, 1997) which, in turn, lowers members' satisfaction, decreases cooperation (Chatman & Flynn, 2001; Chatman & Sparato, 2005), and increases turnover (Jackson, Brett, Sessa, Cooper, Julin, & Peyronnin, 1991 (Jackson et al., 1991).

Research drawing on social identity theory (Tajfel, 1978) and self-categorization theory (Turner et al., 1987) has contributed to an explanation of why diversity may have those negative consequences for employees and the performance of their groups and organizations. These theories suggest that people who are different are less likely to collaborate with one another than people who are similar because they do not consider themselves to belong to the same social category (in-group) and thus do not share the same social identity. Similarities and differences are used as a basis for categorizing self and *others* into groups, with ensuring categorizations distinguishing between one's own in group from one or more out-groups. This process has been named social categorization.

Social categorization has been the principal psychological mechanism identified to explain why diversity negatively impacts group performance (see van Knippenberg et al., 2004). Social categorization is associated with perceptual and attitudinal biases that favor the in-group and derogate the out-group. Thus, social categorization may disrupt elaboration of task-relevant information because of possible positive biases toward in-group members and negative biases toward out-group members. However, as pointed out by van Dick, van Knippenberg, Hägele, Guillaume, and Brodbeck (2008), it is not the categorization process per se that leads to negative reactions and disrupts group functioning. Rather, it is the intergroup biases that are inherent to group characteristics and that may flow from social categorization (van Knippenberg et al., 2004). There are a few studies that support this alternative argument which may explain how diversity can lead to ambivalent results. For example, Tajfel and Turner (1986) clearly note that individuals belonging to a lower status category such as a junior employee, may also favor members of other higher-status categories over their own for accessibility to prestige and status vicariously (Chattopadhyay, Tluchowska, & George, 2004; DiTomaso, Post, Smith, Farris, & Cordero, 2007).

It is important to note that from a short term perspective, indicators of surface-level diversity are more likely to trigger the social-categorization processes than indicators that are considered as deep-level diversity, such as personality and values. By triggering the social-categorization process, these attributes obviously have a stronger impact on explaining the reduction of group performance. However, research also suggests that although individuals initially assess surface-level diversity to categorize others as similar or dissimilar, extended and more intense interactions result in re-categorization based on deep-level similarities and differences. Therefore, as mentioned in the previous section, the context is of most importance. Over time, these deep-level differences have stronger impact on the social-categorization process compared to surface-level indicators of diversity (Harrison et al., 1998; Mohammed & Angell, 2004). Therefore, the question of a direct relationship between diversity and performance cannot be easily answered. Rather it seems more relevant to specify processes that are responsible for translating diversity into action and to isolate conditions when the outcome of these processes are more positive or negative for the organization.

4. When does diversity lead to increased group performance?

Identifying the conditions under which diversity may increase group performance is becoming increasingly important as practitioners promote the potential benefits of workplace diversity (Childs, 2005; Ezine, 2003). For several years, social psychologists have been trying to identify moderator variables that may explain the instances in which workplace diversity may lead to lower or higher group performance with a focus on those variables that relate to social-categorization processes. As pointed out by Brewer and Gaertner (2004), there are several laboratory experiments that have tested a number of moderating factors to examine whether these factors either inhibit or facilitate the effectiveness of contact to reduce in-group, and out-group biases and promote positive attitudes toward out-group members. These moderating variables are the frequency and duration of intergroup interaction (Worchel, Andreoli, & Folger, 1977; Wilder & Thompson, 1980), the presence of intergroup anxiety (Stephan & Stephan, 1985; Wilder & Shapiro, 1989), the structure of cooperative tasks (Bettencourt, Brewer, Croak, & Miller, 1992; Deschamps & Brown, 1983; Gaertner et al., 1999; Marcus-Newhall et al., 1993), the outcome of cooperation (Worchel, et al., 1977), status equalization (Cohen, 1984), and goal level and task interdependence (Mitchell & Silver, 1990). In general, these studies support the intergroup contact theory (for a review Pettigrew, 1998) that suggests that positive effects of diversity and intergroup contact are facilitated by four key conditions: equal group status within the situation, common goals, intergroup cooperation, and the support of authorities, law, or custom.

Researchers from the field of organizational behavior have only recently started paying more attention to moderating variables that may explain when diversity leads to increased group performance (Bacharach, Bamberger, & Bashdi, 2005; Chatman & Sparato, 2005; Ely & Thomas, 2001). Contextual variables such as time (Harrison et al., 1998; Mohammed & Angell, 2004), task interdependence (Jehn, Northcraft, & Neale, 1999; Mitchell and Silver, 1990; Pelled, Eisenhardt et al., 1999), task complexity (Jehn et al., 1999), organizational culture (Chatman, Polzwer, Barsade & Neale, 1998), collective versus individualistic values (Chatman & Sparato, 2005) as well as organizational climate (Bacharach et al., 2005) and openness to diversity (Hobman, Bordia, & Gallois, 2004) have been primarily identified as moderating variables.

More recently, research has paid attention to individuals' differences in their reactions to group diversity by investigating the moderating effects of personality characteristics. For example, in their study, Homan, Hollenbeck, Humphrey, van Knippenberg, Ilgen, and van Kleef, (2008) found that groups in which members are highly open to experience had higher team performance when

differences were salient. However, when teams had a superordinate identity, the relationship disappeared. This study remains the only one that addresses how group personality composition affects the relationship between diversity and performance.

5. How does diversity lead to increase group performance?

Once we know under what conditions diversity is more likely to lead to positive consequences, it becomes relevant to address the question of *how* diversity may lead to increased group performance. When the appropriate conditions are implemented, it may then be assumed that such conditions activate underlying social psychological mechanisms that mediate the relationship between diversity and an increased group performance. Although several mechanisms have already been identified in the literature, our understanding of how diversity may increase group performance is still limited. Especially, little is known about the nature of these social psychological mechanisms.

Williams and O'Reilly (1998) noted that the most frequently studied mechanisms that may mediate the relationship between diversity and its consequences are social interaction, communication, and conflicts. In general, research has suggested that social interaction and communication are negatively related to diversity, whereas task conflict is positively related to diversity. For example, a study of 53 top management teams conducted by Smith, Smith, Olian, Sims, O'Bannon, and Scully (1994) found that heterogeneity of experience in the industry and with the company was negatively correlated with the amount of informal communication in a group. Although they did not find a direct effect of diversity in experiential background on social interaction, they did find an indirect effect: heterogeneity of experience affected social interaction negatively through its negative impact on information communication.

Researchers interested in the mediating effect of communication in diversity contexts have recently investigated the concept of team reflexivity. Team reflexivity is defined as the "extent to which teams reflect and modify their functioning" (Schippers Den Hartog, Koopman, & Wienk, 2003, p. 779). Their longitudinal study found that team reflexivity mediated the interaction effect of demographic diversity and team outcome interdependence as well as the interaction effect of demographic diversity and group longevity on the measures of satisfaction, commitment and performance. In other words, their results provide supportive evidence that team reflexivity affects the influence of outcome interdependence and group longevity on the relationship between diversity and team outcomes.

In terms of conflicts, research suggests that diversity increases conflicts which in return may be beneficial or not, depending on the type of conflict that is activated. Three types of conflicts may occur in a diverse group: (1) task conflict, (2) socio-emotional conflict or (3) value conflict. Task conflict exists when there is disagreement among group members about the content of the tasks being performed, including differences in viewpoints, ideas, and opinions (Jehn, 1995). Socio-emotional conflicts are relationship-focused and refer to emotional tensions and negative feelings among group members (Jehn, 1995). Value conflict refers to differences in terms of people's expectations about what constitutes a satisfactory outcome (terminal values) and when such outcome may be achieved (instrumental values) (Gebert, Boerner, & Kearney, 2006).

Research suggests that different indicators of diversity will activate different types of conflicts (Jehn, 1995; Jehn, & Mannix, 2001). It is supposed that when functional/informational diversity is salient, task conflicts are more likely to occur. When demographic diversity is salient, socio-emotional conflicts are more likely to occur. Finally, when cultural diversity is salient, value conflicts are more likely to occur (Jehn, Northcraft, & Neale, 1999). Studies that focus on task conflicts found that such a type of conflict can have a positive effect on performance, suggesting that when people bring their different expertise together, the number of conflicts regarding methods of understanding or executing a task may increase but this can ultimately improve group performance. Research also suggests that, for increasing group performance in diverse groups, task conflict must be free of relationship conflict. For example, Jehn et al. (1999) found that functional diversity is related to task conflict and, consequently, to increased performance on cognitive tasks. Jehn et al. (1997) also found that functional diversity is positively related to socio-emotional conflict but unrelated to subsequent performance. However, other studies that examine the effects of socio-emotional conflict in diverse groups found inconsistent results. For example, Pelled (1996) hypothesized that gender diversity would have a negative impact on group performance through increased level of affective conflict; however, the results show weak evidence supporting this prediction (Pelled, Eisenhardt et al., 1999). Similarly, O'Reilly et al. (1997) found no effects of age diversity on affective conflict. Thus, this implication is that the mediating effects of conflict, considering that there are different types of conflict, might be complex and are not yet well understood (for an integrative model see Gebert et al., 2006).

The most recent empirical studies have examined other mechanisms that seem to mediate the relationship between diversity and group performance, such as team learning behaviors (Gibson & Vermeulen, 2003; Van der Vegt & Bunderson, 2005), and identity confirmation (Milton & Westphal, 2005). For example, team learning behavior, defined as a cycle of experimentation, reflective communication and codification (Gibson & Vermeulen, 2003), has been found to be positively related to diversity. In a study conducted with 156 teams in five pharmaceutical and medical products firms, Gibson and Vermeulen (2003) confirmed that moderately strong demographic subgroups in teams fostered learning behaviors. By examining functional/information diversity (i.e. expertise) instead of demographic variables, van der Vegt and Bunderson (2005) have been able to replicate these findings. Their results supported a nonlinear relationship between expertise diversity and both team learning and performance. More importantly, they have been able to demonstrate that team learning behavior partially mediates both the linear and nonlinear relationships between diversity and performance. Finally, drawing on self-verification theory (Swann, Rentfrow, & Guinn, 2005), Milton and Westphal (2005) demonstrated that mutual identity confirmation (of positive or negative identities) leads to increased cooperation in work group dyads. More specifically, they have been able to provide empirical evidence that identity confirmation indeed mediates the effects of race-based diversity.

With the exception of Milton and Westphal's (2005) study that focuses on identity confirmation at an individual and dyadic level, all other studies have examined either individual-level or group-level psychological mechanisms. So far in the diversity literature, no study has theoretically identified and empirically investigated multi-level psychological processes to provide a more elaborate answer to the complex question: how diversity increases group performance. In the following we will develop a conceptual model that will help to fill this gap and to provide avenues for future research. Fig. 1. Provides the model and the propositions that we will develop step by step.

6. The conceptual model and development of propositions

In the following sections, each part of the model is explained. The propositions will be unfolded step by step. It is important to specify that this model adopts a general identity perspective and thus can be applied to understand the effects of any indicator of diversity. In fact, as long as there is an attribute that makes individuals fundamentally distinct in how they define themselves and that the context emphasizes and makes salient such differences, the model can be used to explain and predict the effects of functional/informational diversity, demographic diversity, or any other indicators of diversity such as values, personality, or differences in skills and abilities etc.

Moreover, this model emphasizes social psychological mechanisms that were neglected by past research to understand the multi-level process of learning from each other's identity within a group. Most models that have been proposed in the literature primarily focused on cognitive mechanisms (i.e., stereotypes) instead of focusing on affective social psychological mechanisms (i.e., Cox, 1991, 2001; Dietz & Petersen, 2005; Ely & Thomas, 2001; Posthuma, & Campion, 2009; Richard et al., 2004; for a review of these models see Dietz & Petersen, 2005; Van Knippenberg et al., 2004 Van Knippenberg et al., 2004). By bringing this new perspective on ways in which diversity can work, the model contributes to an understanding of the social complexity necessary in managing diversity and, therefore, could serve as a guiding framework for future research.

6.1. Outcome variable: Group performance

Group performance is the primary outcome variable of interest in this model. Group performance can refer to organizational performance (Kochan, Bezrukova, Jackson, Joshi, Jehn, Leonard, Levine, & Thomas, 2003), or smaller unit performance such as cross-functional team performance (e.g., van der Vegt & Bunderson, 2005). According to Motowidlo (2003), job performance is defined as "the total expected value to the organization of the discrete behavioral episodes that an individual carries out over a standard period of time (p. 39)." This definition of job performance is at an individual level and thus an aggregation of the behavioral performance of each individual (considering all members of the group) would have to be computed in order to be able to analyze performance at the group level. It is important to specify that the interpretation of this aggregate must be based not only on the mean but also based on the consistency between each aggregated behavior. Statistical indicators of within-group agreement such as r_{wg} (J) or ICC_1 and ICC_2 are important in order to obtain an accurate measure of a behavioral aggregation (Klein, and Kozlowski, 2000). For example, r_{wg} (J) is used to assess the extent of consensus, agreement, or within-unit variability within a single measure. The r_{wg} (J) is calculated by comparing an observed group variance to an expected random variance (for elaborate statistical information about these and other statistical indicators, see Bliese, 2000). Thus, the proposed model assumes that performance of a group can be conceptualized based on aggregated behaviors.

According to Van Dyne et al. (1995), job performance can be divided into two distinct behavioral performance categories: in-role behavior (IRB) and extra-role behavior (ERB). IRB include behaviors related to task performance. As pointed out by Borman and Motowidlo (1993), such types of behaviors are relevant for accomplishing the task itself according to the job description, whereas ERB refers to contextual behaviors which may include behaviors that contribute to the overall effectiveness of the group through its effects on the psychological and social contexts of work. The proposed model refers to task performance as well as contextual performance by identifying both IRB and ERB at an aggregated level of conceptualization. The diversity literature has rarely examined the influence of diversity on performance from a behavioral perspective. One notable exception is the study by Chatopadhyay (1999) investigating the influence of group composition on organizational citizenship behavior at an individual level. Research in the diversity literature usually examines performance by considering indicators such as creativity and innovation (e.g., De Dreu, & West, 2001; Lovelace, Shapiro, & Weingart, 2001), or organizational productivity (e.g., Kochan et al., 2003). In this model, absenteeism or intentions to leave the organization are considered individual level variables whereas the level of organizational turnover is considered a group-level variable.

6.2. Multi-level mechanisms: Explaining how diversity increases group performance

According to several researchers (Gibson, & Vermeulen, 2003; Foldy, 2003; Yeh & Chou, 2005), a learning process is at the core of explaining how diversity may increase group performance. However, the process of learning is very complex because it consists of multiple underlying mechanisms that are interdependent. Several researchers have tried to describe and explain these mechanisms (Argyris, & Schön, 1978; Edmondson, 1999; Gibson, 2001; Kolb, 1984). In general, team learning behaviors have been defined as activities by which team members seek to acquire, share, refine or combine task-relevant knowledge through their interactions with one another (Argote, Gruenfeld, & Naquin, 1999; van der Vegt & Bunderson, 2005). In the literature, such behaviors are specifically related to the task and not to learning about others' identities (see Salas & Fiore, 2004). In general, research on teams has examined cognitive issues such as shared mental models rather than identity issues such as how team

members define themselves over time. In this paper, the term "team learning behavior" goes beyond what is already studied in the team literature. By incorporating knowledge about team members' identities, the model expands our comprehension of the necessary knowledge that a heterogeneous group needs to acquire in order to function effectively. This knowledge refers to information about the task as well as information about their common identity. We define learning from each other's identity within a group as a complex process by which a person's identity is transformed by being exposed to, or interacting with other people who belong to different group memberships. Learning from each others' identities involves several psychological mechanisms: a) including the others' identity in the self (Aron, 2005; Aron, Aron, & Smollan, 1992; Aron, Aron, & Norman, 2004), b) confirming people's personal and social identities (Milton & Westphal, 2005), and c) supporting their identities (Bacharach et al., 2005).

Drawing on research on self-expansion theory (Aron et al., 1992), and self-verification theory (Swann et al., 2005), the proposed model identifies multi-level variables that could be used to assess this complex process of learning from each other's identities in groups. Variables conceptualized at two different levels of analysis are considered. At an individual level, the model identifies empathy and self-disclosure as the main mechanisms. At a group level, communication, group involvement, and group trust are the main focus. Each of these will now be discussed.

Our model does not suggest that these mechanisms need to be activated either in a specific sequence or all together simultaneously in order for diversity to increase group performance. As Galinsky and Moskowitz's (2000) study suggests, the activation of only one mechanism may be sufficient to increase group performance. The conditions under which these mechanisms may be activated will be explained later. In the following sections, each psychological mechanism, at both individual and group levels, is introduced.

6.2.1. Empathy

Empathy is conceptualized as an individual psychological process through which people identify with and understand another's situation, feelings, and motives. As recently pointed out by Milton and Westphal (2005), empathy may be a key variable that explains the process by which people learn about each other, incorporate others' identities into their own self and, as a result, arrive at a better understanding, tolerating and cooperating with one another. Consistent with this line of reasoning, Batson, Polycarpou, Harmon-Jones, Imhoff, Mitchener, Bednar, Klein, and Highberger (1997) proposed an explanation about how empathy may influence helping behaviors. Their rationale is that empathy may increase helping behaviors through self-other merger. Self-other merger refers to the psychological state in which people define themselves and the other as an entity or as a unit. Hornstein (1978) has identified three conditions under which self-other merger may occur: (1) When the other's welfare promotes one's own welfare, (2) when self and other are linked by similarity, and (3) when self and other share a common relationship in a social category or group.

As proposed by the social identity theory and self-categorization theory, when groups are heterogeneous, people are more likely to perceive themselves as different from one another and thus, as a result, they are less likely to empathize with one another or easily adopt others' perspectives. Due to the activation of the categorization process, having empathy and adopting a social perspective taking in heterogeneous groups may be more difficult than when the group is homogeneous. However, according to Hoffman's (2000) theory of empathy, even when individuals perceive others different from their own self, they should still be able to have empathy toward one another. Indeed, as conceptualized by Hoffman, empathy may be part of being human and therefore may always exist in each individual, regardless of the relationship between individuals. Hoffman conceptualized empathy as a "spark of human concern for others, the glue that makes social life possible" (p. 3).

Some studies have provided evidence for considering empathy as an important individual psychological mechanism that can explain how diversity may lead to positive rather than negative consequences. For example Batson et al. (1997) conducted three studies that suggest that feeling empathy for a member of a stigmatized group can improve attitudes toward the group as a whole. Other convincing evidence has also been recently provided by studies conducted by Galinsky and Moskowitz (2000) on perspective taking. Perspective taking has been defined as the ability to adopt the perspective of another (Galinsky & Moskowitz, 2000). When people take another's perspective, empathy is required in order to get an accurate understanding of a perspective that is distinct from the self. In general, Galinsky and Moskowitz' studies suggest that perspective taking can be a useful strategy for decreasing the tendency to apply stereotypes and for increasing overlap between representations of the self and representations of the other. This self and other psychological merger, in turn, increases the likelihood for prosocial behavior to occur (Dovidio, Gaertner, Validzic, Motaka, Johnson & Frazier, 1997). Therefore, based on this literature, the model suggests that empathy is an important mediator of the relationship between group composition and group performance.

Proposition 1a. *Empathy will mediate the relationship between diversity and group performance.*

6.2.2. Self-disclosure

Substantial benefits can occur when people reveal information about who they are (Jourard, 1971). Self-disclosure signals a willingness to be vulnerable to the other person by sharing personal information with them (Derluga, Metts, Petronio, & Margulis, 1993). Research reports positive outcomes associated with self-disclosure at work; when deep-level diversity becomes more surface-level through self-disclosure. For example, as pointed out by Ragins, Singh, and Cornwell (2007), the literature on sexual orientation suggests that disclosure of a gay identity at work may be associated with a sense of psychological wholeness and well-being (Reynolds & Hanjorgiris, 2000) and relief of the debilitating strain of secrecy involved with leading a double life (Fassinger, 1995; Griffin, 1992). In the domain of mental and physical disabilities, self-disclosing possible limitations due to a disability may help the employer to provide adequate accommodations that may be beneficial for the functioning of the individuals (for a review see Ball, Monaco, Schmeling, Schartz, & Blanck, 2005).

Therefore, disclosing one's self-identity helps individuals to better know and understand each others' identities, which then lead to more efficient dyadic relationships as well as group dynamics. Consistent with this reasoning, it has been shown that self-disclosure may lead to a reciprocity effect (Chaiken & Derlega, 1974). This reciprocity effect occurs in such a way that the receipt of self-disclosure is viewed as a rewarding experience that creates an obligation to return disclosures as repayment, via standard equity norms (Derlega, Harris, & Chaikin, 1973). Reciprocal self-disclosure is therefore an important psychological mechanism that fosters the development of trusting interpersonal relationships (Kerem, Fishman, & Ruthellen, 2001). This mechanism may be especially important when groups are heterogeneous and distrust may already exist (Kramer, 2001). Thus, based on this literature, the model proposes that self-disclosure is a mediator of the relationship between group composition and group performance:

Proposition 1b. *Self-disclosure mediates the relationship between diversity and group performance.*

6.2.3. Communication

Analogous to self-disclosure at an individual level, communication is a group-level variable that has also been identified as a crucial variable to explain how diversity may increase group performance (Keller, 2001; Schippers, Den Hartog, Koopman, & Wienk, 2003). Research has examined both the impact of communication frequency as well as its content. In general, research has shown that functional diversity increased the frequency of communication, especially with outsiders. Surprisingly, within a team, several studies have found a negative relationship between communication frequency and performance (Ancona & Caldwell, 1992; Smith, Smith, Olian, Sims, O'Bannon, & Scully, 1994). Such unexpected results are explained by the underlying reasoning that communication frequency may be an indicator of conflict (Schippers et al., 2003). However, in diverse work groups, an increase in frequency of communication that leads to a reasonable level of conflict may sometimes be required. The avoidance of expressing different opinions and having an open communication may lower the number of conflicts but it may also decrease employees' performance. Van der Vegt and Bunderson (2005) found a significant positive correlation between team learning behavior and intra-team conflict, suggesting that teams who are more actively engaged in learning behaviors are more likely to experience intra-team conflict.

Acknowledging the inherent natural occurrence of conflicts in diverse settings, Mary Parker Follett pointed out that "organizational wrestling with integrating diversity and difference should not count the number of conflicts but, instead, they should analyze the nature of the conflicts and how they are handled" (cited after Brickson, 2000, p. 94). Following such recommendations, Schippers et al. (2003) have recently examined the content of communication and its mediating role in the diversity–group performance relationship, instead of focusing on frequency. They operationalized communication as "reflexivity" which is defined as "the extent to which group members overtly reflect upon, and communicate about the group's objectives, strategies (e.g. decision making) and processes (e.g., communication), and adapt them to current or anticipated circumstances" (West, Garrod, & Carletta, 1997, p. 296). As predicted, reflexivity mediated the relationship between diversity and team performance.

In our model, we also consider the content of the communication as an important psychological mechanism. More specifically, we suggest that if the content of communication is supportive in terms of identities (recognition of the personal identity of each member as well as the collective identity of the entire group), communication becomes a psychological mechanism. We therefore propose:

Proposition 1c. *Quality of the communication mediates the relationship between diversity and group performance.*

6.2.4. Group involvement

Group involvement is a concept related to an individual's involvement in task-related processes such as information exchange, collaborative decision making, and the extent to which an individual feels respected. Group involvement has been defined by Mor-Barak, Cherin, and Berkman (1998) as the perception of inclusion–exclusion with regard to employee interaction or involvement within work teams. As pointed out by Hobman, Bordia, and Gallois (2004), often group involvement has been investigated under other labels such as behavioral integration (Shaw & Barrett-Power, 1998), instrumental exchange or task-related exchange (Elsass & Grames, 1997), work group fit (Kirchmever, 1995), team integration (Lichtenstein et al., 1997), or teamwork (Baugh, & Graen, 1997). There is substantial literature on social integration that supports the role of group involvement with regards to the management of diversity. For example, in their longitudinal study conducted with nurses in four departments of a public hospital, Hobman et al. (2004) found that visible dissimilarity was negatively associated with work group involvement at both times. Consistent with such findings, we thus propose:

Proposition 1d. *Group involvement mediates the relationship between diversity and group performance.*

6.2.5. Group trust

In diverse contexts, trust is an important preoccupation. Indeed, as has been suggested by Kramer (2001), individuals who belong to distinctive social categories, or those who perceive themselves as being different from others based on any salient attributes, are more likely to feel anxious and self-conscious compared to those who belong to less socially distinctive categories. By perceiving themselves as different, they tend to overestimate the extent to which they are under evaluative scrutiny by other group members (Brewer, 1991; Kramer, 1994; Tsui, Egan, & O'Reilly, 1992). This self-awareness may therefore activate paranoid thoughts, making them distrustful of others. Obviously, distrust may proliferate out among diverse group members, leading to what Kramer (1994) called "collective paranoia". Such a phenomenon may quickly disturb the group and causes diversity to lead to lower group performance. Therefore, we propose:

Proposition 1e. *Trust mediates the relationship between diversity and group performance.*

6.3. Explaining when diversity increases group performance

Our model focuses on two psychological conditions which have previously been neglected yet. However, according to the literature on social identity theory (Tajfel, 1978) and self-categorization theory (Turner, 1982), these two conditions are considered essential to explain the circumstances under which diversity may lead to increased group performance. The conditions are: 1) collective identity salience and 2) psychological safety climate. They are considered to be conditions under which the psychological mechanisms, described earlier, may be activated. Both collective identity and psychological safety climate are conceptualized as group-level variables that may interact with each other. Overall, the model suggests that identity salience and psychological safety climate moderate the relationship between diversity and the multi-level psychological mechanisms, and that the multi-level psychological mechanisms, in turn, mediate the relationship between diversity and group performance.

6.3.1. Collective identity salience

The social psychology literature proposes that reducing the salience of in-group–out-group distinctions is necessary in order to facilitate positive effects as an outcome of diversity (Brewer & Gaertner, 2004). More precisely, research has shown that having a common in-group by restructuring or redefining group boundaries at a higher level of category inclusiveness [or: superordinate category] may reduce negative consequences of diversity (Allport, 1954, p. 43). Specifically, the common in-group identity model (Gaertner & Dovidio, 2000; Gaertner, Dovidio, Anastasio, Bachman, & Rust, 1993; Gaertner et al., 1999) proposes that intergroup biases can be reduced by factors that transform participant's representations of memberships from two groups to one, more inclusive group, that is from a "we" and "they" towards an "us" (Brewer & Gaertner, 2004). In other words, these theories propose that the re-categorization process activates people's social identification, which is defined by Turner (1982) as "the process of locating oneself or another person within a system of social categorization" (p.18) (see for overviews of identification processes in organizational contexts Edwards, 2005; van Dick, 2001). Indeed, by redefining group boundaries into a superordinate category, group members are likely to categorize themselves, as well as others, under the same category. Then, by putting all individuals under the same category, biases may be reduced and the likelihood for diversity to lead to positive consequences increases.

Consistent with this prediction, Chatman, Polzer, Barsade, and Neal (1998), found that the benefits of demographic diversity are more likely to emerge in organizations that, through their culture, make organizational membership salient and encourage people to categorize one another as sharing a common interest, rather than those that emphasize individualism and distinctiveness among members.

Van der Vegt and Bunderson (2005) tested similar predictions and examined whether team identification would moderate the relationship between expertise diversity, team learning behavior and team performance. Their results were consistent with the prediction proposed by the social identity theory and self-categorization theory. Indeed, in teams with low levels of collective identification, expertise diversity was negatively correlated to team learning and performance; conversely, in teams with high levels of collective identification, those relationships were positive.

Based on these results, we propose that identity salience moderates the relationship between diversity and group performance. Personal identity refers to that part of the self-definition based on unique or idiosyncratic aspects of the individual (i.e., personality, abilities, physical attributes etc.). Personal identity addresses the question of "Who am I, as a unique individual?" In contrast, collective identity partly answers the question of "Who are we, as a group?" Despite some similarities with social identity, which has been defined by Tajfel (1978) as "that part of an individual's self-concept which derives from his/her knowledge of his/her membership of a social group together with the value and emotional significance attached to that membership" (p. 63), collective identity has a different focus. As pointed out by Pratt (2003), social identities reside within the individual, whereas collective identities reside within groups of individuals. Collective identities are therefore conceptualized at a group level of analysis rather than social identities which reside in the individual. Collective identities are group-level variables and not individual level variables as social identities. More precisely, Pratt (2003) has defined collective identity as "those characteristics that members feel are central, enduring and distinctive. Implicit in this conceptualization is the notion of shared and at least somewhat overlapping beliefs" (p. 168–169).

Social identity theory and self-categorization theory also suggest that the negative effects of diversity on the psychological mechanisms and group performance will be reduced when the collective identity is salient as opposed to when the personal identity is salient. This effect has already been tested in a correlational field study by van der Vegt and Bunderson (2005). The results supported the notion that team learning partially mediates the linear and nonlinear relationship between diversity and performance. Drawing on these initial findings, we propose:

Proposition 2. *The effects of group composition on psychological processes (at individual and group levels) are moderated by collective identity salience.*

6.3.2. Psychological safety climate

We have argued that according to social identity and self-categorization theories, different people are more likely to cooperate when team identification is high than when it is low (van der Vegt & Bunderson, 2005; Van Dick et al., 2008). However, it is also known from research on groupthink (Janis, 1982) that when group identification becomes too strong, people with different opinions tend to be conformist and thus they may rarely take the risk to express their distinct opinion (see Haslam, Ryan, Postmes, Spears, Jetten, & Webley, 2006). This implies that the effects of collective identity may occur as inverted-U shaped. Therefore, this suggests that group identification is not sufficient to predict the positive effects of diversity. Although an optimal level of

identification is required, we propose that psychological safety climate is a condition that cannot be excluded. Indeed, being reluctant of expressing different opinions because of fear of being rejected may lower task conflict, and may also decreases employees' performance, especially when sharing differences becomes a requirement to group performance. Psychological safety climate, therefore, helps to predict when diversity will lead to positive rather than negative effects.

Psychological safety climate has been defined as shared beliefs among members, stemming from mutual respect and trust. Some researchers (e.g., van Dick et al., 2008) also considered promoting *pro-diversity beliefs* as a necessary element for creating a psychological safety climate. As pointed out by Phillips and Lount (2007), "positive diversity beliefs are usually characterized by an expectation that the task at hand can really benefit from diverse perspectives present in the group" (p. 15). A team (or an organization) is considered safe for interpersonal risk taking when the environment provides a sense of confidence in which no member feels he/she will be rejected, embarrassed, or punished for speaking up (Edmondson, 1999, 2004). It is also a context in which people's self-esteem is maintained positively as well as their sense of self. Kahn (1990) described a high level of psychological safety as "feeling able to show and employ one's self without fear of negative consequences to self-image, status, or career" (p. 708).

Research suggests that when employees perceive their environment as safe for interpersonal risk taking, they may be more likely to assert who they are to others in terms of both their unique personal identity as well as their social identity. According to Druskat and Wolff (2001), the norms that help establishing appropriate working conditions are those of confrontation and caring. When such norms are in place, confrontation can be seen in a positive light and interpreted as positive/constructive criticism. As for promoting caring conditions, Druskat and Wolff (2001) propose that this might be done by "displaying positive regard, appreciation and respect for group members through behaviors such as support, validation, and compassion" (p.84). Such conditions then activate positive psychological processes, such as self-expressions, empathy, communication, and trust, which are, as we have shown, the necessary elements for leading diversity to increased group performance. However, when employees perceive their environment as unsafe, the likelihood for these positive psychological processes to occur is reduced and identity threat may be experienced by group members (Murphy et al., 2007). Under such circumstances, work group diversity may have an adverse effect, leading to lower performance.

Thus, in addition to sharing a collective identity, people in heterogeneous groups need to feel psychologically safe in order to engage in positive psychological processes that lead to increased group performance. This, therefore, suggests that theoretically collective identity and psychological safety climate are two distinct constructs but their influence may be inter-related. At an individual level, feelings of psychological safety refer to the notion of feeling free among a group of people to express one's self without fear of imposed judgment or rejection. Notably, it must be acknowledge that phenomenon is different from feeling attached to a group of people because of shared identities.

Finally, it is important to specify that the proposed interaction between identity salience and psychological safety climate may also be observed within homogeneous groups. However, the magnitude of this interaction effect may be stronger when groups are heterogeneous, meaning that both factors are important to implement in organizations, especially where diversity exists and is promoted. This suggests that a three-way interaction between group composition, group identification and psychological safety climate could be observed in the workplace. However, up to now, no empirical study has tested for such effect, further research is therefore needed.

Thus, the model emphasizes the moderating effect of psychological safety climate between group composition and group performance. As previously mentioned, such an effect has not been tested by previous research but a recent study by Hobman et al. (2004) found support for such a moderation. However, instead of studying the effects of psychological safety per se, Hobman et al. (2004) have examined group openness to diversity. Their results show the expected effect (i.e., when individuals perceived low group openness, visible dissimilarity was associated negatively with group involvement, whereas when individuals perceived high group openness, visible dissimilarity was not associated with group involvement). Consistent with these findings, the model suggests the following moderated mediation hypothesis regarding the effect of psychological safety climate:

Proposition 3. *The effects of group composition on psychological processes (individual- and group level) are moderated by psychological safety climate.*

7. Discussion and conclusion

Our model contributes to the understanding of the effects of diversity on group performance. It differentiates itself from previous attempts (i.e., Cox, 1991, 2001; Dietz & Petersen, 2005; Ely & Thomas, 2001; Richard et al., 2004; for a review of these models see Dietz & Petersen, 2006; Van Knippenberg et al., 2004) by emphasizing social psychological constructs and by adopting an identity perspective to answer and explain the "when" and "how" questions related to the management of diverse workforce, instead of focusing on cognitive constructs. Our model identifies the role of collective identity and psychological safety climate, and helps understand the conditions under which diversity may increase group performance. Moreover, it identifies multi-level mechanisms. Thus, our model provides a more comprehensive understanding of how diversity leads to group performance by considering individual- (i.e., empathy and self-disclosure), and group-level (i.e. communication, group involvement and group trust) mechanisms which underlie the process of learning from one another's identity within a group. By incorporating knowledge about team members' identities, the model expands our comprehension of the necessary mechanisms that a heterogeneous group needs to get involved in order to function effectively.

Until today, little research has paid attention to the conditions required for managing workplace diversity appropriately and the underlying psychological mechanisms that may explain how diversity at work may lead to increased group performance. Most

research has largely focused on describing a climate for diversity (Brief & Barsky, 2000), developing measures of a diversity mind-set and studying its antecedents (Hostager & DeMeuse, 2002; Kossek & Zonia, 1993) or testing the direct effects of diversity that have been found to be inconsistent across studies (Williams, & O'Reilly, 1998). Our model brings a new psychological perspective and sheds lights on the process of learning from one another's identity in groups.

Finally, the model examines the influence of diversity on performance from a behavioral perspective by conceptualizing group performance as an aggregation of group members' behaviors (ERB and IRB). This aggregated perspective may bring some new insights into the study of group performance.

In summary, we believe that the propositions stated in our model contribute to the explanation and prediction of diversity's outcomes, and provide a constructive framework for future research. For example, more empirical studies are required in order to verify if the model can hold in different workplace and organizational settings.

Our model thus provides suggestions for future research avenues. For theory but certainly for practical reasons, it would be necessary to test the propositions we have outlined throughout this paper. It may not be possible to test the complete model in one singe research effort, but it would be important to start with maybe one moderator and mediator and to accumulate empirical evidence for either supporting our assumptions or to make the necessary modifications to the model.

In this respect it is important to note, that our model should apply to all possible aspects of diversity. However, it might be that, for instance, surface vs. deep-level aspects of diversity are more important at certain stages of group-development (e.g., surface-level diversity being more relevant at the beginning and deep-level-diversity being more relevant at more mature stages). Thus, it becomes theoretically and empirically interesting to conduct longitudinal studies that look at the influence of these variables over time. But again, our proposed variables provide a framework that should in principle apply across setting and time and as such can help as guideline for future work in this area.

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