Abstract versus concrete construal in decision-making groups: How seeing "a group" versus

"individuals" shapes information processing within homogeneous and diverse teams

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ABSTRACT:

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Modern organizations increasingly rely on teams to act as information processors—pooling and integrating various sources of information in order to solve complex problems and reach quality decisions. Traditional frameworks for the influence of diversity suggest that diversity can enhance decision making by adding to the backgrounds and perspectives that can be applied to a given task. However, this additive view of diversity is unable to account for more recent findings that show that members of homogeneous and diverse groups differ in their decision-making processes even when they have access to *identical* task-relevant information. I propose a novel theoretical framework whereby in homogeneous groups, members construe the group more abstractly as a group, while members of diverse groups construe the group more concretely as individuals. These differences in cognitive orientation shape relational goals, communication norms and additional task-relevant cognitions within groups. I test some of the propositions set forth in two studies. In the first, I find that homogeneous group members' tendency to focus on building positive relationships at the cost of thorough task consideration relative to diverse groups only occurs at more abstract levels of construal and can be eliminated by priming more concrete construal. In the second study, I find that members of diverse groups voice their unique opinions more frequently, use more first-person singular pronouns (i.e., "I", "me"), and use more concrete language in their group discussions relative to homogeneous groups. Theoretical and practical implications, as well as future applications of this novel framework are also discussed.

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PREFACE

In this dissertation, I examine how group composition shapes the way information is processed among group members as they try to reach a group decision. I first begin in Chapter 1 by juxtaposing this effort with traditional theoretical frameworks of diversity which emphasize diversity's ability to bring more information to the table—additional perspectives, backgrounds, and skills—that groups may apply when making decisions. In the first chapter, I also propose a novel theoretical framework that departs from traditional, additive views of diversity to describe how a group's composition may also shape how group members engage with identical information. The framework integrates reasoning from the diversity literature with that of construal level theory, gestalt processing, and cultural self-construals to suggest that a group's composition will influence group members' construal level, which will in turn shape communication norms, as well as a wide range of task-relevant cognitions among group members. The purpose of this framework is twofold. First, the framework is able to organize and explain previous findings that show qualitative differences in homogeneous and diverse groups' decision-making processes. Second, the framework is used to generate additional theoretical propositions that can be tested empirically in future research.

In Chapters 2 and 3 of this dissertation, I begin to test some, though not all, of the theoretical propositions set forth in Chapter 1. In both chapters, I use a moderation approach to examine the causal relationships proposed within the theoretical framework, assessing the relationship between group composition and various downstream outcomes under different conditions of construal. Chapter 2 examines whether group members' tendency to prioritize forming positive relationships at the cost of processing information thoroughly when in homogeneous (versus diverse) groups occurs due to a more abstract construal level. More

specifically, in the second chapter I examine homogeneous and diverse groups of executives within a classroom setting under conditions of more abstract versus more concrete construal. I find that homogeneous groups' heightened relationship focus and diminished discussion thoroughness relative to diverse groups only occurs when group members construe more abstractly, and can be eliminated by priming a more concrete construal. In Chapter 3, I examine group decision-making processes in a more controlled setting within the laboratory. By doing so, I am able to record groups' full discussions, and as a result, capture additional measures of how group members process information when reaching decisions. For example, linguistic analyses of groups' discussion transcripts in Chapter 3 reveal that diverse groups often use more concrete language to communicate about a pending decision relative to homogeneous groups.

The final chapter of the dissertation compares the methods, sample population, and experimental settings used in Chapters 2 and 3 in order to point the way to future research directions. I also discuss the challenges and opportunities that accompany conducting this type of group decision making research more broadly. Finally, I end with tentative conclusions from the current set of findings, as well as theoretical and practical implications of utilizing the proposed framework to understand how homogeneous and diverse groups make decisions.

CHAPTER 1: A NOVEL THEORETICAL FRAMEWORK FOR INFORMATION PROCESSING IN HOMOGENEOUS AND DIVERSE GROUPS

Modern organizations increasingly rely on teams to reach decisions, generate solutions, and meet various organizational goals. Within a competitive landscape, teams are an important organizational resource for carrying out complex tasks as they allow for the pooling of information that individuals would not have access to on their own (Dennis, 1996; Gibson 2001; Kane 2010). An essential function of teams, then, is to process information, and teams' ability to reach high quality decisions and solutions will be dependent on how effectively group members share, integrate, and utilize information during group interactions (Homan, van Knippenberg, van Kleef, & de Dreu, 2007).

Teams that are more informationally rich should have an advantage over teams with less information at their disposal. For this reason, scholars have argued that teams that are more diverse can reach better outcomes to the extent that they have additional perspectives, backgrounds, and information that can be applied to a given task (Williams & O'Reilly, 1998) and can also manage interpersonal conflict and relationship challenges (e.g., Galinsky et al., 2015). More recently, however, empirical findings within the groups and teams literature demonstrate that diversity can also enhance group decision-making even when homogeneous and diverse teams have access to identical task-relevant information (for a review, see Carter & Phillips, 2017).

While researchers have begun to document qualitative differences in how homogeneous and diverse groups process information differently empirically, the literature still lacks a precise theoretical framework for predicting the specific form these differences will take. Integrating theories of construal level, gestalt processing, and cultural self-construals with traditional

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frameworks for diversity's effects, I argue that a group's composition will shape how members construe the group—either more abstractly as a group or more concretely as individuals. These differences in construal level that emerge within homogeneous and diverse groups will go on to shape how information is exchanged and interpreted by members of decision-making groups.

In the sections below, I first review traditional frameworks used to understand the effects of group composition on information processing and highlight how these are insufficient for explaining qualitative differences in how homogeneous and diverse teams process identical information. Next, I describe the basic tenets of construal level theory and gestalt processing as well as their consequences for individual-level cognition before outlining propositions for how construal level will shape perceptions of group entitativity, communication norms, and task-based cognition, and as a result, information processing in decision-making groups. Finally, I discuss implications for performance, similarities and differences of this framework to related theoretical conceptions, as well as theoretical and practical contributions.

Traditional Frameworks: An Additive View of Diversity

The effects of group composition on information processing have been typically understood using theories of social categorization (Tajfel, 1981; Turner, 1987), social identification (Hogg & Abrams, 1988; Turner, 1982), and similarity-attraction (Byrne, 1969, 1971). According to social categorization and identification theories, when individuals are in groups, they seek to establish and maintain a positive self view. In order to do so, individuals first engage in categorization processes whereby they make in-group and out-group distinctions for those present based on social category memberships. These can include visible or "surface-level" social category memberships such as age, race, and gender as well as underlying or "deep-level" social category memberships such as functional background, education, and tenure

(Harrison, Price, & Bell, 1998). The particular dimension that individuals use to define who belongs to their in-group versus the out-group will depend on what is meaningful in a given context. To the extent individuals' social category membership fosters a positive self-view, individuals will maximize intergroup distinctions so that out-group members are seen as more different from the self while in-group members are seen as more similar. Because interpersonal similarity provides positive reinforcement for their own traits, individuals will have more positive feelings toward and greater desire to interact with individuals who are more similar to them (i.e., in-group members) as described by the similarity-attraction principle (Byrne, 1969, 1971).

These largely automatic processes of social categorization, identification, and similarity-attraction give way to two distinct pathways for group functioning. On one hand, the introduction of interpersonal difference might make it more difficult for individuals in diverse groups to form social connections with one another and may even lead to heightened relationship conflict. As a result, diverse groups are often less cohesive relative to homogenous ones (Williams & O'Reilly, 1998). To the extent that social cohesion facilitates performance, traditional frameworks predict that diverse teams will perform worse than their homogeneous counterparts due to the greater relational difficulties they experience. On the other hand, however, due to forces of similarity-attraction as well as homophily whereby individuals are more likely to interact with similar rather than dissimilar others (McPherson, Smith-Lovin, & Cook, 2001), members of diverse groups have less redundant network ties compared to those of homogeneous groups. Consequently, diverse groups have access to *additional information*—differences in perspectives and backgrounds—that may be applied to a given task. To the extent to which performance is

enhanced by the inclusion of multiple perspectives, backgrounds, and skills, diverse teams should outperform homogeneous ones (Williams & O'Reilly, 1998).

Scholars have identified various moderating factors (i.e., beliefs about diversity, shared objectives, transformational leadership) which prompt diversity to lead to either more positive or more negative outcomes (e.g., Kunze & Bruch, 2010; Meyer, Shemla, & Schermuly, 2011; Pearsall, Ellis, & Evans, 2008; van Knippenberg, Dawson, West, & Homan, 2011). These moderating factors can be utilized by practitioners to effectively manage the "double-edged sword" of diversity described by traditional frameworks and reap diversity's potential benefits (Carter & Phillips, 2017).

Limitations to an Additive View of Diversity

Although existing frameworks for diversity's effects provide enough flexibility to predict both positive and negative outcomes that stem from diversity—particularly with the identification of key moderating factors—these theoretical frameworks have become increasingly insufficient in explaining additional ways that homogenous and diverse groups differ in their decision-making processes. Indeed, more recent findings from the diversity literature in which researchers use case-based decision-making exercises that hold access to task-related information constant, show that individuals in homogeneous and diverse groups often process available information differently. For example, in decision-making teams, individuals are less confident expressing dissenting views and engage in shorter discussions when in homogeneous groups compared to diverse ones (Phillips & Loyd, 2006; Phillips, Northcraft, & Neale, 2006; Toosi, Sommers, & Ambady, 2012). Individuals in homogeneous groups also discuss less accurate information and make more errors than do individuals in diverse groups (e.g., Sommers, 2006).

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These types of outcomes cannot be attributed to quantitative differences in access to information due to the research methodology used in which groups are given a standardized set of case facts in order to reach a group decision. Instead, these findings suggest that individuals might have a different cognitive orientation towards identical information when they are in homogeneous and diverse groups. For example, in direct contradiction to the idea that group performance is only enhanced by diversity when minority-group members bring unique information to the table, both majority- and minority- group members are more accurate and thorough when in diverse rather than homogeneous groups (Sommers, 2006; Sommers, Warp, & Mahoney, 2008). Indeed, even in *anticipation* of working within a diverse versus homogenous group, individuals process information more thoroughly (Loyd, Wang, Phillips, & Lount 2013; Sommers et al., 2008). Furthermore, these types of qualitative differences between homogeneous and diverse groups have been found when group composition is based upon both task-relevant (i.e., functional background) as well as task-irrelevant (i.e., campus residence) social category dimensions. This suggests that the information-processing discrepancies between homogeneous and diverse groups cannot be solely attributed to differences in task knowledge.

As purely additive views of diversity cannot account for these types of findings in which individuals in homogeneous groups show less thorough information processing than those in diverse groups when making decisions, scholars have reasoned that these qualitative differences can instead be attributed to different *expectations* about how information is distributed among group members. More specifically, because individuals assume greater interpersonal similarity to those who belong to their in-group compared to those from an out-group due to social categorization processes, they are not only more attracted to in-group members, but also expect these individuals to have similar task-relevant knowledge and perspectives. In diverse teams,

individuals instead anticipate differences in perspectives between group members. Even if these expectations of difference do not align with the actual distribution of information that is present within the group, they may still minimize pressures to conform, as well as legitimize the expression of dissenting perspectives, the consideration of alternatives, and thorough information elaboration in diverse relative to homogeneous groups (Phillips & Loyd, 2006; Phillips et al., 2006).

I build upon this reasoning to suggest that a group's composition may shape how individuals construe the group itself—either more abstractly as a group or more concretely as individuals. I argue that differences in construal that emerge in homogeneous and diverse groups will not only shape expectations of interpersonal similarity of knowledge and perspectives within the group, but will also influence how information is communicated between members, as well as individuals' cognitive frame for interpreting and acting upon that information. By drawing upon the tenets of construal level theory, gestalt processing, and cultural frameworks of self-construal, in addition to traditional frameworks for diversity, I put forward a more comprehensive model of how homogeneity and diversity shapes information processing within decision-making groups.

Construal Level and Gestalt Processing

Construal level theory describes the way individuals form mental representations at either a more abstract or more concrete level (Trope & Liberman, 2003; 2010). At a more abstract level of construal, individuals see "the forest"—paying more attention to the gestalt, processing information more globally, and making broader categorizations. At a more concrete level of construal, individuals instead see "the trees"—attending more to subordinate features, processing information more locally, and making more narrow categorizations. Individuals can construe a

variety of targets at a more abstract or more concrete level of construal, with the particular content of their mental representation depending on the object. When considering behaviors, for instance, individuals can construe more abstractly, focusing on the underlying purpose for an action (i.e., the *why*), or more concretely, focusing instead on the means used to achieve an action (i.e., the *how*), (Vallacher & Wegner, 1989). As an example, a graduate student could construe attending an academic conference more abstractly in terms of a superordinate goal, "learning about new research" or more concretely in terms of a subordinate goal, "booking a hotel room near the convention center" (Förster, Friedman, & Liberman, 2004).

Objects can also be construed more abstractly or more concretely by focusing on their central, holistic properties or their specific, idiosyncratic features. For example, a piece of pie can be construed more abstractly as "dessert"—a category it belongs to—or more concretely as "a homemade blueberry pie with a lattice crust"—highlighting its individual features instead (Soderberg, Callahan, Kochersberger, Amit, & Ledgerwood, 2015). Similarly, one could view a map more abstractly by attending to the global shape of a landmass or more concretely by focusing on local details within the geographic area (Förster, Liberman, & Kuschel, 2008). Individuals' construal level can also shape the type of information they find more or less important when making decisions. At a more abstract level of construal, individuals value a globalized view of information—placing greater weight on aggregated information such as statistical averages and base rates. At a more concrete level of construal, individuals instead value a localized approach and are more influenced by individualized information, such as anecdotes and testimonials (Ledgerwood, Wakslak, & Wang, 2010).

Importantly within the context of groups and teams, social targets can also be construed more abstractly or concretely. McCrea, Wieber, and Myers (2012) find, for instance, that priming

a more abstract construal leads individuals to represent social targets in terms of their group memberships (rather than as individuals), make person judgments that are more stereotype-consistent (rather than individuating), and even report greater identification with their own group memberships. Individuals also pay less attention to details that individuate people from one another and perceive greater homogeneity both within and across social categories when construing more abstractly versus concretely (Levy, Freitas, & Salovey, 2002). This greater perception of homogeneity is driven by a greater focus on interpersonal similarity when processing at a more abstract versus concrete level of construal.

Gestalt theorists have long considered similarity—along with proximity and shared fate—as an important predictor for when grouping occurs in perceptual processing (Rock & Palmer, 1990). More specifically, when objects that are close in proximity with one another and have a shared fate are more similar, they are more likely to be perceived as a unitary whole (a more abstract construal) rather than as discrete components (a more concrete construal). This is also consistent with demonstrated links between construal level and cognitive processes of assimilation and contrast. For example, when individuals engage in global (more abstract) processing, they are more likely to assimilate targets to one another, finding their similarity, and include them within a single category. On the other hand, when individuals engage in local (more concrete) processing, they instead contrast targets away from one another, noting their differences and placing them within distinct categories (Förster et al., 2008).

Given the importance of construal level for how individuals represent actions, non-animate objects, information, and social targets, what causes individuals to construe more abstractly versus more concretely? Construal level theory primarily focuses on psychological distance as a precursor to construal level. When objects are more distant in time, space,

likelihood, and are more distant socially, they are construed more abstractly, whereas more proximal objects are construed more concretely (Trope & Liberman, 2003; 2010). Importantly, there is a bidirectional relationship between antecedents and consequences of construal level. As one example of this bidirectional relationship, priming higher power (greater social distance) predicts a more abstract processing style (Smith & Trope, 2006) just as priming more abstract thought leads individuals to feel a higher sense of power (Smith, Wigboldus, & Dijksterhuis, 2008). In addition to distance, other cognitive outcomes of construing at a more abstract versus at a more concrete level may also serve as primes of construal level. In the context of decision-making groups, I argue that a focus on interpersonal similarity versus interpersonal difference can prime a more abstract versus more concrete construal level among group members.

When construal level is primed in one domain, there are spillover effects for individuals' cognitive processes in subsequent domains. For example, Förster and colleagues (2008) instructed individuals to visually inspect a map in a more global or more local manner. Those primed to process globally (more abstractly), later exhibited greater assimilation on an unrelated task—judging a person to be more similar to an unrelated target—whereas those primed to process locally (more concretely) showed more contrasting in their person judgements. Building on these basic tenets, in the sections below, I outline how a group's composition likely influences whether group members construe the group more abstractly versus more concretely, and as a result, shapes how information is communicated and understood within decision-making groups.

Construal Level and Group Entitativity

Building on principles from construal level theory, gestalt processing, and person perception, I propose that homogeneous groups will be perceived more abstractly by its members

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relative to diverse groups. Recent research within the person perception literature demonstrates that individuals are able to quickly and accurately make assessments of cross-person variation along salient dimensions, which inform their judgements of homogeneity and diversity when viewing collections of individuals (Phillips, Slepian, & Hughes, 2018). When there is greater interpersonal similarity between individuals along a salient dimension, the collective is more likely to be perceived abstractly as a group rather than concretely as individuals. Furthermore, more abstract processing of social targets enhances perceptions of entitativity or "groupness". When collectives are perceived as having higher entitativity, perceivers will also assume more internal consistency, uniformity, and connectedness between the group's constituent parts (Hamilton & Sherman, 1996).

While these processes have been demonstrated in the domain of *external* person perception, I believe the same processes may take place for how group members construe themselves and the decision-making groups that they are in. Within this context, expectations of internal consistency and uniformity (greater entitativity) will likely manifest as assumptions of more interpersonal similarity between group members. These assumed similarities could be task-relevant such as opinions and perspectives regarding the group's decision or could reflect assumptions of similarity along task-irrelevant beliefs and preferences as well (Allen & Wilder, 1975; 1979). This reasoning is consistent with social categorization and identification theory whereby individuals maximize in-group and out-group differences such that in-group members are perceived as more similar to the self and out-group members are perceived as more different to the self (Hogg & Abrams, 1988; Turner, 1982; Tajfel, 1981; Turner, 1987). Furthermore, perceptions of entitativity and interpersonal similarity that stem from more abstract versus more concrete construal level should also influence group members' social motivations within the

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group. Due to forces of similarity-attraction (Byrne 1969, 1971), individuals in homogeneous groups will be more motivated to form interpersonal connections with their group members relative to individuals in diverse groups. Indeed, I assume that members of homogeneous groups will perceive greater interpersonal similarity within their group and will have greater motivations to form positive relationships with one another relative to members of diverse groups, as has been demonstrated in previous research (e.g., Loyd et al., 2013; Phillips, 2006; Phillips et al., 2006). However, within the current theoretical framework, I propose the following which has not been previously hypothesized:

> **Proposition 1:** Homogeneity's positive influence on perceptions of similarity will be driven in part by more abstract (versus concrete) construal level in homogeneous relative to diverse groups.

> **Proposition 2:** Homogeneity's positive influence on motivations to form positive relationships will be driven in part by more abstract (versus concrete) construal level in homogeneous relative to diverse groups.

Construal Level and Communication Norms

In addition to shaping how group members perceive and relate to one another, construing a group more abstractly versus more concretely may also shape norms for behavior and communication within the group as well. According to cultural frameworks of self-construal, the way individuals construe themselves and their relationships to others, shapes norms for "how to be and behave" within social settings (e.g., Markus and Kitayama, 1991, Triandis, 1980, Triandis, 1989). Likewise, I argue that the way group members construe their decision-making group—either more abstractly or more concretely—will shape communication norms within the group. Indeed, as argued and demonstrated by scholars in cultural psychology, when individuals have a more independent construal of the self, seeing themselves as more distinct from others, they are more motivated to express their unique characteristics, dispositions, and preferences.

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When individuals have a more interdependent construal of the self, seeing themselves as more connected to others, they are instead more motivated to maintain harmony within the group through assimilation and conformity (Markus & Kitayama, 1991).

While independent versus interdependent construals of the self, as discussed in the cultural psychology literature, emerge within a given national and historical context, a similar process may occur on a smaller scale in decision-making groups stemming from individuals' more abstract versus more concrete construal of the group. Viewing one's decision-making group more abstractly as a unitary gestalt in homogeneous groups whereby individuals are more connected to others (akin to a more interdependent view of the self), may also enhance goals of establishing positive interpersonal relationships, pursuing agreement, and seeking additional similarities in beliefs and perspectives due to heightened group entitativity as previously described. A more concrete construal of one's decision-making group as a set of discrete individuals in diverse groups (akin to a more independent view of the self) may not only lead group members to expect more interpersonal differences, but may also enhance group members' motivations to express their unique perspectives and individual viewpoints.

This reasoning that the way groups are construed—either more abstractly or concretely— can influence norms of communication is consistent with empirical findings in the groups and teams literature. For example, individuals not only perceive greater differences in task knowledge when they are in diverse relative to homogeneous groups, but they are also more likely to voice dissenting opinions when in diverse groups (Phillips & Loyd, 2006; Phillips et al., 2006). Importantly, these differences occur for both group members in diverse groups who are in the social category majority as well as minority, suggesting that diversity may diminish perceived entitativity and pressures to conform for all group members. Building on this previous

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research, I assume that members of homogeneous groups will be less willing to express their

unique perspectives relative to members of diverse groups. However, within the current

theoretical framework, I propose the following:

> **Proposition 3:** Homogeneity's negative influence on willingness to express unique
> perspectives will be driven in part by more abstract (versus concrete) construal level in
> homogeneous relative to diverse groups.

Construing one's group more abstractly versus more concretely may not only shape

willingness to express *unique* perspectives, but may also influence group members' contributions

to the group in general. More specifically, when members construe their decision-making group

more abstractly as a group (versus more concretely as individuals), they may also feel less

personally responsible for contributing to group processes. Indeed, social loafing whereby

individuals put in less effort in groups than when working alone, can be explained in part due to

processes of deindividuation whereby members feel less differentiated from those around them

or "less like individuals" (Diener, 1977; Guerin, 1983; 1999; 2003; Ziller, 1964). Similarly,

diffusion of responsibility is more likely to occur when individuals feel "submerged in the

group" (Festinger, Pepitone, & Newcomb, 1952).

In the group decision-making context, a more concrete construal of the group may lead

members to contribute more during group discussions relative to a more abstract construal of the

group. If all group members are motivated to make more individual contributions, we might also

expect that there will be a more equal distribution of contributions between group members in

groups that are construed more concretely versus more abstractly. Toosi and colleagues (2012)

find more equal participation between men and women during group discussions in racially

diverse groups compared to in racially homogeneous groups. Utilizing the current reasoning, it

could be the case that a more concrete construal of the group as discrete individuals in diverse

groups (relative to homogeneous groups) led to more equality between individual contributions. Consistent with this view, I propose the following:

Proposition 4a: Homogeneous groups will have a less equal distribution of individual contributions between group members relative to diverse groups.

Proposition 4b: Homogeneity's negative influence on the equal distribution of individual contributions will be driven in part by more abstract (versus concrete) construal level in homogeneous relative to diverse groups.

Construal Level and Additional Task-relevant Cognitions

It is worth noting that some of the earlier proposed relationships between group composition and perceptions of interpersonal similarity (Proposition 1), motivations to form relationships (Proposition 2), and voicing unique perspectives (Proposition 3) build on findings that have already been demonstrated empirically within decision-making groups (e.g., Loyd et al., 2013; Phillips, 2006; Phillips et al., 2006). However, to date, these findings have not been attributed to differences in construal level between homogeneous and diverse groups. Furthermore, by utilizing construal level theory in the group decision-making context, we can make additional predictions for how homogeneous and diverse groups process information. Indeed, group members' more abstract versus more concrete construal of their decision-making group may shape additional task-relevant cognitions.

Detail-orientation. Due to spillover effects whereby individuals' construal level in one domain transfers to cognitive processing in subsequent domains, we can expect that a more abstract (versus concrete) construal in homogeneous (versus diverse) groups will not only have implications for how individuals perceive and communicate within their decision-making groups, but will also influence their construal of other targets. For one, more abstract construals are associated with a focus on broad patterns while more concrete construals involve greater attention to details. Likewise, individuals are more influenced by aggregated information (i.e.,

statistical averages) at more abstract levels of construal and instead base decisions more on

individualized information (i.e., anecdotes) when construing at a more concrete level

(Ledgerwood et al., 2010). Construal level in decision-making groups may influence how group

members approach tasks and task-relevant information accordingly. For example, at a more

abstract construal level, group members may generalize across pieces of information,

assimilating them together, whereas at a more concrete construal level, group members may

instead engage in contrastive processes, considering each piece of information with equal weight.

Empirical findings within the groups and teams diversity literature showing differences between

how homogeneous and diverse groups are consistent with these consequences of processing at

different levels of construal level.

For example, Sommers (2006) employed a mock jury simulation in order to examine how

individuals reach decisions in racially homogeneous or diverse groups. In this study, participants

viewed identical case information before deliberating together to reach a group verdict.

Interestingly, in homogeneous groups, individuals discussed less accurate case information, and

were less likely to consider missing evidence compared to individuals in diverse groups.

Importantly, for this study, accuracy was reflected as the degree to which group members

correctly cited specific case details, or within the current framework, had a more concrete versus

abstract understanding of case facts. Likewise, construal level researchers have demonstrated

that tasks that require detecting missing details (conceptually similar to considering missing

evidence) are supported by more concrete construals (Wakslak, Trope, Liberman, & Alony,

2006). Accordingly, I propose the following:

> **Proposition 5a:** Members of homogeneous groups will attend to task-relevant
> information in a less thorough and detail-oriented manner relative to members of diverse
> groups.

Proposition 5b: Homogeneity's negative influence on thoroughness and detail-orientation will be driven by more abstract (versus concrete) construal level in homogeneous relative to diverse groups.

Desirability Versus Feasibility Concerns. When construing at a more abstract level of construal, individuals are also more likely to consider the desirability of actions, whereas individuals are more likely to consider the feasibility of actions at a more concrete level of construal. These differences may also emerge in decision-making groups in ways that correspond with groups' composition. In fact, previous literature suggests that this may be the case. McLeod, Lobel, & Cox (1996), for example, gave racially homogeneous and diverse groups "The Tourist Problem" brainstorming task. Within this task, groups are asked to spend 15 minutes generating as many ideas as possible to get more tourists to visit the United States. Importantly, homogeneous groups were thought to have just as much task-relevant perspectives as those in diverse groups. However, when the groups' ideas were judged in terms of their feasibility or the extent to which the ideas could be carried out given the constraints of reality, homogeneous groups' ideas were judged to be of worse quality relative to the ideas generated by diverse groups. In a similar study, Triandis, Hall, and Ewen (1965) asked groups who were either homogeneous or diverse in terms of their ideological attitudes on a range of social issues to write a solution to a given social problem (e.g., how to reduce unemployment in the United States). Consistent with proposed differences in construal level between the two types of groups, the authors found that when groups knew of their ideological homogeneity or diversity, homogeneous groups produced less practical solutions compared to diverse groups. As a result, I propose the following:

Proposition 6a: When completing tasks, members of homogeneous groups will have greater desirability concerns and less feasibility concerns relative to members of diverse groups.

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Proposition 6b: Homogeneity's positive influence on desirability concerns and negative influence on feasibility concerns will be driven by more abstract (versus concrete) construal level in homogeneous relative to diverse groups.

Temporal Foci. Construal level also influences how individuals consider time. Individuals use more abstract construals to represent temporally distant objects and more concrete construals to represent objects that are temporally close. Furthermore, priming a more abstract construal leads individuals to think of the distant future while priming a more concrete construal leads individuals to think more of the present (Trope & Liberman, 2010). To the extent that group composition primes construal as discussed previously, decision-making groups' temporal foci may be similarly impacted by construal level when processing information. More specifically, I propose the following:

Proposition 7a: Homogeneous groups will focus more on the distant future and less on the present relative to diverse groups.

Proposition 7b: Homogeneity's influence on temporal foci will be driven by more abstract (versus concrete) construal level in homogeneous relative to diverse groups.

Abstraction and Concreteness in Natural Language. Finally, in addition to shaping *how* information is expressed during group interaction as described in the previous section, we may also expect that construal level will inform *the content* of groups' communication. Indeed, more abstract (versus concrete) construal level corresponds to more abstract (versus concrete) language. Semin and Fiedler (1988) demonstrate, for instance, that parts of speech vary in their level of abstraction. As one example, action verbs are relatively more concrete as they refer to a specific activity with a clear beginning and end while adjectives are relatively more abstract as they describe enduring qualities that remain consistent over time. If homogeneous and diverse teams vary in their construal level, the linguistic content within group interactions may also differ. As a result, I propose the following:

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Proposition 8a: Homogeneous groups will communicate using more abstract (less concrete) language relative to diverse groups.

Proposition 8b: Homogeneity's influence on the use of abstract (versus concrete) language will be driven by more abstract (versus concrete) construal level in homogeneous relative to diverse groups.

Implications for Performance and Accuracy in Decision-Making Groups

I have argued that differences in information-processing between homogeneous and diverse groups may be due to differences in construal level that emerge within these groups. More specifically, I posit that a group's composition shapes whether members construe the group more abstractly or concretely which in turn will influence expectations of interpersonal similarity, goals of establishing interpersonal connection, communication norms, as well as other task-relevant cognitions. According to this framework, in diverse (relative to homogeneous) groups, individuals will construe the group more concretely—as discrete individuals—which will diminish perceptions of group entitativity, increase individual contributions, and lead individuals to approach tasks in a more thorough, detailed manner. I argue that the culmination of these processes will shape groups' decision-making performance.

In the literature that I have reviewed thus far, individuals in homogeneous groups are often shown to be less thorough and accurate in their decision-making processes, and as a result, often have worse performance compared to those in diverse groups (e.g., Loyd et al., 2013; Phillips et al., 2006). However, when making predictions of relative performance between homogeneous and diverse groups that stem from construal level, it is important to consider the type of task groups must complete, as well as other contextual factors. For example, the majority of decision-making tasks used to assess groups and teams within the diversity literature in which task-relevant information is held constant, performance appears to be aided by more concrete processing. The consideration of specific case facts in studies by Sommers and colleagues (2006;

2008), for instance, require individuals to pay close attention to details rather than on identifying broad patterns. Likewise, in the hidden-profile decision-making tasks utilized by Phillips and Loyd (2006) as well as others, there is both shared and uniquely held information among group members, and performance is enhanced by uncovering and giving equal weight to individualized information, rather than aggregating across similarly held information. In other words, performing well on these types of decision-making task seem to require individuals to use more concrete construals and less abstract construals.

As a result, we should not expect diverse groups to always outperform homogeneous ones due to their more concrete level of construal. Instead, we should only expect this pattern when tasks require more concrete cognition. Following this reasoning, homogeneous groups may in fact perform better than diverse groups on tasks that require more abstract construal level such as identifying patterns or trends (Wakslak et al., 2006). Abstraction can also aid decision-making performance when individuals are overloaded by information and can benefit from gist-based memory (Fukukura, Ferguson, & Fujita, 2013). It could be the case then, that homogeneous groups will perform better on these types of tasks compared to diverse groups. Furthermore, detailed, thorough information processing may be harmful for decision-making when time is limited and there is high decision urgency. In these conditions, consensus building (and a more abstract construal sparked by homogeneity) may be needed instead (DeDreu, Nijstad, & van Knippenberg, 2008). With this in mind, I propose the following:

Proposition 9a: Homogeneous groups will performance worse than diverse groups on decision tasks that require more concrete processing.

Proposition 9b: Homogeneity's negative influence on decision-making performance on tasks that require more concrete processing will be driven by more abstract (versus concrete) construal level in homogeneous relative to diverse groups.

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Related Theoretical Frameworks

The current theoretical framework proposed here has meaningful similarities and differences to existing conceptions of the effects of group composition on information processing. As previously discussed, when used alone, traditional frameworks of diversity (social categorization, identification, and similarity-attraction) can only account for differences in information processing between homogeneous and diverse groups to the extent that these groups have different access to task-relevant information or experience different levels of interpersonal conflict when working amongst group members. By focusing on what diversity *adds* to groups, these conceptions predict that diversity will enhance performance when members bring unique backgrounds and perspectives that can be applied to a given task.

The current conception of group composition focuses instead on *qualitative* differences in how diverse and homogeneous groups process *identical* task-relevant information. I propose that how group members construe their group will influence how they process information within it. Importantly, however, processes of social categorization, identification, and similarity-attraction are integral to how this construal forms. Because individuals maximize intergroup distinctions in order to maintain a positive self-view, they will perceive individuals within homogeneous groups to be more similar and interconnected while those within diverse groups will be seen as more distinct. As similarity is a strong basis for visual and conceptual grouping, individuals in homogeneous (versus diverse) groups should have a more abstract (versus concrete) construal of their group, and this difference in cognitive orientation will go on to shape information processing.

The current theoretical framework is also distinct from previous conceptions of diversity that argue that diversity shapes information processing primarily by changing expectations of

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similarity and difference in task-relevant perspectives (e.g., Phillips & Loyd, 2006; Phillips et al., 2006). While the current framework is built upon and incorporates these ideas, by utilizing cultural conceptions of self-construal as well as core components of construal level theory and gestalt processing, I also make predictions for how different communication norms may emerge within homogeneous and diverse groups, as well as how group members' construal of the group may have spillover effects for additional task-relevant cognitions. For example, individuals in diverse groups may not only voice more dissenting perspectives because they expect more interpersonal differences in opinion relative to when in homogeneous groups, but this may also occur due to heightened motivations to express their unique viewpoints and norms of more equal contribution when group members construe the group more concretely as discrete individuals. In addition, construing the group more abstractly or concretely will likely lead group members to construe decision tasks themselves as well as process task-relevant information in a more abstract or concrete manner. This may manifest in groups' desirability vs feasibility concerns, focus on the present or distant future, as well as through linguistic markers of abstraction and concreteness.

It is also worth comparing and contrasting the current theoretical framework to that of self-verification. According to self-verification theorists, when diverse group interactions are positive, diversity enhances the individuation of group members, allowing individuals to behave more authentically, engage in more interpersonal learning, and as a result, group members have more accurate views of one another (Swann, Kwan, Polzer, & Milton, 2003). The authors argue and find that when group members see each other the way that they view themselves (reaching higher levels of self-verification), members of diverse groups are better able to apply the unique backgrounds and knowledge that they bring to a task which will enhance performance.

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Importantly, the current framework for understanding the effects of group composition, like self-verification theory, posits that diverse groups benefit from processes of individuation between group members. However, the two frameworks differ in at least two ways. First, and most importantly, self-verification theory still reflects a primarily additive view of diversity whereby diversity enhances performance by bringing in additional perspectives, backgrounds, and skills. To the extent that group members know each other accurately, they will be better able to take advantage of these differences.

In addition, self-verification as a construct is used primarily as a moderating factor for predicting when diverse teams will be more or less effective. From this view then, within diverse groups, members can either be individuated or seen in terms of their group memberships. Swann and colleagues (2003) argue that it is only when group interactions are positive that group members see each other more as individuals rather than as members of their respective group categories. When this individuation occurs, group members are motivated to learn about each other's unique characteristics. In the current theoretical framework, however, predictions for how groups are construed (either more abstractly or concretely) are always based on relative comparisons between groups that vary in their composition. As a result, diverse groups are thought to be construed *relatively* more concretely (more as individuals) and homogeneous groups construed *relatively* more abstractly (more as a group). Notably within the current framework, predictions of relative construal level between homogeneous and diverse groups are based upon differences in interpersonal variation in these groups along a salient social category dimension. The current framework does not take into account the associated content of these social category differences (i.e., status, power, stereotypes). Indeed, in order to test the relationships proposed, the studies conducted in the remaining chapters seek are designed to

eliminate status differences between group members within homogeneous and diverse groups, so that social distance does not exert an additional influence on group decision-making processes. However, despite these weaknesses, the proposed framework has notable strengths as it is able account for a wide range of cognitions that shape information processing in homogeneous and diverse groups that existing conceptualizations of diversity are unable to explain.

Theoretical and Practical Contributions

Drawing upon the tenets of construal level theory, gestalt processing, person perception and cultural frameworks of self-construal, I argue that group composition shapes group members' construal level—giving way to a broad constellation of cognitive processes that shape how individuals construe the group, communicate with one another, and approach the task and task-relevant information. Together, these consequences of construal level that stem from group composition shape how information is processed with homogeneous and diverse decision-making groups.

Utilizing the current framework not only helps to explain current empirical findings that cannot be accounted for by additive views of diversity alone, but is also theoretically and practically worthwhile as construal level has been shown to relate to a wide host of organizationally relevant psychological outcomes that may be of interest to both scholars and practitioners (Wiesenfeld, Reyt, Brockner, & Trope, 2017). These outcomes include promotion versus prevention focus (Förster & Higgins, 2005), communication style (Palmeira, 2015), risk perception and risk-taking behavior (Lermer, Streicher, Sachs, Raue, & Frey, 2016; Raue, Streicher, Lermer, & Frey, 2015), probability judgments (Wakslak & Trope, 2009), and advice-taking (Reyt, Wiesenfeld, & Trope, 2016), among others. Indeed, establishing differences in construal between homogeneous and diverse groups may lay the groundwork for predicting

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additional ways that homogeneous and diverse groups differ. In addition, integrating cognitive frameworks such as construal level theory and gestalt processing into the diversity literature on groups and teams provides novel avenues for intervention (i.e., priming more abstract versus concrete construals) in order to enhance group functioning for both homogeneous and diverse teams.

Remaining Chapters

In the next two chapters of the dissertation, I begin to test some of the propositions outlined for how group composition may shape information processing within decision-making groups due to differences in construal level. In Chapter 2, I assess relationships between group composition, construal level, group entitativity, and detail-orientation in decision-making groups. More specifically, I focus on a particular finding within the groups and teams literature— homogeneous groups have a greater relationship focus to the detriment of thorough information processing relative to diverse groups (Loyd et al., 2013)—and test whether I can replicate or negate these findings by priming different levels of construal. In Chapter 3, I attempt to replicate findings from Chapter 2 and also test additional theoretical propositions from my proposed framework regarding the relationships between group composition, construal level, and communication norms, as well as examine additional indicators of construal level in decision-making groups through exploratory linguistic analysis. I conclude the dissertation by comparing studies in Chapter 2 and 3, discussing practical challenges to studying group decision-making, and outlining future directions for applying the proposed theoretical framework to understand information processing in homogeneous and diverse groups.

CHAPTER 2: EXAMINING THE MODERATING IMPACT OF CONSTRUAL LEVEL ON RELATIONSHIP FOCUS AND DISCUSSION THOROUGNESS IN HOMOGENEOUS AND DIVERSE GROUPS

With an increasingly diverse workforce and modern organizations' reliance on teams to meet various organizational goals, managers are likely to wonder how best to manage diversity so that employees can effectively work together and capitalize on differences in background, perspectives, and skillsets to solve complex problems and make quality decisions (Galinsky et al., 2015). Indeed, the examination of diversity's influence on relational and performance outcomes along with best practices has dominated empirical research on groups and teams within the last two decades (Carter & Phillips, 2017; Williams & O'Reilly, 1998).

However, this primary focus on *diversity's* effects, along with the implicit assumption that homogeneity acts as a desirable baseline for group functioning, has been unnecessarily one-sided—obscuring important ways that *homogeneity* shapes group processes both for the better and for the worse (Phillips & Apfelbaum, 2012). In the case of the latter, researchers have recently shown that homogeneity's tendency to bring people together and foster social cohesion directly interferes with group members' ability to thoroughly consider information in decision-making contexts (Loyd, Wang, Phillips, & Lount, 2013). More specifically, individuals' heightened goals of establishing positive relationships in homogeneous (versus diverse) groups diminishes how effectively individual group members process information as well as the accuracy of groups' decisions.

Loyd and colleagues (2013) put forth a largely motivational and expectations-based account for these findings: When individuals are in homogeneous (versus diverse) groups they place greater emphasis on forming social connections with, and expect fewer disagreements

between, group members. As a result, individuals in homogeneous groups put in less effort towards processing task-relevant information. Building on this work, the current paper identifies an additional, *cognitive* mechanism for these outcomes and tests a novel intervention approach for improving information processing in homogeneous teams.

Drawing from construal level theory (Trope & Liberman, 2010), models of gestalt processing, and previous findings from the groups and teams literature, I propose that individuals in homogeneous groups have a more abstract cognitive orientation while individuals in diverse groups have a more concrete cognitive orientation. These differences in construal level between homogeneous and diverse groups influence group members' goals for forming social connection as well as the nature of information processing that occurs within decision-making groups. In support of this view, I find in a sample of executives that relative to diverse groups, homogeneous groups prioritize establishing positive relationships to the detriment of thorough information processing when construing more abstractly. However, social pressures are diminished and thorough information processing is enhanced to levels more commensurate of diverse groups when homogeneous groups instead adopt a more concrete construal. Before presenting this study in detail, I briefly outline theoretical arguments for the hypothesized relationships between group composition, construal level, and group decision-making processes.

Theoretical Development

Construing Objects More Abstractly Versus Concretely

According to construal level theory, individuals can construe, or mentally represent, objects either more abstractly or more concretely (Trope & Liberman, 2010). At a more abstract construal level, individuals see "the forest" or gestalt, focusing on broad patterns that adhere objects together. At a more concrete construal level, individuals see "the trees" or constituent

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parts, honing in on specific features that distinguish objects from one another instead. Different levels of construal can be applied to a variety of objects, but importantly for the group decision-making context, social targets (i.e., people) can also be construed more abstractly versus more concretely.

For example, McCrea, Wieber, and Myers (2012) find that when individuals are primed with a more abstract construal, they view social targets more broadly—as members of a group—while a more concrete construal leads individuals to view social targets more narrowly—as individuals. Furthermore, abstract and concrete construals not only shape how individuals view others, but also how they perceive themselves. At a more abstract construal level, individuals identify more with their membership to a salient social category and also rate themselves as having traits more consistent with this group identity (McCrea et al., 2012). Likewise, Levy, Freitas, & Salovey (2002) find that individuals who construe more abstractly (versus concretely) are more likely to perceive interpersonal similarities between various social targets and group them together.

I argue that individuals can also construe decision-making groups they are in more abstractly or more concretely. Construal level theory primarily focuses on psychological distance as a predictor for when individuals will construe objects more abstractly versus more concretely, with more abstract construals used to represent more distal objects and more concrete construals used to represent more proximal objects. However, theories of gestalt processing provide additional insight for when objects are likely to be grouped together (construed more abstractly) or seen as discrete objects (construed more concretely) that is useful for making predictions within the group decision-making context.

According to Gestalt principles of perceptual organization, the basis for construing objects as belonging to a single group versus as separate objects depends on the degree to which objects are proximate to one another, share a common fate, and have similar features (Campbell, 1958). Within decision-making groups working together on a single task, proximity and shared fate between members are likely consistent across groups. However, perceived similarity between group members should vary depending on groups' composition. With greater interpersonal similarity along a salient category dimension, homogeneous groups should then be perceived more abstractly "as a group" by group members compared to diverse groups (with greater interpersonal variance) which should instead be perceived more concretely "as individuals".

Implications for Group Decision-Making Processes

Opinion Similarity. Perceiving homogeneous groups relatively more abstractly and diverse groups relatively more concretely will likely impact additional cognitions about the group. When individuals construe social targets as a group (rather than as individuals), they assume there is unity, coherence, and consistency between group members (Hamilton & Sherman, 1996). In the context of decision-making groups, this is likely to map onto expectations of opinion similarity and difference. If individuals in homogeneous groups have a more abstract construal of the group compared to individuals group perceptions in diverse groups, they should also assume greater overlap in opinions between group members. A more concrete construal of the group should diminish these assumptions of similarity. As a result, I hypothesize the following:

> **Hypothesis 1 (H1):** Under conditions of abstract construal, individuals in homogeneous groups will expect greater opinion similarity between group members compared to individuals in diverse groups. Under conditions of concrete construal, this difference will be diminished.

Relationship Focus. Greater perceptions of interpersonal similarity stemming from a more abstract construal (e.g., Levy et al., 2002) in homogeneous relative to diverse groups should also influence group members' goals for relating to one another during group interactions. According to the similarity-attraction principle, interpersonal similarity provides individuals with positive reinforcement for their own traits which leads individuals to seek out and establish positive relationships with more similar others (Byrne, 1969, 1971). This tendency in homogeneous groups should be reduced, however, if group members instead construe on a more abstract level. Hence, I make the following hypothesis:

> **Hypothesis 2 (H2):** Under conditions of abstract construal, individuals in homogeneous groups will have a greater relationship focus compared to individuals in diverse groups. Under conditions of concrete construal, this difference will be diminished.

Information Processing. More abstract (versus concrete) construal level in homogeneous (versus diverse) groups should also shape how information is processed within decision-making groups. Indeed, construal level primed in one domain has been shown to have spillover effects for how individuals construe in subsequent domains (e.g., McCrea et al., 2012). In other words, construing the group more abstractly or more concretely will lead group members to also apply different levels of construal to task-relevant information. At a more abstract level of construal, individuals extract the general gist of information while at a more concrete level of construal, individuals instead process information in a more detailed and thorough manner (Förster, Friedman, & Liberman, 2004; Trope & Liberman, 2003; 2010). Likewise, when processing more abstractly, individuals engage in assimilative processes whereby they consider information in aggregate form, averaging across distinct inputs. Individuals with a more concrete construal level, engage in more contrastive processes instead in which they are more likely to consider individualized information, retaining their distinct

features (Ledgerwood, Wakslak, & Wang, 2010). If individuals' tendency to process information

less thoroughly (e.g., Loyd et al., 2013) in homogenous groups than in diverse groups is driven

by a more abstract construal level, priming a more concrete construal level should minimize this

difference. With this reasoning, I hypothesize:

> **Hypothesis 3 (H3):** Under conditions of abstract construal, individuals in homogeneous
> groups will exhibit less thorough information processing compared to individuals in
> diverse groups. Under conditions of concrete construal, this difference will be
> diminished.

Influence of Relationship Focus on Information Processing. Previous research by

Loyd and colleagues (2013) demonstrates that group members' relationship focus directly and

negatively impacts how thoroughly members process information prior to group interaction.

Indeed, relationship focus mediated the relationship between group composition and thorough

information processing in their study. Although I predict that group composition and construal

level will have direct impacts on information processing independent of relationship focus as

described in Hypothesis 3, I expect to conceptually replicate these findings in the following

mediated moderation pattern:

> **Hypothesis 4 (H4):** The interactive effect between group composition and construal level
> on thorough information processing whereby individuals in homogeneous groups will
> exhibit less discussion thoroughness relative to individuals in diverse groups under
> conditions of abstract but not concrete construal (H3) will be mediated by relationship
> focus.

Performance. Loyd and colleagues (2013) also demonstrate that group decision-making

performance is bolstered to the extent that group members thoroughly process task-relevant

information. If individuals in homogeneous groups process information less thoroughly than

individuals in diverse groups due to a more abstract construal level, I hypothesize the following

performance effects:

Hypothesis 5 (H5): Under conditions of abstract construal, homogeneous groups will exhibit less decision accuracy compared to diverse groups. Under conditions of concrete construal, this difference in performance will be diminished.

Asymmetry in Receptivity to Construal Level Primes

There is an assumption of asymmetry between homogeneous and diverse groups' receptivity to construal level primes that is implied within the previous set of hypotheses. For instance, why wouldn't priming a more abstract level of construal lead individuals in homogeneous and diverse groups to be *equally* focused on building positive relationships or diminish discussion thoroughness to an equal degree in both homogeneous and diverse groups? I reason that movement from a more abstract level of construal to a more concrete level of construal may be easier for members of homogeneous groups than movement from a more concrete level of construal to a more abstract level of construal for members of diverse groups.

In other words, it is likely easier for members of homogeneous groups to perceive themselves as distinct individuals than it is for members of diverse groups to perceive themselves as a unitary group. I believe this to be the case because individuals always form the building blocks of groups whereas groups do not necessarily emerge from the presence of individuals. Although members of homogeneous groups are similar along a salient social category dimension, the basis to construe members more as individuals is always present. However, for members of diverse groups, the basis for construing a unitary group is made more difficult by the presence of salient social category differences. In order to construe their group more abstractly, members of diverse groups would instead have to generate a new, superordinate identity that all group members share. For these reasons, I expect that priming a more concrete construal level is more likely to lead members of homogeneous groups to act in ways more typical of members in

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diverse groups than priming a more abstract construal level will lead members of diverse groups to act similarly to members of homogeneous groups.

Current Study

Taken together, the current investigation aims to provide a cognitive mechanism for why individuals in homogeneous groups place greater emphasis on relationship building as well as exhibit less thorough information processing compared to individuals in diverse groups. More specifically, I examine whether these relationships occur due to more abstract construal level in homogeneous groups (relative to diverse groups) and test whether differences in relational and informational processing between homogeneous and diverse groups can be minimized when more a concrete construal level is primed. To test my hypotheses, I utilize an experimental paradigm examining relational and informational processes in decision-making groups within a classroom setting.

Method

Participants and Overview

One hundred eleven executives from non-profit firms completing a week-long executive education leadership program at a university in the Northeastern United States participated in the study. Participants were 66% female with an average age of 35 years ($SD = 6.84$). Full sample descriptives are displayed in Table 1.

The study was conducted as part of a class exercise that would provide insights about group decision-making processes. Participants first read through case materials about a murder investigation (for materials, see Stasser & Stewart, 1992) and made an individual assessment indicating who they believed committed the murder. Afterwards, participants were placed into groups of three or four to discuss the case together and come to a group decision on the most

likely murder suspect. Each group received an envelope which included instructions for the

decision-making activity as well as all questionnaires. Groups self-managed the completion of

the exercise, following the packet instructions with no additional guidance from the class

instructor except for updates on the remaining time for the activity. Groups had a total of forty-

five minutes to complete a pre-discussion activity and questionnaire, discuss the case, reach a

group decision, and complete a post-discussion questionnaire.

I employed a 2 (Group Composition: Homogeneous vs Diverse) X 2 (Construal Level:

Abstract vs Concrete) between-subjects design. As part of the executive education program,

executives were divided into program teams of six to eight people who they would complete

various learning exercises with throughout the leadership program. At the time of the study,

participants had gotten to know one person informally from their program team during a brief

program team meeting, but otherwise did not have privileged interaction time with their program

team members compared to other program participants. As a result, I used executives' program

team as a real and meaningful social category distinction to base group composition on within

the class context that was not confounded with familiarity. Homogeneous groups (17 total)

consisted of three to four people from the same program team while diverse groups (19 total)

always had one member who was from a different program team. Subsequent analysis confirmed

that individuals in homogeneous and diverse groups were equally familiar with the members of

their decision-making group ($p = .14$). There were 17 groups in the abstract construal condition

and 19 groups in the concrete construal condition.

Materials

Each participant was given a packet with evidence regarding a homicide investigation.

This evidence included excerpts from interviews of witnesses and four key suspects, a personal

note, a newspaper article, and a map of the crime scene. These materials were adapted from Stasser and Stewart's (1992) study and have been used previously to assess group decision-making processes under sufficient decision complexity (i.e., Liljenquist, Galinsky, & Kray, 2004; Phillips, Mannix, Neale, & Gruenfeld, 2004; Phillips et al., 2006). The version of the case that I used provided all participants with complete and identical information about the murder case. In other words, there was no unique information, and all information was shared among group members (i.e., there was no hidden profile). The case materials implicated all four suspects to varying degrees. However, clues within the case exonerated all suspects except one—the objectively correct choice for most likely suspect.

Procedure

When participants arrived in the classroom, the instructor gave a brief overview of the importance of effective teamwork in modern organizations and informed participants that they would complete an experiential group exercise during the class session in order to learn more about problem-solving in team settings. Participants were given approximately 25 minutes to read through the case materials individually. Participants were instructed to take notes as they reviewed the case because they would not be allowed to bring the case materials to their group discussions. Participants indicated their own best guess for who committed the murder, provided a brief justification for their choice, and indicated how confident they were in their decision. Afterwards, the instructor displayed group assignments, and participants went to sit with their team members. On each group's envelope, participants were instructed to first list each group members' name and program team number in order to make group composition salient.

Before beginning the group discussion, but after groups were seated together, participants completed a short activity individually which served as our manipulation of construal level, as

well a set of pre-discussion questions. All participants in a given group received the same construal level manipulation which involved participants either selecting a series of 24 categories (abstract condition) or a series of 24 exemplars (concrete condition) depending on condition (adapted from Henderson, 2013). More specifically, in the abstract construal condition, participants read the following instructions:

> Emerging research in cognitive psychology shows that having an abstract mindset aids information processing because it prompts individuals to make broad connections. To elicit an abstract mindset, we will have you individually complete a short set of questions that begin on the next page. In this set of questions, we will present several objects. For each object, there will be two options. One of the options is going to be an example of the object. The other option is going to be a group that the object belongs to. We want you to correctly identify which **option refers to a group that the object belongs to**. We want you to do this as accurately as you can. So, for example, if we showed you "dog", you should pick "animals" instead of "a poodle", because dogs are included in the group of "animals".

In the concrete construal condition, participants read the following instructions:

> Emerging research in cognitive psychology shows that having a concrete mindset aids information processing because it prompts individuals to consider specific examples. To elicit a concrete mindset, we will have you individually complete a short set of questions that begin on the next page. In this set of questions, we will present several objects. For each object, there will be two options. One of the options is going to be an example of the object. The other option is going to be a group that the object belongs to. We want you to correctly identify which **option refers to an example of the object**. We want you to do this as accurately as you can. So, for example, if we showed you "dog", you should pick "a poodle" instead of "animals", because "a poodle" is an example of dogs.

After completing the construal manipulation, participants completed a series of pre-discussion questions individually. Groups then discussed the homicide case and after reaching a group decision, all participants indicated their assessments of their group's decision-making processes individually before turning in their group envelope with all materials inside. The instructor debriefed the exercise, revealing the correct suspect, and led a classroom discussion about participants' experiences within their decision-making groups during the activity.

Measures

      All pre- and post-discussion individual questionnaire items as well as group confidence were assessed using a 7-point Likert scale ranging from 1 (*Not at all*) to 7 (*Extremely*). All questionnaire items, including items that were not the focus of the current analyses, can be viewed in Appendix A.

      Expectations of Opinion Similarity and Diversity. I first assessed participants' expectations of interpersonal similarity and difference in task-based perspectives with the following pre-discussion items, "How likely are you to discover similarities in opinion in your group discussion?" and "How likely are you to discover differences in opinion in your group discussion?" (analyzed separately).

      Relationship Focus. Participants also indicated how much they valued establishing positive relationships over decision accuracy before heading into the discussion with the following items, "I feel that it is more important for us to get along than for us to get the right answer" and "I feel that it is more important for us to get the right answer to the Murder Mystery than for us to get along (reverse-coded)" which were aggregated to form a scale ($\alpha = .83$; from Loyd et al., 2013).

      Discussion Thoroughness. After reaching a group decision, participants rated the quality of their group discussion with the following item, "Do you think the group discussed the information thoroughly?"

      Group Confidence. Groups indicated how confident they were in their group's decision by indicating their agreement with the following statement, "We are confident that we chose the best murder suspect."

Group Decision Accuracy. Accuracy was measured at the group level as a binary outcome indicating that groups either selected the best murder suspect or did not.

Results

Table 2 displays the means, standard deviations, and Pearson's intercorrelations for all study variables.

Construal Manipulation. I first assessed participants' accuracy on the construal level manipulation task. Of the 24 items, participants missed an average of .75 questions ($SD = 3.58$), with 90% of participants missing zero items. An independent samples t-test confirmed that there was no difference in accuracy between the abstract and concrete construal conditions ($p = .98$), suggesting that the manipulation tasks did not vary in difficulty.

Test of hypotheses. I expected that individuals in homogeneous groups would report less opinion diversity (H1), greater relationship focus (H2), and less discussion thoroughness (H3) compared to individuals in diverse groups under conditions of abstract construal but that these differences would be diminished under conditions of concrete construal. Likewise, I predicted that homogenous groups would be less accurate in their group decisions compared to diverse groups under conditions of abstract construal, but that this difference would be less pronounced under conditions of concrete construal (H5). Due to the interdependent nature of individuals' responses, individual-level data were analyzed using multi-level models with individual participants nested within groups, resulting in non-integer degrees of freedom.

Expectations of Opinion Similarity and Diversity. I examined whether individuals had different expectations of opinion diversity based on their group's composition and construal level as outlined in H1. A 2 (Group composition: Homogeneous or Diverse) X 2 (Construal Level: Abstract or Concrete) analysis of variance revealed no main effects or interactions for

expectations of interpersonal similarity (all ps > .81) or difference (all ps > .34) prior to the group discussion.

Relationship Focus. A 2 (Group composition: Homogeneous or Diverse) X 2 (Construal Level: Abstract or Concrete) analysis of variance revealed a marginal main effect of group composition, $F(1, 107.00) = 3.26$, $p = .074$, where individuals in homogeneous groups reported a greater relationship focus ($M = 3.95$, $SD = 1.52$) than individuals in diverse groups ($M = 3.48$, $SD = 1.42$). However, as predicted in H2, this pattern only emerged in the abstract construal condition and not in the concrete construal condition, as indicated by a marginally significant interaction between group composition and construal level, $F(1, 107.00) = 3.67$, $p = .058$. More specifically, in the abstract construal condition, individuals in homogeneous groups reported greater relationship focus ($M = 4.44$, $SD = 1.45$) compared to individuals in diverse groups ($M = 3.41$, $SD = 1.49$), $t(107) = 2.57$, $p = .011$. However, in the concrete construal condition, individuals' relationship focus did not differ between homogeneous ($M = 3.52$, $SD = 1.46$) and diverse groups ($M = 3.55$, $SD = 1.36$), $p > .94$. See Figure 1a.

Discussion Thoroughness. Using the same model for analysis of variance revealed a main effect of construal level, $F(1, 31.32) = 5.64$, $p = .024$, whereby individuals reported greater discussion thoroughness in the concrete construal condition ($M = 6.16$, $SD = .79$) compared to the abstract construal condition ($M = 5.74$, $SD = 1.02$). This main effect was qualified by a significant interaction between group composition and construal level, $F(1, 31.32) = 5.71$, $p = .023$. As expected, in the abstract construal condition, individuals in homogeneous groups reported less discussion thoroughness ($M = 5.42$, $SD = 1.28$) than individuals in diverse groups ($M = 6.00$, $SD = .66$), $t(107) = 2.39$, $p = .019$. There were no significant differences in discussion

thoroughness between individuals in homogeneous ($M = 6.33$, $SD = .62$) and diverse groups ($M = 6.00$, $SD = .89$) in the concrete construal condition ($p > .15$) in support of H3. See Figure 1b.

Mediation Analyses. Building on previous research, I predicted that the motivation to form positive interpersonal relationships may directly interfere with group members' ability to process information thoroughly. In the current context, I expected this mediation pattern to emerge only in the abstract construal condition (H4). To test this, I conducted moderated mediation analysis using the bootstrapping method outlined by Preacher and Hayes (2004). Specifically, I tested whether the interactive effect of construal level with group composition on discussion thoroughness was mediated by the degree to which group members had a relationship focus when entering the discussion. I used the SPSS macro designed by Hayes (2012) for mediated moderation bootstrapping analyses (Model 8), creating 5,000 bootstrap samples by randomly sampling observations with replacement from the original data set. I then calculated a 95% confidence interval of the indirect effect of this interaction on discussion thoroughness. Relationship focus (aggregated at the group level) mediated the interactive effect of group composition and construal level on discussion thoroughness, 95% CI = [-.54, -.04], as expected. Furthermore, the direct effect of group composition and construal level was reduced to marginal significance after controlling for groups' relationship focus ($p = .067$). See Figure 2.

Group Confidence. I next turned to group assessments of performance. First, I assessed whether there were differences in how confident groups felt about the accuracy of their group decision. A 2 (Group composition: Homogeneous or Diverse) X 2 (Construal Level: Abstract or Concrete) analysis of variance showed no main effects or interactions of our manipulations for groups' confidence ratings, all $ps > .12$.

Group Decision Accuracy. A binary logistic regression with group composition, construal level, and their interaction entered as predictor variables did not show any significant main effects or interactions of our manipulations for group decision accuracy, all $ps > .46$, in contradiction to H5. Out of the 36 decision-making groups, 18 selected the correct suspect. Condition breakdowns for groups who chose correctly were 9 diverse and 9 homogeneous, and 8 abstract and 10 concrete.

Discussion

The current study generally supported my predictions that differences in relational goals and information processing between homogeneous and diverse groups are contingent upon differences in construal level within these group settings. Indeed, I provide a conceptual replication of previous findings by Loyd and colleagues (2013) that individuals in homogeneous groups place greater priority on establishing positive relationships between group members as well as process information less thoroughly than those in diverse groups, but only under conditions of more abstract construal. When individuals were primed to construe more concretely, these differences between homogeneous and diverse groups did not emerge. Furthermore, though relationship focus mediated the interaction between group composition and construal level on discussion thoroughness as shown in previous work, the direct interactive effect of group composition and construal level on discussion thoroughness remained marginally significant even after controlling for relationship focus in the model. This suggests that as predicted, group composition and construal level likely shape information processing independent of relationship goals within these groups.

I also received support for my reasoning that there may be asymmetry between homogeneous and diverse groups' receptivity to construal level primes. Diverse group members'

relationship focus and discussion thoroughness did not differ by construal level condition. Instead, the hypothesized patterns emerged due to shifts in how individuals in homogeneous groups prioritized building positive relationships with their group members and discussed the task within their decision-making groups. Without a control condition, it is still difficult to ascertain whether homogeneous groups are more easily able to construe more concretely relative to diverse groups' ability to construe more abstractly. However, the current findings are consistent with the notion that homogeneous decision-making groups are more responsive to external primes of construal.

While I am still not able to say with certainty that group composition influences construal level which in turn has implications for information processing within groups—a direct assessment of this would involve establishing a main effect of group composition on construal level or on consequences of construal level—the current pattern of findings is in line with this view. Indeed, the study findings are supportive of my proposed theoretical framework whereby a more abstract (versus concrete) construal level emerges in homogeneous (versus diverse) groups in a way that impacts both how individuals seek to relate to one another and how information is processed within decision-making groups. When primed to think more abstractly, individuals in homogeneous groups show tendencies (heightened relationship focus and less thorough information processing) that have been previously shown as baseline differences between homogeneous and diverse groups. When primed to think more concretely, these differences are eliminated suggesting that homogeneity will only lead to these outcomes to the extent that a more abstract construal level is primed within group members.

However, not all of my predictions were supported with the current set of data. For one, I expected that construal level and group composition would also interact to shape group

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members' expectations of opinion diversity within their group. More specifically, I expected that individuals in homogeneous groups would expect less opinion diversity than those in diverse groups under conditions of abstract construal but that this relative difference would be minimized with a prime of concrete construal. I reasoned that these expectations of opinion diversity would stem from greater perceptions of entitativity or "groupness" in homogeneous relative to diverse groups due to members' more abstract construal. More specifically, groups with greater entitativity should have greater expectations of internal consistency and uniformity between group members. Indeed, individuals in homogeneous and diverse groups having varying perceptions of interpersonal similarity between group members is integral to the proposed theoretical view that the way individuals construe their decision-making group (more abstractly versus more concretely) will shape the level at which they construe the decision-making task and task-relevant information.

It is possible that these proposed effects did not emerge in the current study due to how group composition was manipulated. While participants' program team membership represented a real and meaningful social category dimension within the classroom context, students likely knew that program team assignments were randomly assigned by the executive education program without correspondence to internal beliefs or traits. It could be, then, that this manipulation was not strong enough to elicit varying levels of perceived entitativity. However, theoretically, these expectations should still emerge even with the use of minimal group distinctions (Tajfel, Billig, Bundy, & Flament, 1971). Alternatively, perhaps group entitativity would be better assessed using a measure of group members' perceptions of general interpersonal similarity and difference rather than asking group members to make specific predictions regarding overlap in task-based perspectives as I did here.

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I also expected homogeneous groups to be less accurate than diverse groups under conditions of abstract construal, but that these differences would be reduced when a more concrete mindset was adopted. However, homogeneous and diverse groups did not differ in how frequently they reached an accurate decision, regardless of construal level condition. There may be many reasons for this. First, with just 36 groups, there may not have been enough statistical power to adequately capture differences in performance due to group composition. However, this is not necessarily the case as Loyd and colleagues (2013) found significant performance effects using a similar sample size. In fact, in the current sample, discussion thoroughness aggregated at the group level did not even come close to being correlated with groups reaching the right answer ($p > .79$), as we might expect.

Another possibility for null performance effects could be that groups received too much time to discuss the case, reducing the variance for the murder suspect that was chosen across groups. As part of the classroom exercise, groups had a total of forty-five minutes to complete a pre-discussion activity and questionnaire individually, discuss the case together and reach a group decision, and complete an individual post-discussion questionnaire. Because groups self-managed this process, it is difficult to know exactly how long groups spent completing each of these phases. In fact, during the exercise I observed that some groups finished early and left the classroom to take a break before class resumed. Even with some groups finishing early, post-hoc, it seems unlikely that participants spent more than twenty minutes on the two individual questionnaires, leaving at minimum, twenty-five minutes that groups could have used to discuss the case. By contrast, Loyd and colleagues (2013) gave groups just 15 minutes to discuss and reach a joint decision for the same case and observed performance differences between homogeneous and diverse groups. Having ample time to discuss the case in the current study

may have reduced the impact of group composition and construal level on group decision performance.

Remaining Questions

While the current study provides preliminary evidence that by utilizing construal level theory and models of gestalt processing, we can predict when and how group composition shapes social and information-processing outcomes in decision-making groups, many questions remain. For one, although we replicate differences between homogeneous and diverse groups previously found as main effect differences within the abstract construal condition, it is unclear whether these differences would have also emerged within a control condition. The theoretical reasoning I put forth suggests that baseline differences between homogeneous and diverse groups mirror those found under conditions of more abstract construal level. However, an additional study with a control construal condition is needed to assess whether this is in fact the case.

The current investigation also relied primarily on subjective assessments of group processes. While participants' own perceptions of their relationship goals heading into the group discussion are high in face validity, participants' judgments of discussion thoroughness may or may not reflect how information was actually processed during group interaction. The overlap between previously demonstrated effects, the hypothesized relationships, and the pattern of findings in the current data provide some assurance that participants' responses accurately captured group processes. However, these findings would be more robust if objective assessments of relationship focus and discussion thoroughness also showed similar patterns.

Theoretical and Practical Implications

While most research on groups and teams examining the influence of group composition focuses on how *diversity* shapes relational and information-processing outcomes in teams, I

follow a recent call in the literature to instead shift our attention to how homogeneity helps or harms group decision-making processes (Apfelbaum, Phillips, & Richeson, 2014; Phillips & Apfelbaum, 2012). The current findings suggest that homogeneity may not only limit the perspectives, backgrounds, and skillsets that groups can apply to given a task as previously theorized and demonstrated within the literature, but may also hinder certain types of information processing by changing group members' cognitive orientation towards identical information that is available.

This is a useful step forward in the diversity literature which primarily offers an additive view of diversity, whereby group functioning is only bolstered by diversity to the extent that group members bring additional knowledge and perspectives to the table (Carter & Phillips, 2017; Williams & O'Reilly, 1998). This type of theoretical account, however, is unable to account for differences in information processing when homogeneous and diverse groups have access to identical task relevant information (e.g., Sommers, 2006, Phillips, Northcraft, & Neale, 2006). The current work instead suggests that group composition shapes *qualitative* differences in how information is processed within groups, and that diversity, in particular, may aid group processing by priming a more concrete level of construal. Indeed, by integrating theories of construal level and gestalt processing with traditional frameworks used in the diversity literature, I am able to account for both relationship and information-processing differences between homogeneous and diverse groups with a single cognitive mechanism. This reflects another benefit of using construal level theory in organizational research—a burgeoning new area of inquiry (Wiesenfeld, Reyt, Brockner, & Trope, 2017).

Using this interdisciplinary approach also extends theoretical understandings of construal level. Indeed, while the idea that the way social targets are construed can shape processing along

non-social dimensions is not new to this area, thus far, no one has used this framework to understand information processing within homogeneous and diverse groups. The idea that construal level—an individual-level cognition—can emerge within social groups (due to group composition) and go on to shape how information is processed within the group is also quite novel. This dynamic approach which spans multiple levels of analysis can potentially enhance our understanding of both the antecedents to and consequences of construing at more abstract or more concrete levels.

The current study also provides useful practical insights. More specifically, by using a moderation approach to investigate relational and information-processing outcomes in homogeneous and diverse groups, I identify a novel (and subtle) cognitive intervention for improving group decision-making processes. To the extent that homogeneous teams within organizations experience relationship pressures that interfere with task goals, managers may prime a more concrete construal level among group members. Indeed, focusing group members' attention on specific examples prior to group discussions may help counteract this challenge faced by homogeneous groups. This is not to say that diversity is not needed in decision-making groups. Indeed, as described by additive views of diversity, greater team diversity broadens the perspectives and backgrounds that can be applied to a given task. However, to the extent that diversity also enhances group decision-making processes by priming a more concrete level of construal, managers may be able to mimic these effects through other means. Taken together, examining the influence of construal level on decision-making processes in homogeneous and diverse groups opens new doors for both practice and theory.

CHAPTER 3: EXPLORING THE EFFECTS OF GROUP COMPOSITION AND CONSTRUAL LEVEL ON INFORMATION PROCESSING IN A LAB SETTING

While the previous study provided many insights into the role of construal level in homogeneous and diverse decision-making groups, many questions remain. For one, would we observe the same patterns of heightened relationship focus and diminished discussion thoroughness in homogeneous relative to diverse groups (that were demonstrated when participants adopted a more abstract construal level) within a control condition? This question is particularly important to address as it can shed light on whether differences in decision-making processes between homogeneous and diverse groups at baseline are driven primarily by more abstract versus more concrete construals.

In addition, due to the classroom setting used in the previous investigation, there were many questions regarding differences in construal level and their effects on information processing in homogeneous and diverse groups that were simply unobservable. In particular, although I was able to collect measures of relationship focus and discussion thoroughness, I was not able to assess the relationships between group composition and construal level on communication patterns during group interaction nor assess levels of abstraction/concreteness in homogeneous and diverse groups' natural language speech patterns. Furthermore, in the previous study, all measures (except group decision-making performance) were based on subjective assessments.

To address these issues, I conducted an additional study on group decision-making processes with homogeneous and diverse groups in a lab setting with the goal of replicating and extending insights gleaned from the previous study. The current study was also designed to assess information processing utilizing a group decision-making task that is more akin to the

types of group decisions that are made in actual organizations (i.e., personnel selection). In addition to taking these steps to build upon the last study, in the current investigation, I also aim to take a step back and test some of the basic tenets of the proposed theoretical framework from Chapter 1 that by shaping construal level, group composition shapes information processing by influencing perceptions of group entitativity, communication norms, and additional task-relevant cognitions. Before describing the current study in detail, I first briefly review relevant theoretical propositions from the first chapter, as well as outline specific hypotheses that will be tested in the current investigation.

Construal Level in Homogeneous and Diverse Groups

Drawing on construal level theory, principles of Gestalt psychology, person perception, and cultural self-construals, I argue that the way individuals view their decision-making groups—either more abstractly as a group or more concretely as individuals—will shape the way information is processed within the group. Furthermore, I posit that homogeneous groups will be construed more abstractly by group members relative to diverse groups, which will be construed more concretely by group members. This is based on the applications of Gestalt processing on person perception whereby social objects that are similar, proximate, and share a common fate are more likely to be grouped together (Campbell, 1958). Holding interpersonal proximity and common fate constant between decision-making groups, homogeneous groups who are similar along a salient social category dimension should be seen more abstractly as "a group". Diverse groups who have greater interpersonal variance along a salient social category dimension should instead be perceived relatively more concretely as "individuals".

These ideas are consistent with work from the construal level theory literature in which individuals perceive greater homogeneity and interpersonal similarity between social targets

when they adopt a more abstract (versus concrete) level of construal (Levy, Freitas, & Salovey, 2002; McCrea, Wieber, & Myers, 2012). Indeed, I expect the opposite direction of influence to also occur where perceptions of homogeneity and interpersonal similarity will prime a more abstract level of construal, and perceptions of diversity and interpersonal difference will prime a more concrete level of construal. Furthermore, I argue that construing abstractly versus concretely will have consequences for perceptions of group entitativity, communication norms, and additional task-based cognitions and decision-making performance. These consequences as well as specific hypotheses that will be tested in the current study are outlined below.

Consequences of Group Entitativity

When individuals perceive social targets more abstractly as groups rather than more concretely as individuals, they are also more likely to perceive greater entitativity or "groupness" among members, assuming that there is uniformity, consistency, and coherence between members' traits and behaviors (Hamilton & Sherman, 1996). In the context of decision-making groups, members of homogeneous groups should perceive themselves to be more similar relative to members of diverse groups. As a result, I hypothesize the following:

> **Hypothesis 1 (H1):** Individuals in homogeneous groups will perceive greater interpersonal similarity between group members compared to individuals in diverse groups at baseline and under conditions of more abstract construal level. Under conditions of more concrete construal, this difference will be diminished.

Due to greater perceptions of interpersonal similarity stemming from perceived entitativity and forces of similarity-attraction (Byrne 1969, 1971), members of homogeneous groups will also have greater motivations to form social connections than members of diverse groups. Accordingly, I hypothesize the following:

Hypothesis 2 (H2): Individuals in homogeneous groups will have a greater relationship focus compared to individuals in diverse groups at baseline and under conditions of more abstract construal level. Under conditions of more concrete construal, this difference will be diminished.

Communication Norms

Similar to cultural self-construals which define the "right way to be or behave" in relation to others (e.g., Markus & Kitayama, 1991), I argue that the way group members construe their decision-making group will influence communication norms within the group. Construing the decision-making group more abstractly as a group should enhance pressures for group members to conform and assimilate to one another. Construing the decision-making group more abstractly as individuals should instead enhance group members' motivations to express their unique viewpoints. As a result, I hypothesize the following:

Hypothesis 3 (H3): Individuals in homogeneous groups will be less willing to express their unique perspectives compared to individuals in diverse groups at baseline and under conditions of more abstract construal level. Under conditions of more concrete construal, this difference will be diminished.

Group members' more abstract or more concrete construal of their decision-making group will also likely shape expectations for individual contributions between group members. Indeed, construing the group more abstractly as a group versus more concretely as individuals should lower expectations for individual contributions. As a result, construing the group at a more abstract level should lead all group members to contribute less to group discussions. On the other hand, construing at a more concrete level of construal should lead all group members to contribute more to group discussions. Consequently, I hypothesize the following:

Hypothesis 4 (H4): Homogeneous groups will have shorter discussions compared to diverse groups at baseline and under conditions of more abstract construal level. Under conditions of more concrete construal, this difference will be diminished.

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Hypothesis 5 (H5): Homogeneous groups will have less equal participation between group members compared to diverse groups at baseline and under conditions of more abstract construal level. Under conditions of more concrete construal, this difference will be diminished.

Task-relevant Cognition and Decision-Making Performance

More or less abstract/concrete construals stemming from group composition will also have spillover effects for how group members approach tasks and interpret task-relevant information. When processing at a more abstract construal level, individuals focus attention more broadly, whereas at a more concrete construal level, individuals instead focus their attention narrowly, in a more thorough and detail-oriented manner (Trope & Liberman, 2010; Ledgerwood, Wakslak, & Wang, 2010). I expect similar processes to emerge in decision-making groups in the following pattern:

Hypothesis 6 (H6): Individuals in homogeneous groups will discuss task-relevant information less thoroughly compared to individuals in diverse groups at baseline and under conditions of more abstract construal level. Under conditions of more concrete construal, this difference will be diminished.

In addition, group performance on decision tasks that require thorough analysis of disparate sources of information (as the one used in the current study) should be enhanced to the degree that group members have a more concrete construal level and diminished to the degree that group members instead process at a more abstract level of construal. Accordingly, I hypothesize the following:

Hypothesis 7 (H7): Homogeneous groups will have worse decision-making performance compared to diverse groups at baseline and under conditions of more abstract construal level. Under conditions of more concrete construal, this difference will be diminished.

Finally, construing at a more abstract or more concrete level should influence the abstraction and concreteness of group members' speech when discussing task-relevant information during group interactions (Semin & Fiedler, 1988). As a result, I expect the following:

Hypothesis 8 (H8): Homogeneous groups will communicate using more abstract and less concrete language compared to diverse groups at baseline and under conditions of more abstract construal level. Under conditions of more concrete construal, this difference will be diminished.

Current Study

As reflected in hypotheses above, the current investigation aims to replicate findings from the previous study as well as assess additional indicators of construal level differences between homogeneous and diverse decision-making groups. In terms of replication, I wanted to assess whether members of homogeneous groups again had a greater relationship focus and as a result, less thorough discussions relative to members of diverse groups when processing at a more abstract construal level but not at a more concrete construal level. I also sought to extend these findings in the current study by finding these differences in relationship focus and discussion thoroughness at baseline (within a control construal condition). As described previously in Chapter 2 and implicit within the current set of hypotheses, I again assume that there will be an asymmetry in receptivity to construal level primes between homogeneous and diverse groups. More specifically, I assume that homogeneous groups will be more influenced by primes of concrete construal than diverse groups will be influenced by primes of abstract construal.

Finally, in addition to replication, with the ability to record group interactions within a laboratory setting, the current study also allows me to assess how group composition and construal level shape communication norms (through the measurement of individuals' contributions to group discussions), as well as additional task-relevant cognitions, including the use of more abstract or more concrete language within decision-making groups.

Method

Participants and Overview. Three hundred fifty-six adults were recruited for a study about how groups make decisions from a behavioral research participant pool at a university in the Northeastern United States composed primarily of undergraduate students (84%). Participants were 59% female with an average age of 24 years ($SD = 6.29$). Full sample descriptives are displayed in Table 1. All participants received $16 for their participation. In addition, best performing groups were entered into a raffle and a few were randomly selected to win online gift cards.

After arriving at the lab and providing informed consent, participants were seated in a computer lab and individually read case materials about a fictional company, Grogan Airlines, who needed to replace their Vice President of Information Technology (Ames, 2008). Participants were asked to imagine that they were one of three company executives at Grogan Air charged with making the hiring decision. After reading case information, participants indicated their own hiring preference before completing a dot-estimation filler task which formed the basis of the group composition manipulation. Afterwards, participants were placed into groups of three to discuss the case together and come to a group decision on who to hire. Once seated together, groups completed a pre-discussion activity and questionnaire individually, then discussed the case and reached a group decision together, before finally completing a post-discussion questionnaire individually. Groups were given approximately fifteen minutes to discuss the case, receiving a five-minute warning if necessary.

I employed a 2 (Group Composition: Homogeneous vs Diverse) X 3 (Construal Level: Abstract vs Concrete vs Control) between-subjects design. Group composition was based on a minimal-group category dimension (Tajfel, Billig, Bundy, & Flament, 1971). After reading case

materials and indicating their individual preference, participants were told that they would do a short dot estimation task (adapted from Zhong, Phillips, Leonardelli, & Galinsky, 2008) before meeting with their colleagues. The task required participants to view varying patterns of small red and blue dots appearing on 10 computer screens and estimate whether there were more red dots or more blue dots on each screen. After doing so, participants were told that based on their responses, they were either a red or blue type. In reality, type was randomly assigned. Participants did not receive any additional information about the meaning or significance of their type assignment but this social category dimension formed the basis for group composition. Homogeneous groups (59 total) consisted of three people who were all of the same type (either red or blue) while diverse groups (60 total) had one member who had a different type than the other two members. There were 40 groups in the abstract, 39 groups in the concrete, and 40 groups in the control construal condition.

Materials. Each participant read case materials about a fictional company, Grogan Airlines, who needed to replace their Vice President of Information Technology. Participants were asked to imagine that they were also at the Vice President level at Grogan Air and as a result, would help make the hiring decision. Materials included an organization chart, information about the company, as well as general information about each of three finalists for the open position (i.e., candidates' current and past positions, and educational background) compiled by Human Resources. Participants also read information about the candidates that they themselves had supposedly collected from reliable sources within Grogan Air. Most case materials were read on a computer screen. However, general candidate information compiled by Human Resources was printed on a handout on which participants could take notes to take into their meeting.

The materials were adapted from a teaching case used for an MBA classroom exercise to simulate group decision making in organizations (Ames, 2008). The version of the case that I used contained 18 key characteristics (6 for each candidate) that were critical for choosing the best candidate. Each candidate had a mixture of strengths and weaknesses. The ideal candidate (Candidate A) had 5 strengths and 1 weakness while the remaining candidates had 4 strengths and 2 weaknesses (Candidate B) and 3 strengths and 3 weaknesses (Candidate C), respectively. However, this information was distributed among the three group members such that each group member held some unique information pertinent to identifying the best candidate. For the ideal choice (Candidate A), only 2 (of 4) strengths and their single weakness were shared among all group members. For suboptimal choice Candidate B, all 4 strengths and 1 (of 2) weaknesses were shared among group members. For suboptimal choice Candidate C, two (of 3) strengths and 1 (of 3) weaknesses were shared among group members. With information distributed in this way, Candidate B appears to be an obvious choice despite being objectively inferior. In all decision-making groups, a hidden profile existed because the best candidate (Candidate C) was more likely to be found if the unique information that group members held was shared.

Procedure. When participants arrived in the lab, they were greeted by either a male or female research assistant and read study information in order to give informed consent. Participants sat in a common waiting area until all participants had arrived. Study timeslots were posted so that two groups of three could be run in a single session, however, this was not always possible due to low rates of study sign up. Out of the total 119 decision-making groups, 64 groups participated in the study with another group. Once everyone was present, participants were led into a computer room to begin the first phase of the study. Participants each read instructions on their own computer screen. Participants were informed that they would be

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working in a group to make a hiring decision. Participants then read materials for the Grogan Air case and were instructed to take notes on the general candidate information worksheet next to their computer as they would not be able to bring additional information into their group discussion directly.

After participants read through the case information, they indicated their initial choice for the open position. Next, participants completed a short dot estimation task, estimating whether there were more red or blue dots on a series of 10 screens, each with a random and ambiguous assortment of small red and blue dots. Participants were then assigned a type—red or blue—that was supposedly based on their choices on the dot estimation task, but were in reality, randomly assigned. Once all participants received a type, a researcher assistant came into the computer room to assign participants to decision-making groups. The researcher assistant announced that in some teams, all members would be of the same type while other teams would have different types. When two groups participated at the same time, one group was homogeneous and the other diverse. Members of each group were led into a separate room for their group discussion. Decision rooms each had three chairs equally distributed around a table. On the table were three markers that group members could use to take notes on a large notepad in the room. Finally, an iPad was setup on an easel along a back wall to record the group interaction.

Before beginning the group discussion, but after groups were seated together, participants completed a short activity individually which served as our manipulation of construal level, as well a set of pre-discussion questions. All participants in a given group received the same construal level manipulation which involved participants either selecting a series of 24 categories (abstract condition), a series of 24 exemplars (concrete condition; adapted from Henderson, 2013), or their preferences between a set of 24 choices (i.e., apples versus oranges) in the control

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condition (adapted from Mallett, Wilson, & Gilbert, 2008). Individuals in the abstract and

concrete construal conditions read the same instructions as in the Chapter 1 study. The

instructions for the control condition read as follows:

> Emerging research in cognitive psychology shows that having a warm up task aids
> decision making because it activates individuals' cognition. To elicit this, we will have
> you individually complete a short set of questions that begin on the next page. In this set
> of questions, there will be two options. We want you to identify which option you prefer.
> Do not spend too much time thinking about your choice.

After completing the construal manipulation, participants completed a series of pre-

discussion questions individually. The research assistant then came into the room to give

additional instructions and turn on the iPad to record the interaction. The research assistant

reminded participants that they would have fifteen minutes to discuss and reach a decision and

that if their team selected the best candidate, they would be entered into a raffle for the chance of

each earning a $25 bonus. Research assistants also prompted group members to say their

participant number and type aloud so that the group's composition was salient. Groups then

discussed the hiring case. After ten minutes, groups were given a five-minute warning and after

the allotted time was finished, the research assistant came back into the room to record the group

decision and turn off video recording. Afterwards, participants completed a post-discussion

questionnaire individually and once finished, were debriefed about the nature of the study and

paid for their participation.

Measures

To get a comprehensive view of how information was processed within the decision-

making groups, I used a mix of subjective and objective, individual- and group-level measures.

All pre- and post-discussion questionnaire items were assessed using a 7-point Likert scale

ranging from 1 (*Not at all*) to 7 (*Extremely*). All study questionnaire items can be viewed in

Appendix B. In addition, videos of group discussions were transcribed using an independent transcription service in order to assess communication norms and abstraction/concreteness of groups' speech.

Linguistic Analysis Approach. The majority of the measures used for linguistic analysis came from the Linguistic Inquiry and Word Count (LIWC), a text analysis application developed to aid exploratory study of language and disclosure (Pennebaker, Boyd, Jordan, & Blackburn, 2015). LIWC is made up of a default dictionary of 6,400 words and word stems with 82 subdictionaries for assessing particular domains. I browsed the default LIWC2015 Dictionary categories and prior to analysis, selected seven categories that I believed may align with indicators of construal level or hypothesized communication norms during group discussion based on previous literature. These included the following subdictionaries for more concrete construal: common verbs (i.e., "eat", "come:", "carry"), comparisons (i.e., "greater", "best", "after"), differentiation (i.e., "hasn't", "but", "else"), and present focus (i.e., "today", "is", "now"); the following subdictionaries for more abstract construal level: analytical thinking (i.e., reflecting more categorical language and abstract thinking) and certainty (i.e., "always", "never"); and the following subcategory for individual expression: first-person singular personal pronouns (i.e., "I", "me", "mine"). LIWC output variables for most subdictionaries are expressed as percentage of total words. For summary variables like analytical thinking (categorical language), however, LIWC output is a standardize composite that have been converted to a percentile based on large corpora of texts (Pennebaker, Booth, Boyd, & Francis, 2015).

In addition, I also used a database of 40,000 English words rated on their level of concreteness (developed by Brysbaert, Warriner, & Kuperman; 2014) to score groups' transcripts on concreteness. More specifically, using the Brysbaert et al. (2014) concreteness

dictionary, each group's transcript was scored on the average concreteness of its component words.

Consequences of Group Entitativity Measures

Perceptions of General Interpersonal Similarity. Participants indicated their perceptions of general interpersonal similarity with the following items, "How similar do you feel to the other members in your group?" and "Do you feel you have a lot in common with the other members of your group?" ($\alpha = .82$).

Expectations of Opinion Similarity and Difference. Participants also indicated their expectations of interpersonal similarity along task-relevant dimensions with the following items, "How likely are you to discover similarities in opinion in your group discussion?" and "How likely are you to discover differences in opinion in your group discussion?" (These items did not form a reliable scale and were analyzed separately).

Relationship Focus. Participants indicated how much they valued establishing positive relationships with their group members before heading into the discussion with the following items, "I feel that it is important for us to get along during the discussion" and "I feel that it is more important for us to get along than for us to get the right answer." (These items were also analyzed separately as they did not form a reliable scale).

Communication Norms Measures

Perceived Voice. After the group discussion, individuals indicated the degree to which they felt they had voice during the group discussion with the following items, "How much did you feel like you were free to express your opinion?" and "How comfortable were you voicing your viewpoints?" ($\alpha = .88$).

Individual Speaking Contribution. For an objective measure of individuals'
contributions to the group discussion, video transcripts were coded for how many speaking turns
each group member had as well as how many words each group member spoke. This quantitative
measure is consistent with other approaches of assessing individual contribution used in previous
research on group decision making (Chidambaram & Tung, 2005; Hirokawa & Pace 1983).

First-person singular pronouns. As an additional objective measure for group
members' willingness to express their unique views, group transcripts were entered into LIWC
and assessed with the first-person singular personal pronouns (i.e., "I", "me", "mine")
subdictionary.

Group Discussion Time. Videos transcripts included timestamps to assess how long
groups spent discussing the task. The end of groups' discussions was marked as when all group
members agreed to a single candidate.

Equal Participation. I assessed whether groups had equal participation between group
members during group discussions by measuring the variance in the percentage of total number
of speaking turns between group members as well as the variance in percentage of the total
number of words spoken between group members.

Task-Relevant Cognition and Decision-Making Performance Measures

Discussion Thoroughness. Participants rated the quality of their group discussion with
the following item, "Do you think the group discussed the information thoroughly?"

Group Decision Accuracy. Accuracy was measured at the group level as a binary
outcome indicating that groups either selected the best candidate or did not.

Concrete Language. Each group's discussion transcript was scored on concreteness using the Brysbaert et al. (2014) concreteness dictionary as well as LIWC subdictionaries for common verbs, comparisons, differentiation, and present focus.

Abstract Language. Groups' discussion transcripts were also scored on abstraction using the LIWC subdictionaries for analytical thinking (categorical language) and certainty.

Results

To test the hypotheses put forth, for all measures except group decision accuracy, I ran a 2 (Group composition: Homogeneous or Diverse) X 3 (Construal Level: Abstract, Concrete, or Control) analysis of variance. Due to the interdependent nature of individuals' responses, individual-level data were analyzed using multi-level ANOVAs with individual participants nested within groups, resulting in non-integer degrees of freedom. Tables 3 and 4 display the means, standard deviations, and Pearson's intercorrelations for all individual-level (Table 3) and group-level (Table 4) study variables.

When hypothesized interaction patterns did not reach significance, I also conducted independent-sample t-tests comparing outcomes in homogeneous versus diverse groups within the control construal condition only, as post-hoc exploratory analysis[1]. These additional analyses were conducted to gauge whether there were baseline differences between homogeneous and diverse groups in the expected directions and are only noted below when significant or marginally significant.

Construal Manipulation. I first assessed participants' accuracy on the construal level manipulation task for those in the abstract and concrete construal conditions. Of the 24 items,

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[1] There were a total 40 groups (119 participants) in the control construal condition. 20 groups (60 participants) were diverse, and 20 groups (59 participants) were homogeneous.

participants missed an average of .21 questions ($SD = 1.32$), with 94% of participants missing

zero items. However, an independent samples t-test showed that participants in the abstract

construal condition completed the manipulation with fewer errors ($M = .03$, $SD = .18$) compared

to those in the concrete construal conditions ($M = .39$, $SD = 1.86$; $p = .036$). Despite this

condition difference, due to the high rate of 100% accuracy, the full sample was retained in the

subsequent analysis.

Test of hypotheses: Consequences of Group Entitativity. I expected that individuals in

homogeneous groups would report greater perceptions of interpersonal similarity (H1) and

relationship focus (H2) relative to individuals in diverse groups in the abstract and control

construal conditions, but that this difference would be minimized in the concrete construal

condition.

Perceptions of General Interpersonal Similarity. There were no main effects or

interactions of our manipulations for individuals' perceptions of general interpersonal similarity

prior to the group discussion (all ps > .21).

Expectations of Opinion Similarity and Difference. There were no main effects or

interactions of our manipulations for either measure of task-relevant interpersonal similarity (all

ps > .17) prior to the group discussion. Examining the effects of group composition within the

control construal condition, however, showed that individuals in diverse groups thought

interpersonal differences in opinion were more likely ($M = 5.25$, $SD = 1.16$) compared to

individuals in homogeneous groups ($M = 4.83$, $SD = 1.21$; $t(117) = 1.94$, $p = .055$), to a marginal

degree but in the expected direction.

Relationship Focus. I did not replicate findings from the previous study in regards to individuals' focus on building positive relationships with their group members. There were no main effects or interactions of our manipulations (all ps > .21) contrary to expectations.

Test of hypotheses: Communication Norms. I expected that individuals in homogeneous groups would be less willing to express their unique perspectives (H3) relative to individuals in diverse groups in the abstract and control construal conditions, but that this difference would be minimized in the concrete construal condition. Likewise, I expected homogeneous groups to have shorter discussion times (H4) and less equal participation between group members (H5) compared to diverse groups in the abstract and control construal conditions, but that this difference would be minimized in the concrete construal condition.

Perceived Voice. There were no main effects or interactions of our manipulations for individuals' feelings of voice during the group discussion (all p > .31).

Individual Speaking Contribution. Individuals also did not vary by condition in the number of speaking turns or the number of words spoken during group discussion (all ps > .50). However, post-hoc, I reasoned that individuals may have had more unique perspectives to potentially express when they held a minority opinion based on their initial hiring preference. As a result, individuals with a minority opinion may be more influenced by manipulations of group composition and construal level to express these opinions compared to group members who held opinions that their fellow group members agreed with. To assess this, I re-ran the analysis using a 2 (Group composition: Homogeneous or Diverse) X 3 (Construal Level: Abstract, Concrete, or Control) X 2 (Opinion Status: Minority Opinion or Majority Opinion) ANOVA. This additional analysis revealed a marginal interaction between group composition and opinion status for number of speaking turns, $F(1, 233.07) = 3.67$, $p = .057$.

More specifically, there were no differences in the number of speaking turns for individuals who were in the opinion majority whether they were in homogeneous (M = 52.24, SD = 23.78) or in diverse groups (M = 52.11, SD = 28.68; p > .97). However, when individuals held a minority opinion, they spoke more frequently in diverse groups (M = 62.73, SD = 32.52) compared to when in homogeneous groups (M = 46.65, SD = 25.76; $t(331)$ = 2.44, p = .015). In even stronger support of the idea that diverse contexts may shape norms to express individual viewpoints, within diverse groups, individuals who held minority opinions actually spoke more frequently than those who held the majority opinion ($t(331)$ = 2.03, p = .043). Within homogeneous groups, members with minority and majority opinions spoke equally as much (p > .27). See Figure 3. This interaction effect was not further moderated by construal level.

First-person singular pronouns. Individuals' willingness to express their unique perspectives was also assessed linguistically using LIWC text analysis. A 2 (Group composition: Homogeneous or Diverse) X 3 (Construal Level: Abstract, Concrete, or Control) ANOVA revealed a significant main effect of group composition, $F(1, 109)$ = 6.34, p = .013. Consistent with expectations, diverse groups used more first-person singular pronouns during their group discussions (M = 4.73, SD = 1.04) compared to homogeneous groups (M = 4.22, SD = 1.14). However, this effect was not further moderated by construal level.

Group Discussion Time. There were no main effects or interactions of our manipulations for how long groups discussed the decision (all ps > .70). Groups discussed the hiring decision for 12.27 minutes on average (SD = 3.51).

Equal Participation. The variance in the total number of speaking turns between group members as well as the variance in the total number of words spoken between group members did not vary by any of our manipulations (all ps > .11).

Test of hypotheses: Task-relevant Cognition and Decision-Making Performance. I

expected that individuals in homogeneous groups would discuss task-relevant information less

thoroughly relative to individuals in diverse groups in the abstract and control construal

conditions, but that this difference would be minimized in the concrete construal condition (H6).

Likewise, I expected homogeneous groups to perform worse than diverse groups in the abstract

and control construal conditions, but that this difference would be minimized in the concrete

construal condition (H7). Additionally, I expected homogeneous groups to use more abstract and

less concrete language compared to diverse groups in the abstract and control construal

conditions but not in the concrete construal condition (H8).

Discussion Thoroughness. A 2 X 3 ANOVA revealed a significant interaction between

group composition and construal level for discussion thoroughness, $F(1, 113.23) = 4.46$, $p =$

.014. However, the nature of this interaction was not as expected. More specifically, in the

control construal condition, individuals in homogeneous groups reported significantly *greater*

discussion thoroughness ($M = 5.98$, $SD = 1.08$) compared to individuals in diverse groups ($M =$

5.48, $SD = 1.44$), $t(349) = 2.42$, $p = .016$. Likewise, in the abstract construal condition,

individuals in homogeneous groups reported marginally greater discussion thoroughness ($M =$

5.98, $SD = .99$) compared to individuals in diverse groups ($M = 5.60$, $SD = 1.21$), $t(349) = 1.89$,

$p = .060$. In the concrete construal condition, this pattern was reversed with individuals in diverse

groups reporting marginally greater discussion thoroughness ($M = 6.10$, $SD = .82$) relative to

individuals in homogeneous groups ($M = 5.70$, $SD = 1.13$), $t(349) = 1.88$, $p = 061$. See Figure 4.

Group Decision-making Accuracy. Of 119 decision-making groups, only 23 selected the

best candidate. A binary logistic regression with group composition, construal level, and their

interaction entered as predictor variables did not show any significant main effects or

interactions of our manipulations for group decision accuracy, all *p*s > .14. Condition

breakdowns for groups who chose correctly were 14 diverse and 9 homogeneous, and 7 abstract,

8 control, and 8 concrete.

Concrete Language Use. To assess more concrete language use in decision-making

groups, I utilized the Brysbaert et al. (2014) concreteness dictionary and LIWC2015

subdictionaries of common verbs, comparisons, differentiation, and present focus.

Concreteness. A 2 X 3 ANOVA revealed a marginal main effect of group composition

on the concreteness of language used during group discussion as measured by Brysbaert et al.

(2014) database of concreteness ratings, $F(1,109) = 3.52$, $p = .063$. Contrary to my expectations,

homogeneous groups used marginally more concrete language ($M = 2.35$, $SD = .05$) compared to

diverse groups ($M = 2.33$, $SD = .05$).

Common Verbs. There was a significant main effect of group composition on the use of

common verbs during group discussion, $F(1, 109) = 10.33$, $p = .002$. In the expected direction,

diverse groups used more common verbs ($M = 20.12$, $SD = 1.52$) compared to homogeneous

groups ($M = 19.14$, $SD = 1.56$).

Comparisons. Analysis revealed a marginal main effect of group composition on the use

of comparison language, $F(1, 109) = 2.85$, $p = .095$. In the expected pattern, diverse groups used

marginally more comparison language ($M = 5.44$, $SD = 1.84$) compared to homogeneous groups

($M = 4.90$, $SD = 1.54$).

Differentiation. There was also a marginal main effect of group composition on the use

of differentiating language, $F(1, 109) = 3.44$, $p = .066$. In the expected pattern, diverse groups

used marginally more differentiating language ($M = 4.57$, $SD = .66$) compared to homogeneous

groups ($M = 4.30$, $SD = .80$).

Present Focus. For the last linguistic indicator of more concrete construal, analysis revealed a marginal main effect of group composition on groups' focus on the present in the expected direction, $F(1,109) = 2.79$, $p = .098$. More specifically, diverse groups used marginally more present-focused language ($M = 14.76$, $SD = 1.58$) compared to homogeneous groups ($M = 14.27$, $SD = 1.37$).

Abstract Language Use. To assess more abstract language in decision-making groups, I utilized LIWC2015 subdictionaries of analytical thinking (categorical language) and certainty.

Analytical Thinking (Categorical Language). There was a marginal main effect of group composition on analytical language used during group discussion, $F(1,109) = 3.27$, $p = .073$, in the expected direction. Homogeneous groups used marginally more analytical thinking (categorical language) words ($M = 23.17$, $SD = 7.19$) compared to diverse groups ($M = 20.34$, $SD = 8.14$).

Certainty. Finally, I assessed linguistic differences in certainty language as an indicator of more abstract construal. A 2 X 3 ANOVA revealed a significant main effect of construal level, $F(2, 109) = 5.34$, $p = .006$. Groups in the abstract condition used significantly more certainty language ($M = 1.50$, $SD = .38$) compared to groups in the control condition ($M = 1.19$, $SD = .46$; $p = .002$) and marginally more certainty language compared to groups in the concrete condition ($M = 1.34$, $SD = .39$; $p = .089$). The use of certainty language did not differ between the concrete and control construal conditions ($p = .13$), nor did it vary by group composition. Table 5 shows means, standard deviations, and pair-wise significance tests for all linguistic measures by group composition condition.

Discussion

The current study was an ambitious attempt to replicate and theoretically extend findings from Chapter 2's study that construal level moderates the impact of group composition on relational goals and thorough information processing, as well as establish links between group composition and various indicators of construal level within a data-rich laboratory setting. My success in meeting these goals was mixed which I discuss in detail below.

Relationship Focus

First, I was not able to replicate findings from Chapter 2 for group members' relationship focus nor for discussion thoroughness. In the case of relationship focus, no differences emerged as a result of the experimental manipulations—group composition, construal level, or their interaction. Notably, relationship focus was assessed in slightly different ways between the two studies. In Chapter 2's study, I asked participants to indicate how much *more* important it was to get along than to get the right answer, as well as how much *more* important it was to get the right answer than to get along. I reverse-scored the second item and aggregated responses to the questions together as has been done in previous research examining homogeneous and diverse decision-making groups (Loyd et al., 2013). When measured this way, we might think of relationship focus as reflecting a tradeoff between social- and task-related goals.

In the current study, I sought to remove this tradeoff and assess individuals' social goals of establishing connection independent of task-related goals. This was done in order to more closely assess proposed processes that stem from greater perceptions of entitativity in groups that are task-irrelevant within the theoretical framework I set forth. Accordingly, I asked participants how important it was to get along in addition to how much more important it was to get along than to get the right answer. Perhaps unsurprisingly, when measured in this way, the items meant

to assess relationship focus did not form a reliable scale. However, what was surprising was that this new measurement yielded no differences by group composition or construal level.

It could be the case that within decision-making contexts, consequences of greater perceptions of group entitativity are viewed by group members as coming at the expense of meeting task-related goals. If so, a more accurate assessment of relationship focus would include this tradeoff. Another possibility for not replicating this effect could also stem from the experimental context more generally. Within the lab context, there was no expectation for future interactions between group members. This coupled with the use of a minimal group social category distinction for the basis of group homogeneity/diversity as well as a monetary incentive for better performance may have created a floor effect whereby relationship goals were irrelevant to participants in the current study relative to the goal of performing well.

While the overall group mean for the relationship focus scale in Chapter 2 ($M = 3.76$, $SD = 1.79$) did not seem to differ much from the single relationship-over-task tradeoff item used in the current assessment ($M = 3.70$, $SD = 1.48$), interestingly, individuals in diverse groups seemed to have higher levels of relationship focus in the lab ($M = 3.84$, $SD = 1.89$) than in the classroom ($M = 3.48$, $SD = 1.42$) while individuals in homogeneous groups seemed to have greater relationship focus in the classroom ($M = 3.95$, $SD = 1.52$) relative to the lab ($M = 3.67$, $SD = 1.68$). It is difficult to make strong claims about what these differences mean, but it does seem reasonable to speculate that the two study contexts differed along multiple dimensions that may have shaped group members' goals of establishing positive relationships within their group.

Discussion Thoroughness

While the pattern of differences between homogeneous and diverse group members' discussion thoroughness was consistent in the abstract and control construal conditions, the

nature of these patterns was opposite of what was hypothesized. Individuals in homogeneous groups reported being *more* thorough than those in diverse groups at baseline and when construing more abstractly (although to a slightly lesser degree in the latter condition). Furthermore, within the concrete construal condition, individuals in diverse groups reported higher discussion thoroughness than those in homogeneous groups. Indeed, the nature of this finding seems to suggest better information processing under conditions of fit—members of homogeneous groups are more thorough at more abstract (and baseline) levels of construal, and diverse groups are more thorough at more concrete levels of construal. Perhaps in one-off interactions where there are high incentives to perform well, individuals in decision-making groups have better quality decision-making processes when contextual cues (i.e., primes of construal) match their inner states. On the other hand, greater fit between situationally-induced construal level and how group members presumably construed due to their group composition may have only led group members to *feel* as though they were more thorough during their group discussions. Objective assessments of discussion thoroughness are needed to decipher between these possibilities.

It is also worth noting that while in the classroom study, individuals in diverse groups responded consistently across primes of construal level and those in homogeneous groups showed greater movement, the opposite is true in the current study. Indeed, individuals in homogeneous groups indicated equal levels of discussion thoroughness regardless of construal condition. Discussion thoroughness for individuals in diverse groups was bolstered, however, by a more concrete construal level relative to the control and category conditions. This calls into question the asymmetry in responsiveness to construal level primes that I assumed within my predictions. As shown in the previous and current study, individuals in both homogeneous and

diverse groups respond to primes of construal level. When this occurs for different types of groups may depend on the particular decision-making context.

Performance

Similar to the classroom study, I did not observe differences in decision accuracy between homogeneous and diverse groups in the lab setting despite having a limit of fifteen minutes to reach their decisions. It is possible that the decision-making task that was used in the current study was too difficult to observe variance along the performance outcome. Indeed, only 19% of groups selected the objectively best candidate to hire. Another possibility could be that all groups were highly motivated to perform well due to the one-off nature of the task, relatively low social demands to form interpersonal relationships, and the promise of a monetary incentive for accurate decisions. This strong performance incentive structure may have overpowered manipulations of group composition and construal level.

Finally, although the decision-making task in the current study was chosen as one that I believed would be fostered by more concrete construal level (i.e., attending to individualized, anecdotal evidence of job candidates' characteristics), like many real-life organizational tasks, the hiring decision may have ultimately required both abstract and concrete information processing. Indeed, while it may have been necessary to first process in a more concrete manner to uncover all information, later stages of the decision-making process may have been bolstered by a shift to more abstract constual—aggregating and taking a more holistic view of the information available (e.g., similar to demonstrated benefits of construal shifts; see Steinbach, Gamache, & Johnson, in press). If so, observable performance differences between homogeneous and diverse groups stemming from different levels of (static) construal may have been obscured.

Communication Norms

Though not on all measures of individuals' contributions to the group discussion, I did find support for many of the hypothesized relationships between group composition and the way group members communicate during the decision-making exercise. Despite no differences in how much individuals' subjectively felt that they had voice during their group discussions, individuals who held a minority opinion spoke more frequently in diverse groups relative to homogeneous ones. This is consistent with previous findings from the groups and teams literature that individuals' are more willing to express dissenting opinions in diverse groups (Phillips & Loyd, 2006; Phillips et al., 2006; Toosi et al., 2012). These differences in individuals' contributions to the group discussion did not extend, however, to how long groups discussed the task nor the equality of participation among group members.

I also found supportive evidence of different communication norms within diverse and homogeneous groups using a novel, linguistic indicator of individual expression. More specifically, diverse groups used more first-person singular pronouns like "I", "my", and "mine" during their discussions compared to homogeneous groups. Within the current context, these pronouns were likely used to express what individual group members personally thought about the decision task. While not originally intended as such, the use of first-person singular pronouns may also be an indicator of less group entitativity in diverse groups. In fact, this finding provides the most direct evidence of the proposed claim that members of diverse groups construe themselves more concretely as individuals relative to members of homogeneous groups.

Following this reasoning, I conducted additional post-hoc LIWC analysis on a linguistic indicator that may instead signal greater entitativity—the use of first-person *plural* pronouns such as "we", "us", and "our". However, groups did not vary by group composition or construal

level for this measure (ps > .61). Even still, differences in the use of first-person singular pronouns between homogeneous and diverse groups suggest an alternative means for assessing group entitativity during decision-making groups' interactions. Unlike subjective measures of perceived interpersonal similarity or downstream consequences of entitativity such as relationship focus, linguistic markers for how group members' construe the group more abstractly versus more concretely may be less prone to demand characteristics and are likely automatic.

Additional Linguistic Analysis

The use of linguistic analysis on groups' discussion transcripts also allowed for the assessment of relative differences in construal level between homogeneous and diverse groups along additional cognitive dimensions. Indeed, one suggested benefit of utilizing construal level theory to help understand information processing in homogeneous and diverse groups is the ability to make predictions for how these groups may differ along a wide range of psychological outcomes that are associated with more abstract versus more concrete construal level. One of these outcomes is the use of more abstract/concrete language. To the extent that homogeneous groups construe less concretely and more abstractly than diverse groups, their speech should also be less concrete—utilizing fewer verbs (e.g., Semin & Fiedler, 1988), making fewer distinctions between objects (e.g., Förster, Liberman, & Kuschel, 2008), and focusing less on the here and now (e.g., Bhatia & Walasek, 2006; Snefjella & Kuperman, 2015). Likewise, speech in homogeneous group should be more abstract than that in diverse groups—using more categorical language (e.g., Pennebaker, Chung, Frazee, Lavergne, & Beaver, 2014) and expressing more certainty (e.g., Magee, Milliken, & Lurie, 2010).

The results of the LIWC analyses were largely consistent with these predictions: homogeneous groups used significantly less verbs, and marginally less comparisions, differentiation, and present-focused language relative to diverse groups. Furthermore, homogeneous groups used marginally more categorical language (labeled "analytical thinking" in LIWC) than diverse groups. Interestingly, the measure of certainty language was the only linguistic variable where differences emerged due to the construal manipulation whereby groups primed with more abstract construal used more certainty language than those primed to construe more concretely. Indeed, it is somewhat surprising that although group composition predicted differences in natural language that were consistent with indicators of construal level, direct manipulations of construal level did not influence these outcomes.

It could be that when assessing the content of natural language within interpersonal communication—a social context—more social primes of construal level like group composition have stronger effects than non-social primes (i.e., selecting category vs exemplar words). It is also worth noting that the one finding from the current linguistic analysis that was incongruent with expectations was the direct measure of concreteness using the Brysbaert et al. (2014) database. For this measure, homogeneous groups were marginally more concrete in their discussions relative to diverse groups. It is unclear why this discrepancy occurred for this particular measure. However, by using multiple linguistic indicators of groups' construal, we can be relatively confident in the general pattern of findings—diverse groups communicate using more concrete language relative to homogeneous groups, consistent with the proposed theoretical framework.

Remaining Questions

Many of the effects found for group composition in the current study— for group members' contributions, as well as groups' level of abstraction/concreteness in language—while consistent with the theoretical framework presented, were not moderated by manipulations of construal level. I initially reasoned that if group composition shapes various downstream consequences of information processing in decision-making groups due to its influence on construal level, by directly manipulating construal level, I would be able to turn these effects on and off. Indeed, this would have provided more support for construal level as a cognitive mechanism by which group composition impacts perceptions of group entitativity, communication norms, and additional task-based cognitions within decision-making groups. However, without moderation effects of construal, it remains unclear whether group differences emerged due to members' more abstract versus more concrete construal of homogeneous and diverse groups.

Summary

Although the current study did not replicate findings from Chapter 2, it did offer many useful insights on how construal level may emerge within homogeneous and diverse decision-making groups. More specifically, the results of this investigation provide preliminary evidence that members of diverse groups view themselves more as individuals than as groups—using more first-person singular pronouns during group discussions. Additionally, consistent with this greater perception of individuality in diverse groups and in replication of previous work in the groups and teams literature, group members are more likely to express their unique viewpoints when they are in diverse compared to homogeneous teams. Diverse groups also seem to use more concrete language when communicating within their decision-making groups—comparing

and differentiating between targets, using more action-orientated language, and focusing more on the present—compared to homogeneous groups. These findings suggest that group composition shapes group members' cognitive orientation in ways that influence how information is processed with decision-making groups. While no performance effects were observed in the current study, findings from the linguistic analysis suggest that homogeneous and diverse groups may generate better solutions on tasks that require more abstract versus more concrete construal, respectively.

In the remaining chapter, I discuss possibilities for the different pattern of findings between the studies in Chapters 2 and 3, reflect on the challenges and opportunities for conducting group decision-making research, as well as point to ongoing and future directions that stem from the proposed theoretical framework of construal level in homogeneous and diverse groups.

CHAPTER 4: CONCLUSIONS AND FUTURE DIRECTIONS

While teams are an integral component to the information-processing strategies of most organizations, whereby individuals come together as groups to solve complex problems and make important decisions, studying group decision-making processes empirically remains challenging. However, when done mindfully, this research can shed important light on a range of cognitive processes that emerge within decision-making groups. Furthermore, a better understanding of these cognitions can provide the means for enhancing the way groups process information and reach joint decisions. In the current context, while the studies in Chapter 2 and Chapter 3 both provide valuable insights into group decision-making processes when reviewed separately, due to inconsistent findings *between* the studies, it is difficult to make general claims about the role of construal level in shaping information processing in homogeneous and diverse groups. Ultimately, more research is needed to decipher these discrepancies and to systematically identify contextual factors that shape how these effects emerge. However, I speculate about why I may have observed different patterns of findings within the two studies below, as well as challenges and opportunities of researching group-decision making within classrooms and within the laboratory.

Context Matters

It is not shocking to anyone who investigates human behavior that context is critically important for shaping how psychological processes emerge both within and amongst individuals. However, when studying group decision-making, subtle and not-so-subtle differences between experimental contexts can be easily disregarded in the hopes of collecting data that is relatively "expensive" compared to assessments of individual psychological processes. Within the current set of studies, for example, I sought to replicate the findings from Chapter 2 both within an

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additional classroom setting as well as in the lab study that was described in Chapter 3. Collecting comparable classroom and laboratory data turned out to be more difficult than anticipated, however.

For one, the executive education program in which I collected the first study provided a unique context where students had not yet formed relationships with one another, there were existing meaningful social category dimensions not confounded with status differences, and there was the promise of future interaction with group members. Each of these factors will be important to consider during future data collections. Additionally, within this particular classroom setting, executives participating in the leadership program seemed relatively engaged and invested in the classroom activity. The executive education program also provided a stable setting for groups to complete the activity. By comparison, in another attempt to collect classroom data to replicate these findings, groups' completion of the construal manipulation and of their group discussions were abruptly interrupted as groups had to move classrooms due to a room scheduling conflict with another class.

For reasons such as these, conducting group decision-making research in the laboratory where there is considerable control over research activity can be attractive. However, it is important to recognize key differences in how participants may relate to one another within and outside of the lab. For instance, within the lab study described in Chapter 3, I underestimated that the one-off nature of the interaction may enhance epistemic motives of getting the right answer and diminish social motives of getting along with group members. Indeed, the more formal nature of the setting may have led participants to primarily be task-focused. While I introduced a monetary performance incentive to increase general engagement within the lab, this may have only diminished relational concerns even further. In future data collections, it may be useful to

introduce a more informal getting-to-know-you activity before group members begin on the task to better mimic social dynamics in actual organizations.

Additional Differences

The two studies also differed in additional ways that may have influenced results. For one, moving into the laboratory greatly influenced the demographics of my study sample. Not only was the laboratory sample relatively younger than that of the executive education program, but the racial and national composition was also vastly different. In the initial study, participants had an average age of 35 years, were mostly white (49%) and primarily from the United States (76%). In the lab, participants were younger—24 years old on average—and the most prominent racial group was Asian Americans (48%). On the whole, the lab sample was also more international with only 43% of participants born in the United States. While it is unclear how exactly these demographic changes may have shaped the emergence of construal level in homogeneous and diverse groups and reactions to the manipulations, it is very likely that there was some influence. Indeed, in the lab, other dimensions of diversity may have been salient in a way that was not consistent across my manipulations of group composition and construal level. Unfortunately, other ways of assessing diversity within groups such as groups' composition in terms of national diversity were not evenly distributed across manipulations of construal level in order for me to conduct follow up analysis along this dimension.

Another example of differences between the two studies presented here was the decision task used. In the classroom study, participants completed a murder mystery activity that has been used in previous research to study group decision-making processes. In the lab, I instead chose a hiring decision task (designed as a classroom activity) in order to see if the pattern of findings I initially observed would generalize to a more management-relevant task. While a similar pattern

of findings between the two decision-making tasks would have suggested high robustness for the hypothesized psychological processes, with so many other additional changes between the studies, it is difficult to know whether the differences I found were due to the task or other contextual features. Because collecting group data can be particularly time consuming when done outside out of classroom environments (which have their own set of associated challenges as previously discussed), it is tempting to take a double-barreled approach when designing new studies in order to extend findings to the greatest extent. However, in future data collections, it is worth implementing incremental changes between study designs as one would when studying individual-level phenomena.

Opportunities in Group Decision-Making Research and Future Directions

Despite these challenges, the current set of findings—particularly those in the lab— highlight many opportunities afforded by conducting this type of research. For one, studying group decision-making in the lab allows for very precise coding of how groups process information that is hard to accurately capture through self-report measures. In the current lab study, for instance, I was able to video-record and transcribe groups' full interactions verbatim. This allowed for precise measurement of how frequently and for how long each group member spoke. In ongoing directions of this work, I not only record what task-relevant information was uncovered during group interactions, but also assess how each piece of information was interpreted and integrated into the group discussion as groups came to their final decision. In addition, by recording groups' interactions, I was able to conduct linguistic analysis of groups' natural speech when communicating about the task. It was this approach that allowed me to assess more abstract versus more concrete psychological profiles within homogeneous and diverse groups through their language use. Indeed, this type of objective approach may be a

preferred technique when trying to assess differences in construal level—an elusive construct to measure directly during group interactions—in the context of group decision-making.

On the other hand, while such in depth analysis is often not afforded by classroom data collections, in these settings, existing and meaningful social category differences already exist and allow for an assessment of group decision-making processes that are more reflective of actual organizations. Indeed, within this context, both relationships and task performance matter as interactions are often ongoing over time, and students have a learning orientation. While direct comparisons between findings in the classroom and the laboratory may not be easily made, both settings have their own set of strengths and weaknesses that make up for one another. These differences should be kept in mind when designing future studies.

Conclusion

Utilizing the proposed framework for information processing in homogeneous and diverse decision-making groups provided many insights that are both practically and theoretically useful. I argued that a group's composition may shape how members construe the group—either more abstractly or more concretely. In homogeneous groups where there is salient social category similarity, group members may construe their group more abstractly as a group, while members of diverse groups may instead construe their group more concretely as individuals. This more abstract versus more concrete level of construal is likely to shape social goals as well as how individuals understand and exchange information within the group. Indeed, I found that at a more abstract level of construal, members of homogeneous groups are more focused on building positive relationships which in turn leads them to discuss information less thoroughly than diverse groups. However, by priming a more concrete construal, I was able to eliminate this tendency. Furthermore, construing the group more concretely as individuals in

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diverse relative to homogeneous groups allowed members to voice their unique perspectives and gave way to a more concrete discussion of the task as assessed by linguistic markers of concreteness. It is my hope that this conception of group decision-making processes in which group composition changes group members' cognitive orientation will continue to supplement purely additive views of diversity in a way that extends our theoretical and practical understanding of how groups process information.

Table 1: Sample Descriptives for Studies in Chapters 1 and 2

Demographics	Chapter 1		Chapter 2	
	%	M (SD)	%	M (SD)
Male	31.5%		39.6%	
Female	65.8%		59.0%	
Non-binary Gender	2.7%		.11%	
White/Caucasian	48.6%		24.4%	
African American	15.3%		9.0%	
Asian American/ Asian	3.6%		48.0%	
Latina/Latino	23.4%		8.4%	
Other Race	6.3%		9.9%	
Race Not Provided	2.7%		.3%	
Born in US	75.7%		43.3%	
English First Language	81.1%		55.9%	
Age [in years]		34.67 (6.84)		23.57 (6.29)

Notes: *M* = Mean; *SD* = Standard Deviation.

Table 2: Means, Standard Deviations, and Pearson's Intercorrelations among Study Variables in Chapter 2

Variable	Mean (SD)	1	2	3	4	5	6	7
1. Opinion Similarity	5.26 (0.99)	—						
2. Opinion Difference	5.39 (1.23)	.09	—					
3. Relationship Focus (Individual)	3.70 (1.48)	-.06	-.02	—				
4. Relationship Focus (Group)		-.03	-.04	.55**	—			
5. Discussion Thoroughness	5.95 (0.93)	.01	-.16	-.11	-.31**	—		
6. Group Confidence	4.85 (1.22)	.00	-.04	.04	.07	.05	—	
7. Group Decision Accuracy (0-1)	0.50 (0.51)	-.04	-.15	.04	.08	-.03	-.07	—

Notes: * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 3: Means, Standard Deviations, and Pearson's Intercorrelations among Study Individual-Level Variables in Chapter 3

Variable	Mean (SD)	1	2	3	4	5	6	7	8	9
1. Interpersonal Similarity	3.51 (1.08)	—								
2. Opinion Similarity	4.78 (1.04)	.38**	—							
3. Opinion Diversity	4.90 (1.09)	.03	.18**	—						
4. Relationship Focus	5.05 (1.42)	-.00	.10	-.06	—					
5. Relationship Over Task Focus	3.76 (1.79)	.04	.06	-.07	.39**	—				
6. Voice	6.54 (0.66)	.11*	.09	.06	.12*	.05	—			
7. Individual Contribution: Words	621.24 (340.86)	.09	.10	.08	.00	.01	.09	—		
8. Individual Contribution: Turns	52.65 (27.06)	.06	.00	.03	-.07	.05	.05	.64**	—	
9. Discussion Thoroughness	5.81 (1.14)	-.02	.16**	.05	.11*	.07	.40**	.16**	.16**	—

Note. * p < .05. ** p < .01. *** p < .001.

Table 4: Means, Standard Deviations, and Pearson's Intercorrelations among Study Group-Level Variables in Chapter 3

| Variable	Mean (SD)	1	2	3	4	5	6	7	8	9	10	11	12
1. First-pers Sing. Pron.	4.47 (1.11)	—											
2. Discussion Time	12.27 (3.18)	-.19*	—										
3. Equal Particip.: Turns	0.09 (0.05)	-.15	.09	—									
4. Equal Particip.: Words	0.15 (0.07)	-.18	-.04	.41**	—								
5. Dec. Accuracy (0-1)	0.19 (0.40)	.01	.27**	-.12	-.18	—							
6. Concreteness	2.34 (0.05)	-.41**	.32**	.15	.17	-.07	—						
7. Common Verbs	19.62 (1.61)	.36**	-.02	-.07	.04	.02	-.09	—					
8. Comparisons	5.17 (1.70)	.30**	-.24*	.04	-.05	-.15	-.46**	.16	—				
9. Differentiation	4.43 (0.75)	.13	-.29**	-.07	.08	-.08	-.33**	.21*	.18	—			
10. Present Focus	14.51 (1.49)	.07	.23*	-.01	.01	.02	.26**	.61**	.07	.09	—		
11. Analytical (Category)	21.78 (7.76)	-.12	-.01	.07	-.05	-.13	-.08	-.48**	.27**	-.25**	-.41**	—	
12. Certainty	1.34 (0.43)	-.17	.13	-.03	.10	-.08	.14	-.02	-.13	.05	.05	.06	—

Note. * p < .05. ** p < .01. *** p < .001.

Table 5: Means and Standard Deviations for Linguistic Variables by Group Composition Condition in Chapter 3

	Group Composition			
	Homogeneous		Diverse	
	M (SD)	n	M (SD)	n
First-Person Singular Pronouns	4.22 (1.14)*	56	4.73 (1.04)	54
Concreteness	2.35 (0.05)‡		2.33 (0.05)	
Common Verbs	19.14 (1.56)***		20.12 (1.52)	
Comparisons	4.90 (1.54)‡		5.44 (1.84)	
Differentiation	4.30 (0.80)‡		4.57 (0.66)	
Present Focus	14.27 (1.37)‡		14.76 (1.58)	
Analytical Thinking (Categorical)	23.17 (7.19)‡		20.34 (8.14)	
Certainty	1.40 (0.41)		1.29 (0.44)	

Note. ‡ $p < .10$.   * $p < .05$.   ** $p < .01$.   *** $p < .001$.

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Figure 1: Graphs for the Moderating Impact of Construal Level on (A) Relationship Focus and (B) Discussion Thoroughness in Homogeneous and Diverse Groups in Chapter 2

(A) Relationship Focus
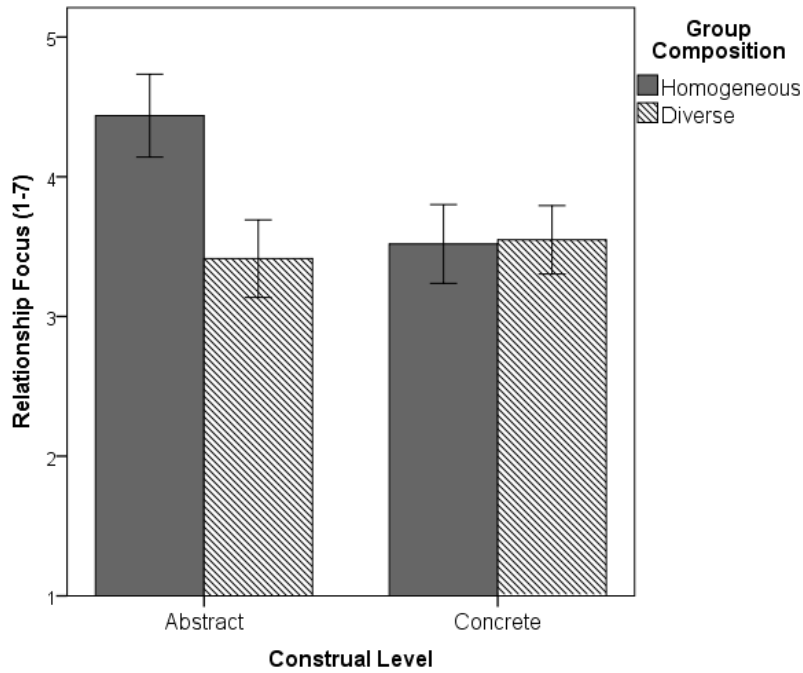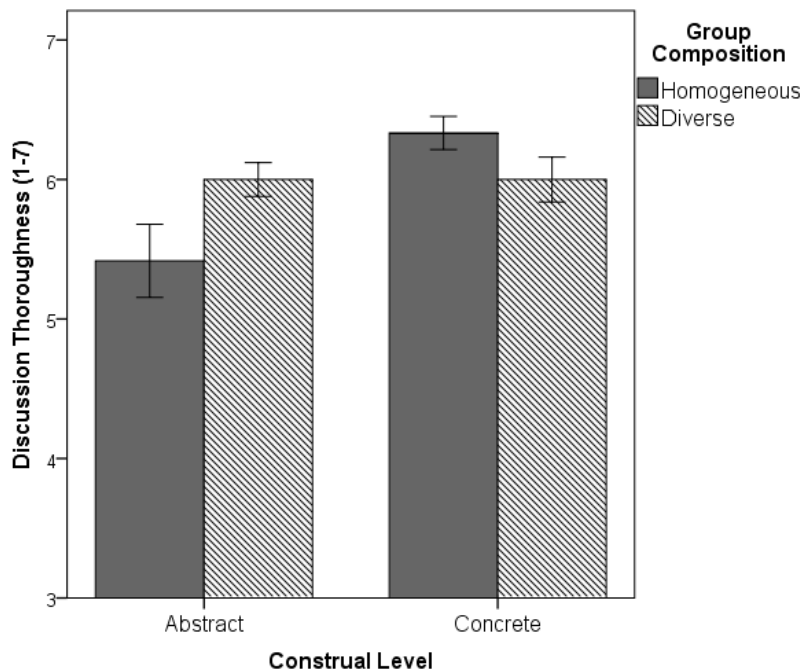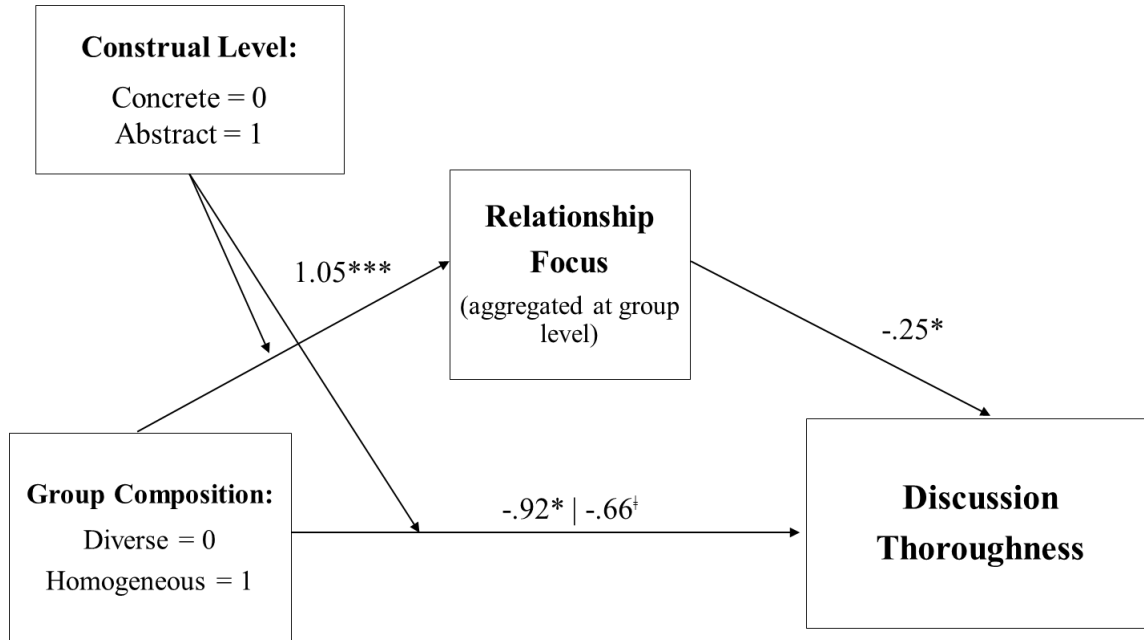

(B) Discussion Thoroughness

Figure 2: Mediation Model of Group Composition on Discussion Thoroughness through

Relationship Focus as a Function of Construal Level in Chapter 2

Conditional indirect effects of group composition on discussion thoroughness at values of moderators:

Concrete Construal: *indirect effect* = .01, *SE* = .05, *CI*$_{95}$ = -.11, .12

Abstract Construal: *indirect effect* = -.25, *SE* = .12, *CI*$_{95}$ = -.51, -.04

Index of moderated mediation: *indirect effect* = -.26, *SE* = .13, *CI*$_{95}$ = -.54, -.04

Figure 3: Graph for the Moderating Impact of Opinion Status on Individual Contribution

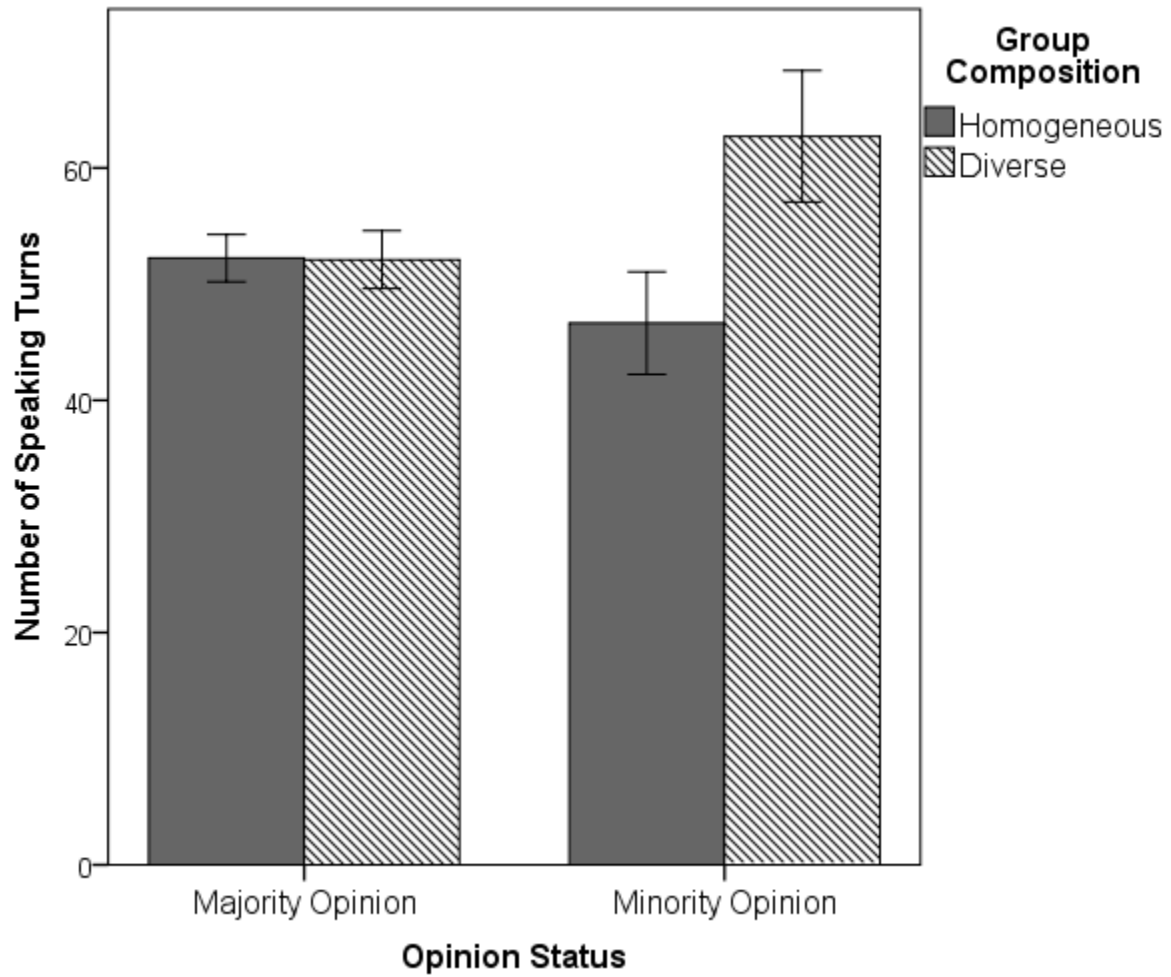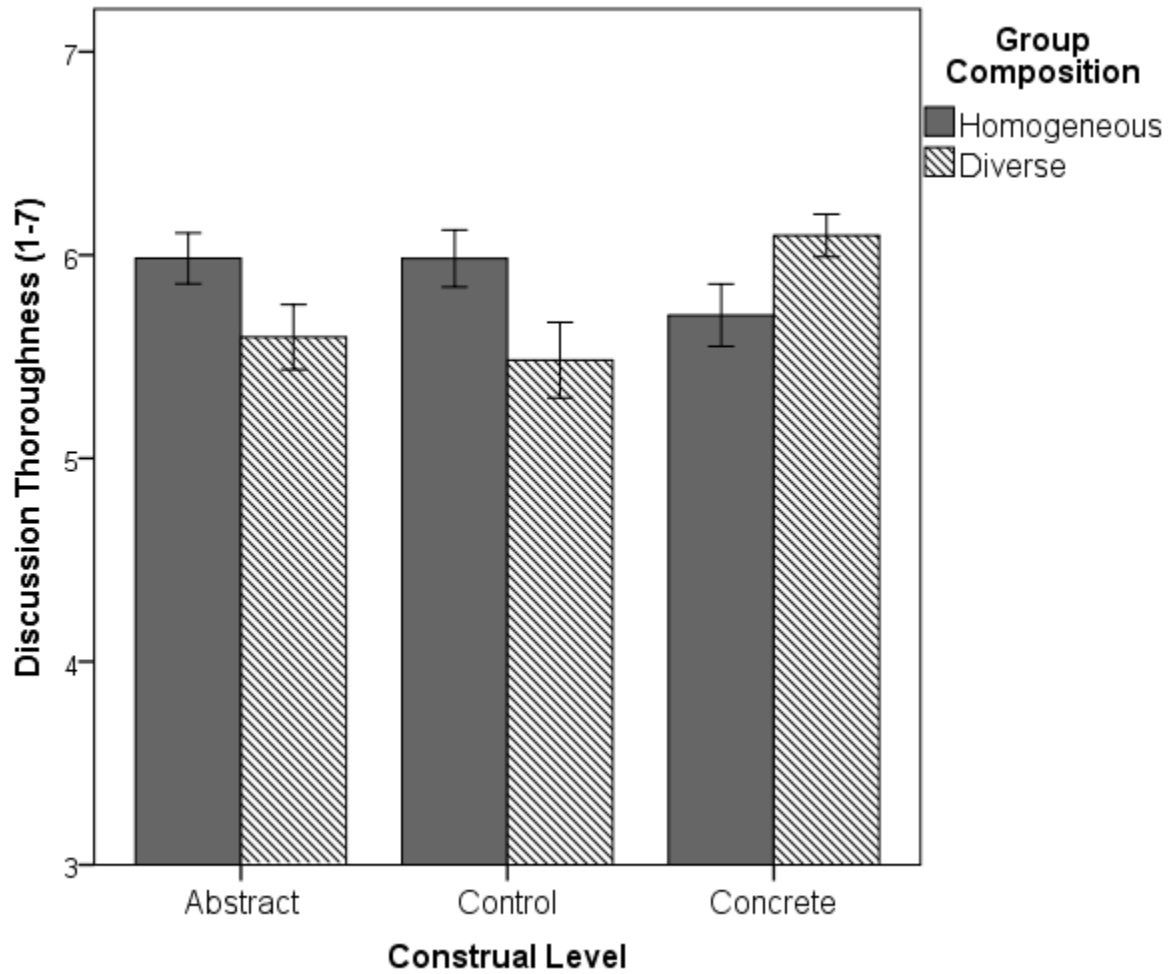**(Speaking Turns) in Homogeneous and Diverse Groups in Chapter 3**

Figure 4: Graph for the Moderating Impact of Construal Level on Discussion Thoroughness in Homogeneous and Diverse Groups in Chapter 3

References

Allen, V. L., & Wilder, D. A. (1975). Categorization, beliefs similarity, and intergroup

discrimination. *Journal of Personality and Social Psychology, 32*, 971–977.

Allen, V. L., & Wilder, D. A. (1979). Group categorization and attribution of belief similarity.

Small Group Behavior, 10, 73–80.

Ames, D. R. (2008). *Grogan Air: Team Decision Exercise*. CCW No. 080406. New York, NY:

Columbia CourseWorks.

Apfelbaum, E. P., Phillips, K. W., & Richeson, J. A. (2014). Rethinking the baseline in diversity

research: Should we be explaining the effects of homogeneity?. *Perspectives on*

Psychological Science, *9*(3), 235–244.

Bhatia, S., & Walasek, L. (2016). Event construal and temporal distance in natural language.

Cognition, *152*, 1-8.

Brysbaert, M., Warriner, A. B., & Kuperman, V. (2014). Concreteness ratings for 40 thousand

generally known English word lemmas. *Behavior Research Methods*, *46*(3), 904–911.

Byrne, D. (1969). Attitudes and attraction. *Advances in Experimental Social Psychology*, *4*, 35–

89.

Byrne, D. E. (1971). *The attraction paradigm* (Vol. 11). New York: Academic Press.

Campbell, D. T. (1958). Common fate, similarity, and other indices of the status of aggregates of

persons as social entities. *Behavioral Science*, *3*(1), 14–25.

Carter, A. B., & Phillips K. W. (2017). The double-edged sword of diversity: Toward a dual

pathway model. *Social and Personality Psychology Compass*,

https://doi.org/10.1111/spc3.12313.

Chidambaram, L., & Tung, L. L. (2005). Is out of sight, out of mind? An empirical study of

social loafing in technology-supported groups. *Information Systems Research*, *16*(2), 149–168.

De Dreu, C. K., Nijstad, B. A., & van Knippenberg, D. (2008). Motivated information processing in group judgment and decision making. *Personality and Social Psychology Review*, *12*(1), 22–49.

Dennis, A. R. (1996). Information exchange and use in small group decision making. *Small Group Research*, *27*(4), 532–550.

Förster, J., Friedman, R. S., & Liberman, N. (2004). Temporal construal effects on abstract and concrete thinking: Consequences for insight and creative cognition. *Journal of Personality and Social Psychology, 87*(2), 177-189.

Förster, J., Liberman, N., & Kuschel, S. (2008). The effect of global versus local processing styles on assimilation versus contrast in social judgment. *Journal of Personality and Social Psychology*, *94*(4), 579–599.

Förster, J., & Higgins, E. T. (2005). How global versus local perception fits regulatory focus. *Psychological science*, *16*(8), 631–636.

Fukukura, J., Ferguson, M. J., & Fujita, K. (2013). Psychological distance can improve decision making under information overload via gist memory. *Journal of Experimental Psychology: General*, *142*(3), 658–665.

Galinsky, A. D., Todd, A. R., Homan, A. C., Phillips, K. W., Apfelbaum, E. P., Sasaki, S. J., ... & Maddux, W. W. (2015). Maximizing the gains and minimizing the pains of diversity: A policy perspective. *Perspectives on Psychological Science*, *10*(6), 742–748.

Steinbach, A., Gamache, D. L., & Johnson, R. E. (in press). Don't get it misconstrued: Construal level shifts and flexibility in the upper echelons. *Academy of Management Review*, (ja).

Gibson, C. B. (2001). From accumulation to accommodation: The chemistry of collective

    cognition in work groups. *Journal of Organizational Behavior*. *22*(2), 121–134.

Hamilton, D. L., & Sherman, S. J. (1996). Perceiving persons and groups. *Psychological*

    Review, *103*(2), 336–355.

Harrison, D. A., Price, K. H., & Bell, M. P. (1998). Beyond relational demography: Time and the

    effects of surface- and deep- level diversity on work group cohesion. *Academy of*

    Management Journal, *41*(1), 96–107.

Hayes, A. F. (2012). PROCESS: A versatile computational tool for observed variable mediation,

    moderation, and conditional process modeling [White paper]. Retrieved from

    http://www.afhayes.com/public/process2012.pdf.

Henderson, M. D. (2013). When seeing the forest reduces the need for trees: The role of

    construal level in attraction to choice. *Journal of Experimental Social Psychology*, 49(4),

    676–683.

Hirokawa, R. Y., & Pace, R. (1983). A descriptive investigation of the possible communication-

    based reasons for effective and ineffective group decision making. *Communications*

    Monographs, *50*(4), 363–379.

Hogg, M., & Abrams, D. (1988). *Social identification*. London: Routledge.

Homan, A. C., Van Knippenberg, D., Van Kleef, G. A., & De Dreu, C. K. (2007). Bridging

    faultlines by valuing diversity: Diversity beliefs, information elaboration, and

    performance in diverse work groups. *Journal of Applied Psychology*, *92*(5), 1189–1199.

Jackson, S. E., & Joshi, A. (2011). Work team diversity. *APA Handbook of Industrial and*

    Organizational Psychology, *1*, 651–686.

Kane, A. A. (2010). Unlocking knowledge transfer potential: Knowledge demonstrability and

superordinate social identity. *Organization Science*. *21*(3), 643–660.

Kunze, F., & Bruch, H. (2010). Age-based faultlines and perceived productive energy: The

moderation of transformational leadership. *Small Group Research*, *41*, 593–620.

Ledgerwood, A., Wakslak, C. J., & Wang, M. A. (2010). Differential information use for near

and distant decisions. *Journal of Experimental Social Psychology*, *46*(4), 638–642.

Lermer, E., Streicher, B., Sachs, R., Raue, M., & Frey, D. (2016). Thinking concretely increases

the perceived likelihood of risks: The effect of construal level on risk estimation. *Risk

Analysis*, *36*(3), 623–637.

Levy, S. R., Freitas, A. L., & Salovey, P. (2002). Construing action abstractly and blurring social

distinctions: Implications for perceiving homogeneity among, but also empathizing with

and helping, others. *Journal of Personality and Social Psychology*, *83*(5), 1224–1238.

Liljenquist, K. A., Galinsky, A. D., & Kray, L. J. (2004). Exploring the rabbit hole of

possibilities by myself or with my group: The benefits and liabilities of activating

counterfactual mind-sets for information sharing and group coordination. *Journal of

Behavioral Decision Making*, *17*(4), 263–279.

Loyd, D. L., Wang, C. S., Phillips, K. W., & Lount Jr, R. B. (2013). Social category diversity

promotes premeeting elaboration: The role of relationship focus. *Organization Science*,

24(3), 757–772.

Magee, J. C., Milliken, F. J., & Lurie, A. R. (2010). Power differences in the construal of a crisis:

The immediate aftermath of September 11, 2001. *Personality and Social Psychology

Bulletin*, *36*(3), 354-370.

Mallett, R. K., Wilson, T. D., & Gilbert, D. T. (2008). Expect the unexpected: Failure to

anticipate similarities leads to an intergroup forecasting error. *Journal of Personality and Social Psychology*, *94*(2), 265–277.

Mannix, E., & Neale, M. A. (2005). What differences make a difference? The promise and reality of diverse teams in organizations. *Psychological Science in the Public Interest*, *6*(2), 31–55.

Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review*, *98*(2), 224–253.

McCrea, S. M., Wieber, F., & Myers, A. L. (2012). Construal level mind-sets moderate self-and social stereotyping. *Journal of Personality and Social Psychology*, *102*(1), 51-68.

McLeod, P. L., Lobel, S. A., & Cox Jr, T. H. (1996). Ethnic diversity and creativity in small groups. *Small Group Research*, *27*(2), 248-264.

McPherson, M., Smith-Lovin, L., & Cook, J. M. (2001). Birds of a feather: Homophily in social networks. *Annual Review of Sociology*, 415–444.

Meyer, B., Shemla, M., & Schermuly, C. C. (2011). Social category salience moderates the effect of diversity faultlines on information elaboration. *Small Group Research*, *42*, 257–282.

Milliken, F. J., & Martins, L. L. (1996). Searching for common threads: Understanding the multiple effects of diversity in organizational groups. *Academy of Management Review*, *21*(2), 402–433.

Palmeira, M. (2015). Abstract language signals power, but also lack of action orientation. *Journal of Experimental Social Psychology*, *61*, 59-63.

Pearsall, M. J., Ellis, A. P., & Evans, J. M. (2008). Unlocking the effects of gender faultlines on team creativity: Is activation the key? *Journal of Applied Psychology*, *93*, 225–234.

Pennebaker, J.W., Booth, R.J., Boyd, R.L., & Francis, M.E. (2015). *Linguistic Inquiry and Word Count: LIWC2015*. Austin,TX: Pennebaker Conglomerates (www.LIWC.net).

Pennebaker, J.W., Boyd, R.L., Jordan, K., & Blackburn, K. (2015). *The development and psychometric properties of LIWC2015*. Austin, TX: University of Texas at Austin.

Pennebaker, J.W., Chung, C.K., Frazee, J., Lavergne, G.M., Beaver, D.I. (2014). When small words foretell academic success: The case of college admissions essays. *PLoS ONE*, *9*(12), e115844. https://doi.org/10.1371/journal.pone.0115844.

Phillips, K. W., & Apfelbaum, E. P. (2012). Delusions of homogeneity? Reinterpreting the effects of group diversity. In *Looking back, moving forward: A review of group and team-based research* (pp. 185-207). Emerald Group Publishing Limited.

Phillips, K. W., & Loyd, D. L. (2006). When surface and deep-level diversity collide: The effects on dissenting group members. *Organizational Behavior and Human Decision Processes*, *99*(2), 143–160.

Phillips, K. W., Mannix, E. A., Neale, M. A., & Gruenfeld, D. H. (2004). Diverse groups and information sharing: The effects of congruent ties. *Journal of Experimental Social Psychology*, *40*(4), 497-510.

Phillips, K. W., Northcraft, G. B., & Neale, M. A. (2006). Surface-level diversity and decision-making in groups: When does deep-level similarity help? *Group Processes & Intergroup Relations*, *9*, 467–482.

Phillips, L. T., Slepian, M. L., & Hughes, B. L. (2018). Perceiving groups: The people perception of diversity and hierarchy. *Journal of Personality and Social Psychology*, *114*(5), 766–785.

Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects

in simple mediation models. *Behavior Research Methods, Instruments, & Computers*, *36*(4), 717–731.

Raue, M., Streicher, B., Lermer, E., & Frey, D. (2015). How far does it feel? Construal level and decisions under risk. *Journal of Applied Research in Memory and Cognition*, *4*(3), 256–264.

Reyt, J. N., Wiesenfeld, B. M., & Trope, Y. (2016). Big picture is better: The social implications of construal level for advice taking. *Organizational Behavior and Human Decision Processes*, *135*, 22–31.

Rock, I., & Palmer, S. (1990). The legacy of Gestalt psychology. *Scientific American, 263*(6), 84–91.

Snefjella, B., & Kuperman, V. (2015). Concreteness and psychological distance in natural language use. *Psychological Science*, *26*(9), 1449-1460.

Semin, G. R., & Fiedler, K. (1988). The cognitive functions of linguistic categories in describing persons: Social cognition and language. *Journal of Personality and Social Psychology*, *54*(4), 558–568.

Smith, P. K., & Trope, Y. (2006). You focus on the forest when you're in charge of the trees: power priming and abstract information processing. *Journal of Personality and Social Psychology*, *90*(4), 578–596.

Smith, P. K., Wigboldus, D. H., & Dijksterhuis, A. P. (2008). Abstract thinking increases one's sense of power. *Journal of Experimental Social Psychology*, *44*(2), 378–385.

Soderberg, C. K., Callahan, S. P., Kochersberger, A. O., Amit, E., & Ledgerwood, A. (2015). The effects of psychological distance on abstraction: Two meta-analyses. *Psychological Bulletin*, *141*(3), 525–548.

Sommers, S. R. (2006). On racial diversity and group decision making: Identifying multiple

    effects of racial composition on jury deliberations. *Journal of Personality and Social*

    Psychology, *90*, 597–612.

Sommers, S. R., Warp, L. S., & Mahoney, C. C. (2008). Cognitive effects of racial diversity:

    White individuals' information processing in heterogeneous groups. *Journal of*

    Experimental Social Psychology, *44*, 1129–1136.

Stasser, G., & Stewart, D. (1992). Discovery of hidden profiles by decision-making groups:

    Solving a problem versus making a judgment. *Journal of Personality and Social*

    Psychology, *63*(3), 426–434.

Swann Jr, W. B., Kwan, V. S., Polzer, J. T., & Milton, L. P. (2003). Fostering group

    identification and creativity in diverse groups: The role of individuation and self-

    verification. *Personality and Social Psychology Bulletin*, *29*(11), 1396–1406.

Tajfel, H. (1981). *Human groups and social categories: Studies in social psychology*.

    Cambridge, England: Cambridge University Press.

Tajfel, H., Billig, M. G., Bundy, R. P., & Flament, C. (1971). Social categorization and

    intergroup behaviour. *European Journal of Social Psychology*, *1*(2), 149–178.

Toosi, N. R., Sommers, S. R., & Ambady, N. (2012). Getting a word in group-wise: Effects of

    racial diversity on gender dynamics. *Journal of Experimental Social Psychology*, *48*,

    1150–1155.

Triandis, H. C. (1980). Reflections on trends in cross-cultural research. *Journal of Cross-*

    Cultural Psychology, *11*(1), 35-58.

Triandis, H. C. (1989). The self and social behavior in differing cultural contexts. *Psychological*

    Review, *96*(3), 506–520.

Triandis, H. C., Hall, E. R., & Ewen, R. B. (1965). Member heterogeneity and dyadic
    creativity. *Human Relations*, *18*(1), 33–55.

Trope, Y., & Liberman, N. (2003). Temporal construal. *Psychological Review*, *110*(3), 403–421.

Trope, Y., & Liberman, N. (2010). Construal-level theory of psychological distance.
    Psychological Review, *117*(2), 440–463.

Turner, J. (1982). Toward a cognitive definition of the group. In H. Tajfel (Ed.), *Social Identity
    and Intergroup Relations*. Cambridge: Cambridge University Press.

Turner, J. (1987). *Rediscovering the social group: A social categorization theory*. Oxford, UK:
    B. Blackwell.

Vallacher, R. R., & Wegner, D. M. (1989). Levels of personal agency: Individual variation in
    action identification. *Journal of Personality and Social Psychology, 57*(4), 660–671.

Van Knippenberg, D., Dawson, J. F., West, M. A., & Homan, A. C. (2011). Diversity faultlines,
    shared objectives, and top management team performance. *Human Relations*, *64*(3), 307–
    336.

Van Knippenberg, D., & Schippers, M. C. (2007). Work group diversity. *Annual Review of
    Psychology*, *58*, 515–541.

Wakslak, C., & Trope, Y. (2009). The effect of construal level on subjective probability
    estimates. *Psychological Science*, *20*(1), 52–58.

Wakslak, C. J., Trope, Y., Liberman, N., & Alony, R. (2006). Seeing the forest when entry is
    unlikely: Probability and the mental representation of events. *Journal of Experimental
    Psychology: General*, *135*(4), 641–653.

Wiesenfeld, B. M., Reyt, J. N., Brockner, J., & Trope, Y. (2017). Construal level theory in

organizational research. *Annual Review of Organizational Psychology and Organizational Behavior*, *4*, 367-400.

Williams, K. Y., & O'Reilly III, C. A. (1998). Demography and diversity in organizations: A review of 40 years of research. *Research in Organizational Behavior*, *20*, 77–140.

Zhong, C. B., Phillips, K. W., Leonardelli, G. J., & Galinsky, A. D. (2008). Negational categorization and intergroup behavior. *Personality and Social Psychology Bulletin*, *34*(6), 793–806.

Appendix A: Questionnaires used in Chapter 2 Study

Pre-discussion Questions

1. How likely are you to discover similarities in opinion in your group discussion?
2. How reassuring would it feel to find similarities in opinion during your group discussion?
3. How likely are you to discover differences in opinion in your group discussion?
4. How comfortable are you discussing differences in opinion about the Murder Mystery during your group discussion?
5. How threatening would it feel to find differences in opinion during your group discussion?
6. How happy would you be to find that your group members agree with you about the Murder Mystery suspect?
7. How surprised would you be to find that your group members disagree with you about the Murder Mystery suspect?
8. How disappointed would you be to find that your group members disagree with you about the Murder Mystery suspect?
9. How likely will differences in opinion about the Murder Mystery negatively impact your group discussion?
10. I feel that it is more important for us to get along than for us to get the right answer to the Murder Mystery.
11. I feel that it is more important for us to get the right answer to the Murder Mystery than for us to get along.

Post-discussion Questions

1. How confident are you that your group made the right decision?
2. How excited do you feel about working with these particular group members in the future?
3. How much do you like these group members?
4. I felt that other group members accepted me as a member of the group.
5. I felt the group was interested in what I had to say.
6. I felt like I made an important contribution to the group.
7. How effectively did your group work together?
8. How satisfied were you with the group decision-making process?
9. How much did you feel like you were free to express your opinion?
10. How comfortable were you voicing your viewpoints?
11. How much did you feel like your group had team spirit?
12. To what degree could you see yourself telling your friends about how great it is to work with these particular group members?
13. To what extent was your group cohesive?
14. To what extent were there differences of opinion in your group?
15. How often did information get shared in the group that you didn't think was that important for the group decision?

Post-discussion Questions (continued)

16. How often did people express opinions that were not in line with your initial thinking about the case?
17. How frequently were there surprises in the group about the importance of particular pieces of information?
18. Do you think the group discussed the information thoroughly?
19. Was there information you wanted to share that you didn't because you didn't think it would be seen as important?
20. Was there information you wish you had shared that you didn't because of time constraints?
21. Was there information you wish the group had dug into deeper but others didn't think was that important?
22. I think discussing differences in opinion helped us get to a better decision.
23. I think group members sharing their unique views on the Murder Mystery case was useful for our group.
24. I think discussing the different opinions our group members had helped me process the information better.
25. How similar did you feel to other members in your group?
26. How well did you know the other members of your group before your discussion today?
27. How often did you think about your program team membership during the Murder Mystery discussion?
28. How often did anyone mention their program team membership during the Murder Mystery discussion?
29. How much do you think your program team membership influenced your Murder Mystery discussion?
30. Do you think the Murder Mystery discussion will influence your future interactions in your program team? If yes, please describe how in the space below.

Appendix B: Questionnaires used in Chapter 3 Study

Pre-discussion Questions

1. How similar do you feel to the other members in your group?
2. Do you feel you have a lot in common with the other members of your group?
3. How likely are you to discover similarities in opinion in your group discussion?
4. How reassuring would it feel to find similarities in opinion during your group discussion?
5. How likely are you to discover differences in opinion in your group discussion?
6. How comfortable are you discussing differences in opinion about the hiring decision during your group discussion?
7. How threatening would it feel to find differences in opinion during your group discussion?
8. How happy would you be to find that your group members agree with you during the discussion?
9. How surprised would you be to find that your group members disagree with you during the discussion?
10. How disappointed would you be to find that your group members disagree with you during the discussion?
11. How likely will differences in opinion negatively impact your group discussion?
12. I feel that it is important for us to get along during the discussion.
13. I feel that it is important for us to get the right answer during the discussion.
14. I feel that it is more important for us to get along than for us to get the right answer.

Post-discussion Questions

1. How confident are you that your group made the right decision?
2. How much do you agree with your group's decision?
3. How excited would you feel about working with these group members in the future?
4. How much do you like these group members?
5. I felt that other group members accepted me as a member of the group.
6. I felt the group was interested in what I had to say.
7. I felt like I made an important contribution to the group.
8. How effectively did your group work together?
9. How satisfied were you with the group's decision-making process?
10. How much did you feel like you were free to express your opinion?
11. How comfortable were you voicing your viewpoints?
12. How much did you feel like your group had team spirit?
13. To what degree could you see yourself telling your friends about how great it is to work with these group members?
14. To what extent was your group cohesive?
15. To what extent were there differences of opinion in your group?
16. How often did information get shared in the group that you didn't think was that important for the group decision?

Appendix B (continued): Questionnaires used in Chapter 3 Study

Post-discussion Questions (continued)

17. How often did people express opinions that were not in line with your initial thinking about the hiring decision?
18. How frequently were there surprises in the group about the importance of particular pieces of information?
19. Do you think the group discussed the information thoroughly?
20. Was there information you wanted to share that you didn't because you didn't think it would be seen as important?
21. Was there information you wish you had shared that you didn't because of time constraints?
22. Was there information you wish the group had dug into deeper but others didn't think was that important?
23. I think discussing differences in opinion helped us get to a better decision.
24. I think group members sharing their unique views about the hiring decision was useful for our group.
25. I think discussing the different opinions our group members had helped me process the information better.
26. During the group discussion, to what extent were you focused on how to make an accurate group decision?
27. How often did you think about your type during the group discussion?
28. How often did anyone mention their type during the group discussion?
29. How much do you think your type influenced your group discussion?
30. I dislike questions which can be answered in many different ways.
31. I feel irritated when one person disagrees with what everyone else in a group believes.
32. When I have made a decision, I feel relieved.
33. When I am confronted with a problem, I'm dying to reach a solution very quickly.
34. I quickly become impatient and irritated if I do not find a solution to a problem immediately.
35. I do not usually consult many different opinions before forming my own view.