PERCEPTIONS OF TRUSTWORTHINESS IN HETEROGENEOUS TEAMS

EXPLORING THE ROLE OF PERCEPTIONS OF TRUSTWORTHINESS IN HETEROGENEOUS TEAMS

By FRANCES L. TUER, M.B.A,, B.A.

A Thesis Submitted to the School of Graduate Studies

in Partial Fulfillment of the Requirements for

the Degree Doctor of Philosophy

McMaster University DOCTOR OF PHILOSOPHY (2013) Hamilton, Ontario (Human Resource Management)

TITLE: Exploring the Role of Perceptions of Trustworthiness in Heterogeneous Teams

AUTHOR: Frances L. Tuer, M.B.A. (University of Western Ontario), B.A. (University of Western Ontario). SUPERVISOR: Professor W. Wiesner. NUMBER OF PAGES: viii, 102

ABSTRACT

The Stereotype Content Model was used to challenge the untested assertion of the social identity/self-categorization perspective that different others will be seen as untrustworthy. Results from a sample of 29 student teams showed that trustworthiness perceptions were positively related to cognitive and bio-demographic diversity. Member satisfaction was also positively related to cognitive diversity. Trustworthiness perceptions mediated the relationship between team diversity and members' satisfaction. First round satisfaction predicted second round team performance. The results suggest that outgroup bias is not automatic; teams can be successful if members see each other as trustworthy, regardless of cognitive or bio-demographic diversity.

ACKNOWLEDGEMENTS

I wish to thank the supervisor of my doctoral committee, Dr. Willi Wiesner, for his expertise, patience, and guidance during the completion of this dissertation. His wisdom and support helped to keep me going during some very tough times. In addition to Dr. Wiesner, I would like to thank the other members of my doctoral committee, Dr. Catherine E. Connelly and Dr. Rick Hackett, for their support and comments on the draft version of this thesis. Both are excellent scholars and it was an honor to have them review my work. Thanks also go to Dr. Kevin Tasa, an earlier member of my committee, from whose Organizational Behavior seminar I developed the original idea of connecting trustworthiness perceptions and team diversity.

From a writing perspective, I would like to thank Dr. Maria Keaton (Ph.D., English) for her many hours of gentle support that helped me to finally make the transition from business writing to academic writing. I gained a much better set of writing skills and a new friend.

I wish to thank my friends and family for their love and support, especially my father, Dr. Dennis Smith, for his example of academic excellence and my mother, Eileen Smith, for her example of how to be a great parent and a lifelong learner. My children, Brenna and John Tuer, have grown both in size and maturity during this journey; I hope you have seen that persistence can help you to achieve things that often seem beyond reach. Above all, I must thank my husband, Robert Tuer, who thought he was marrying a woman with a well-paid and steady job in banking, but who ended up supporting an MBA student and then a Ph.D. student. This is the last degree – I promise!

TABLE OF CONTENTS

LISTS OF FIGURES AND TABLES

No Figures

Tables: Pages 32, 39, 62, 63, 64, 66

LIST OF ALL ABBREVIATIONS AND SYMBOLS

M = mean, or mathematical average of a set of numbers

SD = standard deviation of a range of scores around a mean value, the size of the standard deviation indicates the dispersion of scores

DECLARATION OF ACADEMIC ACHIEVEMENT

I declare that the work contained in this thesis is my own work. With the exception of document review and occasional guidance from my doctoral supervisor and committee, no other person(s) contributed to development of the original idea, the meta-review or the development of the hypotheses; data collection and data analysis were the sole purview of the author. This document was proofread by Dr. Maria Keaton for the sole purpose of identifying and discussing writing deficiencies; all writing and editing of this document was done by the author.

CHAPTER ONE: INTRODUCTION

Two trends that have changed the face of organizations in the last fifty years are the increased use of teams (see reviews by Cohen & Bailey, 1997; Mathieu, Deshon & Bergh, 2008; Pina, Martinez & Martinez, 2008) and a concurrent rise in workforce diversity (see reviews by Jackson, Joshi & Erhardt, 2003; van Knippenberg & Schippers, 2007; Williams & O'Reilly, 1998). Beginning in the 1960s, the composition of the North American workforce began to change more rapidly than it had done in the past century. Changes were driven by the increased educational attainment of women and minorities, supported by equal employment opportunity legislation, plus the labor mobility forces of immigration and globalization (van Knippenberg & Schippers, 2007). As the workforce became more diverse so did the membership of many organizational teams, leading to the increasingly common phenomenon of the heterogeneous team.

Heterogeneous teams are composed of members who are dissimilar from each other in one or more attributes, but who need to work interdependently on organizationally-relevant tasks (van Knippenberg & Schippers, 2007). Heterogeneous teams come in all shapes and sizes: they can have members who are different from each other on a single diversity attribute (e.g. a mixed gender team of middle-aged Caucasian auditors) or on many diversity attributes (e.g. a cross-cultural, cross-functional, multi-generational quality management team). They can be an intentional management intervention, as seen in cross-functional teams, task forces and project teams, but can occur in relatively stable workgroups because of the increased diversity of the entire workforce (Christian, Porter, & Moffit, 2006). Simply by drawing from the available worker population, most of today's organizational teams will be more diverse than in the past,

assuming the absence of any systematic attempts to preserve homogeneity (e.g. nepotism policies or biased recruitment and selection processes). As a result, it is much more likely that employees will belong to one or more heterogeneous teams.

As originally envisioned, heterogeneous teams offered the promise of increased organizational effectiveness; the belief was that the different backgrounds, different knowledge, and different perspectives of team members would aid in making higher quality decisions and generate creative and synergistic thinking (Jackson et al., 2003; van Knippenberg & Schippers, 2007). The reality, however, has not matched the promise; research has shown that performance issues were often worse when teams had heterogeneous rather than homogeneous membership, or the performance of heterogeneous teams was unrelated to their composition (van Knippenberg & Schippers, 2007; Webber & Donahue, 2001). When the benefits of diversity did not materialize as expected; Webber and Donahue suggested that bringing a group of diverse workers together was the easy part, and that more understanding of group dynamics is needed to have employees work together successfully in team settings. Allen and Hecht (2004) went so far as to suggest that organizations should lower their expectations in terms of performance outcomes.

Part of the explanation for the mixed results for teams found in North American companies may be that North American companies had tried to simply mirror successful team-based Japanese manufacturing practices (Kenney & Florida, 1995; Nahavandi & Aranda, 1994), without considering that the Japanese success was due in part to a highly stable, longer-tenured, primarily male, and racially and ethnically homogeneous workforce. The North American workforce, however, was more diverse both racially and ethnically and also later became more gender diverse, as women entered non-traditional occupations. The shift away from a

traditionally obedient homogenous workforce was exacerbated as the popularity of cross-functional teams increased and the use of teams expanded into the service sector, bringing together a wider array of employees to solve problems and come up with new ideas and opportunities (Cohen & Bailey, 1997; Mathieu et al., 2008).

The performance issues of heterogeneous teams started to become more visible in the late twentieth century. Studies of cross-functional teams uncovered the "double-edged sword"; teams should benefit from having members with unique attributes/resources but, at the same time, those same differences tend to be associated with dysfunction in group process and fewer bonds between members of the same group (Williams & O'Reilly, 1998; Jackson et al, 2003, van Knippenberg & Schippers, 2007). Early proponents of social categorization theory proposed that individuals prefer to work with similar, rather than different others, resulting in less rather than more interaction between team members (Tajfel & Turner, 1985). As a result the unique resources that could potentially help team performance appeared to be wasted.

This preference for working with similar others has been used to explain the higher level of intra-team conflict found in heterogeneous teams (Jehn & Mannix, 2001; Pelled, Eisenhardt, & Xin, 1999), which remains the dominant explanation of the underperformance of many heterogeneous teams. Early studies suggested that conflicts about the nature of the task and how to carry it out (task conflict) could benefit team performance, because discussion would help to improve the process and product (Amason, 1996, Bayazit & Mannix, 2003; De Dreu & Van Vianen, 2001; Pelled et al., 1999). However, later studies showed that task conflict was related negatively to short-term goal accomplishment, and was positively associated with relationship conflict, which is rejection of individuals, not just their ideas (De Dreu, 2006, De Dreu & Weingart, 2003).

While intra-team conflict has remained the dominant explanation for the underperformance of heterogeneous teams, the conflict explanation has its limitations. Although overt team conflict may signal team dysfunction, the absence of such conflict does not necessarily signal cooperation or collaboration. Furthermore, not all heterogeneous teams experience conflict, not all homogeneous teams avoid conflict, and many heterogeneous teams are quite functional (see Mathieu et al., 2008, Pina et al., 2007). Earley and Mosakowski (2000) found curvilinear relationships between team diversity and team performance; highly homogeneous and highly diverse teams performed better than moderately diverse teams.

According to van Knippenberg and Schippers (2007) all diversity attributes have the potential to affect team functioning, and capturing the separate and combined effects of multiple diversity attributes is the recommended route to a better understanding of how diversity works in today's teams. Reagans, Zuckerman, and McEvily (2004) stated that today's managers can be more effective by understanding the proximal and distal consequences of team diversity. The current study focuses specifically on three, commonly found, aspects of team diversity; cognitive diversity, which refers to knowledge-based differences, gender diversity, and differences in organizational tenure among team members. While cognitive diversity has received substantial attention, gender diversity has often been written off as "less job-related", and differences between members in organizational experience have received almost no attention.

The current study extends social categorization/similarity-attraction perspectives by discussing how category-based information processing (Fiske & Taylor, 1991) and specifically, consideration of the warm and competence dimensions of stereotype content (Fiske, Cuddy, Glick & Xu, 2002; Lepore & Brown, 1999) relate to perceptions of trustworthiness. Perceptions of trustworthiness are important, because when others are perceived as trustworthy, team

members are more likely to readily share knowledge and collaborate freely (Chowdhury, 2005; Koskinen, Pihlanto, & Vanharanta, 2003; Mayer Davis & Schoorman, 1995), potentially avoiding the "double-edged sword". To date however, no studies appear to have explored a connection between team diversity, in this case cognitive, gender, and organizational tenure diversity, and perceptions of trustworthiness.

The focus of the current study is on face-to-face (co-located teams), because, despite an increase in virtual teams, the vast majority of today's teams are still composed of members in close physical proximity, either working in stable workgroups or meeting face-to-face on cross-functional teams, task forces, or committees. Category-based information processing theory suggests that individuals working in co-located teams will use readily available diversity attributes, which are associated with social categories in order to develop early cognitions about others. What this means is that category-based stereotypes about others may influence initial perceptions of trustworthiness (Fiske & Taylor, 1991), but, in contrast to the traditional social categorization/social identity perspective, differences between individuals may not automatically produce negative evaluations of trustworthiness, or negatively affect the satisfaction of team members

The next chapter contains a review of the literature concerning the relationship between team diversity and team effectiveness. Because this literature has been examined many times, through multiple narrative and meta-analytic reviews, what follows is a meta-review that, for the first time, integrates both qualitative and quantitative reviews. The meta-review begins with a summary of how the construct of team diversity has evolved over time, the empirical evidence for the two competing theoretical perspectives, and a critique of the application of the social identity/self-categorization perspective in term diversity research.

CHAPTER TWO: A META-REVIEW OF THE TEAM DIVERSITY LITERATURE

As research into the effects of workplace diversity and use of teams converged, the literature concerning the relationship between team diversity and team effectiveness expanded greatly in the 1990s and 2000s. This literature has been analyzed many times through a series of narrative (qualitative) reviews (in chronological order: Williams & O'Reilly, 1998; Jackson, Joshi & Erhardt., 2003; Horwitz, 2005; van Knippenberg & Schippers, 2007) and quantitative meta-analyses (in chronological order: Bowers, Pharmer & Salas, 2000; Webber & Donahue, 2001; Stewart, 2006; Horwitz & Horwitz, 2007; Joshi & Roh, 2009; Bell, Villado, Lukasik, Belau & Briggs, 2011). None of these reviews, however, established a robust connection between the attributes of team members and team performance; all of these reviews have included a statement that the relationship between team diversity and team effectiveness remains unclear.

This chapter provides a "meta-review" of the above reviews of the team diversity literature. The meta-review begins by summarizing and discussing the empirical evidence concerning the overall relationship between team diversity and team performance; performance has been the criterion in the vast majority of team diversity studies (Jackson et al., 2003: van Knippenberg & Schippers, 2007; Williams & O'Reilly, 1998). It continues with a brief list of the conceptual and methodological weaknesses in diversity studies that have been identified by multiple reviewers as potentially contributing to inconsistent results. The chapter considers the lack of evidence for the positive predictions of the information processing approach before engaging in a more in-depth discussion of the corresponding lack of evidence for the negative predictions of the social identity/self-categorization (SIT/SCT) perspective. The second half of this chapter discusses specific failures and omissions in the application of the SIT/SCT

perspective in team diversity research. Two major issues will be discussed; the first is failure to consider the context of the research settings in which seminal findings were discovered, and the second is failure to consider several key tenets of the SIT/SCT perspective. Omissions include failures to discuss salience (meaningfulness) of specific social identities and their situational relevance, the relative salience of multiple social identities, the impact of in-group bias on social integration within teams, the requirement that the situation necessitate/generate interpersonal evaluation, and the content of out-group stereotypes. These discussions will set the stage for a more nuanced consideration in the Chapter 3 of how social categorizations, specifically category-based information (stereotypes) might influence initial perceptions of trustworthiness and social integration in new teams, and ultimately team performance.

The next section reviews the lack of evidence for any relationship between team diversity and team effectiveness, operationalized as team performance. Even though team effectiveness is conceptualized as including both team performance and social integration of team members (Mathieu, Maynard, Rapp & Gilson, 2008), the bulk of the team diversity literature has focused on the relationship between team diversity and team performance (Jackson et al., 2003; van Knippenberg & Schippers, 2007). The following discussion reflects what has been learned about the diversity-performance relationship; the much smaller body of work on diversity-social integration is discussed later in this chapter.

Overall empirical evidence for the relationship between team diversity and team performance

No matter what portion of the team diversity-team performance literature that they examined, all qualitative and quantitative reviewers have consistently noted inconsistent results and meta-analytic estimates that were very small and often failed to reach statistical significance

(see Table 1 for selected findings). Meta-analytic estimates of the team diversity – team performance relationship have ranged from ρ = -.04 to ρ = -.01 (Joshi & Roh, 2009; Stewart, 2006; Webber & Donahue, 2001). Bell et al. (2011) did not calculate an overall estimate. However, results from these meta-analyses often failed to meet statistical significance; Bowers et al. (2000) found a non-significant effect for their z statistic. The confidence intervals for the corrected correlation statistics in the meta-analyses by Webber and Donahue and Joshi and Roh included zero. Stewart did not report confidence intervals in his meta-analysis, so significance could not be assessed. Non-significant effects call into question whether a relationship actually exists between team diversity and team performance.

In addition to small and non-significant findings, several qualitative reviews noted that the relationship between team diversity and team performance has been characterized by mixed findings (Horwitz, 2005: Jackson et al., 2003; van Knippenberg & Schippers, 2007; Williams & O'Reilly, 1998). For example, van Knippenberg and Schippers, (2007) noted that the cumulative evidence has shown that there are positive and negative performance benefits to team diversity, and that some diversity attributes, such as the functional background of team members, have been linked to both positive and negative effects. This pattern of inconsistent results is supported by quantitative reviews. Webber and Donahue (2001) found that, while in general team diversity was negatively related to team performance, highly job-related diversity was positively related to team performance. Job-related diversity refers to a dichotomous taxonomy where cognitive/expertise differences tend to be seen as highly job related, whereas bio-demographic differences tend to be seen as less job related (van Knippenberg & Schippers, 2007). However, even though Stewart (2006) found that member heterogeneity in project teams was positively

related to team performance (in contrast to Webber and Donahue), Stewart's results showed that expertise diversity in top management teams (TMT) was negatively related to team performance. The mixed results are problematic because it is possible that the small overall estimates of the relationship between team diversity and team performance may be an artifact of aggregating positive and negative correlations from multiple studies. This may lead to a possibly erroneous conclusion that there is no meaningful relationship between team diversity and team performance. In fact, the relationship between these variables may depend on a number of factors.

Reviewers have attributed the small effect sizes and contradictory results to several deficiencies in the design of team diversity research. These deficiencies include issues with conceptualization and measurement of team diversity, an over-reliance on simple models, (single versus multiple diversity attributes), an overemphasis on team performance at the expense of the other dimension of team effectiveness - social integration, and the dogged pursuit of main effects rather than the consideration of intervening variables that might have a more proximal relationship with team diversity (Jackson et al., 2003; van Knippenberg & Schippers, 2007; Williams & O'Reilly, 1998). However, even if these issues were resolved, another issue is that there are two dominant but opposing theories in use in team diversity research, each of which offers opposing predictions about the relationship between team diversity and team performance. The information processing perspective has tended to focus on cognitive diversity (knowledge-based differences), viewing it as job/task-related and therefore beneficial to team performance (van Knippenberg & Schippers, 2007; Williams & O'Reilly, 1998). In contrast, the social identity/self-categorization (SIT/SCT) perspective has focused on bio-demographic diversity as less job-related, viewing it as harmful to team performance (van Knippenberg & Schippers,

2007; Williams & O'Reilly, 1998). While the information processing perspective has received less attention than the SIT/SCT perspective, it was from this perspective that organizations became aware of the promise and potential value of team diversity.

Specific evidence for the information processing perspective

The *value-in-diversity hypothesis* is the optimistic prediction offered by the information processing perspective. This hypothesis is based on the proposition that cognitive diversity should be beneficial for information processing and decision-making processes in teams (Ancona & Caldwell, 1992; Cox & Blake, 1991). Cognitive diversity includes differences in the functional and educational backgrounds of team members as well as differences in team and organizational tenure, any of which are associated with potentially different bases of knowledge and ways of thinking (van Knippenberg & Schippers, 2007). For this reason, heterogeneous teams, by value of their members' cognitive diversity, have access to more and different resources than homogeneous teams; differential cognitive resources are presumed to be associated with different ways of framing and solving problems that enhance creativity, and help to create synergistic solutions (van Knippenberg & Schippers, 2007; Williams & O'Reilly, 1998). As a result, the value-in-diversity hypothesis suggests that cognitively heterogeneous teams should have better outcomes than teams whose members have similar backgrounds and levels of experience, especially for complex tasks.

However, meta-analytic estimates of the specific relationship between cognitive/task-related diversity and team performance have not supported this hypothesis. As captured in moderator analyses, which isolated relationships with team performance by type of diversity, effect sizes were small, ranging from ρ = .02 to ρ = .13 (see Table 1). Webber and Donahue

(2001) and Joshi and Roh (2009) found that highly job/task related diversity was marginally related to team performance (ρ = .02, .04, respectively). Once again though, 95% confidence intervals around these moderator estimates also included or approached zero. Horwitz and Horwitz (2007) found marginally stronger effects with confidence intervals that excluded zero by isolating two aspects of team performance (quality and quantity); they found positive relationships between task-related diversity and both quality and quantity of team performance (ρ = .13 and .07, respectively). The meta-analyses by Bowers et al. (2000), Stewart (2006), and Bell et al. (2011) did not address cognitive/job-related diversity.

Even within the category of cognitive/job-related diversity though, results have been inconsistent. For instance, mixed results were found for three types of cognitive diversity of relevance to this dissertation (functional, education, organizational tenure). Stewart (2006) found a small negative relationship between functional diversity and team performance (ρ = -.05), whereas Joshi and Roh (2009) and Bell et al. (2011) found a slightly larger positive relationship (ρ = .13 in both cases). For education diversity Joshi and Roh found a small negative relationship (ρ = -.02), whereas Bell et al. found a small positive relationship (ρ = .01). Finally, for organizational tenure diversity, Stewart found a negative relationship (ρ = -.08), whereas Joshi and Roh and Bell et al. found small positive relationships (ρ = .03 and .04, respectively). However, 95% confidence intervals for most estimates contained zero, meaning that the there is no definitive evidence for a relationship, positive or negative, between cognitive diversity and team performance.

The reasons why available knowledge/skills do not seem to have benefited heterogeneous teams remains unclear. This is partly because, as van Knippenberg and Schippers (2007) commented in their review, studies using the information processing perspective have failed to

capture the intervening processes of information sharing and decision making, instead pursuing a dogged search for main effects, an approach that van Knippenberg and Schippers saw as fruitless. Their frustration with simplistic modeling was evident in their statement that "It seems time to declare the bankruptcy of the main effects approach…" (p. 518). Furthermore, the way the information processing perspective has been applied in team diversity research seems to be with an unchallenged assumption that if information is available and relevant it will automatically be used. The available evidence, though, suggests that cognitive diversity is only beneficial in specific situations involving novel and complex tasks (van Knippenberg & Schippers, 2007). A potentially more serious omission is that the information processing perspective seems to have failed to consider that the nature of social relationships between team members might influence knowledge sharing. Bartol and Srivastava (2002) found that knowledge sharing is trust-based, and Connelly, Zweig, Webster and Trougakos (2012) found that knowledge may even be hidden from others who have requested it.

In contrast, the social identity/self-categorization (SIT/SCT) perspective provides a better explanation for why information may not have been used, by arguing, in essence, that diversity is a force that pushes people apart, rather than bringing them together. In this sense, cognitive diversity could also be a source of social fragmentation within teams, minimizing opportunities for collaboration, creativity, and shared problem-solving. However, the information processing and social identity/self-categorization perspectives have not been integrated; studies tend to use either one or the other (Jackson et al., 2003; van Knippenberg & Schippers, 2007).

The next section begins with a brief review of the SIT/SCT perspective with specific evidence from empirical work in team diversity. This is followed by a discussion of how the

settings in which the SIT/SCT perspective was originally formulated were considerably different from the settings in which it has been applied in team diversity research. The second half of this chapter will discuss the oversimplified application of the SIT/SCT perspective in team diversity research, including, among other things, an automatic, but unwarranted, assumption of in-group bias and discrimination.

Specific evidence for the social identity/self-categorization perspective

Social identity is defined as "that part of an individual's self-concept which derives from his knowledge of his membership of a social group (or groups), together with the value and emotional significance attached to that membership (Tajfel, 1978, p. 63). Social identity is grounded in sense of belonging to a larger social entity that is meaningful to the individual (Turner, 1987); it is much more than the similarity-attraction hypothesis proposed by Festinger (1950; 1954) and Byrne (1971). The hypotheses that group membership and interpersonal similarity were equivalent was rejected (Billig & Tajfel, 1973), well before the social identity/self-categorization perspective gained widespread popularity Instead, the SIT/SCT perspective argues that social identities emerge from the process of self-categorization; a self-cognition process of placing self and others into distinguishable groups based on the principle of meta-contrast (Tajfel & Turner, 1979, 1985; Turner, 1982). The meta-contrast principle predicts that any collection of individuals is more likely to be categorized and perceived by an individual as an entity to the degree that the differences between them on relevant and meaningful dimensions are less than the differences between that group and other groups of individuals (Tajfel, 1969, Tajfel & Turner, 1979, 1985).

Application of the meta-contrast principle requires that individuals are identical at a higher level of abstraction (Turner, 1982). For example, an incoming freshman might see herself as objectively belonging to a larger group of freshmen, but she can categorize herself and other freshmen in many ways, including, but not limited to: residence hall, academic program/major, gender, race, and ethnicity. Following the meta-contrast principle, though, the dimension(s) that is/are most likely to be used are those that provide the highest contrast and that reflect the most meaningful parts of individual self-concept. In this case, residence hall and academic program are more likely to be the main bases for categorization due to exclusivity and constant reinforcement. One cannot officially live in more than one residence hall, and, with the exception of students undertaking a program with a double major, enrollment in academic program tends to be exclusive. Daily routines, as well as symbols rituals and ceremonies keep these identities prominent and enhance meaningfulness. The meta-contrast principle suggests that in the workplace, functional background or work location are more likely to be used for categorization. The common question, "where do you work", is a possible signal of the salience of this dimension.

The categorization process of self and others is hypothesized to lead to the emergence of distinct social identities (Tajfel & Turner, 1979, 1985; Turner, 1987). Furthermore, "…people are motivated to establish positively valued distinctiveness for groups with which they identify…" according to Turner (1987, p. 30). The theorized drive for positive social identity for one's own social identities has been linked to a tendency to look more positively on members of groups with which one identifies (in-groups), and less favorably on members of groups with which one does not identify (out-groups). The underlying reasons have less to do with enhancing individual self-esteem, as originally thought (Turner, 1987), but more to do with a desire for cognitive

consistency and validation of one's values, beliefs, and behavioral norms (Festinger, 1950, 1954). However, the drive for positive social identity leads to exaggeration of perceived similarities within groups and exaggeration of perceived differences between groups (Hogg, 1996). In essence, in order to facilitate perceptions of cognitive consistency, differences between in-group members are ignored, as are similarities between in-group and out-group members (Oakes, 1996). The end result is that category-based stereotypes emerge that are based on prototypical members of each social group (Tajfel & Turner, 1979, 1985). Support for one stereotype over another is the basis for favorable treatment of in-group members and the discriminatory behavior shown against out-group members (Ellemers, Spears, & Doosje, 1999; Tajfel & Turner, 1979, 1985). Oakes (1996) stated that Tajfel's (1969) article "Cognitive aspects of prejudice" launched the modern era of stereotyping research. The connections between categorization, stereotypes, in-group bias, and discrimination have become the hallmark of the SIT/SCT perspective.

However, substantial differences exist between the focus and goals of the original studies and the focus and goals of researchers using this perspective in organizational research. Starting in the late 1960s, the social identity/self-categorization perspective emerged from European studies of *intergroup* relations in order to explain large scale social changes that had taken place during and after World War II (Hogg, 1996). The social identity/self-categorization perspective was adopted in the late 1980s by organizational researchers in the USA in order to extend work on social cognition (Abrams & Hogg, 1999). Social cognition research focused on the mental processes (impressions, attitudes, and stereotypes) that guided social behavior/human interaction (Operario & Fiske, 1999). According to Fiske and Taylor (1991) the topic of interest to social cognition researchers is "how ordinary people think about people and how they think they think

about people" (p. 1). Social cognition research to that point had been criticized for not being "social" enough; not giving sufficient attention to the influence of group membership (self and other) on social behavior (Abrams & Hogg, 1999).

Because group membership had been associated with in-group bias and discrimination in seminal work using the social identity/self-categorization perspective, team diversity researchers argued that team diversity and team effectiveness are likely to be negatively related. The focus shifted from intergroup relations and towards intragroup dynamics, even though in reviewing the literature a decade later, Hogg (1996) stated that social identity theory "has not fully explored intragroup differentiation" (p.71). Nevertheless it was proposed that in heterogeneous teams, team members would favor those who were similar and discriminate against those who were different, and this would negatively affect the functioning of the team and lead to suboptimal team performance.

In testing these propositions, organizational research has focused primarily on the relationships between bio-demographic diversity attributes and team performance. However, as will be discussed later, bio-demographic attributes are not equivalent to social categorizations or to internalized social identities; furthermore bio-demographic attributes had been classified as less job-related which contradicted the notion that they could affect performance. Possibly for these reasons, reviews of SIT/SCT studies in the team diversity literature have also revealed a pattern of small and often inconsistent results. For instance, although they analyzed different portions of the literature, Webber and Donahue (2001) and Stewart (2006) produced the same small estimate of the relationship between bio-demographic diversity and team performance (ρ = -.07). Joshi and Roh (2009) found a slightly smaller negative relationship for what they referred to as relations-oriented diversity (ρ = -.03). While Horwitz and Horwitz (2007) found that bio-

demographic diversity was negatively related to performance quality (ρ = -.006), they found a positive relationship with performance quantity (ρ = .02). Once again, however, the confidence intervals associated with all of these estimates approach or included zero. As with the information processing perspective, the empirical evidence in regard to social identity/self-categorization fails to match the strength of the theoretical argument.

According to van Knippenberg and Schippers (2007), one of the reasons for lack of evidence is the search for main effects was misguided; consideration of intervening variables would have been more fruitful. However, following an early recommendation by Williams and O'Reilly (1998), a few researchers have given attention to group processes, especially to intragroup conflict and communication. What they found is that there are often higher levels of intragroup conflict in heterogeneous teams (Jehn & Mannix, 2001; Pelled et al., 1999). Over time this has led to the somewhat inaccurate labeling of the social identity/self-categorization prediction as the *conflict hypothesis.* This is a misnomer because not all heterogeneous groups experience overt conflict and conflict is not always associated with bio-demographic differences. Conflict can just as easily originate in cognitive differences about the task and how it should be carried out: although originally seen as beneficial, DeDreu (2006) showed that task conflict can have detrimental effects on short-term team performance and hinders innovation when task conflict is too high or too low.

Instead of engaging in overt conflict, team members can express in-group bias through other category-based behavior, such as differential communication. More recently, a stronger argument has been made that in-group bias will stimulate withdrawal into category-based factions (cognitive and/or bio-demographic), which will affect the functioning, and ultimately the performance of the group (Lau & Murnighan, 2005; Thatcher, Jehn, & Zanutto, 2003; Earley &

Mosakowski, 2000). These factions are based on faultlines, defined as "hypothetical dividing lines that split a team into relatively homogenous sub-groups, based on the team members' demographic alignment along multiple attributes" (Thatcher & Patel, 2011: 1119). Evidence from faultline studies has shown that teams that break into factions based on faultlines are more likely to experience reduced communication and more conflict, and tend to underperform teams without faultlines (Lau & Murnighan, 2005; Thatcher et al., 2003; Thatcher & Patel, 2011). The study of faultlines, however, is relatively new and the findings are mixed; Lau and Murnighan (2005) found less positive communication relationships in fault-line groups; but also found lower relational conflict, higher satisfaction and higher perceived psychological safety. Furthermore, Thatcher and Patel (2011) found that cognitive types of diversity produced weaker faultlines (functional, educational, age and tenure) than demographic diversity attributes (sex and racial).

Despite adding some clarity, the empirical evidence from faultline studies still does not adequately explain why team members would engage in behaviors that would hurt their own team and reduce the chance of earning valued rewards (e.g. positive performance appraisal, future career opportunities, money, and prizes). In early studies of social identity/self-categorization, discrimination was aimed against members of another team in order to favour members of one's own team when it came to obtaining valued rewards (Tajfel & Turner, 1979; 1985). In their review, van Knippenberg and Schipppers (2007) noted a common failure in organizational studies to capture whether self-categorization was occurring at all on the basis of existing social identities without which it was difficult to say whether perceived intragroup discrimination actually stemmed from categorization. In addition, there have been a number of other serious deficiencies in how the social identity/self-categorization perspective has been applied in team diversity research, which have not been noted in qualitative or quantitative

reviews, but may explain why empirical evidence has failed to provide support for this perspective.

Weaknesses in the application of the social identity/self-categorization perspective

The most pervasive of the deficiencies in application of the social identity/self-categorization perspective is the assumption that differences in attributes will automatically produce in-group bias and discrimination. Abrams (1996) commented that "relatively little intergroup behavior is unconscious or automatic" (p. 159). Turner (1999) discussed the pervasive tendency of many researchers to reduce social identity/ self-categorization to a prejudice theory even though "Social identity theory has never advanced the hypothesis of a direct causal connection between in-group identification and in-group bias" (p. 20). He pointed out that reducing social identity/self-categorization to a prejudice theory implies universal ethnocentrism in intergroup relations which is not true; members of one group do not automatically look down on members of another group. In fact, social identity is often aspirational, such that members of a lower status group may look up to members of a higher status group (Tajfel & Turner, 1979; 1985; Turner, 1999). Turner stated that "Any serious reading of the theory (let alone the explicit statements of its originators) illustrates that this (prejudice) is a caricature" (p. 19).

In contrast, three main arguments have been put forth as to why category-based discrimination is not automatic. First, Branscombe, Ellemers, Spears and Doosje (1999) argue that "if social categorization already provides people with a distinct and meaningful identity then differentiation and discrimination may not be necessary" (p. 42). Mlicki and Ellemers (1996) concluded that having a distinct identity may even be more important than having a positive identity, which implies that low status groups or groups with negative attributes may not feel the

need to discriminate in order to feel superior. This may be why in-group bias was not observed in naturally occurring groups (Mummendey & Schriber, 1984; Spears & Manstead, 1989; van Knippenberg, 1984). Second, Hogg and Mullin (1999) proposed that social categorization is most likely to be associated with discrimination under conditions of subjective uncertainty; subjective uncertainty arises when similar/affiliated others are not expected to agree or react in the same way to the situation. Third, in-group bias is also associated with impermeability of group boundaries; when groups are exclusive in membership it is easier to discriminate than when group memberships overlap (Turner, 1999). The long-held expectation that in-group bias and discrimination would automatically appear in heterogeneous teams may have been due to a failure to consider the contextual factors that produced the seemingly robust findings that social categorization is associated with in-group bias and discrimination.

Much of the original and subsequent work on self-categorization, social identity, in-group bias and discrimination, which led to Tajfel and Turner's writings, took place in deliberately sparse experimental settings, many of which involved children under the age of 15 (e.g. Sherif & Sherif, 1953, Sherif, Harvey, White, Hood, & Sherif, 1961). For instance, early evidence of in-group bias occurred in what have come to be referred to as minimal group studies; these laboratory settings were minimal in the sense that there was no interpersonal contact and little attempt to replicate a real-life situation. A contextually neutral team label (e.g. Red/Blue) was the only social identity that members had available to them. According to Turner and Bourhis (1996) the minimal group effect observed in these studies is dependent on identification with this externally imposed identity, which is more likely to occur in a sparse setting. In addition, Branscombe et al. (1999) suggested that, in the minimal group context, discrimination through preferential point allocation to members of one's own group was the only means available of

displaying group identity. Much of the subsequent work by European social psychologists that immediately followed the early work by Tajfel and Turner (1979, 1985) also took place in laboratory settings using similar protocols. As a result, the seemingly robust finding of in-group bias (Mullen, Brown & Smith, 1992) may have been a contextual artifact.

In addition to the sparse cues for behavior, there are a number of other differences between experimental and organizational settings. The minimal groups that were used often involved individuals who were otherwise homogeneous in age and gender, such as the boys' camp studies (Sherif & Sherif, 1953; Sherif et al., 1961). Furthermore, because the focus was on intergroup relations, minimal group studies always made explicit the presence of a competing group, which is a known factor in increasing the salience of social categories and identification with the in-group (Turner, 1987). In contrast, many organizational teams operate without knowledge of other teams, unless management uses intergroup competition as a motivational tool. In the minimal group studies control of rewards was given to team members, but the control of rewards by individuals is extremely uncommon in organizational settings. Furthermore, the simple, contextually neutral basis for categorization (e.g. Red/White) used in experimental settings is far from the rich, socially and historically meaningful environments in which workers and students find themselves. The labels associated with races, ethnicities, gender and functional/educational background evoke historical events and past and present social realities; to paraphrase George Orwell's Animal Farm (1945) some categories/identities are more equal than others. In addition, individuals possess multiple social identities and can be categorized in many different ways, not just in one way as was the case in the minimal group studies, where all that was available was a single contextually neutral label (e.g. Red or Blue) (Turner, 1987). The existence of multiple social identities by individuals means that there may be similarities

between people at the same time as there are differences between them; certain social identities may overlap. As a result, organizational settings tend to lack the unequivocal basis for categorization deliberately created in minimal group studies.

Nevertheless, despite the contextual differences, the arguments for in-group bias and discrimination may have been intuitively appealing to researchers investigating workplace diversity. Using evidence garnered from the social psychology experimental paradigm organizational researchers made the leap to apply the social identity/self-categorization perspective to team diversity, shifting in the process from the study of macro-level intergroup issues to micro-level intragroup issues. However, in the process of transition, there were a number of other nuances of the social identity/self-categorization perspective that appear to have been overlooked in team diversity research. These include the non-equivalence of attributes to salient social categories/identities and the relative salience of multiple identities.

The first issue in the application of social identity/self-categorization is that attributes (e.g. age, gender, race, ethnicity, occupation, organizational role, functional area) are not necessarily equivalent to social categories or to social identities. Turner (1999) criticized the lack of rigor in social identity/self-categorization research, by researchers in a number of fields, saying that "actual social categorizations in the studies are selected by the researchers with often only weak or no evidence that they correspond to the subjective division of the social world by the subjects…" (p. 22). In particular, he stated that objective categorizations (imposed externally) are not sufficient for discrimination; Branscombe et al. (1999) noted that the subjective internalization of social categorizations by in-group members is a key tenet of identity formation that is often overlooked by researchers. For a social identity to guide action it has to be salient, a meaningful and influential part of one's self-definition, to stimulate category-based

perceptions and behavior (Brewer, 1979; Tajfel, 1978, Tajfel & Turner, 1979, 1985; Turner, 1982). Furthermore, Turner (1999) reminded researchers of the distinction between identification and salience of a specific social identity in a specific social situation, using the analogy of "stored" and "working" memory. Individuals may identify with several different social groups but not all are salient in the current situation, in terms of guiding attitudes and behavior.

Studies of team diversity, however, have not only failed to capture categorization (van Knippenberg & Schippers, 2007) but have also tended to lack any discussion of why the attributes of interest would be used for self-categorization, or why these attributes would have been salient in that particular context. The use of broad, readily detectable attributes, such as age, gender, race, and ethnicity stand in contrast to research which suggests that individuals identify more with small groups that they self-select, not large, encompassing social categories (Branscome et al, 1999; Ellemers, Kortekaas, & Ouwerkerk, 1999). According to van Knippenberg and Schippers (2007), the use of readily available attributes as a proxy for social categorization and social identities may be another reason for the lack of empirical support for the social identity/self-categorization perspective.

The second major issue in the application of the social identity/self-categorization perspective in team research is an assumption that available identity(ies) is/are the most salient identity(ies). In contrast, the social identity/self-categorization perspective clearly specifies that individuals possess multiple social identities, with identity salience being contextual/situationally specific (Tajfel & Turner, 1979, 1985). In early team diversity research, studies often focused on just one diversity attribute, typically age or gender (Williams & O'Reilly, 1998), as if this were the most or a highly salient identity. Even when team diversity research moved into consideration of multiple attributes (Jackson et al., 2003, van Knippenberg & Schippers, 2007),

there were still no apparent efforts to consider or rank them in terms of situational salience. By treating attributes as separate predictor variables or integrating them through simple interactions, the assumption was that they were equal in situational salience. In contrast, the literature on multiple social identities proposes a number of possibilities, which include using the attribute that provides highest meta-contrast, the possibility that multiple attributes will cancel out or align, or that a socially/historically dominant attribute will be used as the basis for categorization (Brown, 1996).

The first possibility for dealing with multiple social identities is that, following the meta-contrast principle, the most situationally meaningful attribute that leads to a categorization that produces the highest contrast between individuals who are different and individuals who are similar will be the one that is used (Turner, 1987). For example, in a group of workers, functional background is more likely to be relevant than organizational tenure, because functional background is usually meaningful, self-selected, relevant and exclusive. However, this may be different in a union environment; organizational tenure may have higher salience, especially in situations involving work allocation and potential layoffs.

The second possibility is that multiple attributes will be considered simultaneously, potentially creating a condition called cross-categorization in which in-group bias and discrimination are less likely to occur (Brown, 1996). According to Brown, cross-categorization involves situations where members of in-groups and out-groups share similarity on one or more other dimensions. In these cases, negative perceptions based on differences are cancelled out by positive perceptions based on similarities and bias is reduced (Deschamps & Doise, 1978; Vanbeselaere, 1991). For example, in a large group composed of younger and older IT and production workers, if the sub-group of IT workers contains both young and old and the sub-

group of production workers also contains both young and old workers, then there is no clear basis for in-group bias and discrimination. On the other hand, it is also possible, as found in a number of faultline studies (Earley & Mosakowski, 2000; Lau & Murnighan, 2005; Thatcher et al., 2003) that instead of cancelling out, some similarities and differences will align. For instance, if all IT workers tend to be younger and all production workers tend to be older then there are clear differences between the groups which might heighten perceptual accentuation and reinforce negative stereotypes.

The third possibility for dealing with multiple identities is that a dominant attribute will be used for categorization, because it is a driving force in the self-concept of many individuals in that group, with the result that other shared categorizations are ignored (Brewer & Gardner, 1996). Hewstone, Hattzi, and Johnston (1991) found a tendency to categorize by ethnicity regardless of task relevance. In a subsequent study, Hewstone, Islam and Judd (1993) found that shared religion (Muslim or Hindu) dominated categorization over nationality (Bangladeshi or Indian). Anecdotal evidence suggests that social class may be a dominant categorization in some societies. In these, and even in otherwise egalitarian societies, the schools that one attended can be highly influential in terms of in-group/out-group categorization and may explain differential treatment received from others. If so, then cognitive diversity in terms of educational background (community college versus university, public versus private school, elite school versus non-elite school) may become a basis for bias and discrimination. If it is believed that the knowledge base or how it was acquired carries less credibility, then this might explain the failure to share and make best use of cognitive diversity in teams. As van Knippenberg and Schippers (2007) put it, any diversity attribute has the potential to be divisive.

The preceding issues of salience and relative salience have not been highlighted in previous reviews of the team diversity literature, but the third omission deals with an issue clearly identified in past reviews of team research. Namely, the third issue is the failure to give sufficient attention to the relationship between team diversity and the social integration of team members (Cohen & Bailey, 1997; Mathieu et al., 2008), even though the central premise of the SIT/SCT perspective is that in-group bias will affect the social integration of the team. Social integration is defined as the strength of the bonds between team members, and operationalized as group cohesion and/or member satisfaction (Mathieu et al.). Cohen and Bailey argued that an understanding of team effectiveness was incomplete without a consideration of attitudinal outcomes; what members think and how they feel about each other may influence effort, collaboration, and turnover. However, reviews by Cohen and Bailey (teams, 1997) and Williams and O'Reilly (team diversity, 1998) noted that the majority of studies conceptualized and operationalized team effectiveness solely as team performance. Later reviewers of the team diversity literature noted a continuance of this trend (Jackson et al, 2003: Horwitz, 2005; van Knippenberg & Schippers, 2007).

The scarcity of team diversity-social integration research is evident when considering the difficulties in finding social integration studies to include in meta-analyses of the team diversity literature. Webber and Donahue (2001) were only able to obtain eight correlation coefficients from just three studies for their meta-analysis of team diversity and group cohesion. Horwitz and Horwitz (2007) were slightly more successful; they obtained 37 correlations from 35 studies by including studies of team member satisfaction or team/group cohesion. The scarcity of empirical work was also mentioned in the narrative review by Jackson et al. (2003), who noted that only 8% of the sixty-seven studies in the period that they reviewed had looked at social integration.

Jackson and her colleagues also observed that inferences about social integration were being made from behavioral intentions/outcomes, rather than direct measures of social integration; turnover and turnover intention were being used as proxies for dissatisfaction. They saw the sparse amount of research as helping to sustain the belief that diversity is negatively related to social integration, because not enough work had been done to really test or challenge this belief.

Despite the scarcity of studies, these two meta-analyses were able to shed light on the dynamics of heterogeneous teams (see Table 1). For instance, the results of the Webber and Donahue (2001) meta-analysis challenged existing social identity arguments by showing a small positive relationship between team diversity and group cohesion (ρ = .04), which suggested that there was some appreciation for diversity. However, moderator analyses revealed that the positive benefits to group cohesion were seen only for highly job-related diversity (ρ = .10); less-job related diversity was negatively related to group cohesion (ρ = -.03). In contrast, Horwitz and Horwitz (2007) found that overall diversity was negatively related to social integration (ρ = -.03), and, as expected, bio-demographic diversity was negatively related to social integration (ρ = -.02). On the other hand, contrary to expectations, they found that task-related diversity was also negatively related to social integration (ρ = -.04). In all cases, the 95% confidence intervals for all of these estimates contained zero. Taken together, the limited evidence has failed to provide strong support for the social identity/self-categorization argument that diversity will create distance and weaken bonds between team members.

The fourth omission, the need for interpersonal evaluation, may help to explain the failure of meta-analyses to provide clarity about relationships involving team diversity. Another of the key tenets of the SIT/SCT perspective is that the processes of social categorization and social comparison generally occur only in situations of subjective uncertainty where evaluation of

others is necessary, and are unlikely to occur in situations that do not require interpersonal evaluation (Mullin & Hogg, 1999). This consideration is missing from team diversity research; there has been little justification of why team members would be evaluating each other in that particular situation. To assume that categorization and comparison takes place in all situations is unrealistic because it ignores the fact that individuals have other information such as past experience or second hand reports on which to base beliefs, attitudes, and behavior about others (Fiske & Neuberg, 1990), or they share a strong superordinate identity which overshadows the effect of any differences within the group (Brown, 1996). Evaluation is more likely to take place in situations where team members interact with unfamiliar others on a novel task, and, especially in cases where there is lack of a strong superordinate identity to unite the team.

The fifth and last omission has to do with recent developments in social cognition research, involving the content of out-group stereotypes. The reduction of social identity/self-categorization to a prejudice theory (Turner, 1999) has led to a situation in which out-group stereotypes are almost always negative in nature, but social cognition research has established that stereotypes can have both positive and negative components (Lepore & Brown, 1999). A stereotype is more than a label (e.g. “nerd”); it is the set of characteristics that are associated with the category label within the mental representation of the social group (Stangor & Lange, 1994). Different does not always mean inferior; different could actually mean superior across one or more situationally relevant attributes.

Recent research into stereotype content has revealed that there are two major dimensions that can be used to evaluate the content of various stereotypes: competence and warmth (Brambilla, Sacchi, Castellini & Riva, 2010; Fiske, 2012a, 2012b; Fiske, Cuddy & Glick, 2007;Fiske, Cuddy, Glick and Xu, 2002). Fiske et al. (2002, 2007) see warmth as indicative of

the intent of others and competence as the capability of others. Past research had hinted at these distinctions; Jews were seen as competent but not warm, whereas Negroes were seen as warm but not competent (Allport, 1954; Bettelheim & Janowtiz, 1950). Fiske and her colleagues also saw this distinction in views of female subgroups; non-traditional women (career women, feminists, lesbians, athletes) being seen as competent but less warm, whereas housewives were seen as warm but less competent.

These dimensions are also evident in commonly used social stereotypes. For example, scientists tend to be seen as competent but not particularly warm, whereas blonde women are often seen as warm but less competent. It is also easy to find stereotypes of students in different academic programs/majors; Oakes and Turner (1986) found that arts students are often viewed as frivolous and radical (less competent), whereas science students are seen as conscientious and career-oriented (higher competence).

Therefore, to reject an out-group based only on their perceived inferiority is to ignore the positive attributes contained in the out-group stereotype. On the other hand, having the complementary aspects of both warmth and competence is more likely to enable goal achievement; while competence may benefit task work processes, such as planning and monitoring progress, warmth is more likely to enhance teamwork processes, such as relationship building and interpersonal support. Furthermore, competence in one domain does not necessarily imply competence in all domains; a team may be better served by having members with a range of competencies, which may mean increasing the diversity of the team. Rejection of others with unique competencies could also delay goal achievement. To date, there do not appear to have been any team diversity studies that have explicitly considered the content of stereotypes and the relationship between specific content and team perceptions and outcomes.

Summary

The team diversity literature is fragmented due to competing theoretical perspectives and inadequate exploration of underlying mechanisms. The relationship between team diversity and team effectiveness remains unclear. Simplistic application of the social identity/self-categorization perspective may have been a major factor in this regard. Several key tenets of the SIT/SCT perspective appear to have been overlooked in most studies using this perspective. The weak evidence from SIT/SCT studies may have deterred researchers from attempting to integrate this perspective with the information processing perspective in order to explain why unique cognitive resources have not benefited heterogeneous teams. At this point, readers may conclude that social identity/self-categorization was/is a poor fit for team diversity research, and, as suggested by van Knippenberg and Schippers (2007) other theories should be considered.

Despite these weaknesses, the central proposition of the social identity/self-categorization perspective, that individuals classify self and others and act in accordance with these category-based stereotypes, is not entirely without merit. Evidence has shown that category-based information processing (stereotypes) is used in initial encounters as a cognitive shortcut, especially when there are time pressures or motivation is lacking to engage fully in information discovery about others (Brewer, 1988; Fiske and Neuberg, 1990). While in-group bias may not be automatic, according to social cognition research, what is often automatic is the use of category-based information in impression formation (Lepore & Brown, 1999). According to Lepore & Brown stereotype-based responses are the default mode in social perception. It would not be unusual to find this default mode in operation in organizational settings, especially in project teams/taskforces. Due to pressure to get the work underway and a finite amount of time

to reach the goal, there is rarely time to go beyond the surface and get to know people on a deeply personal basis; teams tend to focus on the task. Furthermore, the short-term nature of projects/problems may not provide sufficient motivation to engage in deeper-level discovery, especially if it is not clear whether current team members will be future colleagues.

Although category-based information processing has not yet found its way into team diversity research, it directly relates to situations requiring evaluation of others, without requiring high internalization of social identities on the perceiver's part. At the same time, it provides the context in which to explore the issues of situational and relative salience of specific social categories and the content of their associated stereotypes. The question of whether category-based information processing is uni-dimensional (single category) or multi-dimensional (multiple categories) has not been fully explored.

The next chapter begins with a brief overview of category-based information processing. This foundation will then be used to develop an argument that category-based information (stereotypes) will influence the formation of initial perceptions of the trustworthiness of fellow team members and the initial satisfaction with being a member of a specific team.

Table 1: Selected Meta-Analytic Findings of the Relationship Between Team Diversity and Team Effectiveness

	Bowers et al. 2000	**Webber & Donahue 2001**	**Stewart 2006**	**Horwitz & Horwitz 2007**	**Horwitz & Horwitz 2007**	**Joshi & Roh 2009**	**Bell et al. 2011**
Team Performance		Overall	Overall	Quality	Quantity	Overall	Overall
Overall Diversity	z = 1.27, p > .05	-.01 (-.05 to .03)	-0.04(no CI)			-.01 (-.02 to .00)	
Job/Task Related		.02 (-.03 to .07)		.13 (.06 to .19)	.07 (.01 to .17)	.04 (.02 to .06)	
Functional			-0.05 (no CI)			.13 (.09 to .17)	.13 (.05 to .15)
Education						-.02 (-.06 to .01)	.01 (-.05 to .08)
Org. Tenure			-0.08 (no CI)			.03 (0.01 to .06)	.04 (-.01 to .08)
Bio-demographic		-.07 (-.15 to .00)	-0.07 (no CI)	-.006 (-.09 to .08)	0.02 (-.35 to .30)	-.03 (-.05 to -.02)	
Gender	z = -.038, p > .05					-.02 (-.04 to .01)	-.09 (-.12 to -.04)
Cohes/Soc.Integ.		Cohesion		Social Integration			
Overall Diversity		.04 (-.05 to .13)		-.03 (-.08 to .02)			
Job/Task Related		.10 (-.02 to .23)		-.04(-.12 to .03)			
Bio-demographic		-.03 (-.16 to .10)		-.02(-.08 to .04)			

Note: with the exception of Bowers et al. (2000) all statistics are estimated population parameters (ρ) with associated 95% confidence intervals

CHAPTER THREE: STEREOTYPE CONTENT AND PERCEPTIONS OF TRUSTWORTHINESS

Evaluation of others has been linked to an evolutionary drive for survival; knowing the intent and abilities of others can assist in preparing an appropriate response (Fiske, 2012; Fiske, et al., 2007). By knowing what might come, interpersonal evaluation can serve to reduce uncertainty, especially when faced with diverse and unfamiliar others. In organizational research, evaluation of the intent and abilities of others has been captured by the construct of perceptions of trustworthiness (Mayer, et al., 1995). Perceptions of trustworthiness is a multi-dimensional construct that includes perceptions of the abilities, benevolence/caring, and integrity/character of others (Colquitt, Scott, Lepine & Jeffrey, 2007; Mayer et al.,1995). These perceptions reflect the potential degree of uncertainty felt about working with others. Positive perceptions of trustworthiness reduce uncertainty and engender trust (Mayer et al., 1995); trust is defined as the willingness to be vulnerable to the actions of another (Rousseau, Sitkin, Bart & Camerer, 1998). Having a solid foundation for trust is important because, in the absence of controls, trust facilitates knowledge sharing and collaboration between team members, which enhances team performance. (Bartol & Srivastava, 2002). However, a commonly cited proposition of social identity theory is that in-group members are more trustworthy and out-group (different) members are less trustworthy (Tajfel and Turner, 1979, 1985). This proposition implies that perceptions of trustworthiness should be lower in heterogeneous teams than in homogeneous teams; possibly dooming them to failure from the start. Yet, despite the regular citation of this proposition, there does not appear to be any empirical research that has explicitly tested it in heterogeneous teams. Although trust has been studied in team settings (e.g. Serva, Fuller & Mayer, 2005; Webber,

2008), no empirical attention appears to have been given to the relationship between team diversity and intrateam perceptions of trustworthiness.

By drawing on more comprehensive work on group stereotypes from the social cognition literature, hypotheses will be developed in this chapter that directly challenge existing assumptions. Two specific developments in the field of social cognition that will be used to build a foundation for predicting levels of trustworthiness in heterogeneous teams are category-based information processing and stereotype content. Social cognition research has shown that initial impressions of others are indeed rooted in category-based information (group stereotypes), especially in situations where rapid evaluation is necessary or desirable (Brewer, 1988; Fiske, 2012, Fiske & Neuberg, 1990; Fiske & Taylor, 1991). In contrast to the commonly-held belief that out-group stereotypes are uniformly negative (Fiske, 2012a), which would explain why different others are seen as untrustworthy, this dissertation will draw on the Stereotype Content Model (SCM) developed by Fiske et al. (2002, 2007) to argue that this is not necessarily the case. Substantial evidence has shown that group stereotypes are not one-dimensional, but vary along two fundamental dimensions; perceived warmth and perceived competence (Cuddy et al.,2007; Cuddy, Glick & Beninger, 2011; Fiske et al., 2002, 2007; Judd, James-Hawkins, Yzerbyt & Kashima, 2005, Kervyn, Yzerbyt & Judd, 2010). Applying the SCM to perceptions of trustworthiness in organizational settings creates the possibility that out-group members can be perceived as trustworthy because they are high in warmth and/or high in competence. Richetin, Durante, Mari, Perugini, & Volpato (2012) noted a lack of research that has applied stereotype content to social perception, especially in terms of perceptions of group members. They concluded that an "approach that consists of bridging different social theories that are SCM and SIT can provide new insights for the study of out-group perceptions …" (p. 432).

The next section contains a brief review of category-based information processing, followed by a more in-depth introduction to the Stereotype Content Model. The notion of uniform contempt for out-groups will be challenged further by robust evidence of a compensation effect, such that in-groups often give more credit to out-groups than they give to themselves, on one of the two dimensions (Judd et al., 2005; Yzerbyt, Kervyn & Judd, 2008).

Category-based information processing

Evidence has shown that attributes and cues are often used to make initial assessments of abilities, level of concern for needs of others, and the probability that others will act in ways that conform to preferred conventions and norms (Levin, Whitener & Cross, 2006; McKnight, Cummings & Chervany, 1998). In terms of the kinds of cues that people use, Chatman and Flynn (2001) noted that "people often use immediately apparent physical features, such as race, sex, and national original, to categorize others and predict their behavior" (p. 957). According to Fiske (2012, p. 33) "Social categories such as gender, race, and age immediately impinge on impressions, whether we like it or not" and "decision makers and peers cannot help automatically noticing social categories". This phenomenon of using readily-available information, in place of experiential information, is known as category-based information processing (Fiske & Taylor, 1991). While observable attributes tend to be used first they are quickly followed by questions about occupation, which is another trigger for categorization (Cuddy et al., 2011). According to Fiske & Taylor (1991) factors that stimulate category-based information processing are time pressure to make a rapid evaluation, low motivation to form accurate impressions of others, and/ or preoccupation with other tasks. These particular factors

would seem to predispose new teams and especially short-term teams to engage in category-based information processing to form initial impressions about the members of their team.

There are a number of reasons why more attention should be paid to category based information processing. In developing the BIAS (behavior, intergroup affect, and stereotype) map, Cuddy et al. (2007) showed that group stereotypes evoke specific emotions (admiration, pride, envy, pity, contempt, disgust) that result in specific behaviors (active or passive facilitation, active or passive harm). Furthermore, first impressions shape subsequent impressions; desire for confirmation of initial impression means selective incorporation of additional information (Carlsson, Björklund, & Bäckström, 2012). Carlsson et al. (2012) noted that disconfirming/individuating information is often ignored so early impressions can continue to have influence on later decisions about hiring, promotion, and training. Understanding early impressions in teams may help to uncover reasons for team function or dysfunction.

However, in contrast to the social identity arguments made in prior team diversity research, dissimilarity does not automatically mean negative impressions and reduced perceptions of trustworthiness. It can be that the reputation of the other category is one of higher trustworthiness than one's own group (McKnight et al., 1998; Myerson, Weick, & Kramer, 1996; Williams, 2001). For instance, women are generally seen as more trustworthy than men (Levin et al., 2006). Research over the past ten years into the content of stereotypes has helped to explain favorable assessments of out-groups.

Stereotype Content Model

The Stereotype Content Model (Fiske et al., 2002, 2007) is based on a central proposition that just two dimensions, warmth (perceived intent) and competence (perceived ability) can distinguish group stereotypes. According to Fiske et al. (2007, p. 82) warmth and competence

"are reliably universal dimensions of social judgment across stimuli, culture, and time"; a conclusion reached also by Judd et al. (2005) and Kervyn et al. (2010). The related behavior-intergroup affect – stereotype (BIAS) map (Cuddy et al., 2007, 2011) showed that warmth and competence predict the emotions and behaviors directed towards various groups. Warmth traits include being sociable, friendly, caring, nice, tolerant, likeable, well-intentioned, trustworthy, good-natured, and sincere (Biernat, Sesko & Amo, 2009; Fiske et al., 2002; Fiske et al., 2007;Yzerbyt, Kervyn & Judd, 2008). In the Stereotype Content Model, competence is linked to traits such as intelligence, dynamism, being organized, capable, conscientious, motivated, skilled, and efficient ((Biernat et al., 2009; Fiske et al., 2002, 2007; Yzerbyt et al., 2008). Whereas warmth captures intent, competence is seen as the ability to act on the intent. Competitive groups are seen as lacking in warmth, but high status groups are seen as being higher in competence (Fisk et al., 2007). Lack of warmth is associated with dislike because of excessive self-interest, whereas lack of competence is associated with disrespect because the group is viewed as ineffectual (Fiske et al, 2002, 2007).

By applying the warmth and competence dimensions to various out-group stereotypes, the SCM showed that group stereotypes tended to be fit within one of four clusters; high competence – high warmth (in-group and allies), high competence-low warmth, high warmth – low competence, and low competence – low warmth (Fiske et al., 2002; 2007). For example, those who work in Human Resources are viewed as high in warmth but low in competence, whereas those who work in technical/engineering roles tend to be viewed as high in competence but low in warmth (Cuddy, 2012). Table 2 shows a summary of key findings from the SCM and related BIAS MAP for each of the four clusters; the nature of the contrast, the nature of the

stereotype (positive, ambivalent, negative), the specific emotions and behaviors directed towards the group in that cluster, and specific triggers for one type of behavior over another.

A major contribution of the SCM has been to explicitly acknowledge that ambivalent stereotypes abound in everyday life; in fact, the majority of group stereotypes tend to be classified as ambivalent (Fiske et al., 2002, 2007; Judd et al., 2005; Son Holoien & Fiske, 2012; Yzerbyt et al., 2008). For example, scientists, engineers and business executives, and males in general are often seen as high competence-low warmth (Fiske, 2012a, 2012b; Fiske et al., 2002, 2007; Judd et al., 2005; Yzerbyt et al., 2008). In contrast, when researching benevolent versus hostile sexism, Glick and Fiske (1996) found that women are seen as either high warmth-low competence (housewives, working mothers) or high competence-low warmth (career women, feminists, those in non-traditional occupations). Older people are also seen as less competent but higher in warmth (Cuddy & Fiske 2002). Son Holoien and Fiske (2012) found that individuals reinforce ambivalent stereotypes by being willing to appear low on one dimension in order to appear high on the other dimension.

Ambivalent stereotypes are the outcome of a pervasive compensation effect for social groups (Judd et al., 2005; Yzerbyt et al., 2008). Yzerbyt et al. (2008, p. 1110) defined the compensation effect in simple terms as the "tendency to perceive one group as warm and incompetent and the other group as competent and cold". Evidence has shown that while a halo effect (positive correlation) occurs when evaluating the warmth and competence of individuals, competence and warmth tend to be negatively related for most social groups (Fiske et al., 2007; Judd et al., 2005, Yzerbyt et al., 2008, Kervyn et al., 2010).

Table 2: Recap of key findings from Stereotype Content Model/BIAS Map investigations

	High Competence – Low Warmth Stereotype	**High Competence – High Warmth Stereotype**
Type of Comparison	Upward contrastive	Upward assimilative
Type of Stereotype	Ambivalent	Non-ambivalent
Related Emotions	Envy/ jealousy/resentment	Admiration and pride
Related Behaviours	Passive facilitation (associating) and active harm (harassing)	Active and passive facilitation (helping and associating)
Active/Passive Trigger	Passive facilitation when competence is salient, active harm when lack of warmth is salient	
Discrimination Outcome	Mixed discrimination, invited to work activities excluded from social activities)	No discrimination, similar/identical workplace opportunities
	Low Competence – Low Warmth Stereotype	**Low Competence – High Warmth Stereotype**
Type of Comparison	Downward contrastive	Downward assimilative
Type of Stereotype	Non-ambivalent	Ambivalent
Related Emotions	Contempt and disgust	Pity
Related Behaviours	Active and passive harm (harassing and neglecting)	Active facilitation (helping) but also passive harm(neglecting)
Active/Passive Trigger		Active facilitation when warmth is salient, passive harm when lack of competence is salient
Discrimination Outcome	Consistent discrimination, limited workplace and social opportunities	Mixed discrimination, excluded from work activities, but invited to social activities

Judd et al. (2005) found that compensation takes place on the dimension for which there is less information, and will occur even if there is no information available on which to anchor the compensated dimension. For instance, if performance (competence) information is available then warmth will be assumed, high-performers will be viewed as less sociable, friendly, and more self-interested.

The motivation for compensation has been explained in terms of system justification, justifying the status quo of social relationships (Yzerbyt et al., 2008); for example, "rich but not nice" and "old but not smart" (Fiske et al., 2006, p. 81). Kervyn et al. (2010) commented that it is seen as unjust when one group is a complete winner while another group is a complete loser; we are happier when each group has the same total number of positive characteristics, even though they are differentially allocated across the two dimensions. From a social identity perspective, accentuating the positive for everyone helps to maintain distinctiveness between groups, and generates a positive identity for all but the low warmth-low competence groups (Mummendy & Schreiber, 1983; Oldmeadow & Fiske, 2010). However, in contrast to social identity arguments, most of the time positive identity is based on one of the two dimensions, not on both. Compensation has also been seen as providing an acceptable excuse for failure; high status groups can fail without censure on a low status task (Kervyn et al., 2010). However, they note that this explanation only fits high status groups; low status groups do not receive the same consideration if they fail on higher status tasks.

Kervyn et al. (2009, 2010) summarized several conditions that are associated with the compensation effect. First, compensation only occurs in a comparative context; rating of a single group does not produce the compensation effect. Second, it appears that the compensation effect only takes place on the two dimensions of warmth and competence; studies involving a third

dimension (e.g. healthiness) showed no evidence of a compensation effect with either warmth or competence. As a result they amended the definition of the compensation effect to "the tendency to differentiate two social targets in a comparative context on the two fundamental dimensions by contrasting them in a compensatory direction. Specifically, when observers see one of two groups as being higher than the other on one dimension, as a result of compensation, they will also see it as lower than the other on the other fundamental dimension" (Kervyn et al. 2009, p. 829). The third condition is that the compensation effect tends to be stronger for warmth than for competence. Groups seen as lower in competence were given more credit for warmth, than low warmth groups were given for competence. Fourth, the degree of compensation varies depending on whether the in-group is one of the groups involved in the comparison.

Evidence shows that both sexes compensate (Kervyn et al., 2009) and in-groups are not immune to the compensation effect; in-groups will give higher ratings to out-groups on either warmth or competence than they give to themselves (Kervyn et al., 2008). Kervyn et al. (2010, p. 179) stated that "membership in one of the two groups does not prevent the compensation effect from emerging". However, it was also found that the magnitude of the difference on the lower dimension is smaller for within-group perceivers; they rate their own group as slightly less than, but not substantially less than out-groups on the lower dimension, while exaggerating the difference on their higher dimension (Judd et al., 2005; Kervyn et al., 2008; Yzerbyt et al., 2008). Fifth, the direction and magnitude of compensation also varies depending on the specific nature of the groups involved in the comparison; Belgians rated themselves differently when compared with Italians versus Germans (Kervyn et al., 2008).

Group Stereotypes and Perceptions of Trustworthiness

The implication of work on stereotype content and the compensation effect is that in heterogeneous teams, initial perceptions of trustworthiness are likely to be influenced by the content of stereotypes associated with various team members. There will be team members whose group stereotypes are the same or are seen as being similar in warmth and competence to the in-group (essentially allies) and members whose ambivalent group stereotypes differ from the in-group on either warmth or competence. There are unlikely to be low warmth-low competence groups in organizations, because of a "general preference for accentuating the positive and avoiding explicit group derogation" (Kervyn et al., 2009, p. 366), especially for related others. As a result, this creates a situation in which every team member can be viewed through a positive light, and perceptions of trustworthiness are unlikely to be negative. In the following sections, separate hypotheses are developed to link initial perceptions of trustworthiness with each of the following types of diversity: functional/educational diversity, gender diversity, and organizational tenure diversity. Interactions between these types of diversity will also be discussed.

When it comes to functional/educational background there are a number of factors that would produce higher rather than a lower initial assessment of the trustworthiness of one's organizational team. The driving force is that in organizational settings competence carries more weight than warmth (Cuddy et al., 2007), especially because competence is more important when evaluating interdependent others (Abele & Wojciszke, 2007; Wojciszke & Able, 2008). Competence is often associated with status gained through specialized knowledge (functional background) and/or higher levels of education (Fiske et al., 2002, 2007). Many functional and educational stereotypes come with assertions of competence, but not necessarily warmth.

Scientists and engineers are viewed as "smart" but are cold due to perceived deficits in sociability, whereas business people are smart and social but are cold due to perceived deficits in integrity/morality (Fiske et al, 2002, 2007; Judd et al., 2005; Yzerbyt, et al., 2008). In general, the higher the status of the group the more competent and less warm that group is seen to be (Fiske et al, 2002). The higher power and self-interest of "cold" members that can drive progress towards goals may be viewed as beneficial. However, even stereotypically "warm" members may increasingly be viewed as competent; increased amounts of education and ongoing training are needed even for "warm" occupations (e.g. Bachelor of Science degree in Nursing, Master of Education, postgraduate programs in Marketing and Human Resource Management). Therefore, as a team becomes more functionally/educationally diverse it is more likely that members will perceive their team to be trustworthy because of the combination of competent members, some of whom are driven but who are balanced by some sociable and nurturing members. This leads to the first hypothesis that:

H1a: Initial perceptions of trustworthiness will be positively related to team diversity (functional/educational)

In contrast, gender diversity may not produce quite as positive impressions. Traditionally males are seen as being higher in competence, but lower in warmth, whereas females are seen as lower in competence, but higher in warmth (Fiske et al., 2002, 2007). If a team has maximum gender diversity (50% male, 50% female), then perceptions of warmth and competence among team members would tend to cancel out,. The team will not be viewed as completely untrustworthy, by its members, but not highly trustworthy either. Higher ratings of competence given to professional women (Glick and Fiske, 1996) might raise perceptions of trustworthiness but the corresponding decrease in perceived warmth may leave the team unsure whether there are

any caring/sociable members, or if everyone will pursue their own self-interest. As a result, perceptions of trustworthiness may not be as positive as in functionally/educationally diverse teams which are more likely to have "warm" members as well as "cold" members. Therefore, the second hypothesis is that:

H1b: Initial perceptions of trustworthiness are positively related to team diversity (gender), but not as strongly as functional/educational diversity

Consideration of diversity in organizational tenure also raises similar issues. As tenure increases, perceived differences between older and younger workers come into play via stereotypes of each. Older people in general are seen as less competent, but more warm (Fiske et al., 2002, 2007); stereotypes of older workers also portray them as less competent, and possibly, but not always, warm (Krings, Sczesny, & Kluge, 2011). Stereotypes of younger workers are that they are possibly more up to date, but are less dependable, less committed and less trustworthy than older workers (Posthuma & Campion, 2009). Given that under the Stereotype Content Model, self-interest and drive are both part of the competence dimension, this implies that younger workers may be seen as less competent even if they bring more up to date knowledge to the team. Diversity in organizational tenure may then produce lower rather than higher perceptions of trustworthiness, because perceptions of competence are suppressed by both sides and neither is perceived to be benevolent towards the other.

On the other hand, if dispersion produces distinguishable categories e.g. "veteran" or "rookie", then the stereotypes may change slightly; veterans are often seen as being more benevolent due to their desire to see the organization continue and to pass on valued traditions and rookies fall into the "eager to please" stereotype, where they are seen as more sociable and

willing to conform. In this case, while both might be seen by the other as somewhat less competent, both are seen as having a certain degree of warmth that might make working together somewhat pleasant. As a result, perceptions of trustworthiness are again likely to be lower than for functional/educational diversity but higher than gender diversity.

A third consideration when it comes to organizational tenure diversity is that, in specific settings, tenure is not viewed through the lens of longevity, but is associated more with earned rank in a meritocracy. For instance, in many companies, promotion does not take place until specific periods of time have been served at lower levels and specific benchmarks have been met. In educational settings upperclassmen (junior and senior students) are seen as more competent than lowerclassmen (freshmen and sophomores) because they have successfully navigated the system. In these cases, higher tenure implies organizational approval of competence. For team members who are lower in tenure having more experienced members on the team is likely to raise the perceptions of the team's trustworthiness, because it offsets their own inexperience. On the other hand, more senior members may view the same team as less trustworthy because they are more aware of what the less experienced members lack and the friendliness and sociability of younger members may be seen as impairing the productivity of the team.

As a result of the different ways in which tenure can be viewed and the differing stereotypes that come into play, in heterogeneous teams it is less clear how perceptions of trustworthiness are related to tenure diversity. However, on the basis that tenure diversity forces members to acknowledge that other team members have something that they lack (up to date knowledge versus organizational experience), which could be useful to goal achievement, the final hypothesis in this first set is that:

H1c: Initial perceptions of trustworthiness will be positively related to team diversity (tenure), but more weakly related than functional/educational diversity or gender diversity

Group Stereotypes and Members' Satisfaction

Social cognition research has shown that cognitions influence behavior through their impact on emotions (Mackie, Devos & Smith, 2000). Because this dissertation addresses early stage category-based information processing, the member satisfaction dimension of social integration, "I am happy to work with these people/be on this team", has been chosen as more relevant than the more commonly used dimension of group cohesion. Cohesion reflects a sense of closeness that emerges over time from working with others (Webber & Donahue, 2001). Cuddy et al. (2007, 2011) constructed the BIAS map to show that stereotype-based cognitions of competence and warmth predict specific emotions felt towards groups in each of the four clusters. In-groups and allies evoke feelings of admiration and pride, whereas out-groups evoke feelings of envy, pity, or contempt/disgust. However, in organizational settings feelings of contempt/disgust are the least likely emotion to be felt by members. While some low competence – low warmth individuals may end up working in organizations, there is no evidence that these characteristics can be associated with a specific group found in organizations.

The array of warmth/competence stereotypes and the related range of emotions are likely to influence the more general emotion of member satisfaction. In contrast to similarity-attraction arguments (Allport, 1954; Byrne, 1971) that members will feel the most satisfied when working with their in-group, each of the specific emotions identified in the BIAS map (Cuddy et al., 2007, 2011) can contribute to feelings of satisfaction. For instance, being proud to work with one's in-

group or with members of an admired out-group can certainly contribute to satisfaction. On the other hand, working with members of more competent out-groups, such as those with different knowledge/expertise and/or higher organizational experience, can also contribute to satisfaction due to additional resources available for goal achievement and the opportunity to learn from others. Even working with less competent members could be satisfying as such members are non-threatening, provide an opportunity to teach/mentor/help, and are likely to be more fun to work with. Therefore, in heterogeneous teams there is little reason to suspect that satisfaction will decline with increasing diversity, and instead is more likely to increase with diversity. The next set of hypotheses mirror the optimistic view of the previous set, such that:

H2a: Initial member satisfaction is positively related to team diversity (functional/educational)

H2b: Initial member satisfaction is positively related to team diversity (gender)

H2c: Initial member satisfaction is positively related to team diversity (organizational tenure)

More specifically, the cognition-emotion perspective suggests that perceptions of trustworthiness are likely to predict member satisfaction. Because perceptions of trustworthiness reduce uncertainty, if members perceive that the other members of their team are trustworthy, then it is more likely that they will be satisfied with being a member of that team. In contrast, if members have serious concerns about the trustworthiness of their team then they will be much less satisfied with being on that team. Therefore, the next hypothesis is that:

H2d: Initial member satisfaction is positively related to initial perceptions of trustworthiness

Given the hypothesized relationships between team diversity, perceptions of trustworthiness and member satisfaction, it is possible that perceptions of trustworthiness may be a mediator of the relationship between team diversity and member satisfaction. However, as discussed previously team diversity can increase satisfaction beyond feelings of trustworthiness by offering opportunities for learning, mentoring, or simply expanding one's social network. For these reasons, it is unlikely that perceptions of trustworthiness will fully mediate the relationship between team diversity and member satisfaction. There will be an incremental effect of diversity on satisfaction that is outside of uncertainty reduction, thus, the related hypothesis is that:

H2e: Initial perceptions of trustworthiness will partially mediate the relationship between team diversity (functional/educational, gender, or tenure) and initial member satisfaction

Subsequent Outcomes

As discussed in Chapter 2, the bulk of team diversity research has focused on the criterion variable of team performance; this dissertation would not be complete without consideration of the same. However, in contrast to the simple arguments that team diversity is either positively or negatively related to team performance, team performance will be discussed based on behaviors identified and captured in the BIAS map (Cuddy et al. , 2007, 2011). Cuddy and her colleagues (2007, 2011) found that specific behaviors are directed towards in-group and out-group members based on the emotions felt towards groups in each cluster. For instance, as shown in Table 2, feelings of admiration and pride are linked to associating with and actively helping those who are seen as similar in competence and warmth. Active helping also takes place when members feel pity towards lower competence, higher warmth colleagues, but can turn to active harm (harassment), when competence is highly salient. Team members will associate with

those whom they envy, in order to gain access to their resources and competencies, but may actively harm (harass) these same individuals, if their lack of warmth begins to affect the functioning of the group. Therefore in contrast to predictions of conflict or disassociation and neglect in heterogeneous teams, the BIAS map suggests a high level of often positive interpersonal activity. The overall probability of collaborative behaviors (associating and helping) actually taking place in a team setting is likely to be a function of the satisfaction that members feel towards the team. Satisfaction, therefore, is more likely to produce behaviors that move the group towards goal achievement in a harmonious manner. For this reason, it is likely that member satisfaction will be positively related to team performance.

H3a: Team performance will be positively related to member satisfaction

On the other hand, perceptions of trustworthiness can also stimulate trust-based collaboration, so trustworthiness perceptions could also influence performance. However, if for other reasons, members are dissatisfied with their team it is doubtful that they would associate and help their peers, even if they see them as trustworthy. Evidence shows that affect/emotion mediates the relationship between cognitions and behavior (Mackie et al., 2000; Cuddy et al., 2007). Therefore, because performance is the outcome of behavior it is expected that satisfaction will fully mediate the relationship between perceptions of trustworthiness (cognition) and team performance.

H3b: Member satisfaction will fully mediate the relationship between perceptions of trustworthiness and team performance.

The final set of hypotheses address the long-lasting effect of initial impressions. Evidence shows that initial impressions are resistant to change, even when disconfirming information is

presented (Carlsson et al., 2012), which suggests that initial perceptions of trustworthiness might have a lasting impact in teams. The carry-forward notion in teams has been captured by the Input-Mediator-Output-Input (IMOI) model of team functioning (Ilgen et al., 2005; Mathieu et al., 2008). Under this model, outputs from one stage of team activity become inputs to successive stages of team activity. For example, prior performance can influence team activity in the subsequent round (Ilgen et al., 2005). Applying these arguments to social cognition in teams implies that later perceptions of trustworthiness are likely to be highly correlated with initial perceptions of trustworthiness. However, the same is not necessarily true for member satisfaction; emotions, such as satisfaction, are more transient (Andrade & Ariely, 2009). Factors such as team performance may have a greater effect on satisfaction than on perceptions of trustworthiness. A good or poor performance may not necessarily change the perception of the intent or abilities of team members. Good performance may be seen as confirming original impressions of trustworthiness, whereas poor performance does not negate initial impressions of trustworthiness. Fiske et al. (2007, p.79) argue that "a few incompetent behaviors will not undermine perceptions of general competence". However, a good or poor performance can immediately affect how members feel about their team. As a result, over time, perceptions of trustworthiness are possibly more stable than member satisfaction.

H4a: Final perceptions of trustworthiness will be strongly and positively related to initial perceptions of trustworthiness

H4b: Final member satisfaction will be positively related to initial member satisfaction, but not as strongly as the relationship between initial and final trustworthiness perceptions

The hypotheses developed in this chapter were tested on a sample of male and female undergraduate students from different academic programs who worked in semi-randomized teams on a multi-stage group project. Full details of the methodology are found in the next chapter.

CHAPTER 4: METHOD

Sample

Students from a second year undergraduate Commerce course were chosen as respondents for the study. Sixty four percent (64%) of respondents were commerce majors, 23% were engineering majors, 7% were labor studies majors, and 6% came from a variety of other disciplines. Female students were in the minority (29%) compared to males (71%). Most respondents were in their second year at university (88%), while the rest of the class was made up of students in third year or final year (12%). The use of students is often criticized; however, bringing together students from programs such as business/commerce with students from engineering foreshadows the cross-functional environments in which they will be working within a few short years. Students in upper years are viewed as having substantially more experience than sophomore (2^{nd} year students), reflecting a microcosm of organizational tenure.

Team Formation

Students were assigned to one of 29 teams for a mandatory three phase project. To minimize the effect of friendship ties or having worked together in the past, students were assigned to a team via an expedient method based on their last name. For instance, simply by going down the class list, Team A was formed of 4 students whose last name began with the letter "A". Where many students' last names began with the same letter, multiple teams were formed (e.g. Team B, Team BB).

While a larger, rather than a smaller, number of teams is desirable to increase the confidence of statistical estimates, obtaining large numbers of organizational teams is often difficult. To do so requires crossing unit boundaries (e.g. organizational divisions, class sections)

which then introduces other factors such as unit leadership, unit culture/climate, unit demographics, or team tenure that might confound the results. The teams in this study had the same unit leaders (Course Instructor/Teaching Assistant), experienced the same class environment/class demographics, and had identical team tenure.

Team Task

The purpose of the three phase project, which unfolded over two weeks, was to explore the relationship between the transformational leadership qualities of university professors and two hypothesized outcomes of leadership style (liking and respect).

In the first round, each student had to rate two professors that they had encountered in other courses at the same university. They used a standardized electronic worksheet (MS Excel) to answer questions about the four dimensions of transformational leadership, the professors' communication style, their liking for the professor, and their respect for the professor. Each team was instructed to discuss potential targets prior to data collection, in order to eliminate overlap in evaluations by members of the same team. Target confidentiality was maintained by instructing students not to reveal the actual names of evaluated professors in online discussions or on the worksheet, but to refer to them by the course or discipline (e.g. my marketing professor). The first round ended when students posted their individual evaluations to a private online team discussion board, hosted on the WebCT online course management system.

In the second round of activity, team members had to review and analyze the complete set of postings, identify common themes across the evaluations, note interesting comparisons between professors, and develop recommendations for enhancing transformational leadership in

the classroom. They then posted their individual analyses back to the same team discussion board.

In the final round of activity, students collaborated directly in order to synthesize the second round postings and produce and post a final team summary of their findings and recommendations.

The project began with in-person meetings during class time to become acquainted and discuss potential targets for evaluation. The second and third phases were handled primarily through online collaboration, although teams were not forbidden to meet to discuss their analyses. Because all members had to post information online for use in the subsequent phases, it was not possible for just one or two students to complete the project. Each phase of the project was marked separately, with the complete project worth 15% of the final course grade.

Data Collection Procedures

Students were provided with a link to an online survey composed of 24 multiple response items that captured students' beliefs about the perceived trustworthiness of their teammates (initial and final), their satisfaction with being a member of the team (initial and final), and their demographics (team name, academic program, program year (2^{nd}, 3^{rd}, 4^{th}), and gender). The survey was created and data were collected using the SurveyMonkey website. Students were offered a small incentive (course credit) for participating in the study; the response rate for the survey was 100%. Students had to provide their student ID number to obtain credit, which also ensured that they only completed the survey once. Data for team performance were collected from the grading records of the course, not self-report.

Measures

In general, the *team diversity* measures were produced by collecting demographic information in the first round then aggregating this information to produce a team-level statistic. Because academic program, program year and gender are all categorical variables, Blau's (1977) index of heterogeneity was the appropriate method for aggregation (Harrison & Klein, (2007). The formula for Blau's index of heterogeneity is $1-\Sigma p_k,^2$, where p is the proportion of unit members in k^{th} category. Values of Blau's index can range from zero to $(K-1)/K$. Lower statistics reflect homogeneity, whereas higher statistics reflect heterogeneity across categories; a team with members from four different programs would have a higher Blau's index. The alphabetical method of team formation resulted in a range of heterogeneity on each team diversity variable.

Program (functional) diversity statistics were calculated from individual responses to the question about home academic program (e.g. commerce, engineering, labour studies, other). For this sample, program diversity ranged from .00 - .78 (mean = .40, SD = .23).

Year (org. tenure) diversity statistics were calculated from individual responses to the question about what year students were currently registered in (2^{nd}, 3^{rd}, or 4^{th}). For this sample, year diversity ranged from .00 - .50 (mean = .17, SD = .21). The relatively small number of upper level students restricted the number of teams who could vary in this regard.

Gender diversity statistics were calculated from individual responses to the question about being male or female. For this sample, gender diversity ranged from .00 - .50 (mean = .34, SD = .19). Because gender (in this study) reflected a dichotomous biological difference, the highest heterogeneity possible is .50 (the team is 50% male and 50% female).

Perceived Trustworthiness was measured at the individual level of analysis on a 5 point Likert scale using a 9-item Perceived Trustworthiness instrument. Three items measured perceptions of abilities, three items measured perceptions of benevolence, and three items measured perceptions of integrity (see Appendix). The current instrument reflects a modification of the 9-item Perceived Trustworthiness instrument used by Serva et al (2005) in a study where Research & Development teams rated management teams and vice-versa. Their instrument was a modification of the original 17- item dyadic scale developed by Mayer and Davis (1999) for a study in which individual employees rated the top management team in their organization. However, because the current study involved intra-team rather than the inter-team ratings of the Serva et al. (2005) study, the wording of each of the 9 items was modified to reflect a referent shift from other team to own team. For example instead of reading "the members of the management team are capable of performing the job" the corresponding item for this study read "the members of my team are capable of performing the job". Similarly, a sample benevolence item in this study became "the members of my team are concerned about our welfare".

Individual level data were aggregated to the team level of analysis using the compilation, rather than the consensus model, because the former does not assume consensus or require justification via measures of intra-team agreement such as r_{wg} and ICC (1, 2). While the consensus/composition model is often recommended for psychological variables (Chan, 1998; Klein, Koslowski, & Tosi, 2002), in a newly formed team there is no theoretical basis on which to expect consensus in ratings of perceived trustworthiness. Furthermore, as discussed in the preceding chapter, stereotype-based perceptions are made based on comparison to self, so unless the team is homogeneous it is unlikely that perceptions will be shared by all team members. Scale reliability for the team level statistic met established standards; Cronbach's alpha (team

level) for the modified 9 item scale was .91 for the initial round assessment, and .95 for the final round assessment.

Member Satisfaction was measured at the individual level of analysis by assessing member satisfaction with teammates. Following Harrison, Price Garvin & Florey (2002), member satisfaction was measured using a single item to ensure consistency and avoid contamination from aspects of group cohesion. However the wording was modified slightly for the first and final (3rd) rounds; the first round wording was" I am looking forward to working with this group of people on the next assignment (second round of the project)", whereas the final round wording was "If I had the chance, I would like to work with this same group of people again". Member satisfaction was not measured after the second round, to increase independence between first and final assessments.

Individual assessments of satisfaction were aggregated to the team level of analysis by using the compilation method (Chan, 1998), again due to lack of a theoretical argument for consensus in a newly formed team. In contrast, consensus would be more suitable for aggregation of data concerning group cohesion or collective efficacy, after teams have been together for a while and have a similar base of knowledge on which to base their ratings. In those cases feelings and perceptions are more likely to be shared by members of the same team.

Team performance was measured by recording the grade received by the team for each round of team activity. The criteria for team performance were similar across all three rounds; how well the assignment instructions were followed and the degree of critical thinking shown in the analyses. Clarity and quality of communication was also rated for the individual (second

round) and team (final round) analyses. Grading of all phases of the project was done by the Teaching Assistant for the course. First round performance was originally measured on a 10 point scale, but was converted to a 15 point scale in order to make the results directly comparable with performance in the second and third rounds, both of which were measured on a 15 point scale.

Because teams were not of identical size, team size was used as a control variable.

The results are described in the following chapter.

CHAPTER 5: RESULTS

Descriptive statistics and correlations are found in Table 3. The hypotheses were tested using regression analysis; regression results are shown in Tables 4, 5, and 6.

The first set of hypotheses tested the notion that there was a positive relationship between team diversity and perceptions of trustworthiness. This was supported for functional/educational (program) diversity, (H1a, $\beta = 1.43$, $p < .05$), but not for gender or organizational tenure (program year) diversity (H1b, $\beta = .15$, ns and H1c, $\beta = -2.39$, ns). Team size was not significant in predicting initial trustworthiness perceptions.

The second set of hypotheses concerned the predictors of initial levels of members' satisfaction (team level). None of the team diversity variables were significantly related to members' satisfaction after initial perceptions of trustworthiness was entered into the model, so H2a, 2b, 2c were not supported. However, H2d was supported; initial member satisfaction was positively related to initial perceptions of trustworthiness ($\beta = .71$, $p < .01$). H2e was partially supported; initial trustworthiness fully mediated the relationship between functional/educational diversity and initial satisfaction (before $\beta = .46$, $p < .05$, after $\beta = .03$, ns). In contrast, the relationships between satisfaction and gender and tenure diversity were unchanged by the addition of trustworthiness perceptions to the model. Adjusted R^2 showed that the model explained 62% of the variance in initial members' satisfaction, with initial trustworthiness perceptions contributing 41%.

The third set of hypotheses linked initial trustworthiness perceptions and members' satisfaction with team performance. H3a was partially supported; team performance was positively and significantly related to initial members' satisfaction for the second round of team

activity (β = .75, $p < .01$), but not for team performance in the first or final rounds. H3b was not supported, because initial members' satisfaction did not mediate the relationship between initial trustworthiness perceptions and team performance.. Specifically, for the first or final rounds of team performance initial trustworthiness perceptions were not significantly related to team performance, either before, or after, members' satisfaction was entered into the model. In the second round, there was a significant and positive relationship between initial trustworthiness perceptions and second round performance, but this relationship remained unchanged after members' satisfaction was taken into consideration (β = -. 70, $p <$. 01, before and after). Program diversity was the only other significant predictor of team performance at T2 (β = 1.47, p < .05); no diversity variables were significantly related to performance at T1 or T3.

The fourth and final set of hypotheses tested the long-lasting effect of initial impressions and emotions. H4a was supported; final trustworthiness perceptions were strongly related to initial trustworthiness perceptions after two rounds of team performance (β = .92, $p < .01$). Initial perceptions were the sole predictor of final trustworthiness perceptions and explained 97% of the variance in final ratings of trustworthiness. H4b was also supported; while initial members' satisfaction was positively related to final members' satisfaction (β= .48, $p < .05$), this relationship was weaker than that found for the relationship between initial and final perceptions of trustworthiness. Three other predictors of final members' satisfaction were functional/educational diversity (β = .99, $p < .05$), gender diversity (β = -.52, $p < .05$), and initial and final trustworthiness perceptions (β = -1.41, $p < .05$, 1.89, p < .01, respectively). Based on the adjusted R^2 the model explained 79% of the variance in members' final satisfaction with their team.

Post Hoc Analysis: Interaction of Diversity Attributes

One of the criticisms raised frequently in team diversity research has been the failure to consider interactions between diversity attributes (Jackson et al., 2003; van Knippenberg & Schippers, 2007) in terms of incremental explanation. The results showed some evidence for a stronger relationship for interactions compared to when those attributes were tested separately. The gender*year interaction was positively and significantly related to initial trustworthiness perceptions ($\beta = 3.25$, $p < .05$) and to team performance at T2 ($\beta = 3.24$, $p < .05$), even though neither gender nor year was significantly related to either initial perceptions of trustworthiness or to team performance at T2 on its own. On the other hand, significant relationships between program diversity and initial members' satisfaction and team performance at T3 ($\beta = .36$, $p < .05$ and .54, $p < .01$, respectively) were eliminated by the addition of interaction terms; the same was true for significant relationships between gender and year diversity and team performance at T1 ($\beta = .46$ and .40, respectively, both $p < .05$)

A simplified set of regressions was run without the team size control variable and the interactions, in order to assess the strength of the main findings; the results remained virtually the same. Taken together, the results from both the main and post hoc analyses challenge the contention that team members who are different will be seen as less trustworthy and that team members will be dissatisfied working with dissimilar others. The theoretical and practical implications of the results, along with study limitations and suggestions for future research are discussed in more depth in Chapter 6.

Table 3: Descriptive Statistics and Correlations

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1.Team Size	4.3	.81	1															
2. Program Diversity	.40	.23	-.051	1														
3. Year Diversity	.17	.21	-.090	**.517****	1													
4. Gender Diversity	.34	.18	.046	.181	-.031	1												
5. Program*Gender Diversity	.14	.11	-.115	**.758****	.280	**.659****	1											
6. Program*Year Diversity	.09	.12	-.154	**.586****	**.962****	-.015	.345	1										
7. Gender*Year Diversity	.06	.09	-.096	**.423***	**.789****	**.396***	**.587****	**.768****	1									
8. Prog*Gender*Year Diversity	.03	.05	-.185	**.489****	**.772****	**.373***	**.629****	**.812****	**.968****	1								
9. Initial TW Perceptions	3.91	.46	.334	.236	-.004	.160	.209	-.013	.125	.068	1							
10. Final TW Perceptions	3.96	.47	.326	.363	.114	.197	.300	.092	.213	.149	**.968****	1						
11. Initial Satisfaction (mean)	3.96	.75	.363	**.429***	.106	.296	**.381***	.125	.179	.156	**.787****	**.820****	1					
12. Final Satisfaction (mean)	3.95	.85	.196	**.423***	.285	.080	.308	.315	.282	.272	**.674****	**.768****	**.803****	1				
13. Initial Satisfaction (mean*disp)	3.27	1.87	.279	-.095	.081	.034	-.135	.084	-.016	-.021	-.256	-.257	-.113	-.160	1			
14. Final Satisfaction (mean*disp.)	3.32	1.98	.254	-.304	-.312	-.015	-.170	**-.371***	-.217	-.293	-.272	-.346	-.306	**-.483****	**.418***	1		
15. Team Performance 1	12.20	1.47	.117	.266	**.419***	**.384***	.281	**.377***	**.441***	**.380***	.335	**.413***	**.499****	**.515****	-.080	-.184	1	
16. Team Performance 2	13.52	1.55	.236	**.509****	.253	-.047	.325	.264	.245	.231	.211	.322	**.439***	**.470***	.025	-.049	.122	1
17. Team Performance 3	12.54	2.10	.118	**.550****	**.419***	-.202	.250	**.478****	.243	.317	.158	.237	.243	.258	.083	-.283	.024	.304

* Correlations significant at .05 (two-tailed)

** Correlations significant at .01 (two-tailed

Table 4: Results of Hierarchical Regression for Initial TW Perceptions & Members' Satisfaction

	Initial Perceptions of Trustworthiness			Initial Member Satisfaction (mean)			
N = 29	Step 1	Step 2	Step 3	Step 1	Step 2	Step 3	Step 4
Team Size	.33	.33	.14	.36*	.37*	.26	.16
Program Diversity		.30	1.43*		.46*	.99	-.03
Year Diversity		-.13	-2.39		-.09	-1.61	.10
Gender Diversity		.08	.15		.19	.30	.19
Program – Gender Div. Interaction			-1.31			-.66	.27
Program-Year Div. Interaction			1.02			1.08	.35
Gender-Year Div. Interaction			3.25*			1.89	-.43
Program-Gender-Year Interaction			-1.96			-1.43	-.04
Initial Trustworthiness Perceptions							.71**
Total R^2	.11	.20	.40	.13	.38	.44	.74
Adjusted R^2	.08	.06	.16	.10	.28	.21	.62

* β significant at $p < .05$
** β significant at $p < .01$

Table 5: Results of Hierarchical Regression for Team Performance

	Team Performance Time 1				
N = 29	Step 1	Step 2	Step 3	Step 4	Step 5
Team Size	.12	.14	.01	-.03	-.05
Program Diversity		-.03	.44	.01	-.003
Year Diversity		.46*	-.22	.50	.33
Gender Diversity		.40*	.64	.60	.54
Program-Gender Div. Interaction			-.59	-.20	-.34
Program-Year Div. Interaction			.55	.25	.27
Gender-Year Div. Interaction			1.24	.26	.54
Program-Gender-Year Div. Interaction			-1.17	-.58	-.69
Initial Trustworthiness Perceptions				.30	-.11
Initial Members' Satisfaction					.50
Total R^2	.01	.35	.41	.47	.55
Adjusted R^2	-.02	.25	.18	.21	.26

* β significant at $p < .05$
** β significant at $p < .01$

	Team Performance Time 2					
N = 29	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6
Team Size	.24	.27	.17	.20	.07	.06
Program Diversity		.56**	1.13	1.43	1.47*	1.47*
Year Diversity		-.02	-1.58	-2.09	-2.12	-2.09
Gender Diversity		-.16	-.30	-.26	-.41	-.35
Program-Gender Div. Interaction			-.61	-.88	-1.08	-1.11
Program-Year Div. Interaction			.70	.91	.60	.63
Gender-Year Div. Interaction			2.21	2.90	3.18*	3.24*
Program-Gender-Year Interaction			-1.29	-1.71	-1.64	-1.71
Initial Trustworthiness Perceptions				-.21	-.70*	-.70*
Initial Members' Satisfaction					.70*	.75*
Team Performance T1						-.11
Total R^2	.06	.35	.46	.50	.62	.63
Adjusted R^2	.02	.25	.25	.25	.28	.35

* β significant at $p < .05$
** β significant at $p < .01$

Table 5: continued

	Team Performance Time 3						
N = 29	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7
Team Size	.12	.17	.27	.26	.21	.21	.23
Program Diversity		.54**	.60	.47	.50	.71	-.19
Year Diversity		.15	.49	.70	.80	.53	-.69
Gender Diversity		-.30	-.30	-.32	-.35	-.35	-.93
Program-Gender Div. Interaction			-.21	-.09	-.09	-.28	.59
Program-Year Div. Interaction			-.62	-.71	-.88	-.76	.75
Gender-Year Div. Interaction			-1.30	-1.60	-1.64	-1.12	-.67
Program-Gender-Year Interaction			1.69	1.87	1.98	1.66	.91
Initial Trustworthiness Perceptions				.09	.12	.01	-1.98
Initial Members' Satisfaction					.02	.18	.54
Team Performance Time 1						-.12	.03
Team Performance Time 2						-.14	-.17
Final TW Perceptions							2.43
Final Member Satisfaction							-.85
Total R^2	.01	.44	.51	.51	.52	.54	.64
Adjusted R^2	-.02	.35	.31	.28	.21	.13	.17

* β significant at $p < .05$
** β significant at $p < .01$

Table 6: Results of Hierarchical Regression (Final Perceptions of Trustworthiness and Final Member Satisfaction)

	Final Perceptions of Trustworthiness					Final Member Satisfaction						
N = 29	Step 1	Step 2	Step 3	Step 4	Step 5	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7
Team Size	.33	.34	.12	-.006	-.92	.20	.22	.15	.06	-.05	-.05	-.02
Program Diversity		.38	1.55*	.25	.12		.38	.52	-.46	-.44	-.78	.99*
Year Diversity		-.05	-2.03	.15	.31		.11	-2.14	-.51	-.62	-.21	-.78
Gender Diversity		.11	.21	.07	.07		.005	-.10	-.20	-.33	-.36	-.52*
Program-Gender Div. Interaction			-1.33	-.14	-.05			-.17	.72	.52	.84	.94
Program-Year Div. Interaction			.76	-.17	.26			2.05	1.35	1.15	.95	1.38
Gender-Year Div. Interaction			3.16*	.21	-.06			2.51	.28	.63	-.21	-.13
Program-Gender-Year Interaction			-1.94	-.15	.02			-2.25	-.91	-.92	-.39	-.38
Initial Trustworthiness Perceptions				.91**	.92**				.69**	.13	.31	-1.41*
Team Performance Time 1					.04						.23	.17
Team Performance Time 2					.09						.23	.06
Initial Members' Satisfaction										.76**	.49	.48*
Final Trustworthiness Perceptions												1.89**
Total R^2	.11	.27	.47	.97	.97	.04	24	.32	.60	.75	.79	.89
Adjusted R^2	.07	.14	.26	.95	.95	.00	.11	.05	.41	.60	.61	.79

* β significant at $p < .05$, ** β significant at $p < .01$

CHAPTER 6: DISCUSSION

For the past forty years, the social identity/social categorization perspective has dominated team diversity research yet has been unable to provide much needed clarity about the relationship between team diversity and team effectiveness. One of the reasons for this failure may have been that two key propositions arising from this perspective have largely gone untested. The notion that out-group members are viewed as untrustworthy has reinforced the assumption that team members are more satisfied when working with others who are similar to themselves. The current study drew on emerging research about stereotype content, from the social cognition literature, to directly challenge these assumptions. The results showed that for the current sample team diversity was not negatively related to perceptions of trustworthiness or to members' satisfaction. In contrast, cognitive diversity in terms of functional/educational background was positively related to initial perceptions of trustworthiness and to members' satisfaction with being on the team. Initial perceptions of trustworthiness mediated the relationship between team diversity and members' satisfaction. Initial perceptions of trustworthiness were also positively related to the interaction of gender diversity and organizational tenure diversity. What this means is that having a combination of more and less organizationally experienced and both male and female members on a team, raised perceptions of trustworthiness more than having either a team that was diverse in tenure or diversity in gender. Higher perceptions of team trustworthiness and higher members' satisfaction paid dividends through enhanced second round performance.

Taken together the findings of the current study challenge the view that team members prefer to work (and work) more effectively with similar others and give team members more credit for understanding what different others can contribute to a team. By addressing a number

of identified weaknesses of the team diversity literature, the current study contributes to both theory and practice. There are some limitations that must be considered in generalizing the findings, but the findings suggest some promising avenues for future research.

Contributions to Theory

Failure to broaden the theoretical foundation has been identified by reviewers as a weakness of the team diversity literature (see van Knippenberg & Schippers, 2007; Williams & O'Reilly, 1998). Although the study of group/category-based perception has flourished in the social cognition literature the current study is the first to apply category-based information processing and stereotype content to team diversity research. However, rather than rejecting the social identity/self-categorization perspective, the introduction of this new approach provides a bridge between social identity and social cognition for the study of heterogeneous teams and provides a new way of understanding intrateam perceptions.

By drawing on the Stereotype Content Model (Fiske et al., 2002, 2007) the simple black/white perspective of in-group/out-group, as used in prior team diversity research, gives way to a more nuanced consideration of the warmth and competence content of out-group stereotypes, especially when ambivalent stereotypes are involved. The findings that team diversity is positively related to initial perceptions of trustworthiness cannot be explained if out-groups are viewed as inferior in all ways to in-groups, but can be explained if different members bring similar or compensating attributes to the team. In contrast to the search for a one-size fits all explanation of team diversity, the Stereotype Content Model and BIAS map suggest that each team is a somewhat unique entity. The specific composition of the team is likely to produce a specific pattern of cognitions, emotions and behaviors. However, the expected cognitions,

emotions and behaviors can be predicted by understanding the types of diversity present in the team and the content of the stereotypes associated with certain attributes.

As mentioned in Chapter 2, despite decades of research the relationship between team diversity and team performance has remained unclear (see review by van Knippenberg & Schippers, 2007). By using stereotype content as a basis for predicting intrateam cognitions, emotions and behavior, a new door has been opened to understanding the intervening variables that lie between team diversity and team performance. In the past team diversity research either ignored intervening variables in a fruitless search for main effects (see reviews by van Knippenberg & Schippers, 2007; Williams & O'Reilly, 1998) or focused only on group processes (e.g. conflict and communication). In contrast, stereotype content suggests a stronger intervening role for group psychology and its influence on team effectiveness.

The BIAS map (Cuddy et al., 2007) offers a clear path via the cognition-emotion-behavior causal chain to understanding how first impressions turn into behaviors that can affect team performance. The findings of the current study show that teams that viewed their membership as trustworthy (cognition) and were satisfied with the team (emotion) performed better in the second round of team activity than those who had doubts about the trustworthiness of their team and were less satisfied with being on that team. Although behaviors were not measured directly, team members who believed in their team were probably more likely to have engaged in active knowledge sharing and collaboration whereas others may have offered only a minimal level of help to each other. Similarly, team members who were satisfied with being on a specific team may have engaged, at most, in neglect of some members (passive harm) rather than turning on each other (active harm).

These differences between active and passive harm and facilitation may also provide a way of explaining the findings from studies of conflict and communication behaviors in heterogeneous teams. Higher levels of conflict and/or reduced communication may occur more often in teams with low levels of trustworthiness and high dissatisfaction. The meta-analysis of team conflict by De Dreu & Weingart (2006) contradicted earlier beliefs that conflict was productive by showing that both task and relationship conflict created active harm in teams. Prior research has not tended to differentiate between destructive conflict and constructive debate; however, the BIAS map suggests that conflict would be classified as active harm, whereas constructive debate would be classified as active facilitation. The reduction of communication arising from the formation of factions in faultline teams (Lau & Murnighan, 2005) can be simultaneously explained as passive harm (neglect of non-faction members) contrasted with active facilitation of faction members. The emergence of faultlines in some teams may occur because the alignment of attributes is sufficiently salient to call into question the trustworthiness of others. The use of Stereotype Content Model and the BIAS map moves the focus away from simple recognition of attributes to consideration of how attributes are perceived by others and how these perceptions are acted on within teams.

The findings of the current study also reveal a delayed effect of initial cognitions and emotions, which extends the Input-Mediator-Output-Input (IMOI) model of team effectiveness (Ilgen et al, 2005; Mathieu et al, 2008). According to the IMOI model, outputs from one round of team activity become inputs to the next round of team activity. To date this model has largely focused on the carry-forward effect of final outputs; for example, team performance becomes an input to the next round. However, the findings of the current study suggest that psychological variables that emerge shortly after team formation may also become inputs to subsequent rounds

of team activity and may act to enhance good performance, counter-balance poor performance, or launch a downward spiral. In the latter case, teams with very low levels of initial perceptions of trustworthiness and initial satisfaction may find it hard to overcome a poor start.

Another contribution of the current study is to show how the primacy of competence over warmth in organizational settings can help to understand the relative salience of different diversity attributes. In past research, attributes such as functional/educational background, gender and organizational tenure have been treated as equivalent, however, functional background, post-secondary institutions attended, and/or educational attainments (degrees/certifications) signal competence for both males and females. Therefore diversity attributes that clearly signal competence may carry more weight in explaining differential cognitions, emotions, and behavior. In contrast, stereotypical attributes such as gender and organizational tenure that provide less clear signals about competence should have less explanatory power, but may provide insights into perceptions of social skills and warmth.

Last but not least, the findings also show that initial impressions appear to be much less malleable than initial emotions. Initial and final perceptions of trustworthiness remained highly correlated regardless of subsequent team performance, whereas initial and final feelings of satisfaction were not as strongly correlated. The findings suggest that a confirmatory bias may be operating so that initial impressions are largely unaffected by disconfirming or individuating information (Carlsson et al., 2012). The possibility of confirmatory bias would then suggest that later stage beliefs about one's team, such as collective efficacy, group potency, and group cohesion, may be grounded in very early perceptions of team trustworthiness. To date the team diversity literature has paid very little attention to the earliest stages of team formation. Models of team development (stage or punctuated equilibrium) do not take into consideration what

members of teams are thinking about each other or how they are feeling about being on that specific team; traditional models of team development view all teams as following similar patterns.

In summary, the theoretical contributions of this study are to suggest that the study of team diversity would benefit by moving to a more nuanced consideration of intrateam perceptions in place of the simple ingroup/outgroup perspective that has dominated team diversity research for the past fifty years. The bridge from the historical social identity/self-categorization perspective to the emerging perspective of the Stereotype Content Model is category-based perceptions of others. Social identity remains relevant because the predictions of the Stereotype Content Model and BIAS map are possibly stronger when social identification(s) is/are high rather than low in a team or when pre-existing social identities are perceived to be under threat.

Contributions to Practice

Possibly due to the lack of clarity about the relationship between team diversity and team effectiveness, practitioners have pursued team-building and diversity management programs on their own. However, the dimensions of warmth and competence can be used to incorporate pre- and post-initiative measures that are often lacking in many corporate team-building programs. While employees often report enjoying outdoor adventures and other trust-building initiatives, there is often no way for managers and organizational leaders to know exactly what has changed. Members may perceive each other as more caring but perceptions of competence may not have changed. Furthermore, perceptions may not be significantly affected by trust-building initiatives

that are not directly related to the actual work of the team, because "trust-falls and high ropes experiences" may not generalize back to the workplace. Similarly, diversity management programs may educate workers about other races and cultures without necessarily changing their view of employees from those other groups.

The effectiveness of cross-functional teams and succession planning may be enhanced by capturing the stereotypes that organizational members hold about each other. For instance, knowing how the Finance people view the Marketing people and how the IT people are viewed by other organizational groups may help cross-functional teams to be more effective collaborators. Understanding intra-organizational perceptions may uncover outdated stereotypes. For instance, the ongoing struggle by Human Resource Management professionals for organizational credibility may reflect outdated stereotypes of high warmth and low competence. In Hammond's 2007 article "Why We Hate HR" he presented the negative stereotype of HR as a dumping ground for low achievers; as some former colleagues of the author put it "those who flunk out of Accounting go into HR". The "glass ceiling" and "bamboo ceiling" reflect barriers to upward mobility for women and minorities that may also be linked to outdated stereotypes.

In general, cross-cultural interactions within and across organizations are likely to be a fertile ground for consideration of relative warmth and competence. In today's global world, management teams are composed of many different nationalities, workforces are located around the globe and offshoring of manufacturing and/or service operations bring into play multiple national, racial and ethnic stereotypes. It is critical for organizational leaders and managers to understand not only how they are viewing managers and workers from other nations/cultures, but also how others are viewing them; everything is relative. Leaders, managers and employees must not confuse understanding of one country in a region with understanding of all countries in a

region. Individuals in countries that have been helped by another country may view that country quite differently in terms of warmth and competence from neighboring countries that have not shared the same history. At the tactical level, team leaders need to be observant of how team members are interacting with each other to identify behaviours (e.g. avoidance, incivility) that might signal negative perceptions of warmth and competence between workers of different racial, ethnic, or religious backgrounds.

However, whether dealing with domestic or cross-cultural perceptions, individuals may be unwilling to articulate the stereotypes that are in operation within the organization or culture for fear of being thought as prejudiced or disloyal. This barrier can be overcome by providing third party information or by ensuring anonymity; however, a second challenge comes in replacing outdated stereotypes with updated information. Evidence shows that the compensation effect is so robust that if new information increases ratings of competence for a group, the group will suffer a corresponding decrease in warmth (Judd et al., 2007). What this suggests is that even well-meaning efforts to validate technical competency of foreign-trained professionals or other minorities may cause them to be perceived as colder (less sociable, less concerned about others). The most effective strategy may be to highlight similarities in both warmth and competence to the reference group. This way the out-group can be viewed as an important ally. In contrast, highlighting the warmth of other groups is possibly the least effective strategy for gaining acceptance, as it tends to be associated with lower perceptions of competence. Non-profit board members who report feeling marginalized may be suffering from this effect; it could be that others perceive them as being on the board for their caring qualities rather than their ability to contribute to the work of the board. In trying to make boards and committees

"representative" organizations must understand the stereotypes that might come into play as a result.

Limitations

As with all research studies there are a number of limitations of the current study that might reduce the generalizability of the findings. These include limitations of the sample, omitted variables, and the possibility of common method variance.

The results of the current study are based on a sample of university students, whose perceptions and attitudes may differ somewhat from working adults. First, although diversity in academic programs is a foundation for functional diversity in the workplace, functional group stereotypes held by adults may be based not as much on general societal stereotypes, but on actual experiences with stereotypical group members. Furthermore, sense of one's own group identity against which other groups are evaluated may have been enhanced for working adults by enacting the functional identity over time through work tasks and departmental meetings, as well as by certifications, rituals, symbols (e.g. professional engineer ring). Functional identity may also have been crystallized through in-group discussions about the merits of one's own group, especially in terms of achievements and obtaining organizational resources (e.g. budget allocations). However, efforts by organizations to develop a strong organizational culture and superordinate organizational identity may help to offset distance between functional groups. Second, while women have made gains in terms of educational and occupational attainment, there are still male and female dominated industries and organizations. In this case the presence of the other gender may not be positively associated with trustworthiness; for instance perceptions of male nurses and female firefighters often reflect beliefs of less competence.

Greater disparities in organizational tenure range may also change the results for working adults; while for most students organizational tenure ends at 4 – 5 years, tenure range for employees may go from as little as a few months to over 40 years. This would bring into play generational differences that are not commonly found in post-secondary institutions. Limited organizational tenure also reflects a narrower age range in student populations; although younger students are often seen as less competent and less reliable, especially on group projects, being of not just the same generation but a very similar age and being part of a common life stage may lead to higher perceived trustworthiness. Not having a comparison group against which to compare perceptions, this is difficult to establish.

The size of the sample (29 teams) is also less than recommended for statistical reasons. Ideally the sample should comprise at least 100 teams; however top tier journals, such as the Academy of Management Journal (AMJ) have accepted team research articles where the sample size was less than 100 student teams (e.g., Roberson & Williamson, 2012). Part of the reason for the latitude in this regard may be that finding statistically significant results in a small sample is a much stronger evidence of a hypothesized relationship than finding statistically significant results in an extremely large sample. Another issue with obtaining larger samples, as mentioned in Chapter 4, is that unit boundaries have to be crossed and, when this occurs, a great deal of care has to be taken to identify a full range of factors that could confound the results, such as unit culture, unit leadership, team tenure, organizational and unit demographics etcetera. For instance, in a recent study (Liu, Lioa & Loi, 2012) they obtained responses for 108 teams but the teams came from 22 different departments of the same manufacturing organization. They controlled for team tenure but did not account for the different leadership or the unique history and climate of each department.

In regards to omitted variables, although the hypotheses were developed using the Stereotype Content Model, the two dimensions of warmth and competence were not measured directly. For this reason it is not possible to say with full confidence that perceptions of trustworthiness or members' satisfaction were directly based on the specific stereotypes associated with functional background, gender or organizational tenure. Similarly, the BIAS map was used to explain how stereotype-based cognition and emotion would produce a range of passive and active behaviors that would explain team performance but behaviors were not measured directly. Including measures of all variables would require a much larger sample size, which then raises the issues of controlling for all variables that could explain inter-team variation.

The use of self-report data and common methods (e.g. survey) across important variables raises the possibility of common method variance. While some researchers dismiss common method variance (CMV) as "an urban legend" (Spector, 2006, p. 30), others believe that CMV should be examined and acknowledged (Podsakoff, MacKenzie, Lee, and Podsakoff, 2003: Richardson, Simmerring &Sturman, 2009). In the current study the possibility of CMV has to be acknowledged. Because respondents were asked to self-report about their cognitions and emotions via a common method, in this case an online survey, it is possible that trustworthiness answers influenced satisfaction answers. The fairly high correlations between initial trustworthiness perceptions and initial members' satisfaction and between final trustworthiness perceptions and final satisfaction ($r = .79$ and .78, respectively) may indicate that CMV might provide an alternate explanation for this result. However, both Podsakoff et al. and Richardson et al. note that it is often difficult in studies involving psychological variables to avoid the

possibility of common method variance, and so suggest various procedural remedies and post hoc statistical controls.

However, the various procedural remedies and statistical controls are not always feasible. For instance, Podsakoff et al. (2003) recommend obtaining measures of the predictor and criterion variable from different sources, but they acknowledge that this is not feasible in all cases, especially those involving attitudes. This was the case in the current study as measures of trustworthiness perceptions (predictor) and satisfaction (criterion) could not be obtained from alternate sources However, team diversity (predictor) and team performance were measured using different methods, therefore the majority of hypotheses tested in this study were not subject to common method variance. A second procedural remedy is to ensure temporal separation in data collection, such that there is a time lag between collection of data for the predictor variable and the criterion variable (Podsakoff et al). However, given the short duration of many team projects, such as this one, this may not always be possible. Furthermore, if the elapsed time is increased between measurement of psychological variables, other events may occur during that time (e.g. meeting or social event), that could confound the results. Other procedural solutions such as psychological separation (creation of a cover story for the study) or methodological separation (e.g. using interviews instead of surveys for one of the psychological variables) are also possible but may introduce new sources of error. However, additional procedural solutions will certainly be considered in the design of future studies.

In terms of statistical controls, Richardson et al. (2009) reviewed and examined three commonly recommended post hoc statistical controls (correlational marker technique, CFA marker technique, and the unmeasured latent construct technique (ULMC). Previously Podsakoff et al (2003) had strongly endorsed the ULMC. In an extensive simulation, Richardson and her

colleagues found that only the CFA marker technique was accurate in detecting common method variance across three different conditions (no CMV, congeneric CMV, nongeneric CMV). The underlying assumption for data with congeneric CMV is that CMV affects items in the measure differentially, whereas for data with noncongeneric CMV the assumption is that CMV affects all items in the measure equally. Their results showed that the correlational marker and ULMC techniques were often no better than doing nothing about detecting common method variance, and that none of the three measures actually control CMV. As a result of the weakness, correlational marker and ULMC techniques were not considered for use in this study. The CFA marker technique was briefly considered but rejected, because an ideal marker was not available. Richardson et al. found that in order to detect CMV with any accuracy, the CFA marker technique requires an ideal marker. They defined an ideal marker as a variable that is theoretically unconnected to the two variables in question, yet measured using the same source/method, which allows for detection through examination of shared variance. Although studies have been published containing CMV tests that use CFA analyses with non-ideal markers, such as control/demographic variables, Richardson et al. showed that the accuracy of such tests is far below that of tests using ideal markers, and may not actually be detecting CMV. A final reason why post hoc statistical analysis was not conducted was that all of the existing post hoc statistical tests for CMV are dependent on sample size; none of the available tests would have been suitable for the current sample of 29 teams (H. Richardson, personal communication, April 25, 2013). Larger sample sizes and inclusion of ideal markers in future research will facilitate the use of the CFA marker technique for detecting common method variance.

Future Research

The current study offers a new perspective on intrateam perceptions in heterogeneous teams and a new model that could shed further light on how thoughts and feelings about fellow team members translate into behavior, and how those behaviors may explain variation in team performance. Prior to more widespread application to team studies there is a need to more clearly establish the most relevant warmth and competence traits. While two dimensions have been conclusively established as the basis for interpersonal evaluation (Fiske et al, 2002, 2007: Judd et al., 2007), studies of warmth and competence have not been consistent in the traits included. A more consistent list established through factor analysis would eliminate duplication of traits with similar meaning (e.g. friendly and sociable) and help identify the traits that carry the most weight depending on context. For instance, the definition of competence in organizational settings may also require more specific traits than general competence in terms of ability to act on positive or negative intentions. Future research should also compare measures of warmth and competence with existing measures of perceived trustworthiness and probe the relationship between the two. The inclusion of trustworthiness as one of the warmth traits suggests that these are overlapping measures; at a more specific level, caring and concern seem to equate to the construct of benevolence.

Understanding more about how warmth and competence are perceived in organizational teams may bring a fresh perspective to the study of other group psychology variables such as collective efficacy, group cohesion, and group potency. These particular variables have been conclusively linked to team performance, but their antecedents in terms of intrateam perceptions have not been fully explored. A more specific understanding of important traits within the warmth and competence dimension may help to explain why some teams have higher or lower

collective efficacy. While the focus on task achievement seems to suggest that collective efficacy would be more highly related to perceptions of competence the potential contribution of perceived warmth may also be a factor in whether team members believe that their team will be effective on the upcoming task. In addition, perceived warmth might help to maintain cohesion and collective efficacy and potency even if teams suffer temporary performance issues. Longitudinal studies of collective effective, cohesion and potency will be required to investigate these relationships.

Perceptions of warmth and competence may also help to predict and explain group processes such as conflict and communication patterns in heterogeneous teams. While the existence of conflict in heterogeneous teams has been established (De Dreu & Weingart, 2003; Pelled et al., 1999), the reasons for conflict have received far less attention. Intrateam conflict may occur because team members are low in warmth or because team members perceive competence issues or both. Furthermore, the fact that not all heterogeneous teams experience conflict may indicate higher, rather than lower, perceptions of warmth and competence, despite diversity in other team attributes. Similarly, the reasons why faultlines occur in some heterogeneous teams, but not in others, may also be a function of warmth and competence ratings. A team that is diverse but where members perceive each other as warm would seem less likely to split into factions despite concerns about overall competence than a diverse team where members see others as cold and unconcerned.

Future research might also help to explain contextual differences when it comes to active and passive facilitation behaviors and active and passive harm behaviours. Collaboration may have quite different meanings in different organizations or even in different organizational units. What may be acceptable in a manufacturing environment may not be acceptable in a healthcare

environment or vice versa. Teams in organizations with a longer history of cross-functional teams and a highly diverse workforce may have very different patterns of behavior than teams in organizations that are still dominated by functional silos and occupational segregation. Levels of perceived warmth and competence may explain when knowledge is willingly shared versus hoarded. It may be that organizational members share knowledge with persons of lower competence who are warm but not with persons of lower competence who are perceived to be cold. Those who are perceived to be warm would be seen as more likely to return the favor by helping in some other way in the future. Differences in organizational culture may also play a role in the types of intrateam behaviors that are actually manifested in different settings. The Stereotype Content model has been used to develop ratings of organizations by outsiders (Fiske et al., 2002, 2007) but not by insiders who are most affected by its culture. An interaction effect may occur between group stereotype and organizational culture that moderates the expected behavior.

The Stereotype Content model and BIAS map may be especially helpful in understanding the dynamics of cross-cultural interactions in organizational teams and extend commonly used cultural value frameworks (e.g. Hofstede, 1964; Schwartz, 1992, 1994). A team that is culturally diverse as well as diverse in functional background, gender, and organizational tenure is faced with ambivalent group stereotypes that are more difficult to decipher. The "inscrutability" of Asian negotiators may be perceived by Westerners as coldness, ergo they must be higher in competence. On the other hand, controlling emotions is often associated with being respectful of others, a demonstration of warmth, but one that might then lead to lower perceptions of competence. A second example concerns the stereotypes of lower paid offshore engineers or IT professionals, which suggest both lower and higher competence at the same

time. Those who are lower paid and foreign trained are often seen as less competent, but engineers and IT people are generally seen as more competent. Knowing how parent country and host country nationals actually perceive each other may provide new insights into cross-cultural team relations. Lastly, while the Western approach to business has spread across the world, the very high sociability of stereotypical Americans may lead to higher perceptions of warmth but lower perceptions of competence by team members from other nations. Therefore, further research that draws on stereotype content may add a new dimension to cross-cultural research.

Future research may also tap into social categories that are of increasing importance in today's team-based workplaces. For instance, differences in employment status (e.g., employee versus contractor, full-time versus part-time) have become a fact of life in many organizations (Broschak & Davis-Blake, 2006; Connelly & Gallagher, 2004). The proportion of part-time workers to full-time workers has also changed over time, with the former comprising much more of today's workforce. How these groups view each other may be relevant to the successful integration of different types of workers. Workplace diversity research has also highlighted the generational value differences that exist across the five generations now at work at the same time in today's organizations. It is unknown as to whether workers can differentiate between generations or simply see the world in terms of older worker versus younger worker stereotypes. Differences in work location/work schedule are also becoming commonplace but future research can probe into perceptions of those who work from home and those who take advantage of flextime and other non-standard work arrangements.

Future research can compare various methods of updating warmth and competence stereotypes to see whether the method produces the desired effect, whether a compensation effect takes place, or whether the stereotype is resistant to change despite updated information. Barriers

to equal employment may still exist even if out-group members who have made it into organization receive favorable treatment. The shared identity as organizational member that benefits the minority incumbent does not necessarily benefit minority job seekers.

Summary

Introducing a social cognition perspective to the theoretical foundation of team diversity research holds the potential for a more nuanced understanding of heterogeneous teams. The use of the Stereotype Content Model and BIAS map in the current study showed that, in contrast to long-held beliefs, members of heterogeneous teams can see each other as trustworthy and can be satisfied with their membership on a heterogeneous team, which translates into subsequent performance. For practitioners this offers a clearer roadmap to successful team management by developing initiatives that increase trustworthiness perceptions and satisfaction for new teams and address stereotype-based issues in existing teams. For researchers the findings of the current study may help to stimulate new research into team phenomena such as collective efficacy, group cohesion, group potency, intragroup conflict, and intragroup communication.

LIST OF REFERENCES

Abele, A.E., & Wojciszke, B. (2007). Agency and communion from the perspective of self versus others. *Journal of Personality and Social Psychology, 83,* 751-763.

Abrams, D. & Hogg, M.A. (1999). *Social identity and social cognition*. Oxford: Blackwell.

Abrams, D. (1996). Social identity, self as structure and self as process. In W.P. Robinson (Ed.), *Social groups and identities: Developing the legacy of Henri Tajfel*. Oxford: Butterworth Heinemann.

Allen, N.J., & Hecht, T.D. (2004). The 'romance of teams': Toward an understanding of its psychological underpinnings and implications. *Journal of Occupational & Organizational Psychology, 77*, 439-461.

Allport, G.W. (1954). *The nature of prejudice*. Reading, MA: Addison-Wesley.

Amason, A.C. (1996). Distinguishing the effects of functional and dysfunctional conflict on strategic decision making: Resolving a paradox for top management teams. *Academy of Management Journal, 39*, 123-148.

Ancona, D.G., & Caldwell, D.F. (1992). Demography and design: Predictors of new product team performance. *Organization Science. Special Issue: Management of technology, 3*, 321-341.

Andrade, E.B. & Ariely, D. (2009). The enduring impact of transient emotions on decision-making. *Organizational Behavior and Human Decision Processes, 109*, 1-8.

Bartol, K.M., & Srivastava, A. (2002). Encouraging knowledge sharing: The role of organizational reward systems. *Journal of Leadership & Organizational Studies, 9*, 64-76.

Bayazit, M., & Mannix, E. A. (2003). Should I stay or should I go? Predicting team members' intent to remain in the team. *Small Group Research, 34,* 290-321.

Beal, D.J., Cohen, R.R., Burke, M.J., & McLendon, C.L. (2003). Cohesion and performance in groups: A meta-analytic clarification of construct relations. *Journal of Applied Psychology, 88,* 989-1004.

Bell, S.T., Villado, S.J., Lukasik, M.A., Belau, L. & Briggs, A.L. (2011) Getting specific about demographic diversity variable and team performance relationships: A meta-analysis. *Journal of Management, 37,* 709-743.

Bettelheim, B. & Janowitz, M. (19540). *Dynamics of prejudice*. New York: Harper

Biernat, M., Sesko, Amo, R.B. (2009). Compensatory stereotyping in interracial encounters. *Group Processes and Intergroup Relations, 12,* 551-563.

Billig, M.G., & Tajfel, H. (1973). Social categorization and similarity in intergroup behavior. *European Journal of Social Psychology, 3,* 27-52.

Blau, P.M. (1977). *Inequality and heterogeneity*. New York: Free Press.

Bowers, C.A., Pharmer, J.A,, & Salas, E. (2000). When member homogeneity is needed in work teams: A meta-analysis. *Small Group Research 3*, 305-327.

Brambilla, M., Sacchi, S., Castellini, F., & Riva, P. (2010). The effects of status on perceived warmth and competence: Malleability of the relationship between status and stereotype content. *Social Psychology, 41,* 82-87.

Branscombe, N.R., Ellemers, N., Spears, R., & Doosje, B. (1999). The context and content of social identity threat. In N. Ellemers, R. Spears & B. Doosje (Eds), *Social identity*. Oxford: Blackwell

Brewer, M.B. (1979). Ingroup bias in the minimal intergroup situation: a cognitive-motivational analysis. *Psychological Bulletin, 86,* 307-324.

Brewer, M.B. (1988). A dual process model of impression formation. In T.K. Srull and R.S. Wyer (Eds.), Advances in social cognition, Vol. 1. Hillsdale, NJ: Erlbaum.

Brewer, M.B. & Gardner, W. (1986). Who is this 'we'? Levels of collective identity and self-representations. *Journal of Personality and Social Psychology, 71,* 89-93.

Brewer, M.B., & Kramer, R.M. (1985). The psychology of intergroup attitudes and behavior. *Annual Review of Psychology, 36,* 219-243.

Broschak, J.P., & Davis-Blake, A. (2006). Mixing standard work and nonstandard deals: The consequences of heterogeneity in employment arrangements. *Academy of Management Journal, 49,* 371-393.

Brown, R.J. (1996). Tajfel's contribution to the reduction of intergroup conflict. In W.P. Robinson (Ed.), *Social Groups and identities: Developing the legacy of Henri Tajfel.* Oxford: Butterworth Heinemann

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

Carlsson, R., Björklund, & Bäckström, M. (2012). Mixed discriminatory judgments of individuals' warmth and competence-related abilities. *Social Psychology, 43,* 160-167.

Chan, D. (1998). Functional relations among constructs in the same content domain at different levels of analysis: A typology of composition models. *Journal of Applied Psychology, 83,* 234-246.

Chowdhury, S. (2005). The role of affect- and cognition-based trust in complex knowledge sharing. *Journal of Managerial Issues, 17,* 310-326.

Christian, J., Porter, L.W., & Moffitt, G. (2006). Workplace diversity and group relations: An overview. *Group Processes and Intergroup Relations, 9,* 459–466.

Cohen, S. G., & Bailey, D. E. (1997). What makes teams work: Group effectiveness research from the shop floor to the executive suite? *Journal of Management, 23,* 239-290.

Colquitt, J.A., Scott, B.A., Lepine, J.A., & Jeffery, A. (2007). Trust, trustworthiness, and trust propensity: A meta-analytic test of their relationships with risk taking and performance. *Journal of Applied Psychology, 92,* 909-927.

Connelly, C.E. & Gallagher, D.G. (2004). Emerging trends in contingent work research. *Journal of Management, 30,* 959-983.

Connelly, C.E., Zweig, D., Webster, J, & Trougakos, J.P. (2012). Knowledge hiding in organizations. *Journal of Organizational Behavior, 33,* 64-88.

Cox, T. H., Jr., & Blake, S. (1991). Managing cultural diversity: Implications for organizational competitiveness. *The Executive, 5(3),* 45.

Cuddy, A.J.C. & Fiske, S.T. (2002). Doddering but dear: process, content, and function in stereotyping of older persons. In T.D. Nelson (Ed.) Ageism, Cambridge, MA: MIT Press

Cuddy, A.J.C., Fiske, S.T., & Glick, P. (2007) The BIAS map: Behaviours from intergroup affect and stereotypes. *Journal of Personality and Social Psychology*, *92*, 631-648.

Cuddy, A.J.C., Glick, P., & Beninger, A. (2011). The dynamics of warmth and competence judgments, and their outcomes in organizations. *Research in Organizational Behavior, 31*, 73-98.

De Dreu, C.K.W. (2006). When too little or too much hurts: Evidence for a curvilinear relationship between task conflict and innovation in teams. *Journal of Management, 32,* 83-107.

De Dreu, C.K.W. & Van Vianen, A.E.M. (2001). Managing relationship conflict and the effectiveness of organizational teams. *Journal of Organizational Behavior, 22,* 309-328.

De Dreu, C.K.W. & Weingart, L.R. (2003). Task versus relationship conflict, team performance, and team member satisfaction: A meta-analysis. *Journal of Applied Psychology, 88,* 741-749.

Deschamps, J.-C. & Doise, W. (1978). Crossed category memberships in intergroup relationsions. In H. Tajfel (Ed.), *Differentiation between social groups*. London: Academic Press.

Earley, P.C. & Mosakowski, E. (2000). Creating hybrid team cultures: An empirical test of transnational team functioning. *Academy of Management Journal, 43,* 26-49.

Ellemers, N., Kortekaas, P., & Ouwerkerk, J. (1999). Self-categorization, commitment to the group and social self-esteem as related but distinct aspects of social identity. *European Journal of Social Psychology, 29,* 371-389.

Ellemers, N., Spears, R., & Doosje, B. (1999). *Social identity*. Oxford: Blackwell

Festinger, L. (1950). Informal social communication. *Psychological Review, 57,* 271-282.

Festinger, L. (1954). A theory of social comparison processes. *Human Relations, 7,* 117-140.

Fiske, S. T. (2012a). Managing ambivalent prejudices: Smart-but-cold- and warm-but-dumb stereotypes. *The Annals of the American Academy, AAPSS, 639,* 33-48.

Fiske, S.T. (2012b) Warmth and competence; Stereotype content issues for clinicians and researchers. *Canadian Psychology/Psychologie Canadienne*, 53 (1), 14-20.

Fiske, S.T., Cuddy, A.J.C., & Glick, P. (2007). Universal dimensions of social perception: Warmth and competence. *Trends in Cognitive Science, 11,* 77-83.

Fiske, S.T., Cuddy, A.J.C., Glick, P., & Xu, J. (2002). A model of (often mixed) stereotype content: Competence and warmth respectively follow from perceived status and competition. *Journal of Personality and Social Psychology, 82,* 878-902.

Fiske, S.T. & Neuberg, S.L. (1990). A continuum of impression formation, from category-based to individuating processes: influences of information and motivation non attention and

interpretation. In M.P. Zanna (Ed.), *Advances in Experimental Social Psychology* (Vol. 23). San Diego, CA: Academic Press.

Fiske, S.T. & Taylor, S.E. (1991). *Social cognition*, 2nd edition. New York: McGraw-Hill.

Glick, P., & Fiske, S.T. (1996). The ambivalent sexism inventory: Differentiating hostile and benevolent sexism. *Journal of Personality and Social Psychology, 70,* 491-512.

Hammond, K.H. (2007). Why we hate HR. *Fast Company, www.fastcompany.com*, :http://www.fastcompany.com/magazine/97/open_hr.html, accessed March 25, 2011.

Harrison, D. A., & Klein, K. J. (2007). What's the difference? Diversity constructs as separation, variety, or disparity in organizations. *Academy of Management Review, 32,* 1199-1228.

Harrison, D.A., Price, K.H., Gavin, J.H., & Florey, A.T. (2002). Time, teams, and task performance: Changing effects of surface- and deep-level diversity on group functioning. *Academy of Management Journal, 45,* 1029-1045.

Hewstone, M., Hantzi, A. & Johnson, L. (1991). Social categorization and person memory; The pervasiveness of race as an organizing principle. *European Journal of Social Psychology, 21*, 517-528.

Hewstone, M., Islam, M.R., & Judd, C.M. (1993). Models of crossed categorization and intergroup relations. *Journal of Personality and Social Psychology, 64*, 779-793.

Hofstede, G. (1980). *Culture's consequences: International differences in work-related values.* Beverly Hills CA: Sage Publications.

Hogg, M.A. (1996). Intra-group processes, group structure and social identity. In W.P. Robinson (Ed.), *Social groups and identities: Developing the legacy of Henri Tajfel*. Oxford: Butterworth Heinemann.

Hogg, M.A. & Mullin, B.,-A. (1999). Joining groups to reduce uncertainty: subjective uncertainty reduction and group identification. In D. Abrams and M.A. Hogg (Eds.), *Social identity and social cognition*. Oxford: Blackwell.

Horwitz, S.K. (2005). The compositional impact of team diversity on performance: Theoretical considerations. *Human Resource Development Review, 4,* 219-245.

Horwitz, S. K., & Horwitz, I. B. (2007). The effects of team diversity on team outcomes: A meta-analytic review of team demography. *Journal of Management, 33,* 987-1015.

Ilgen, D. R., Hollenbeck, J. R., Johnson, M., & Jundt, D. (2005). Teams in organizations: From input-process-output models to IMOI models. *Annual Review of Psychology, 56*, 517-543.

Jackson, S. E., Brett, J. F., Sessa, V. I., Cooper, D. M., Julin, J. A., & Peyronnin, K. (1991). Some differences make a difference: Individual dissimilarity and group heterogeneity as correlates of recruitment, promotions, and turnover. *Journal of Applied Psychology, 76,* 675-689.

Jackson, S. E., Joshi, A., & Erhardt, N. L. (2003). Recent research on team and organizational diversity: SWOT analysis and implications. *Journal of Management, 29,* 801-830.

Jehn, K.A., & Mannix, E.A. (2001). The dynamic nature of conflict: A longitudinal study of intragroup conflict and group performance. *Academy of Management Journal, 44,* 238-251.

Joshi, A., & Roh, H. (2009). The role of context in work team diversity research: A meta-analytic review. Academy of Management Journal, *52*, 599-627.

Judd, C.M., James-Hawkins, L., Yzerbyt, V., & Kashima, Y. (2005). Fundamental dimensions of social judgment: Understanding the relations between judgments of competence and warmth. *Journal of Personality and Social Psychology, 89,* 899-913.

Kenney, M., & Florida, R. (1995). The transfer of Japanese management styles in two US transplant industries: Autos and electronics. *The Journal of Management Studies, 32,* 789-802.

Kervyn. N., Judd, C.M., & Yzerbyt, V.Y. (2009). You want to appear competent? Be mean! You want to appear sociable? Be lazy! Group differentiation and the compensation effect. *Journal of Experimental Social Psychology, 45,* 363-367.

Kervyn, N, Yzerbyt, V, & Judd, C.M. (2010). Compensation between warmth and competence: Antecedents and consequences of a negative relation between the two fundamental dimensions of social perception. *European Review of Social Psychology, 21,* 155-187.

Kervyn, N., Yzerbyt, V.Y., Judd, C.M, & Nunes, A. (2009). A question of compensation: The social life of the fundamental dimensions of social perception. *Journal of Personality and Social Psychology, 96,* 828-842.

Klein, K.J. & Kozlowski, S.W.J. & Tosi, H. (2002). Multilevel theory, research and methods in organizations: foundations, extensions, and new directions. *Administrative Science Quarterly, 47,* 368-372.

Koskinen, K.U., Pihlanto, P., & Vanharanta, H. (2003). Tacit knowledge acquisition and sharing in a project work context. *Journal of Project Management, 21,* 281 – 290.

Krings, F., Sczesny & Kluge, A. (2011). Stereotypical inferences as mediators of age discrimination: The role of competence and warmth. *British Journal of Management, 22*, 187-201.

Lau, D.C., & Murnighan, J.K. (2005). Interactions within groups and subgroups: The effects of demographic fault lines. *Academy of Management Journal, 48*, 645-659.

Lepore, L. & Brown, R.J. (1999) Exploring automatic stereotype activation: A challenge to the inevitability of prejudice. In D. Abrams and M.A. Hogg (Eds.), *Social identity and social cognition*. Oxford: Blackwell.

Levin, D.Z, Whitener, E.M. & Cross, R. (2006). Perceived trustworthiness of knowledge sources: The moderating impact of relationship length. *Journal of Applied Psychology, 91,* 1163-1171.

Liu*, D., Liao, H**.**, & Loi, R. (2012). The dark side of leadership: A three-level investigation of the cascading effect of abusive supervision on creativity. *Academy of Management Journal*, 55, 1187-1212.

Mackie, D. M., Devos, T., & Smith, E. R. (2000). Intergroup emotions: Explaining offensive action tendencies in an intergroup context. Journal of Personality and Social Psychology, *79*, 602-616

Mathieu, J.E., Deshon, R.P., & Bergh, D.D. (2008). Mediational inferences in organizational research: Then, now, and beyond. *Organizational Research Methods, 11,* 203-223.

Mathieu, J.E., Maynard, M.T., Rapp, T., & Gilson, L. (2008). Team effectiveness 1997-2007: a review of recent advancements and a glimpse into the future. *Journal of Management, 34,* 410-476.

Mayer R.C., & Davis, J.H. (1999). The effect of the performance appraisal system on trust for management: A field quasi-experiment. *Journal of Applied Psychology, 84,* 123-136.

Mayer, R.C., Davis, J.H., & Schoorman, F.D. (1995). An integrative model of organizational trust. *Academy of Management Review, 2*0, 709-734.

McKnight, D.H., Cummings, Cummings, L..L. & Chervany, N.L. (1998). Initial trust formation in new organizational relationships. *Academy of Management Review, 23*, 473-490.

Mlicki, P. & Ellemers, N. (1996). Being different or being better? National stereotypes and identifications of Polish and Dutch students. *European Journal of Social Psychology, 26*, 97-114.

Mullen, B., Brown, R.J. & Smith, C. (1992). Ingroup bias as a function of salience, relevance, and status: An integration. *European Journal of Social Psychology, 22*, 102-122.

Mullin, B.-A. & Hogg, M.A. (1998). Dimensions of subjective uncertainty in social identification and minimal intergroup discrimination. *British Journal of Social Psychology, 37*, 345-365.

Mummendey, A. & Schreiber, H.-J. (1983). Better or just different? Positive social identity by discrimination against, or by differentiation from outgroups. *European Journal of Social Psychology, 13*, 389-397.

Mummendey, A., & Schreiber, H.-J. (1984). "Different' just means "better": some obvious and some hiden pathways to in-group favoritism. *British Journal of Social Psychology, 28,* 1-16.

Myerson, D. Weick, K.E. & Kramer, R.M. (1996). Swift trust and temporary groups. In R.M. Kramer & T.R. Tyler (Eds.) Trust in organizations: Frontiers of theory and research, Thousand Oaks, CA: Sage Publications.

Nahavandi, A., & Aranda, E. (1994). Restructuring teams for the re-engineered organization. *The Academy of Management Executive,* 8(4), 58-68.

Oakes, P.J. (1996). The categorization process: Cognition and the group in the social psychology of stereotyping. In W.P. Robinson (Ed.), *Social groups and identities: Developing the legacy of Henri Tajfel.* Oxford: Butterworth Heinemann.

Oakes, P.J. & Turner, J.C. (1986). Distinctiveness and the salience of social category memberships: is there an automatic perceptual bias towards novelty? *European Journal of Social Psychology, 16,* 325-344.

Oldmeadow, J.A., & Fiske, S.T. (2010). Social status and the pursuit of positive social identity: Systematic domains of intergroup differentiation and discrimination for high- and low-status groups. *Group Processes and Intergroup Relations, 13,* 425-444.

Operario. D. & Fiske, S.T. (1999). Integrating social identity and social cognition: A framework for bridging diverse perspectives. In D. Abrams and M.A. Hogg (Eds.), *Social identity and social cognition*. Oxford: Blackwell.

Orwell , G. (1945). *Animal Farm*. London: Secker and Warburg.

Pelled, L.H., Eisenhardt, K.M., & Xin, K.R. (1999). Exploring the black box: An analysis of work group diversity, conflict, and performance. *Administrative Science Quarterly, 44*, 1-28.

Pina, M.I.D., Martinez, A.M.R., & Martinez, L.G. (2008). Teams in organizations: a review on team effectiveness. *Team Performance Management, 14,* 7-21.

Podsakoff, P.M., MacKenzie, S.B., Lee, J-Y., Podsakoff, N.P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology, 88.* 879-903.

Posthuma, R.A. & Camion, M.A. (2009). Age stereotypes in the workplace: common stereotypes, moderators, and future research directions. *Journal of Management, 35,* 158-188.

Reagans, R., Zuckerman, E., & McEvily, B. (2004). How to make the team: Social networks vs. demography as criteria for designing effective teams. *Administrative Science Quarterly, 49,* 101-133.

Richard, O., McMillan, A., Chadwick, K., & Dwyer, S. (2003). Employing an innovation strategy in a radically diverse workforce. *Group and Organization Management, 28,* 107-126.

Richardson, H.A., Simmering, M.J., & Sturman, M.C. (2009). A tale of three perspectives: Examining post hoc statistical techniques for detection and correction of common method variance. *Organizational Research Methods, 12,* 762-800.

Richetin, J., Durante, F., Mari, S., Perugini, M., & Volpator, C. (2012). Primacy of warmth versus competence: A motivated bias? *The Journal of Social Psychology, 152,* 417-435.

Roberson, Q.M, & Williamson, I.O. (2012). Justice in self-managing teams: The role of social networks in the emergence of procedural justice climates. *Academy of Management Journal, 55,* 685-701.

Rousseau, D.M, Sitkin, S.B., Burt, R.S., & Camerer, C., (1998). Not so different at all: A cross-discipline view of trust. *Academy of Management Review, 23,* 393–404.

Sawyer, J.E., Houlette, M.A., & Yeagley, E.L. (2006). Decision performance and diversity structure: Comparing fault lines in convergent, crosscut, and racially homogenous groups. *Organizational behavior and human decision processes, 99,* 1-15.

Schwartz, S.H. (1992) Universals in the Content and Structure of Values: Theoretical advances and empirical tests in 20 Countries. In *Advances in experimental social psychology, Vol. 25,* by Schwartz, Shalom H., San Diego, CA, US:Academic Press

Schwartz, S.H. (1994). Are There Universal Aspects in the Content and Structure of Values? *Journal of Social Issues, 50,* 19-45.

Serva, M.A., Fuller, M.A. & Mayer, R.C. (2005). The reciprocal nature of trust: A longitudinal study of interacting teams. *Journal of Organizational Behavior, 26,* 625-648.

Sherif, M., & Sherif, C.W. (1953). *Groups in harmony and tension: An integration of studies of intergroup relations.* Oxford: Harper.

Sherif, M, Harvey, O.J, White, B.J., Hood, W.R., Sherif, C.W. (1961). *Intergroup conflict and cooperation: The robbers' cave experiment.* Norman: University of Oklahoma Press

Son Holoien, D., & Fiske, S.T. (2013). Downplaying positive impressions: Compensation between warmth and competence in impression management. *Journal of Experimental Social Psychology, 49,* 33-41.

Spears, R. & Mansted, A.S.R. (1989). The social context of stereotyping and differentiation. *European Journal of Social Psychology, 19,* 101-121.

Stangor, C. & Lange, J.E. (1994). Mental representations of social groups: Advances in understanding stereotypes and stereotyping. In M.P. Zanna (Ed.), Advances in Experimental Social Psychology (vol. 26). New York: Academic Press.

Stewart, G.L. (2006). A meta-analytic review of relationships between team design features and team performance. *Journal of Management, 32,* 29-55.

Tajfel, H. (1969). Cognitive aspects of prejudice. *Journal of Social Issues, 25,* 79-97.

Tajfel, H. (1978). *Differentiation between social groups: Studies in the social psychology of intergroup relations*. London: Academic Press.

Tajfel, H. (1982). Social psychology of intergroup relations. *Annual Review of Psychology, 33,* 1-39.

Tajfel, H., & Turner, J.C. (1979). An integrative theory of intergroup conflict. In W.G. Austin and S. Worchel (Eds.), *The social psychology of intergroup relations.* Monterey, CA: Brooks/Cole.

Tajfel, H., & Turner, J.C. (1985). The social identity theory of intergroup behavior. In S. Worchel and W.G. Austin (Eds.), *Psychology of intergroup relations*. Chicago: Nelson-Hall, 7-24.

Thatcher, S.M.B., & Patel, P.C. (2011). Demographic faultlines: A meta-analysis of the literature. *Journal of Applied Psychology, 96,* 119-1139.

Thatcher, S. M. B., Jehn, K. A., & Zanutto, E. (2003). Cracks in diversity research: The effects of diversity fault lines on conflict and performance. *Group Decision and Negotiation, 12*, 217-241.

Turner, J.C. (1982). Toward a cognitive redefinition of the social group. In H. Tajfel (Ed.), *Social identity and intergroup relations*. Cambridge: Cambridge University Press.

Turner, J.C. (1987). *Rediscovering the social group: A self-categorization theory*. Oxford: Blackwell.

Turner, J.C. (1999) Some current issues in research on social identity and self-categorization theories. In N. Ellemers, R. Spears & B. Doosje (Eds), *Social identity*. Oxford: Blackwell

Turner, J.C. & Bourhis, R.Y. (1996). Social identity, interdependence, and the social group: A reply to Rabbie et al. In W.P. Robinson (Ed.), *Social groups and identities: Developing the legacy of Henri Tajfel.* Oxford: Butterworth Heinemann.

Vanbeselaere, N. (1991). The different effects of simple and crossed categorizations: A result of the category differentiation process or of differential category salience? *European Review of Social Psychology, 2*, 247-278.

van Knippenberg, A. (1984). Intergroup differences in group perceptions. In Tajfel, H. (Ed.), *The social dimension: European developments in social psychology*. Cambridge: Cambridge University Press.

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

Webber, S. (2008). Development of cognitive and affective trust in teams: A longitudinal study. *Small Group Research, 39,* 746-769.

Webber, S.S., & Donahue, L.M. (2001). Impact of highly and less job-related diversity on work group cohesion and performance: a meta-analysis. *Journal of Management,* 27, 141-162.

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

Wojciszke, B., & Abele, A.E. (2008). The primacy of communion over agency and its reversal in evaluations. *European Journal of Social Psychology, 38,* 1139-1147.

Yzerbyt, V.Y, Kervyn, N. , & Judd, C.M. (2008). Compensation versus halo: The unique relations between the fundamental dimensions of social judgment. *Personality and Social Psychology Bulletin, 34,* 1110-1123.

APPENDICES

Appendix A: Modified Perceived Trustworthiness Instrument (referent is own team).

Ability

The members of our team are very capable of performing its job.

The member of our team have confidence in the skills of other members of our team.

The members of our team believe that we are well qualified to do team assignments.

Benevolence

Team members really look out for what is important to our team.

Team members' needs and desires are very important to our team.

The members of our team go out of their way to help our team succeed.

Integrity

Team members try to be fair in dealings with other team members.

The members of our team have a strong sense of justice.

The members of our team have shared values.

APPENDIX B: HIERARCHICAL REGRESSION RESULTS WITHOUT DIVERSITY INTERACTIONS OR TEAM SIZE

Table 7: Results of Hierarchical Regression for Initial Perceptions of Trustworthiness

Initial TW Perceptions (N= 29)	Step 1
Program Diversity	.30
Year Diversity	-.16
Gender Diversity	.10
Adjusted R^2	-.02

* β significant at p < .05
** β significant at p < .01

Table 8: Results of Hierarchical Regression for Initial Members' Satisfaction

Initial Members' Satisfaction (N = 29)	Step 1	Step 2
Program Diversity	.45*	0.24
Year Diversity	-.12	-.01
Gender Diversity	.21	.14
Initial TW Perceptions		.71**
Adjusted R^2	.15	.65

* β significant at p < .05
** β significant at p < .01

Table 9: Results of Hierarchical Regression for Team Performance T1

Team Performance T1 (N = 29)	Step 1	Step 2	Step 3
Program Diversity	-.04	-.13	-.25
Year Diversity	.45*	.50*	.51**
Gender Diversity	.41*	.37*	.31
Initial TW Perceptions		.31	-.05
Initial Members' Satisfaction			.50
Adjusted R^2	0.25	0.32	0.39

* β significant at p < .05
** β significant at p < .01

Table 10: Results of Hierarchical Regression for Team Performance T2

Team Performance T2 (N = 29)	Step 1	Step 2	Step 3	Step 4
Program Diversity	.56*	.52*	.38	.34
Year Diversity	.04	-.02	-.02	.06
Gender Diversity	-.15	-.16	-.24	-.20
Initial TW Perceptions		.11	-.30	-.31
Initial Members' Satisfaction			.59	.66*
Team Performance T1				-.14
Adjusted R^2	0.20	0.17	0.26	0.24

* β significant at $p < .05$

** β significant at $p < .01$

Table 11: Results of Hierarchical Regression for Team Performance T3

Team Performance T3 (N = 29)	Step 1	Step 2	Step 3	Step 4
Program Diversity	.53**	.51*	.48*	.47
Year Diversity	.13	.15	.15	.26
Gender Diversity	-.29	-.30	-.32	-.28
Initial TW Perceptions		.09	.01	-.03
Initial Members' Satisfaction			.11	.27
Team Performance T1				-.22
Team Performance T2				-.10
Adjusted R^2	0.34	0.32	0.3	0.27

* β significant at $p < .05$

** β significant at $p < .01$

Table 12: Results of Hierarchical Regression for Final Perceptions of Trustworthiness

Final TW Perceptions (N = 29)	Step 1	Step 2	Step 3
Program Diversity	0.38	0.09	0.07
Year Diversity	-0.08	0.07	0.04
Gender Diversity	0.13	0.02	0.02
Initial TW Perceptions		.89**	.92**
Initial Members' Satisfaction		0.07	-0.005
Team Performance T1			0.06
Team Performance T2			0.08
Adjusted R^2	0.05	0.95	0.96

* β significant at $p < .05$

** β significant at $p < .01$

Table 13: Results of Hierarchical Regression for Final Members' Satisfaction

Final Members' Satisfaction (N = 29)	Step 1	Step 2	Step 3	Step 4
Program Diversity	0.37	0.01	0.003	-0.09
Year Diversity	0.09	0.20	0.11	0.06
Gender Diversity	0.02	-0.15	-0.17	-0.2
Initial TW Perceptions		0.13	0.18	-1.04
Initial Members' Satisfaction		.72**	.55*	.56*
Team Performance T1			0.18	0.11
Team Performance T2			0.13	0.02
Final TW Perceptions				1.33*
Adjusted R^2	0.09	0.65	0.65	0.72

* β significant at $p < .05$

** β significant at $p < .01$