Person-Group Fit: Diversity Antecedents, Proximal Outcomes, and Performance at the Group Level

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This article explores antecedents and outcomes of group-level person-group (PG) fit perceptions. Based on the categorization-elaboration model (CEM), the authors explain how social category (gender and age) and informational diversity (education and work experience) in work teams may elicit supplementary and complementary fit perceptions among team members. The authors then examine two mechanisms through which perceived fit might influence leader-rated group performance. Supplementary fit (similarity on values) is hypothesized to work through a relationship-oriented mechanism by influencing social cohesion. Complementary fit (abilities meet job demands) is expected to work through a task-oriented mechanism by influencing the teams’ transactive memory systems. Participants include employees (N = 1,101) and leaders (N = 116) from 116 work teams in two private firms located in Seoul, Korea. Results generally support the hypothesized relationships, with the task-oriented mechanism being more influential of group performance. Post hoc analyses also suggest that a superordinate perception of PG fit

Acknowledgments: This article was accepted under the editorship of Deborah E. Rupp. We are grateful to the staff of the two Korean companies for their excellent data collection efforts. We also extend our deepest appreciation to the editor and two anonymous reviewers for their helpful comments and suggestions on earlier drafts of this paper.

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may underlie the assessments of the more specific types of fit. The authors conclude that diversity within groups influences an emergent perception of group-level fit, having related supplementary and complementary components, which in turn are associated with group-level outcomes.

**Keywords:** group-level person-group (PG) fit; categorization-elaboration model (CEM); social cohesion; transactive memory system; group performance

Person-environment (PE) fit, defined as the compatibility that occurs when individual and work environment characteristics are well matched (Kristof-Brown & Guay, 2011), is a widely studied topic in management. Yet, reviews indicate that research on one particular type of fit—person-group (PG) fit—is underdeveloped (DeRue & Hollenbeck, 2007; Kristof-Brown, Zimmerman, & Johnson, 2005). This is surprising, given the widespread adoption of work teams in most areas of business. There have been a handful of studies on how specific types of PG fit, such as sharing a preferred work pace (Jansen & Kristof-Brown, 2005), values (Adkins, Ravlin, & Meglino, 1996), or performance goals (Kristof-Brown & Stevens, 2001) predict individual-level outcomes. Yet there is little research on the antecedent conditions that create perceptions of fit in the team context, or how different types of fit work together to influence team-level outcomes (Westerman & Cyr, 2004).

PG fit is defined most broadly as “the compatibility between individuals and their work groups” (Kristof, 1996: 7). What constitutes compatibility, however, is a difficult question. Compatibility reflecting *supplementary fit* occurs when “a person supplements, embellishes, or possesses characteristics which are similar to other individuals in the environment” (Muchinsky & Monahan, 1987: 269). Supplementary fit is typically assessed as similarity on psychological characteristics such as values, goals, attitudes, or personality traits. Alternatively, *complementary fit* starts from a “weakness or need of the environment if offset by the strength of the individual, and vice versa” (Muchinsky & Monahan, 1987: 271). Complementary fit often refers to a person possessing the requisite knowledge, skills, and abilities (KSAs) to meet job demands. Thus, PG fit can exist when one is similar to work group members on values (supplementary) or when one possesses job-relevant KSAs (complementary). Although these types of fit should be distinct, research has found that perceptions of supplementary and complementary fit are often highly correlated (Kristof-Brown, 2000; Werbel & Gilliland, 1999). This is particularly true when both are assessed via respondents’ perceptions, rather than with objective measures (Kristof-Brown & Guay, 2011; O’Reilly, Chatman, & Caldwell, 1991). To better understand how these two types of perceived fit relate, we examine their patterns of antecedents and outcomes.

Although fit studies have principally employed the “person” as the referent for comparison (e.g., person-organization [PO], person-group, person-job [PJ] fit), examining fit at the group level is also feasible because the group is a meaningful reference point for a host of organizational phenomena (e.g., intergroup conflict, group identification, commitment to group) (Shin & Choi, 2010). Via attraction-selection-attrition processes (Schneider, 1987), social interaction, normative influences, and leadership processes, group members may come to hold similar perceptions of the shared group values and the adequacy of team KSAs to
meet task demands (DeRue & Hollenbeck, 2007; Ostroff, Kinicki, & Tampkins, 2003), thus resulting in collective perceptions of group-level fit.

This type of group-level approach to fit is consistent with DeRue and Hollenbeck’s (2007) description of internal and external fit. The emphasis is on the team’s assessment of how well the team fits together (internal fit/supplementary) and matches their environment (external fit/complementary), rather than an individual’s assessment of personal fit to the team or task. Although few studies have examined this type of referent shift to group-level fit, there have been repeated calls in the literature to do so (Kristof-Brown & Guay, 2011; Ostroff & Schulte, 2007; Shin & Choi, 2010). DeRue and Hollenbeck (2007: 264) write, “[PG] fit is best conceptualized as the congruence or alignment between a combined set of team elements that produces a relatively higher level of team effectiveness.” By studying group-level fit, new questions can be answered regarding how fit within teams influences team outcomes and what factors prompt fit perceptions at higher levels of analysis.

Thus, the purpose of this paper is to examine antecedent conditions to group-level supplementary and complementary fit perceptions. By surveying members of 116 work teams, we explore how various types of team diversity relate to perceptions of group-level fit. We then examine how both types of fit relate to proximal team outcomes, including social cohesion (Brawley, Carron, & Widmeyer, 1987) and transactive memory (Lewis, 2003), and how these in turn relate to the ultimate outcome of team performance.

This study contributes to the extant fit literature in the following ways. First, it explores the distinctiveness of group-level supplementary and complementary fit perceptions. We examine factor structure, antecedents, and outcomes to determine whether team members differentiate between these types of fit. Specifically, we use the categorization-elaboration model (CEM; van Knippenberg, De Dreu, & Homan, 2004) to explain how social category and informational diversity in teams may elicit supplementary and complementary fit perceptions. Second, by examining the relationship between perceived fit and proximal team outcomes, we provide insight into the mechanisms by which perceived fit is related to performance. Finally, we explore these fit-related phenomena at the group level. This addresses the call (e.g., Ostroff & Schulte, 2007) for extending PE fit concepts to higher levels of analysis.

**Fit in Teams**

Although research on PE fit has proliferated over the past 20 years, the topic of PG fit has been ignored relative to other types such as PO and PJ fit. In their fit meta-analysis, Kristof-Brown et al. (2005) located only around a dozen studies on the topic, with none examining antecedent conditions to PG fit. In a more recent review, DeRue and Hollenbeck (2007) expanded the domain to include studies of the fit between teams and their leaders (e.g., LePine, Hollenbeck, Ilgen, & Hedlund, 1997) and external team fit between the team and its task (e.g., Hollenbeck et al., 2002). These reviews show that PG fit studies typically examine supplementary fit as a predictor of individual outcomes. For example, similarity on goals (Kristof-Brown & Stevens, 2001; Witt, 1998; Witt, Hilton, & Hockwarter, 2001), values (Adkins et al., 1996; Becker, 1992; Good & Nelson, 1971), preferences for working climates
(Burch & Anderson, 2004, 2008), and preferred working pace and style (Jansen & Kristof-Brown, 2005; Polzer, Milton, & Swann, 2002) have been shown to predict satisfaction with team members, feelings of cohesion, strain, and individual performance. Although these studies provide compelling results, it is becoming widely acknowledged that including multiple types of fit within single studies gives a more holistic and realistic view of the phenomena (Kristof, 1996; Westerman & Cyr, 2004).

DeRue and Morgeson (2007) provided one of the few studies that simultaneously examined multiple types of PG fit and their antecedents. In a study of undergraduate and MBA students working in teams, they assessed values-based supplementary fit and complementary fit based on how well members met the demands of their team-related roles (person-role fit). Person-role fit was operationalized as an extension of PJ fit (Edwards, 1991), emphasizing the skills needed to meet role requirements. Examining both types of fit as dependent variables, they demonstrated that values-based fit was mostly stable over time, but that person-role fit was influenced by ongoing performance. Their results provide initial evidence that individuals may form discernible types of PG fit perceptions in a team context.

In general, supplementary and complementary fit have been found to be distinct but related constructs. Cable and DeRue (2002) developed and validated a measure of fit that includes value congruence (supplementary PO fit) and two types of complementary PJ fit. Their data supported these three as distinct but correlated types of fit. Kristof-Brown (2000) also demonstrated that although recruiters’ perceptions of supplementary PO fit and complementary PJ fit were highly correlated ($r = .72, p < .05$), recruiters used different applicant characteristics to assess each, and both explained unique variance in hiring outcomes. Similar to distributive and procedural justice (which correlate in the .70 range; see Colquitt, Conlon, Wesson, Porter, & Ng, 2001), supplementary and complementary fit may be conceptually distinct, yet appear highly related when measured as perceptions.

**Team Diversity and PG Fit**

One way to differentiate the two types of fit may be through their predictors. Demographic characteristics have frequently been acknowledged as possible antecedents to fit perceptions (Elfenbein & O’Reilly, 2007; Kristof, 1996; Polzer et al., 2002). Although demographics are sometimes used as proxies for psychological characteristics (i.e., age for risk-taking propensity, education for attitudes; Jackson & Chung, 2008), research suggests that over time the emphasis on demographics decreases as greater attention is paid to underlying compatibility (Elfenbein & O’Reilly, 2007; Ellis & Tsui, 2007; Harrison, Price, Gavin, & Florey, 2002; Jackson & Chung, 2008). Jackson and Chung (2008) advocate treating demographic and psychological diversity as separate but related influences on outcomes. However, because demographic attributes may influence how people initially categorize team members and how they interact with them, they are likely to influence perceptions of fit.

Meta-analytic evidence shows a weak and inconsistent pattern of results linking demographic diversity to team-level outcomes (Bowers, Pharmer, & Salas, 2000; Webber & Donahue, 2001; Williams & O’Reilly, 1998). One way scholars have tried to address this problem is through differentiating diversity into two broad categories. One is social category
diversity, which assesses surface-level, readily visible characteristics that are not directly task related, such as age, gender, race, and nationality. Based in social identity theory (Reynolds, Turner, & Haslam, 2003), similarity on these characteristics triggers a feeling of being part of the “in-group.” The second category is informational/functional diversity, which includes less visible characteristics such as education or functional area, that are directly related to tasks and problems faced by the team (van Knippenberg & Haslam, 2003; van Knippenberg & Schippers, 2007). Rooted in the information-elaboration process, in which heterogeneity is associated with a broader range of task-relevant KSAs (Homan, van Knippenberg, Van Kleef, & De Dreu, 2007; van Knippenberg et al., 2004), greater variety on these characteristics is considered desirable (Williams & O’Reilly, 1998).

Although conceptually clean, the empirical evidence does not support a clear distinction in these two diversity categories. Van Knippenberg et al. (2004: 1009) state, “Although the logic behind the reasoning seems sound, there is insufficient empirical support for the proposition that the effects of diversity are contingent on diversity type.” As an alternative, they proposed the CEM to explain how social categorization and information/decision-making processes might interact. The CEM asserts that each type of diversity may elicit both types of processes, although to varying degrees. We follow this logic to develop a model in which various types of diversity have primary and secondary influences on perceptions of supplementary and complementary fit. Those fit perceptions, in turn, predict proximal group-level outcomes that contribute to group performance.

**Hypothesis Development**

**Antecedents of Perceived PG Fit**

Building on the CEM, we hypothesize a set of relationships between different types of diversity in work teams and perceptions of group-level fit. The first set of hypotheses (Hypotheses 1-2) emphasizes primary effects based on the distinction between social category and informational diversity. Specifically, we relate social category diversity to perceptions of supplementary fit on values and informational diversity to KSA-based complementary fit. The second set of hypotheses (Hypotheses 3a-d) reflect the CEM’s premise that each type of diversity may have secondary effects, in this case meaning that social category diversity may influence complementary fit perceptions and informational diversity may influence supplementary fit perceptions.

When a team is first formed by unfamiliar individuals, they draw on readily available information to determine how they will best interact (Zellmer-Bruhn, Maloney, Bhappu, & Salvador, 2008). To reduce uncertainty, team members commonly sort themselves and others into salient social groups based on observable demographic member characteristics. In so doing, team members form behavioral expectations based on social category diversity. In general, the more similar team members are demographically, the more they assume similarity on underlying characteristics, such as values, goals, or beliefs (Harrison et al., 2002; Zellmer-Bruhn et al., 2008). Because values are difficult to ascertain directly, this initial categorizing may have a long-term influence on how values are perceived. Therefore,
even when teams have worked together for several months, those initial social category
differentiations may have lingering effects on perceptions of shared values within the team.

In this study, we anticipate that gender and age diversity will constitute the primary basis
for social categorization processes in the teams. These two social categories have been
consistently discussed in the literature as central to social categorization processes (e.g.,
Pelled, Eisenhardt, & Xin, 1999; Wegge, Roth, Neubach, Schmitt, & Kanfer, 2008). Diversity in stable social categories such as age, gender, and race, often leads to separatism
and thus is more likely to lead to negative outcomes than diversity on more fluid dimensions
such as information, opinions, and expertise (van Knippenberg & Haslam, 2003). Based on
the social identity perspective (Reynolds et al., 2003; Turner, 1987), we anticipate that
members’ categorization of each other on visible demographic similarities will be associated
with perceptions of group-level supplementary fit.

Hypothesis 1a: Within-team gender diversity will be negatively related to perceived supplementary
fit in the team.

Hypothesis 1b: Within-team age diversity will be negatively related to perceived supplementary fit
in the team.

Although people identify with others in similar social categories, there is a competing
need for teams to meet task demands. Informational diversity in the team implies a wider
range of task-related knowledge. It can improve the elaboration of task-relevant information
and perspectives within the group, which include the exchange, discussion, and integration of
ideas, knowledge, and insights relevant to the group’s task (Homan et al., 2007). Informational
diversity is expected to initiate KSA-based complementary fit perceptions. Members’
capabilities and skills become a criterion for judging whether someone adds value to the
team (Zellmer-Bruhn et al., 2008). Greater informational diversity among team members
should increase the perception that the team as a whole is capable of meeting its task
demands, as reflected in higher perceived group-level complementary fit.

Two types of informational diversity that reflect the diverse experiences people bring to
their teams are their years of work experience and their educational backgrounds. Members’
diversity in prior work experience and level of education should lead teams to raise divergent
ideas and opinions about how to best perform the team task (De Dreu & West, 2001; Jehn &
Bezrukova, 2004; Jehn, Bezrukova, & Thatcher, 2008; van Knippenberg et al., 2004;
Zellmer-Bruhn et al., 2008). Gaining expertise via formal education means acquiring a body
of knowledge that influences the way individuals address problems, what new information
they will notice, and how they will perceive it (e.g., Jehn & Bezrukova, 2004; Jehn, Clint,
& Sherry, 1997). Work experience diversity provides differentiation in type of knowledge
and skills, not just level (Zellmer-Bruhn et al., 2008). Therefore, we hypothesize that within-
team informational diversity in education and work experience should be positively related
to perceived group-level complementary fit perceptions.

Hypothesis 2a: Within-team educational diversity will be positively related to perceived
complementary PG fit in the team.

Hypothesis 2b: Within-team work experience diversity will be positively related to perceived
complementary PG fit in the team.
Although we anticipate that social category and informational diversity will most strongly influence perceived supplementary and complementary fit perceptions, respectively, the CEM suggests that this clear-cut distinction is unlikely. As van Knippenberg and Schippers (2007: 520-521) summarized, “all dimensions of diversity may in principle elicit social categorization processes as well as information/decision making processes, because all dimensions of diversity in principle both provide a basis for differentiation and may be associated with differences in task-relevant information and perspectives.”

Thus, we hypothesize secondary, weaker effects in which individuals use social categories as indicators of whether the team possesses the requisite KSAs and informational diversity as an alternative means for assessing supplementary fit on values. Although education level and work experience may not be as readily visible as gender, they can be ascertained. Because a person’s level of work experience or education may also imply something about his or her values (i.e., how much value is placed in hands-on experience vs. formal education), informational diversity may also be used to create social categories for in-group and out-group membership. Similarly, a person’s age or gender may lead others to form judgments about what skills or knowledge that person possesses. For example, an older worker may be presumed to have less advanced computer skills or a female employee to be less effective at weight-bearing activities. Therefore, based on the secondary patterns suggested by the CEM, we predict a weak negative relationship between informational diversity in teams and perceived group-level supplementary fit and a weak positive relationship between social category diversity and perceived group-level complementary fit.

Hypothesis 3a: Within-team educational diversity will be negatively related to perceived supplementary fit in the team.

Hypothesis 3b: Within-team work experience diversity will be negatively related to perceived supplementary fit in the team.

Hypothesis 3c: Within-team gender diversity will be positively related to perceived complementary fit in the team.

Hypothesis 3d: Within-team age diversity will be positively related to perceived complementary fit in the team.

Outcomes of Perceived PG Fit

PG fit is often assessed with questions of overall compatibility (i.e., “How compatible are you with your work group?”). Yet, this type of question assumes that the respondent combines different types of fit assessments into one gestalt perception of fit. A potential flaw in this assumption is that different psychological mechanisms underlie various types of fit, making it likely that they will influence different outcomes. A similarity-attraction mechanism, in which perceived similarity triggers an affinity response, generally explains the link between supplementary fit and positive attitudes (French, Caplan, & Harrison, 1982; Kristof-Brown & Guay, 2011). For complementary fit, however, a more cognitive assessment of potential need-fulfillment is made (Edwards & Shipp, 2007; French et al., 1982; Kristof-Brown & Guay, 2011). By examining the different mechanisms through which these fit perceptions function, their potential uniqueness can be explored.
Self-categorization theory (Turner, 1987) suggests that people categorize themselves and others into in-group and out-group based on similarity in values, personality, and behavior. People in the similar “in-group” will perceive and classify external stimuli in similar ways, have easier communication, and better predict others’ reactions and behaviors than with those who are different (Meglino & Ravlin, 1998). They also tend to show more affection, favor, and trust toward the similar others (van Knippenberg & Haslam, 2003). Byrne’s (1971) theory of interpersonal attraction asserts that perceived similarity between individuals stimulates mutual liking and interpersonal attraction, in part because similarity validates one’s views and opinions.

Thus, perceived value similarity should result in a more positive affective reaction between team members. These are likely to be expressed through feelings of attachment and commitment to the team (Doosje, Ellemers, & Spears, 1999; Werbel & Johnson, 2001). Social cohesion, which reflects the degree to which members of the team like each other and enjoy each others’ company, is one of the most common ways to capture feelings of interpersonal attraction and attachment to the group (Brawley et al., 1987). When team members perceive that they share common values, they should experience higher levels of liking and attraction, manifesting in higher levels of social cohesion. Thus, we hypothesize:

Hypothesis 4: Perceived within-team supplementary fit will be positively related to social cohesion.

Perceptions of complementary fit reflect a cognitive assessment about whether the team possesses the appropriate KSAs to complete the task. The underlying psychological mechanism is one of need-fulfillment (Kristof-Brown & Guay, 2011; Murray, 1951), in which the team views itself as possessing the requisite skills and expertise. When this occurs, transactive memory systems (TMS) are likely to emerge. Transactive memory, a construct first proposed by Wegner (1987), refers to “memory that is influenced by knowledge about the memory system of another person” through which “two or more people cooperatively store, retrieve, and communicate information” (Lewis, 2003: 588). TMS includes a shared understanding of which members possess specialized expertise (specialization), a confidence in the reliability of that knowledge and expertise (credibility), and clarity on how to best share that knowledge and expertise to accomplish the teams’ task (coordination). Recent measures of information elaboration include many of these same behaviors, such as open knowledge sharing, carefully considering multiple perspectives, valuing individual knowledge shared, and coordinating work to generate new solutions (Kearney & Gebert, 2009; Kearney, Gebert, & Voelpel, 2009). Thus, perceived complementary team fit should facilitate higher levels of transactive memory in the team, thereby continuing the information elaboration process that originated with informational diversity. Thus, we hypothesize:

Hypothesis 5: Perceived within-team complementary fit will be positively related to TMS.

Predicting Group Performance

Proximal team outcomes like cohesion and TMS should function as intermediary variables that predict the more distal outcome of team performance (Ilgen, Hollenbeck, Johnson, & Jundt, 2005). The relationship between cohesion and performance has been
studied extensively, with meta-analyses generally showing a positive correlation, but with effects widely varying depending on type of task, type of team, and team settings (Beal, Cohen, Burke, & McLendon, 2003; Chiocchio & Essiembre, 2009; Gully, Devine, & Whitney, 1995). In general, a strong sense of cohesion is believed to improve the communication between group members, which in turn facilitates their participation to a greater extent and increases an acceptance of their goals, tasks and roles (Cartwright, 1968; Casey-Campbell & Martens, 2009; Dorfman & Stephan, 1984). Meta-analytic results suggest that social cohesion is less strongly related to performance than is task cohesion, yet there is support for a weak positive relationship (Beal et al., 2003; Chiocchio & Essiembre, 2009). Therefore, we hypothesize a weak, positive relationship between social cohesion and group performance:

Hypothesis 6: Social cohesion will be positively related to group performance.

TMS allows members to better know each other, plan their work more sensibly, assign tasks to the most capable members, trust each other, and coordinate their actions. These conditions help teams solve problems more quickly and effectively. This facilitated coordination has been found to positively impact task performance and team effectiveness (Kozlowski & Ilgen, 2006; Zhang, Hempel, Han, & Tjosvold, 2007). A shared understanding of specialization, credibility, and coordinating of information is particularly important for complex and nonroutine tasks, in which carrying out projects requires wide expertise (Lewis, 2004). Thus, we hypothesize that TMS will be positively related to group performance.

Hypothesis 7: TMS will be positively related to group performance.

Perceived supplementary and complementary fit are not expected to have direct effects on group performance for two reasons. First, we expect that they are antecedent to cohesion and TMS, which have more direct behavioral implications for coordinating team member behavior. Second, perceptions of supplementary and complementary fit at the individual level have been found to only weakly relate to performance (Kristof-Brown et al., 2005). We do not expect that this direct relationship will be substantially stronger at the team level, rather that it will work through the indirect paths of cohesion and TMS. The model in Figure 1 summarizes these hypothesized relationships.

Method

Research Sites and Sample

Data were collected from team members and their managers in two private sector firms during a two-month period in 2009. Company D is a defense industry firm in Korea with its main office in Seoul and Research and Development (R & D) centers and plants in provincial cities. The total number of employees is around 2,500, over 40% of which work in R & D departments. Company F is a professional IT service corporation consisting of over 900 employees. The company provides total IT services including system integration, e-business,
software, and consulting services. Company F provides nationwide services on a team basis, with the main office located in Seoul.

With the permission of the CEOs, team leaders were asked to have their teams participate. The response rate was high (76.2% in Company D and 68.8% in Company F). In total, members of 153 work teams participated in the initial survey. Teams were removed from the sample for the following reasons: (a) fewer than 4 responding team members, (b) no response from the team leader, (c) team size larger than 2 standard deviations above the sample mean, and (d) missing data. This resulted in a final sample of 1,101 individuals in 116 teams \( (M = 9.49 \text{ members}; SD = 5.23) \). The mean age of team members was 34 years. In the final sample, 89.3% of respondents were men and 10.7% were women. The number of all male teams was 38, and there were no all female teams.

**Survey Procedure**

The data were collected from three different sources. First, the Human Resources department provided the diversity variables. Second, team members individually completed questions regarding perceived fit, social cohesion, and TMS within their teams. To help reduce common method bias between the perceived fit and outcome variables, we split these

![Figure 1](https://i.imgur.com/3Q5zQ5.png)

*Note: Darker lines represent Hypotheses 1, 2, 4, 5, 6, and 7. Lighter lines represent the predicted secondary pathways, which are expected to be weaker than the other hypothesized relationships.*
data—retaining half of the team members’ responses to the fit questions (Subgroup A) and half to the social cohesion and TMS items (Subgroup B) (Choi & Chang, 2009; Ostroff, Kinicki, & Clark, 2002). Third, the 116 team leaders provided data on their team’s performance. The team leaders were officially appointed by senior management with assigned administrative duties of ensuring smooth team performance.

**Measures**

Because the surveys were administered in Korean, we followed an iterative method of translation, feedback seeking, and back-translation to address measurement equivalence. A pilot sample of 100 Korean employees and their team leaders (not from companies in this sample) completed the translated items and provided feedback on whether they made sense for their work context. A separate group of 15 employees and their supervisors, all of whom spoke both English and Korean, completed both the English and Korean versions of the measures. Based on this feedback, we made minor changes to the measures. We reviewed the final surveys with top management and midlevel managers in our sample companies to ensure readability and appropriateness. Alpha reliabilities for all scales were comparable with others who have used the English versions (Cable & DeRue, 2002; Carless & De Paola, 2000; Zellmer-Bruhn & Gibson, 2006; Zhang et al., 2007).

**Diversity.** We assessed social category diversity on age and gender. Both are often cited as influential social categories (Harrison et al., 2002; Kearney & Gebert, 2009; van Knippenberg & Schippers, 2007) and possessed some variability in our sample. Following Harrison and Klein’s (2007) recommendation, we measured gender diversity using Blau’s (1977) index of heterogeneity, $1 - \Sigma p_i^2$. In this formula, $p$ is the portion of a team in the respective diversity category and $i$ is the number of different categories on the team. The index varies from 0, indicating no diversity, to a theoretical maximum of 1. We used within-group standard deviations ($SD$s) to reflect diversity in age (Bedeian & Mossholder, 2000).

Informational diversity was operationalized as years of work experience and level of education (Jehn & Bezrukova, 2004; Kearney & Gebert, 2009; Zellmer-Bruhn et al., 2008). Work experience was assessed as the number of years worked by the employees in a related career. Education level was measured using four categories: high school, two-year college, four-year college, graduate school. Again, we used within-group standard deviations to reflect diversity in the years in current work experience of team members (Bedeian & Mossholder, 2000) and Blau’s (1977) index for education and major diversity.

**Supplementary fit.** We adapted a three-item Likert measure of perceived value congruence from Cable and DeRue (2002), so that all wording reflected the team context (i.e., “The things our team members value in life are very similar,” with the response scale $1 = \text{strongly disagree}, 7 = \text{strongly agree}$). Unlike traditional measures of individual-level fit, the items were written so that the referent shifted to address perceptions of how the team as a whole fit together (DeRue & Hollenbeck, 2007). Within-group agreement is used to justify the
aggregation of these collective fit perceptions to represent the value of the higher level concept of group-level fit (Chan, 1998). Cronbach’s alpha for the scale was .96.

Complementary fit. We measured complementary fit with a three-item scale adapted from Cable and DeRue (2002) and Shin (2008) that similarly reflected the team context and referent shift to the group level (i.e., “Our team members’ abilities and training are a good fit with the requirements of the team tasks.”). Cronbach’s alpha was .90.

Social cohesion. Social cohesion was measured by adapting four items from Carless and De Paola (2000). A sample item is “For the team members, our team is one of the most important social groups to which our team members belong.” The response scale ranged from 1 (strongly disagree) to 7 (strongly agree). Cronbach’s alpha was .93.

Transactive memory system. TMS was measured with Lewis’ (2003) 15-item scale comprised of three dimensions (specialization, credibility, and coordination). Sample items included the following: “Each team member has specialized knowledge of some aspect of our project,” “Our team members were confident relying on the information that other team members brought to the discussion,” and “Our team worked together in a well-coordinated fashion,” with the response scale from 1 (strongly disagree) to 7 (strongly agree). Two reverse-coded items were removed from each of the credibility and coordination dimensions. Cronbach’s alpha for the remaining 11 items was .95.

Group performance. Group performance was measured with a five-item scale adapted from Zellmer-Bruhn and Gibson (2006), which captures goal achievement and effectiveness. Team leaders completed items such as “This team achieves its goals” and “This team fulfills its mission,” using the scale from 1 (very poor) to 7 (excellent). Cronbach’s alpha was .89.

Control variables. We included team size, task type, and task interdependence as control variables, because each has been found to influence team processes and performance (Brown & Mitchell, 1986; Dyer, Millen, & Morse, 1978). Team size was assessed as the total number of people in the team (Thomas & Fink, 1963). Because the nature of the team’s task may also influence their interaction (Hackman, 1968; Kent & McGrath, 1969; Stewart & Barrick, 2000), we controlled for the type of task for which the teams were primarily responsible. Using Chiocchio and Essiembre’s (2009) categorization of team task types, we classified each of the 116 teams as either service (21.55%), project (research and development, 62.07%), or production (manufacturing, 16.38%).

Task interdependence has also been found to moderate team composition-performance relationships (Barrick, Bradley, Kristof-Brown, & Colbert, 2007; Kearney et al., 2009; Thompson, 1967). Defined broadly as a condition in which actions taken by one person affect the actions and outcomes of another, interdependence varies across teams and can be driven by task characteristics and other factors (Gully, Incalcaterra, Joshi, & Beaubien, 2002; McCann & Ferry, 1979). We assessed interdependence using team members’ responses to Campion, Medsker, and Higgs’ (1993) three-item, 7-point scale. Cronbach’s alpha equals .80.
We used ordinary least squares (OLS) regression to determine if task type or task interdependence interacted with the diversity variables to predict fit perceptions or with fit perceptions to predict the other outcomes. There was no statistically significant increase in variance from the addition of these interactions. Therefore, we conclude there was no significant moderation by these variables on the hypothesized relationships. However, we note that there was little variability in task interdependence ($M = 4.6, SD = .53$) across the sample, and most were project teams, making it difficult to detect the presence of these potential moderators. We controlled for each in our analyses, along with a company dummy variable (Randel & Ranft, 2007).

**Results**

All variable means, standard deviations, and correlations are reported in Table 1. The correlation between supplementary and complementary fit is higher ($r = .66, p < .01$) than the average meta-analytic correlation ($r = .37; 95\% CI = .02-.72$) between supplementary PO fit and abilities-based PJ complementary fit reported by Kristof-Brown et al. (2005), but within the reported 95\% confidence interval (CI). The correlations between leader-rated performance and team-level perceived supplementary ($r = .40, p < .01$) and complementary fit ($r = .31, p < .01$) are also higher than generally reported for PG fit at the individual level ($r = .15; 95\% CI = .03-.27$). This supports other research reporting stronger relationships between fit and outcomes at higher levels of analysis (e.g., Ostroff & Rothausen, 1997).

For measures collected at the individual level, it is necessary to demonstrate agreement within teams before aggregating to the group level (Harrison et al., 2002). We calculated the James, Demaree, and Wolf (1984, 1993) within-group agreement index ($r_{wg}$) for each of the proximal outcome variables for each team. Because individual respondents were nested within groups, we also evaluated possible statistical dependence in the data by computing intraclass correlation coefficients (ICCs). ICC(1) is an index of within-group variability, and ICC(2) represents between-group variability, or the reliability of group means and the reliability of differentiation among groups (Bliwise, 2000).

Team average values were: $0.91 (r_{wg}), 0.20$ (ICC1), $0.70$ (ICC2) for supplementary fit; $0.94 (r_{wg}), 0.16$ (ICC1), $0.64$ (ICC2) for complementary fit; $0.90 (r_{wg}), 0.19$ (ICC1), $0.69$ (ICC2) for social cohesion; $0.99 (r_{wg}), 0.15$ (ICC1), $0.62$ (ICC2) for TMS; and $0.89 (r_{wg}), 0.14$ (ICC1), $0.60$ (ICC2) for task interdependence. These values provide adequate evidence for these concepts at the team level, supporting aggregation. However, because the relationships between the proximal outcome variables were conducted on a split sample, the values for complete teams are subject to potential response bias problems (Ostroff et al., 2002). Therefore, we also calculated these values for the split teams as well (Choi & Chang, 2009; Ostroff et al., 2002). These values were slightly lower, reflecting sensitivity to team size: $0.90 (r_{wg}), 0.13$ (ICC1), $0.58$ (ICC2) for supplementary fit; $0.93 (r_{wg}), 0.09$ (ICC1), $0.49$ (ICC2) for complementary fit; $0.90 (r_{wg}), 0.11$ (ICC1), $0.54$ (ICC2) for social cohesion; $0.99 (r_{wg}), 0.09$ (ICC1), $0.47$ (ICC2) for TMS. However, these values are consistent with those in other studies that have reported both split team and complete team data (Ostroff et al., 2002),
Table 1  
Means, Standard Deviations, and Correlations Among All Group-Level Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Team size</td>
<td>9.49</td>
<td>5.23</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>2. Company dummy</td>
<td>.66</td>
<td>.48</td>
<td>.42**</td>
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<tr>
<td>3. Project</td>
<td>.62</td>
<td>.49</td>
<td>.06</td>
<td>-.04</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>4. Production</td>
<td>.16</td>
<td>.37</td>
<td>.25**</td>
<td>.17</td>
<td>-.57**</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>5. Task interdependence</td>
<td>4.61</td>
<td>.53</td>
<td>.35**</td>
<td>.53**</td>
<td>-.06</td>
<td>.17</td>
<td>(.80)</td>
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<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>6. Gender diversity</td>
<td>5.47</td>
<td>1.93</td>
<td>-.25**</td>
<td>-.09</td>
<td>-.03</td>
<td>-.01</td>
<td>-.03</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>7. Age diversity</td>
<td>.19</td>
<td>.18</td>
<td>.10</td>
<td>.06</td>
<td>.08</td>
<td>-.03</td>
<td>-.26**</td>
<td>.12</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Education diversity</td>
<td>.36</td>
<td>.18</td>
<td>.22*</td>
<td>.30**</td>
<td>.03</td>
<td>-.00</td>
<td>.30**</td>
<td>.09</td>
<td>.27**</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Work experience diversity</td>
<td>4.76</td>
<td>1.97</td>
<td>.30**</td>
<td>.19*</td>
<td>-.11</td>
<td>-.20*</td>
<td>-.08</td>
<td>.54**</td>
<td>.08</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>10. Supplementary fit (A)</td>
<td>5.10</td>
<td>.62</td>
<td>.25**</td>
<td>.35**</td>
<td>-.06</td>
<td>.18</td>
<td>.16</td>
<td>-.14</td>
<td>.15</td>
<td>.20*</td>
<td>-.14</td>
<td>(.96)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Complementary fit (A)</td>
<td>5.45</td>
<td>.51</td>
<td>.28**</td>
<td>.29**</td>
<td>.04</td>
<td>.15</td>
<td>.32**</td>
<td>-.10</td>
<td>.13</td>
<td>.27**</td>
<td>-.08</td>
<td>.66**</td>
<td>(.90)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Social cohesion (B)</td>
<td>4.76</td>
<td>.66</td>
<td>.30**</td>
<td>.25**</td>
<td>.21*</td>
<td>.07</td>
<td>.06</td>
<td>-.08</td>
<td>-.00</td>
<td>.01</td>
<td>-.13</td>
<td>.53**</td>
<td>.53**</td>
<td>(.93)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Transactive memory system (B)</td>
<td>5.33</td>
<td>.42</td>
<td>.13</td>
<td>.21*</td>
<td>.10</td>
<td>.08</td>
<td>.18</td>
<td>-.14</td>
<td>.05</td>
<td>.14</td>
<td>-.04</td>
<td>.41**</td>
<td>.49**</td>
<td>.44**</td>
<td>(.95)</td>
<td></td>
</tr>
<tr>
<td>14. Leader rated-group performance</td>
<td>5.37</td>
<td>.75</td>
<td>-.03</td>
<td>.09</td>
<td>-.12</td>
<td>-.01</td>
<td>.08</td>
<td>-.12</td>
<td>-.01</td>
<td>.13</td>
<td>-.15</td>
<td>.40**</td>
<td>.31**</td>
<td>.13</td>
<td>.35**</td>
<td>(.89)</td>
</tr>
</tbody>
</table>

Notes: The letter in parentheses indicates the subgroup (A or B) from which the particular measure was obtained. \( N = 116 \). Cronbach’s alpha coefficients appear in parentheses along the main diagonal. As to team task type, the total 116 teams were functionally divided into three divisions according to the type of task (i.e., service, project, and production). So the three categories of team task type were converted into two dummy variables; namely, team task 1 (project) and team task 2 (production) holding service as a reference.

\( *p < .05 \). \( **p < .01 \).
and the test statistics (F ratios) associated with the ICC(1) values of all four variables were statistically significant (p < .05). We proceeded with aggregation to the group level.

**Measurement Model Testing**

To test the hypotheses, we employed structural equation modeling (SEM) in AMOS 7.0 to evaluate the fit of the measurement and the structural models. Following standard practice, overall model fit was examined by various fit indices such as the root mean square error of approximation (RMSEA), Tucker-Lewis Index (TLI), and Comparative Fit Index (CFI). Reasonable model fit is supported when RMSEA is below 0.08 and TLI and CFI values exceed 0.90 (e.g., Ngo, Foley, & Loi, 2009).

Prior to testing the hypotheses, we conducted a series of analyses to confirm the empirical distinctiveness of the measures. We conducted a confirmatory factor analysis (CFA) of all perceptual measures: supplementary fit, complementary fit, social cohesion, TMS, task interdependence, and group performance. The hypothesized model included these six distinct factors. TMS was modeled as a higher-order factor, consisting of the first-order factors (specialization, credibility, and coordination) as has been advocated elsewhere (Lewis, 2003). The six-factor model fit our data reasonably well, \( \chi^2(df=355) = 522.18 \), CFI = .95, TLI = .94, RMSEA = .065. We compared this model with plausibly alternative models, including (a) a four-factor model with supplementary and complementary fit combined into a single factor and social cohesion and TMS items combined together as one construct and (b) a five-factor model with supplementary and complementary fit combined into a single factor (see Table 2). Overall, these results support the expected six-factor model as the best fit.

**Hypothesized and Alternative Structural Models**

We tested our model by incorporating all of the hypothesized paths and allowing covariances among the diversity measures and the four control variables. Given that fit...
perceptions tend to correlate, we allowed the error terms of these two variables to covary. The hypothesized model (see Figure 2) was a good fit to the data $\chi^2(df = 512) = 786.46$, CFI = .92, TLI = .90, RMSEA = .068. Standardized path coefficients are reported.

We examined alternative models to assess the relative adequacy of the hypothesized model (Hayduk, 1987; Medsker, Williams, & Holahan, 1994). Results are summarized in Table 3. First, we ran an independence model, in which the relationships between all measured variables and controls are assumed to be zero (Anderson & Gerbing, 1988). If the
relative chi-square, the chi-square index divided by degrees of freedom (CMIN/df), is less than 2, the indices of fit are viewed as acceptable (e.g., Byrne, 1991; Carmines & McIver, 1981). The relative chi-square for the null model was 2.70, indicating a poor fit.

We ran a second alternative model in which we dropped the secondary paths, to better assess their importance. This model was acceptable, $\chi^2(df = 516) = 802.85, p < .001; CFI = .91, TLI = .90; RMSEA = .070$, but was worse than the hypothesized model, $\Delta \chi^2(\Delta df = 4) = 16.39$, suggesting that there is value to including the secondary paths. Finally, to ascertain whether each type of fit predicted unique outcomes, we ran a third alternative model in which paths were estimated between complementary fit and social cohesion and supplementary fit and TMS. Although almost fully saturated, the fit indices of this model were no better than the hypothesized model, $\chi^2(df = 510) = 780.93, CFI = .92, TLI = .90, RMSEA = .068$, and none of the added path coefficients were statistically significant. Because none of the alternative models produced a better fit, we retained the hypothesized model.

Hypothesis Testing

We examined the standardized coefficients in Figure 2 to evaluate our hypotheses. Examining the primary paths, the standardized coefficient between gender diversity and supplementary fit was negative ($\beta = -0.73, p < .05$), supporting Hypothesis 1a. The path between age diversity and supplementary fit was also statistically significant ($\beta = 0.10, p < .01$), but it was a weak positive relationship, rather than negative. Thus, Hypothesis 1b was not supported. As predicted, education diversity was positively related to complementary fit ($\beta = 1.01, p < .001$); however, work experience diversity was weakly negatively related to complementary fit perceptions ($\beta = -0.08, p < .05$). Thus, Hypothesis 2a, but not 2b, was supported. Hypotheses 3a-3d dealt with the secondary effects between diversity and fit perceptions. Specifically, Hypotheses 3a and 3b proposed a negative relationship between informational diversity and perceived supplementary fit. This was supported for work experience diversity, which was negatively related to perceived supplementary PG fit ($\beta = -0.10, p < .01$), but not for education diversity, supporting Hypothesis 3b but not 3a. Hypothesis 3c regarding gender diversity and complementary fit was not supported; however, Hypothesis 3d was supported with a weak positive relationship between age diversity and complementary fit ($\beta = 0.08, p < .05$).

As expected, the secondary diversity-fit relationship coefficients (Hypotheses 3a-3d) were smaller than the primary diversity-fit relationship coefficients (Hypothesis 1 and 2). The 90% confidence intervals around the primary and secondary coefficients did not overlap for complementary fit (.522-.1500 for the primary education path; .026-.134 for the secondary age path) or for supplementary fit (−1.236 −(−.232) for the primary gender path; −.155 −(−.049) for the secondary work experience path). The secondary relationships are weak (i.e., $p < .20$), using standards established by Chin (1998) and Hoe (2008). The only coefficients above .20 were those supporting Hypothesis 1a, 2a, 4, 5, and 7. Yet, consistent with the CEM, our test of alternative Model 2 demonstrates that there is value to retaining the secondary paths between diversity and perceived fit.
Hypotheses 4 and 5 addressed the relationship of supplementary and complementary fit with social cohesion and TMS. The path coefficient between perceived supplementary fit (subgroup A) and social cohesion (subgroup B) was positive ($\beta = .54$, $p < .001$), as was the path between complementary fit (subgroup A) and TMS ($\beta = .34$, $p < .001$; subgroup B). Both coefficients exceeded .20, supporting the hypotheses. This pattern suggests some differentiation in the mechanisms through which each type of fit influences team performance (Kristof-Brown & Guay, 2011; Shin & Choi, 2010). With regard to group performance, TMS ($\beta = 1.56$, $p < .001$) but not social cohesion was related to group performance, thus supporting Hypothesis 7 but not Hypothesis 6.

**Post Hoc Analysis**

To further explore these results, we conducted post hoc analyses. First, because the relationships between diversity and perceived fit were not always in the hypothesized direction, we probed more deeply into the antecedent paths. Jackson and Chung (2008) suggested that the effects of diversity on one characteristic may depend on the presence or absence of other types of diversity. Therefore, we explored whether the interactions of the social category diversity variables and informational diversity variables were related to fit perceptions. We first regressed supplementary fit perceptions on the control variables in step 1, main effects of diversity in step 2, and the diversity measure interactions in step 3. The interaction between gender and age diversity was not significantly related to supplementary fit ($\beta = .11$, $p = ns$), nor was the interaction between education and work experience diversity ($\beta = .15$, $p = ns$). The same procedure was used for complementary fit, and neither interaction was significant (Gender × Age Diversity, $\beta = -.12$, $p = ns$; Education × Work Experience Diversity, $\beta = .06$, $p = ns$). These results do not support interactive effects of diversity on fit perceptions.

In line with recent PE fit theory (Herdman & Carlson, 2009; Jansen & Kristof-Brown, 2005), we also considered the possibility that supplementary and complementary fit perceptions might be part of a higher-order, multidimensional construct of overall fit with the group. Law, Wong, and Mobley (1998) define a multidimensional construct as one that refers to several distinct, but somehow related, dimensions treated as a single theoretical concept. Such constructs are beneficial because they provide a more holistic and realistic assessment of how people experience complex phenomena, thereby often explaining more variance in outcomes (Hulin, 1991; Ones & Viswasvaran, 1996). We explored whether overall group-level PG fit may be a superordinate construct (Williams, Edwards, & Vandenberg, 2003), manifested by subdimensions of supplementary and complementary fit.

We used Edwards’ (2001) approach to test overall PG fit as a superordinate perception. The fit of this model to the data was good, $\chi^2(df = 514) = 777.98$, $p < .001$; CFI = .92, TLI = .91, RMSEA = .067. Most of the fit statistics are comparable or better to the hypothesized model, suggesting that including a higher-order concept of overall perceived PG fit is beneficial. Figure 3 shows the standardized paths for this alternative model. We find that overall PG fit is influenced by all four diversity antecedents, with the strongest effects
occurring between gender diversity ($\beta = -0.60, p < .05$) and education diversity ($\beta = 0.78, p < .01$). Overall PG fit was positively related to both social cohesion ($\beta = 0.63, p < .001$) and TMS ($\beta = 0.37, p < .001$). TMS was strongly related to group performance ($\beta = 2.53, p < .001$), as in the hypothesized model. In this alternative model, however, social cohesion was negatively related to group performance ($\beta = -0.66, p < .05$). These results suggest that team members’ perceptions of supplementary and complementary group-level fit may be driven by a high order perception of overall team compatibility.

### Discussion

We designed this study to better understand perceptions of group-level fit by exploring the diversity-based antecedents of supplementary and complementary fit and the mechanisms by which they are related to group performance. Based on the tenets of CEM, we examined social category and informational diversity as predictors of perceived group-level fit, having primary and secondary influences on both fit types. We also explored how perceptions of group-level fit worked through relationship (social cohesion) and task-oriented (transactive memory) mechanisms to influence group performance. Our results provide the first comprehensive view of antecedents and outcomes of group-level fit perceptions.

Overall, our results support a positive relationship between group-level fit perceptions and group-level outcomes. Perceived group fit showed moderately strong associations with leader-rated group performance, unlike individual-level PG fit, which has repeatedly been found to have minimal impact on individuals’ task performance (Kristof-Brown et al., 2005). This relationship appears to be best explained by the task-oriented mechanism of transactive
memory within the group. The relationship-oriented mechanism of social cohesion was not supported as a strong predictor of group performance. This result is perhaps not surprising given meta-analytic evidence that this relationship is weak and often moderated by other factors (e.g., Chiocchio & Essiembre, 2009; Zaccaro, 1991).

Even after splitting the teams to reduce possible bias from same source reporting, relationships existed between perceived group-level supplementary fit and social cohesion and between perceived complementary fit and TMS. When controlling for the other type of fit, each had unique impact on these outcomes, and an alternative model in which paths were added between each type of fit and the other outcome was rejected. These results suggest some differentiation in processes related to each type of group-level fit perceptions.

Despite this differentiation, however, one notable conclusion from this study is that supplementary and complementary group-level fit perceptions are strongly linked when measured as direct perceptions. When members view their teams as having a high degree of value similarity, they also tend to view them as possessing the requisite KSAs for the task. Post hoc analyses suggest that this overlap may partly be explained by a superordinate perception of team compatibility, which may drive more specific fit assessments (Edwards, 2001). These results are consistent with others who report a high degree of overlap in perceptions of theoretically distinct types of fit (e.g., Cable & Edwards, 2004; Kristof-Brown, 2000). Similar to others, we find that supplementary and complementary fit perceptions have some unique association with antecedents and outcomes, but are strongly related in team members’ minds. We note, however, that when fit is measured more objectively, rather than as direct perceptions, they are generally less correlated (O’Reilly et al., 1991). Moreover, Ostroff (2012) suggests that different structural models of emergence (i.e., composition vs. compilation; Chan, 1998) may underlie each type of fit. Because our measurement approach varied the content, but not underlying structure of fit perceptions, we may have found a higher degree of overlap than if a distinct compositional model of supplementary fit and a compilational model of complementary fit were assessed.

Examining the diversity antecedents provides another possible explanation for this overlap. Results show that although each type of fit is predicted primarily by a theoretically related type of diversity, each is also influenced by seemingly nonrelated diversity predictors. Specifically, social category diversity on gender had a strong negative impact on perceived supplementary fit, and informational diversity in terms of education had a strong positive effect on complementary fit, as would be predicted by traditional diversity theory. However, the secondary pathways between the social category variables and perceived complementary fit, and informational diversity variables and perceived supplementary fit also improved prediction. Although the magnitude of the secondary paths is weaker, the crossover between types of diversity appears to play a role in forming group-level fit perceptions.

Theoretical Implications

These results are a departure from earlier treatments of diversity (e.g., Williams & O’Reilly, 1998), but are consistent with more recent CEM theory (van Knippenberg et al.,
They suggest that each type of diversity can trigger social categorization and information elaboration. The CEM suggests further that social categorization processes may disrupt information elaboration processes, such that social categories override the benefits of information diversity. For this study, this implies that a lack of perceived team supplementary fit may reduce the perception that the team possesses the requisite set of KSAs. Thus, social category and informational diversity may both feed into perceptions of team-level fit, but not as completely independent predictors. Rather, individuals appear to consider both types of diversity information when assessing the team’s overall compatibility, which in turn drives more specific assessments of supplementary and complementary fit. Additional research exploring how various types of diversity interact to create conditions that are conducive to effective teams is clearly needed.

Despite the conceptual distinction between supplementary and complementary fit, our results demonstrate that people have difficulty disentangling the concepts at the group level. Similar to procedural, distributive, and interactional justice (Colquitt, 2001), we find that the theoretical orthogonality in the concepts is not found in practice. Models of “overall” PE fit (Herdman & Carlson, 2009; Jansen & Kristof-Brown, 2005) may be correct in their assertion that gestalt perceptions of PE fit drive other more specific fit assessments. This “monistic perspective” is one that permeates the literature on individuals’ perceptions of their workplace and is most likely driven by a bias toward consistency (e.g., Elliot, 1986; Lecky, 1968) and balance (Insko, 1981). These social psychological theories propose that individuals are strongly driven to hold coherent self-perceptions. Thus, once team members decide that their team is compatible, they may infer value similarity and the requisite set of KSAs.

Yet, even in light of these high correlations and consistency motivations, factor analyses from our study and others (e.g., Cable & Edwards, 2004; Kristof-Brown, 2000), as well as differentiable outcomes of each type of fit, suggest that the various types of fit are empirically discriminable factors. Future research would benefit from following Edwards’ (2001) recommendations to measure the distinct dimensions of fit, but also model any superordinate constructs that may underlie them. This would afford researchers the benefits of specific dimensions (i.e., more precision; Gerbing & Anderson, 1988; Johns, 1998) while gaining the benefits of multidimensional constructs (i.e., a more realistic assessment of how people experience complex phenomena; Hulin, 1991; Ones & Viswesvaran, 1996). For a research area like PE fit, in which dimensions have been found to be highly correlated but also explain unique variance in outcomes, addressing both sets of questions is desirable.

We recommend that researchers include measures of specific types of fit whenever feasible, but also explore how these specific types correspond to holistic perceptions of compatibility. Additional research is needed on the motivations behind fit (Yu, 2009, in press) and the various mental processes, such as denial, rationalization, or transcendence, that people may use when trying to reduce the cognitive dissonance associated with discrepant perceptions of fit (Eagly & Chaiken, 1993; Festinger, 1957). Recent conceptual work on the role of self-regulation processes in the maintenance of perceived fit (Johnson, Taing, Chang, & Kawamoto, in press) and the influence of dyadic social interactions on fit perceptions (Kammeyer-Mueller, Schilpzand, & Rubenstein, in press) represent promising new directions for better understanding how people form and maintain perceptions of fit.
Our results add to the growing support for higher-level fit perceptions. Extending the PG fit concept beyond the individual level provides a multilevel perspective that has been generally lacking in fit research (Ostroff & Schulte, 2007; Shin & Choi, 2010). Team-referent supplementary and complementary fit perceptions had reasonable levels of within-group agreement and discriminated between groups, providing preliminary evidence for the presence of perceived group fit as a collective construct. Moreover, these group-level fit perceptions meaningfully related to group composition, processes, and performance, demonstrating that fit has multilevel ramifications for interpersonal dynamics and group functioning (Kristof-Brown & Jansen, 2007). These results, in conjunction with other studies that demonstrate that a person’s experience of fit can influence group or organization level outcomes (Colbert, Kristof-Brown, Bradley, & Barrick, 2008; Ostroff, 1993; Ostroff & Rothausen, 1997), provide growing evidence of the multilevel nature of fit.

**Practical Implications**

These results have practical implications for the organization that seeks ways of coping with an increasingly diverse workforce or intends to adopt diverse team composition to stimulate performance. Our findings suggest that it is possible to take full advantage of demographic diversity by emphasizing shared values as well as informational diversity as determinants of team compatibility. Schneider, Smith, and Goldstein (2000) proposed a dual model for achieving simultaneous supplementary and complementary fit. Essentially, they argued that teams and organizations should strive to assemble individuals with supplementary fit on core values and goals but complementary fit or differences in problem solving and decision making. This approach is desirable for teams and organizations, and our results suggest that team members are quite capable of handling both types of fit simultaneously. By doing so, they create a situation in which they feel supported by and committed to the other members, but where they also feel that the team possesses the requisite KSAs for the job.

Our results suggest that managers should be encouraged to foster perceptions of group-level fit in their work teams. Whether it is through team-building activities that emphasize value similarities or deliberate attempts to differentiate and highlight individual members’ KSAs, managers can stimulate perceptions of compatibility within their work teams. By further educating team members on the positive relationships between perceived fit and team outcomes, including cohesion, transactive memory, and performance, managers can reinforce the importance of such perceptions. If social category diversity increases, due to changing workplace demographics, counter-steps could be taken to emphasize shared values and KSA contributions. Particularly in East Asian countries like Korea and Japan, certain social categories may remain salient throughout employees’ tenure. Therefore, overcoming initial assumptions based on social category diversity becomes important to promoting a climate of cooperation, communication, and information sharing. Our results also suggest that a key path to group performance is based on task-oriented, rather than relationship-oriented mechanisms. Therefore, emphasizing good fitting KSAs may be the key to overcoming social category diversity and fostering improved group performance.
Limitations and Future Research

As in all studies, the limitations of our approach must be considered. One concern is that all of these teams had worked together for more than six months; therefore, we can only capture the relationship between demographic composition and fit perceptions after initial categorization processes had already occurred. Social categorization based on demographics should have its strongest effects during early interactions; thus, these results might understate the importance of early categorization. Second, although we selected four diversity variables that were relevant to our research context, other types of diversity may be more relevant in other contexts (Fiske & Taylor, 1991). Third, our sample lacked variability on task interdependence and task type, making these weak boundary conditions. Future research should include additional variables, such as team tenure, race, and specific skill sets, and investigate more variable teams in terms of interdependence and task type to better understand how diversity is related to fit perceptions and under what conditions.

The possibility of reciprocal relationships also exists. With cross-sectional measures, we could only examine relationships at one point in time. By splitting the sample in half and using supervisor reports of performance, we tried to reduce same source biases. Collecting data from additional sources at multiple points in time would provide a more robust solution. Because fit, social cohesion, and TMS form and flex over time, they are likely to be self-reinforcing, making it difficult to determine which consistently precedes the others (Marks, Mathieu, & Zaccaro, 2001). Both CEM and PE fit theory suggest that the initial process of noticing and categorizing people based on demographics should prompt cognitions regarding compatibility, before influencing affective or behavioral reactions. However, these relationships may not occur as discretely as we have described here. To test for reciprocal causality, we did examine an alternative model in which the ordering of fit, cohesion, and TMS was reversed. This model was a significantly worse fit to the data, supporting the ordering in our model.

Finally, although our operationalizations of supplementary and complementary fit are consistent with common definitions (Kristof-Brown & Guay, 2011; Muchinsky & Monahan, 1987), they do not provide information on the underlying structural models of emergence (Chan, 1998) for fit as a group-level concept (Ostroff, 2012; Ostroff & Schulte, 2007). Future studies of fit at the group level will benefit by delving deeper into how the lower level elements converge into fit as a higher level property.

Conclusions

This study supports supplementary and complementary perceived fit as meaningful group-level concepts, with diversity composition antecedents and group-level outcomes including performance. Although each type of fit has some distinct patterns of antecedents and outcomes, there is also evidence that a superordinate perception of overall team compatibility may underlie the assessments of dimension-specific fit.
Notes

1. Racial diversity was not considered because the study takes place in Korea, one of the few single-race nations in the world.
2. Educational diversity in terms of major was also considered, but did not contribute significantly to the variance explained in our models.

References


Kristof-Brown, A. L., Zimmerman, R. D., & Johnson, D. J. 2005. Consequences of individuals’ fit at work: A meta-


