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### CAN MUTUAL TRUST EXPLAIN THE DIVERSITY-PERFORMANCE RELATIONSHIP? A META-ANALYSIS

by

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A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in the Department of Psychology in the College of Sciences at the University of Central Florida Orlando, Florida

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#### ABSTRACT

Trust is gaining attention for its benefits to both teams and organizations as a whole (Fulmer & Gelfand, 2012). The difficulty of building it in comparison to the ease of destroying it calls for a deeper understanding of trust, as well as its relationship with critical team outcomes (Colquitt, LePine, Piccolo, Zapata, & Rich, 2012). Unfortunately, current research has progressed in a disjointed manner that requires the integration of findings before a more parsimonious and descriptive understanding of trust at the team-level can be developed. Beyond this basic understanding, research is needed to explore the nature of trust in teams comprised of diverse members, as multi-national, multi-cultural, and interdisciplinary teams are increasingly characterizing the modern landscape. Thus, this article uses meta-analytic techniques to examine the extent to which mutual trust can serve as an underlying mechanism that drives the diversityteam performance relationship. First, surface-level and deep-level diversity characteristics varied in their impact on trust, ranging from  $\hat{\rho} = -.34$  to .12. Value diversity emerged as the most detrimental, along with the moderating effect of time. Second, 95 independent samples comprising 5,721 teams emphasized the importance of trust to team performance with a moderate and positive relationship ( $\hat{\rho} = .32$ ). Third, mediation analyses answered recent calls (e.g., van Knippenberg & Schippers, 2007) to examine underlying mechanisms that can explain the diversity-outcomes relationship. This showed age, gender, value, and function diversity to be related to performance through mutual trust. Furthermore, this study explores whether contextual (e.g., team distribution) as well as measurement (e.g., referent) issues pose systematic differences in the diversity-trust and trust-performance relationships. Surprisingly, the construct of trust at

the team-level proved to be generalizable across a number of unique conditions. In addition to this extensive quantitative review, implications and future research are discussed.

"O SENHOR é o meu pastor, nada me faltará."

(Salmos 23:1)

E nada tem me faltado. Amém!

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#### **CHAPTER ONE: INTRODUCTION**

Statement of the Problem

Successful teamwork is built on a foundation of trust. Each member of the team must establish trust, cultivate trust through his actions and words, and work to maintain it. Each member also needs to be able to trust his team members to make a commitment to the team and its goals, work competently with those goals in mind, and communicate consistently about any issues that affect the team. (Measom, n.d., para. 1)

It is not uncommon to see statements of this type in both popular press outlets and scholarly publications. The widespread call for the development and maintenance of trust results from the growing need to keep team performance and other desired outcomes at their optimal levels. Accordingly, one of the largest team training needs identified focuses on how to develop trust (Rosen, Furst, & Blackburn, 2006). "Lack of trust is a common complaint among employees, and people want to be in workplaces with strong levels of trust. Trust is so important that many scholars say it is the foundation of a healthy workplace." (Russell, 2014, para. 1). The difficulty of building it compared to the ease of destroying it calls for a deeper understanding of trust and its relationships with other key constructs (Colquitt, LePine, Piccolo, Zapata, & Rich, 2012). As such, trust benefits to both teams and organizations as a whole (Fulmer & Gelfand, 2012), and it has rendered it a growing area of interest to both researchers and practitioners around the globe.

Trust is considered a key variable within teams, as it influences a number of team processes and outcomes (Adler, 2001; Barczak, Lassk, & Mulki, 2010; Fulmer & Gelfand, 2012). While the complexity of trust and its potential to enhance productivity are widely

recognized, research simultaneously shows prevalent decreases in levels of trust throughout organizations (Zeffane & Connell, 2003). For instance, Hurley (2006) found that nearly half of their sample of 800 managers showed hesitation in trusting their own leaders – It is particularly concerning when core members meant to motivate and keep everyone working together have deficits in trust. To improve our understanding of trust, researchers have begun to examine its measurement (e.g., McEvily & Tortoriello, 2011), its dyadic influence on leaders-follower dynamics (Dirks & Ferrin, 2002; Korsgaard, Schweiger, & Sapienza, 1995), and its conceptualization at the organizational-level (Schoorman, Mayer, & Davis, 2007). Despite substantial progress in relation to dyadic and organizational trust (Webber, 2008b), trust at the team level of analysis remains in need of further exploration (Fulmer & Gelfand, 2012).

Beyond this, current trends –such as an increasingly diverse workforce– add new nuances to the development of mutual trust. Indeed, research identifies trust as a key component for multicultural teams (Kirkman & Shapiro, 1997; Rockstuhl & Ng, 2008). Diversity is thought to increase organizational outcomes –as spanning geographical and functional boundaries allows organizations to tackle complex problems and increase competitiveness– but differences among teammates often get in the way of such benefits (Kahane, Longley, & Simmons, 2013). Diversity can influence how team members develop trust in one another (Fiske & Neuberg, 1990), often making it difficult to work together effectively (e.g., Brett, Behfar, & Kern, 2006; Chatman & Flynn, 2001). Understanding how to navigate mutual trust in the global context is thus now a necessity. Research needs to go beyond answering *if* diversity matters for performance, and shift toward focusing on *how* (e.g., Joshi & Rho, 2009; Martins, Milliken, Wiesenfeld, & Salgado, 2009) and *why* (Jackson, Joshi, & Erhardt, 2003).

Though a few reviews have indeed examined trust at the team-level, each has specific limitations. First, Dirks and Ferrin's (2002) meta-analysis focused solely on trust with leaders. Subsequently, Colquitt, Scott, and LePine (2007) broadened that meta-analysis to include trust with co-workers, but outcomes were still restricted to the individual level of analysis. The authors advanced research by parsing out different constructs: trust propensity, trustworthiness, and trust. More recently, another meta-analysis showed trust's impact on cooperation and explored the role of conflict (Balliet & van Lange, 2013). While this study included individual and intergroup trust, it was limited to social dilemma scenarios characterized by unusually high conflicts of interest. For instance, one has to decide whether to cooperate with a partner or defect. When the partner chooses otherwise, defecting can lead to the best outcome however, if both agents decide to defect, the worst outcome will occur (Axelrod, 1987). While these reviews have been critical for developing the trust literature, the true relationship between mutual trust and team performance remain disintegrated within the team context, and further, within the team context characterized by diversity.

Taken together, the current literature suggests that diversity (e.g., Brett, et al., 2006) and trust (e.g., Costa, Roe, & Taillieu, 2001) both play key roles in team effectiveness, however additional research is needed to further understand the nature and strength of relationships among these variables. As such, this study utilizes meta-analytic techniques to investigate how mutual trust can be an underlying mechanism to explain the influence of diversity on team performance, as well as the conditions under which these relationships may show systematic differences.

#### Purpose of the Current Study

Specifically, this study has three main components. First, I examine the role of trust in the team context – while the impact of trust on team performance is widely accepted in theory, it has not yet been empirically established, particularly across a wide range of team contexts. Second, I explore diversity as an antecedent of mutual trust in order to address current organizational needs. Because discrepancies regarding the impact of diversity on team outcomes can be due in part to models oversimplifying the relationship between diversity and team outcomes (Milliken & Martins, 1996), I unpack the diversity construct, investigating the influence of specific diversity variables. Third, I identify specific conditions under which trust may be more or less important, considering its link to team performance of various types. Namely, this study focuses on the mediating role of mutual trust as well as the differential impact of contextual (e.g., team distribution) and measurement (e.g., dimensionality of trust measures) variables. Answering the call to examine relationships at a more fine-grained level (e.g., van Knippenberg & Schippers, 2007), this meta-analytic review will advance our current knowledge by scrutinizing trust at the team-level and integrating multiple studies to provide a more holistic picture of this construct.

#### **CHAPTER TWO: LITERATURE REVIEW**

#### What Is Mutual Trust?

One of the most widely known definitions of trust in general is the "willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that party" (Mayer, Davis, & Schoorman, 1995, p. 172). There are two main components of this definition: positive expectations (i.e., cognitive-driven) and the willingness to be vulnerable (i.e., affective/attitude-driven). The former is representative of an individual expecting that his/her teammate is able to perform a task appropriately (Butler & Cantrell, 1984), whereas the latter is associated with an emotional investment and caring for the teammate (Erdem & Ozen, 2006). Both types are likely to influence how members work together, including the monitoring of tasks and back-up behavior (Barczak et al., 2010).

Trust is assumed to be the consequence of positive social exchanges (Colquitt et al., 2012), which makes it a central construct for teams researchers. Considering our focus on trust at the team-level, I adopt Fulmer and Gelfand's (2012) definition: "shared psychological state among team members comprising willingness to accept vulnerability based on positive expectations of a specific other or others" (p. 1174). As reflected in this definition, trust in teams is conceptualized as a multi-dimensional construct (Costa, 2003). However, mutual trust has been defined by teams researchers as "the shared belief that team members will perform their roles and protect the interests of their teammates" (Salas, Sims, & Burke, 2005, p. 561). This definition seems deficient for solely identifying trust as a cognitive component (i.e., belief) without the disclosure of the attitudinal component that comprises this construct. Noting Colquitt

et al.'s (2007) critique of previous meta-analyses for not drawing from their conceptualization of trust that was grounded in Mayer et al.'s (1995) model, I include aspects of trust that encompass both the need for teammates to share positive expectations about each other's competence, as well as the need for teammates to allow themselves to be emotionally vulnerable. As shown in previous research, these dimensions are likely to influence important team processes and outcomes (De Jong & Elfring, 2010; Erdem & Ozen, 2003). I draw from social exchange and social identity theories as a theoretical foundation to understand the development of trust within teams. Social exchange theory provides a deeper look at the expectations, whereas social identity theory focuses more on the foundational aspect of liking associated with categorizations. A summary of my theoretical model and corresponding hypotheses is presented in Figure 2.1. Each hypothesis will now be explained in details.



Figure 2.1: Model of trust at the team-level as the underlying mechanism between diversityperformance relationship and its hypothesized moderators

#### Theoretical Background and Hypotheses

#### Diversity as an Antecedent of Mutual Trust

Both dispositional (e.g., propensity to trust, Colquitt et al., 2007) and psychological (e.g., justice, Colquitt, Conlon, Wesson, Porter & Ng, 2001) antecedents of trust have been explored in recent literature. While models including such variables have been developed to understand how trust is initially developed (e.g., McKnight, Cummings, & Chervany, 1998; Spector & Jones, 2004), there is a gap in research surrounding the role of diversity as a precursor for developing mutual trust. Consistent with current work on faultlines - defined as hypothetical divides based on individuals' attributes (Lau & Murnighan, 1998) - diverse team members can take longer to be at the same pace with each other in comparison to more homogeneous teams (Nemeth & Kwan, 1985). Namely, perspectives of being different can trigger psychological processes such as anger, shame, and anxiety (Dovidio, Gaertner, & Kawakami, 2003; Miville, Constantine, Baysden, & So-Lloyed, 2005). The more dissimilar individuals are, the less trust they will have towards their peers (Chattopadhyay, 1999).

Diversity is broadly defined as the existing differences across the attributes of multiple individuals, making it a configural team property (Klein & Kozlowski, 2000). While diversity has been considered an important area of research due to globalization (e.g., Cascio & Aguinis, 2005), most work in this area lacks an exploration of underlying mechanisms (van Knippenberg & Schippers, 2007). Though research has shown an impact of members' homogeneity or heterogeneity without the clear specification of the diversity category (e.g., Bowers, Pharmer, & Salas, 2000; Mesmer-Magnus & DeChurch, 2009), the effect of diversity is likely to be undermined when multiple diversity categories are condensed instead of separated. Accordingly, Bell, Villado, Lukasik, Belau, and Briggs (2011) began integrating demographic variable

findings and moving towards more specific relationships (e.g., functional background, race, educational level, etc.), instead of making a generic statement about diversity being generally beneficial or detrimental. In line with these developments, I conceptualize diversity as both surface- and deep-level, presenting specific hypotheses for each one's relationship with trust. <u>Surface-Level Diversity</u>

Surface-level diversity refers to dissimilarities in individual characteristics that are easily observable, such as age, gender, and race (Bell et al., 2011). Though some argue that diversity only matters when the attribute is relevant to the task, less task-relevant diversity categories have been related to affective constructs, such as group member satisfaction, intention to remain, and commitment (Jehn, Northcraft, & Neale, 1999). Dissimilarities across team members, even if only on the surface, can trigger ingroup and outgroup divisions (Rink & Jehn, 2010). The social identity perspective helps put the impact of diversity on mutual trust into context (Jackson & Joshi, 2011). Namely, it suggests that belonging to certain groups occurs through categorization and affective components associated with group memberships (Tajfel, 1978). This is especially true when members perceive differences in group memberships and assign more value to certain memberships than to the team as a whole (Rink & Jehn, 2010). Surface-level characteristics – such as age, gender, and race– are thus likely to highlight differences, and trigger categorization processes, thereby influencing mutual trust.

#### Age, Gender, and Racial Diversity

As teams become more heterogeneous, important team variables can be jeopardized due to dissimilarities (e.g., Mohammed & Angell, 2004; Riordan & Shore, 1997). Specifically, demographic diversity has been associated with higher levels of conflict and lower trust, which in turn decreases team effectiveness (Curşeu & Schruijer, 2010). Drawing from social identity

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theory, better outcomes will only emerge when individuals perceive a certain level of comfort with their teammates (Levine & Moreland, 1998). Similarly, a meta-analysis on demographic faultlines found differences in these attributes to negatively impact important team outcomes, particularly when the faultlines included race and sex (Thatcher & Patel, 2011). This is consistent with the finding that age diversity was detrimental to performance when executing complex tasks (Wegge, Roth, Neubach, Schmidt, & Kanfer, 2008). Together, these findings demonstrate the negative consequences of surface-level diversity on team outcomes.

Since individuals define themselves based on group memberships (Hogg & Williams, 2000), variability in these group memberships will create subgroups and imbalance within team dynamics. When individuals are dissimilar, it becomes challenging to develop positive attitudes towards their team (Riordan & Shore, 1997). Accordingly, age diversity has been negatively related to attitudes towards the organization (e.g., organizational attachment, Tsui, Egan, & O'Reilley, 1992; constructive affective climate, Boehm, Kunze, & Bruch, 2014), whereas racial diversity has been directly linked to negative attitudes within teams at work (Riordan & Shore, 1997). For instance, racial composition was shown to influence team performance especially in teams with low levels of mutual trust (Fisher, Bell, Dierdorff, & Belohlav, 2012). Gender diversity is also one of the inputs to both mutual trust and knowledge sharing in dyads (Chowdhury, 2005). Broadening this to larger teams, gender diversity has been highlighted as ongoing issues for trust levels (Susman, Gray, Blair, & Perry, 2002). Although all three of these variables have a history of negatively influencing team dynamics, the evidence regarding the influence of age, gender, and racial diversity on mutual trust can vary in intensity (Bell et al., 2011). Therefore, it is important to parse out their differential impact on mutual trust. Consequently, I hypothesize the following:

*Hypothesis 1a-c: Surface-level [i.e., (a) age, (b) gender, (c) racial] diversity is negatively related to mutual trust.* 

#### Deep-Level Diversity

Deep-level diversity variables, in contrast, are less readily observable, such as cultural values and members' levels of expertise. As noted by Jackson and colleagues (2003), recent years have seen a resurgence of interest in the effects of underlying attributes such as personality and attitudes (cf. Haythorn, 1968; Hoffman, 1959). Indeed, several studies have examined attitudinal and other measures of "deep" or underlying diversity categories (e.g., Barrick, Stewart, Neubert & Mount, 1998; Harrison, Price, Gavin & Florey, 2002). Similarity on such attributes can facilitate interactions and trigger social categorization processes, prompting members to view each other as trusting and supportive (Mannix & Neale, 2005). In contract, deep-level diversity, as evidenced through social interactions may lead members to conclude that others have different insights, opinions, and preferences than themselves, prompting them to view diverse others as members of their outgroup. In turn, this can lead to differential treatment of dissimilar others, causing damage to shared expectations and perceived predictability within the team. When leaders treat members differently, for example, levels of mutual trust can be negatively impacted (Liu, Hernandez, & Wang, 2014). On the other hand, differences in perspectives have also been associated with positive team outcomes (McLeod, Lobel, & Cox, 1996). Below, I expand on different types of deep-level diversity: those with potential negative (i.e., value) and positive (i.e., function/educational background) consequences for mutual trust. Value Diversity

Value diversity has emerged as a key deep-level topic of interest, as it can have tremendous repercussions to team outcomes (Harrison et al., 2002; Ilgen, Hollenbeck, Johnson,

& Jundt, 2005). People feel more attracted to and make favorable evaluations of those who share attributes with them to a greater extent. Accordingly, a recent meta-analytic review showed culturally diverse teams who are likely to have greater variability in values to have higher task conflict and lower cohesion (Stahl, Maznevski, Voigt & Jonsen, 2010). On the opposite spectrum, sharing similar values is related to high levels of trust in teams (Jehn & Mannix, 2001). Accordingly, individuals who come from similar cultural value systems are more likely to be perceived as trustworthy and cooperative (George & Chattopadhyay, 2005).

Aside from social identity theory (Tajfel, 1978) and the social categorization perspective (Turner, 1982), the similarity/attraction paradigm (Byrne, 1971) is also built on the rationale that individuals are more attracted to similar others, which in turn leads to more positive feelings towards ingroup members. Because values can shape people's behaviors (Bell, 2007), being able to anticipate people's behaviors reinforces one's own values (Harrison et al., 2002). This is also consistent with uncertainty management theory, which states that people will be less anxious when they know how others are likely to behave (Colquitt et al., 2012; Lind & Van den Bos, 2002). To reinforce this theory, people seem to seek encounters with similar individuals because they are perceived as more predictable (Brewer, 2002; Pelled & Xin, 1997), which is a basis of the formation of ingroups and outgroups (Gerard & Hoyt, 1974). For instance, differences in values have been shown to be primary triggers of the categorization of ingroups and outgroups within teams (Milliken & Martins, 1996; Thomas, 1999) and organizations (Schneider, 1987). Value diversity will then be brought to the forefront as influencing team emergent states (Jehn et al., 1999). Taking these arguments together, I hypothesize the following:

Hypothesis 2a: Deep-level [i.e., (a) value] diversity is negatively related to mutual trust.

Functional and Educational Diversity

Unlike the aforementioned diversity categories, differences in functional or educational diversity can be more positive and complementary within teams. This can yield beneficial team and organizational outcomes (e.g., Bantel & Jackson, 1989), rather than leading to conflict depending on their relevance to the team's task. When comparing to other demographic types of diversity, functional and education diversity have the advantage of triggering a lot less social categorization within teams (Dahlin, Weingart, & Hinds, 2005; Kearney, Gebert, & Voelpel, 2009). This can facilitate the social exchange across teammates, but at the same time bringing their individual expertise to the forefront without strong faultiness. Drawing from optimal distinctiveness theory (Brewer, 1993), individuals have the need to feel connected to each other, but also to maintain a certain level of uniqueness. This balance is better achieved when differences are task-related (e.g., functional and educational diversity) instead of those differences (e.g., gender and values) that can cause relationship and not task conflicts.

Accordingly, functional diversity is an exemplary category often referred to when trying to highlight the positive outcomes of diversity (e.g., Ancona & Caldwell, 1992). Considering the growth of cross-functional teams (Malhotra, Majchrzak, & Rosen, 2007), efforts to build trust in them are prominent and forthcoming. For instance, reducing conflict (Cronin & Weingart, 2007) and sustaining trust (Peters & Karren, 2009; Webber, 2000) are crucial for improving functionally diverse teams. This is not different for educational diversity, which has been shown to increase the sense of belonging in the team (Kearney et al., 2009). Educational diversity can be categorized as an informational demographic diversity type (e.g., Jehn, Chadwick, Thatcher, 1997), but it differs from other surface-level categories for increasing information and decreasing categorization (Dahlin et al., 2005).

One's functional and educational background is likely to have a tremendous impact on how people interact, especially when these backgrounds influence their roles and unique contributions to the team. A recent meta-analysis found a positive relationship between both functional and educational diversity and team innovation ( $\rho$ =.18,  $\rho$ = .23, respectively; Bell et al., 2011). This likely emerges from the positive emergent states and team processes that these diverse teams engage in. Even though functional and educational diverse teams may show higher levels of what can be first seen as detrimental to teamwork, task conflict in teams (Jehn et al., 1997; Pelled, Eisenhardt, & Xin, 1999), this type of conflict can often lead to positive outcomes (de Wit, Greer, & Jehn, 2013). If the levels of disagreements are solely related to the task and not the team members, a shared psychological state that includes the belief and feelings of competence and honesty within the team can still properly emerge (Simons & Peterson, 2000). Taken together, these diversity variables appear to positively trigger important emergent states that likely strengthen mutual trust. Thus, I hypothesize:

# *Hypothesis 2b-c: Job-related deep-level* [*i.e.*, (*b*) *functional*, (*c*) *educational*] *diversity is positively related to mutual trust.*

#### Type of Diversity: The Role of Time

Categorizing differences as surface- and deep-level diversity enables us to begin parsing out some of the discrepancies in diversity findings (Bell, 2007). Although it is common to assume that surface-level diversity is correlated with deep-level diversity (Phillips, Northcraft, & Neale, 2006; Tenzer et al., 2014; Tsui, Porter, & Egan, 2002), this is not always the case. Specific diversity categories that team members vary on (e.g., age, values) can impact team outcomes differently. For instance, research has started to accumulate that over time deep-level diversity is more detrimental than surface-level diversity (Harrison et al., 1998; van Knippenberg & Schippers, 2007).

Taking time into consideration, surface-level diversity (e.g., age, gender, race, and physical appearance) has been shown to have a negative effect on teams in their early stages of their lifespan (Carpenter, 2002; Harrison et al., 1998; Pelled et al., 1999). At first, team members do not have a lot of information to base their opinions on, thus surface-level differences can serve to negatively impact social integration (Harrison, Price, & Bell, 1998), cooperation (Chatman & Flynn, 2001), and attitudes (Riordan & Shore, 1997). Accordingly, these surface-level cues have been highlighted as antecedents of trust in swift starting action teams (Wildman, Shuffler, Lazzara, Fiore, Burke, Salas, & Garven, 2012). However, when looked at across different types of teams - with varying team familiarity - the relationship between demographic diversity and group performance is often non-significant (Pelled et al., 1999). This suggests surface-level diversity may have a detrimental impact at first, but this impact may fade away over time.

On the other hand, deep-level diversity (e.g., attitudes, values, personality, religion, preferences, and experience) acts as a hindrance to a team's knowledge sharing (Makela, Kalla, & Piekkari, 2007). Considering one of the main benefits of diversity is that it allows for the utilization of multiple, unique perspectives, this compositional barrier can pose as a serious threat (Stasser & Stewart, 1992). Once team members learn about others' diverse backgrounds, their levels of comfort can greatly diminish. Along these lines, recent research by Jiang, Chua, Kotabe, and Murray (2011) found that intercultural trust is especially difficult to build. This leads to the assumption that deep-level diversity is not only more lasting, but also more impactful to teams. Since this type of diversity takes longer to be identified, research has suggested that

deep-level diversity can become more important and often detrimental to team functioning over time (Harrison et al., 2002). After working together, team members are likely going to be more bothered by divergence in deep-level than surface-level variables. With this in mind, I hypothesize the following:

Hypothesis 3: Surface-level diversity shows a stronger relationship with mutual trust than deep-level diversity in teams of low familiarity, whereas deep-level diversity shows a stronger relationship with mutual trust than surface-level diversity in teams of high familiarity.

Team Performance as a Consequence of Mutual Trust

The impact of trust can be seen on individual-, team-, and even organizational-level outcomes (Fulmer & Gelfand, 2012). Regarding teams, trust has been identified as a main supporting mechanism for teamwork (Salas et al., 2005), with both affective and cognitive components of trust playing a role (Barczak et al., 2010). Salas and collagues (2005) highlight the importance of mutual trust in teams by allowing information to flow more freely, including recognizing mistakes and incorporating constructive feedback. This assertion is consistent with previous findings that identify trust as an antecedent of desirable communication (Eigel & Kehnert, 1996; Zakaria, Amelinckx, & Wilemon, 2004), cooperation (McAllister, 1995; Mishra, 1996), perceived justice (Liu et al., 2014), and cohesion (Hansen, Morrow, & Batista, 2002; Mach, Dolan, & Tzafrir, 2010) in teams. Thus, the positive consequences of trust support it as a key element to for improving teamwork.

There is an underlying assumption that trust must exist in order for positive social exchanges to occur (Colquitt et al., 2007). Drawing from social exchange theory, individuals behave in certain ways while expecting reciprocity from one another (Blau, 1964). Over time, a series of interdependent interactions occur, generating mutual obligations that can facilitate high-

quality interpersonal relationships (Cropanzano & Mitchell, 2005). When there is a lack of confidence that such obligations will be fulfilled, however mutual trust may suffer, resulting in negative consequences for the team. When trust is not established early on, both types of conflict (e.g., relationship and type) increase and team performance can suffer over time (Peterson & Behfar, 2003). Conversely, when the appropriate climate exists, trust can lead to higher team performance (Salas, Salazar, Feitosa, & Kramer, 2013). Because trust enables team members to spend less time worrying about other members' performance and intentions (Colquitt et al., 2007), they can focus on their main tasks, and also can feel comfortable sharing input that can improve team performance (Salas et al., 2005). Additionally, a cyclical process may occur, where teams are likely to perform better when members trust each other, and in turn, members are more likely to trust each other when the team performs well (Dirks, 2000). Drawing from these theories, as well as existing studies that do indeed show a positive influence of trust on team performance (e.g., Kanawattanachai & Yoo, 2007; Webber, 2008), I hypothesize the following:

*Hypothesis 4: Mutual trust is positively related to team performance.* 

#### Underlying Mechanisms of Diversity-Performance in Teams

#### The Mediating Role of Mutual Trust

As mentioned, team members can be similar or diverse in relation to a number of attributes, such as their socio-demographic background, attitudes, behaviors, and/or psychological traits (McPherson, Smith-Lovin, & Cook, 2001). In today's diverse workforce, individuals' tendency for group categorization can lead to faultlines that are very detrimental to work in groups (Thatcher & Patel, 2011). More specifically, diversity has been shown to

negatively influence performance (Chatman & Flynn, 2001; Schippers, Den Hartog, Koopman, & Wienk, 2003), especially the less task-related diversity categories (Simons, Pelled, & Smith, 1999; Williams & O'Reilly, 1998). However, the diversity-performance link has also shown different patterns of results that are conflicting with previous research, such as a positive relationship (Bantel & Jackson, 1989; Horwitz & Horwitz, 2007; Jehn et al., 1999), a nonsignificant relationship (Bowers et al., 2000; Webber & Donahue, 2001), or even a change in relationship depending on the level of a third variable (Chatman et al., 1998; Polzer, Milton, Swann, 2002; Timmerman, 2000).

If the discrepancies in results are to be remedied, it is important to move beyond diversity's role to distal outcomes and to include the understanding of underlying, explanatory mechanisms that drive the diversity-performance relationship. Research has long called for the investigation of potential mediators instead of oversimplistic models that only link diversity to performance outcomes (Milliken & Martins, 1996; van Knippenberg & Schippers, 2007). Several studies have begun to do so - faultlines have been found to affect performance in a negative manner through a lack of trust and information sharing (Lau & Murnighan, 2005; Rico, Molleman, Sanchez-Manzanares, & van der Vegt, 2007), for example.

Considering the proposed relationship between diversity and trust as well as trust and performance, trust is a likely mediator of the diversity-performance relationship. Trust has been shown to mediate relationships between several important team inputs and outcomes (e.g., shared leadership and group performance, Drescher, Korsgaard, Welpe, Picot, & Wigand, 2014), including that between diversity and organizational citizenship behavior (Chattopadhyay, 1999), suggesting that it may be a core emergent state for facilitating team outcomes of interest. As described above, social categorization processes may lead individuals to perceive diverse team

members as outsiders unworthy of their trust (Jackson & Joshi, 2011) Additionally, dissimilar others are often viewed as less predictable (Colquitt et al., 2012), exacerbating the negative impact of diversity on trust, as trust is heavily grounded in the concept of positive expectations. Lower levels of mutual trust that can result from diversity then go on to influence team performance. Decreased trust may prevent team members from sharing knowledge and new ideas with each other, appropriately distributing workloads and relying on one another, and some from focusing on the broader task if they are too caught up in worrying about the performance and intention of others, all detracting from overall team performance. Indeed, diverse teams have been shown to face process loss, lower cohesion, and issues with trust (Brett, Behfar, & Kern, 2007; Salas, Stagl, & Burke, 2004), which in turn can influence team performance outcomes. On the other hand, some task-related types of diversity (e.g., functional diversity) may serve to increase mutual trust, and in turn, team performance. When individuals perceive diversity in characteristics that are relevant to team performance, they may be more likely to rely on, or trust in one another's distinct areas of expertise. This increased trust can motivate team members to engage in more cooperative team processes, ultimately facilitating the achievement of positive team outcomes. Thus, based on these arguments, I hypothesize the following:

# *Hypothesis 5: Mutual trust mediates the relationship between diversity and team performance.*

#### Moderators

There are a number of issues with trust research that remain unanswered, such as a wide range of different mutual trust measures trying to capture the same construct (McEvily & Tortoriello, 2011; Schoorman et al. , 2007). Moderators can then help in clarifying discrepancies from previous studies by pointing specific contextual and measurement idiosyncrasies in trust at

the team-level. An ongoing issue to be addressed in this study is under which conditions the relationship to trust will become more or less important. With that in mind, the following paragraphs will expand on the following question: *What are the specificities that change the way mutual trust is related to diversity and team performance?* 

#### Study Setting

Empirical studies are often run in either laboratory or field settings. They each have their advantages and drawbacks. Within laboratory settings, there is more control over what is being measured and manipulated. This kind of research design has more internal consistency that allows one to feel more confident regarding the actual effects found in the study (Shadish, Cook, & Campbell, 2002). The relationships found in laboratory can be more certain, but at the same time they may not necessarily mimic the level of familiarity and interaction that individuals face in the real world. On the other hand, field studies albeit not being able to control other variables provide more generalizable information, which is associated with higher external validity (Shadish et al., 2002). Thus, it is important to test relationships in both settings, but also parse them out to identify systematic differences.

While it is common for teams researchers to assume laboratory studies will generalize to intact groups in the field (Levine & Moreland, 1988), laboratory study groups often spend minimal time executing their task, in comparison to field studies (e.g., Miner, Chernysheuko, & Stark, 2000). Trust research is often static and evaluated in early phases of teams (Webber, 2008). Considering the importance of temporal elements within teams (McGrath & Tschan, 2007), assessing trust too early can overlook the importance of this construct in teams. Kozlowski, Gully, Nason, and Smith (1999) highlight that effective teams do not start initially with their full capabilities; instead, they form, establish regulatory mechanisms, and evolve over

time. This is not different when referring to trust, which has also shown to develop over time (Burke, Sims, Lazzara, & Salas, 2007; Webber, 2008; Williams, 2001). For instance, Lewicki, Tomlinson and Gillespie (2006) highlight the difference in trust levels after individuals get to know each other better. Consequently, significant differences when examining the same relationship in a field setting instead of laboratory are likely to be found. There are additional dynamics that real teams face that teams in laboratory settings do not, such as the dealing of consequences day-after-day if trust is broken between team members. Psychological constructs, in general show a weakened effect when in laboratory settings (Eagly & Chaiken, 1993). Consequently, it is coherent to hypothesize:

# *Hypothesis* 6: *The relationship between* (*a*) *diversity and mutual trust, and* (*b*) *mutual trust and team performance is stronger in field* (*rather than laboratory*) *settings.*

#### Team Distribution

Nowadays, teams can be dichotomized as either co-located (i.e., more traditional type of teams that share the same geographic location) or distributed (i.e., in separate geographical locations). With globalization and the advance of technology, distributed teams are becoming more prominent (Gibson, Maynard, Young, Vartiainen, & Hakonen, 2015). This calls for a better understanding how team members perform tasks with limited face-to-face interaction. Fortunately, this growing trend of collaborating across geographic boundaries can actually be beneficial for diminishing the negative effect of diversity (Garrison, Wakefield, Xu, & Kim, 2010). Specifically, the use of technology between team members can decrease social presence (Daft & Lengel, 1986; Kirkman & Mathieu, 2005). In turn, the decrease of social presence can eliminate –or at least decrease– the social categorization associated with certain diversity characteristics. The context can make one's race, age, or even gender, depending on the modality

of the virtual tool, less salient. Even though some may find that trusting beliefs influence cohesion in distributed teams (Jarvenpaa, Shaw, & Staples, 2004), it is still undecided as to whether members disclose or are able to sense such information in this context. Consequently, diversity in distributed teams should no longer have the same negative relationship to trust as it does in co-located teams where the cues are readily available to all team members.

On the other hand, trust is one of the main challenges in distributed teams (Kirkman, Rosen, Tesluk & Gibson, 2006). Researchers identify the importance of trust early on the lifespan of these teams as a precursor of team cohesion (Kuo & Yu, 2009). Accordingly, team coordination decreases as virtuality increases, and trust mediates such relationship (Penarroja, Orengo, Zornoza & Hernandez, 2013). Knowing that trust plays a large role in important team outcomes (e.g., satisfaction; Morris, Marshall, & Rainer, 2002), steps are taken to reduce uncertainty and increase trust through establishing rules and norms in distributed work teams (Walther & Bunz, 2005). One component of mutual trust includes being able to focus on the task without having to monitor others' performance, but the possibility of "spot checking" team members may be limited or nonexistent in this context. Others have even turned to leadership to boost trust and commitment in distributed teams (Joshi, Lazarova, & Liao, 2009). Based on previous arguments, the role of trust to team functioning is brought to the forefront in distributed contexts more so than traditional co-located teams. Therefore, I hypothesize the following:

Hypothesis 7: The relationship between (a) diversity and mutual trust is stronger when the team is co-located (rather than distributed), whereas the relationship between (b) mutual trust and team performance is stronger when the team is distributed (rather than co-located).

#### Measurement Issues

Regardless of the popularity of higher-order constructs in organizational research, studies lack consistency in how they develop and/or validate these constructs (Johnson, Rosen, & Chang, 2011). This is not different for trust at the team-level. When measuring mutual trust, researchers point out the difficulty of having a lack of measures at the team-level and also lack of consensus regarding the dimensionality of trust (Costa & Anderson, 2011). Considering the complexity and potential multidimensionality of mutual trust, it is not surprising that its measurement has diverged into a number of different scales. When compiling the list of current measures (see Table 2.1 for details), most of the measures have a number of inconsistencies regarding its measurement source and target even in known scales. These items include individual-level items (e.g., "I can rely on my team members to keep their word" from DeJong & Elfring, 2010), interpersonal/relational components (e.g., "If I got into difficulties at work, I know my workmates would try and help me out" from Cook & Wall, 1980), or using one's team as the referent (e.g., "We are all certain that we can fully trust each other" from Simons & Peterson, 2000). Some items can even have members from outside of the team as a source (e.g., "Other work associates of mine who must interact with this individual consider him/her to be trustworthy" from McAllister, 1995), or even just include part of the team as a target (e.g., "Most of my teammates approach his/her work with professionalism and dedication" from Dayan & Di Benedetoo, 2010, team-level adaptation of McAllister, 1995).

Consequently, it is important to parse out the differences in measurement and its impact to the understanding of mutual trust. In order to address the gap in measurement of trust at the team-level, I set forth to clarify theoretical and practical issues including the dimensionality of trust and the referent of the used measures.

Author	Measure	Definition	Dimensions	Referent	Sample Item
Unidimensional					
Chang, Sy, & Choi (2012)	Intrateam Trust	Global	-	Team members	"Members of our team can speak frankly with one another"
Cook & Wall (1980)	Interpersonal Trust at Work	Global	-	Mixed: Workmates/ Self	"If I got into difficulties at work, I know my workmates would try and help me out"
Dirks (2000)	Trust in Leader	Global	-	Leader	"I have a sharing relationship with the coach. I can freely share my ideas, feelings, and hopes with him"
DeJong & Elfring (2010)	Intrateam Trust	Global	-	Self	"I trust my team members"
Jarvenpaa &	Trust	Global	-	Mixed:	"Overall, the
Leidner (1998)				Team members/ Self	group were very trustworthy"
Lewis (2003)	Transactive Memory in Teams	Global	-	Self	"How willing are you to rely on your team's task related skills and abilities?"
Moorman et al. (1992); adapted by Porter & Lilly (1996) to group	User trust in researcher	Global	-	Self	"I generally do not trust (my research)"
McCroskey & Teven (1999)	Trustworthines s	Global	-	Dyadic	"Rate the impression of group member X from 1 ( <i>untrustworthy</i> ) to 7 ( <i>trustworthy</i> )"

ures

Author	Measure	Definition	n Dimensions	Referent	Sample Item
Prichard & Ashleigh (2007)	Trust	Global	-	Self	"I felt a sense of loyalty towards other members of my team"
Shackley- Zalabak, Ellis, & Cesaria (2000)	Organizational Trust Survey	Global	-	Organizatio n (adapted)	"I feel connected to the other team members"
Simons & Peterson (2000)	Intragroup Trust	Global	-	We	"We are all certain that we can fully trust each other"
Zolin et al. (2004)	Ability trust	Specific	Behavioral	Self	"How often have you needed to check/ask to see if this team member had completed his/her commitments?"
<u>Two-factor Model</u>					
McAllister (1995); adapted by Kanawattanachai & Yoo (2007) to team	Interpersonal Trust	Specific*	<ul> <li>Affect-based</li> <li>Cognition- based</li> </ul>	Mixed: We/ Self/ Other	"The team members have a sharing relationship. The group members can freely share their ideas, feelings and hopes," and "I can rely on my team members not to make my job more difficult with careless work."
Earle & Siegrist (2006)	Cooperation	Specific*	<ul><li>Social trust</li><li>Confidence</li></ul>	Self	"I couldn't trust that person on the advisory team"
Gillespie (2003)	Behavioral Trust Inventory	Specific*	<ul><li>Reliance</li><li>Disclosure</li></ul>	Self	"How willing are you to rely on your leader to represent your work accurately to others?"

Author	Measure	Definition	on Dimensions	Referent	Sample Item
Kramer (1999)		Specific*	• Trust • Distrust		Theoretical review
<u>Three-factor (or m</u>	ore) Model				
Elkins & Derrick (2013)	Behavioral Approach	Specific *	<ul><li>Ability</li><li>Benevolence</li><li>Integrity</li></ul>	Self via behavioral coding	"Dependable, honest, reliable"
Mayer & Gavin(2005)	Trust	Specific*	<ul><li>Ability</li><li>Benevolence</li><li>Integrity</li></ul>	Self	"I really wish I had a good way to keep an eye on X"
Lewicki & Bunker (1995)	Trust	Specific*	<ul> <li>Calculus-based</li> <li>Knowledge- based</li> <li>Identification- based</li> </ul>		Theoretical review
Costa (2000)	Team trust	Specific*	<ul> <li>Propensity to trust</li> <li>Perceived trustworthiness</li> <li>Cooperative behaviors</li> <li>Monitoring behaviors</li> </ul>	Mixed: Team members/ Other	"In my team some people have success by stepping on other people"
Hubbell & Medved (2001)	Managerial Trust	Specific*	<ul> <li>Behavioral consistency</li> <li>Behavior integrity</li> <li>Manner and quality of information</li> <li>Demonstration of concern</li> </ul>	Supervisor	"Our supervisor/manag er was honest with our team"

*Note.* \*= When not composited across dimensions

#### Dimensionality of Trust

The aforementioned dimensionality issue and number of extant measures are both consequences of the proliferation of the definition of trust. For instance, definitions range from rational, behavioral components (e.g., a conscious regulation of the dependence on the target; Williamson, 1981) to a psychological state regarding the willingness to be vulnerable (e.g.,
Rousseau, Sitkin, Burt, & Camerer, 1998) even without knowledge as to one's competence (Mayer, Davis, & Schoorman, 1995). Another component of the definition of trust that is often mentioned includes the positive expectations of the target's behaviors (Lewicki & Bunker, 1995). To begin distinguishing these different definitions and measures, Colquitt and colleagues (2007) meta-analyzed the trust literature and separated it from trustworthiness and propensity to trust. These authors also extracted three key types of content: positive expectations, willingnessto-be vulnerable and direct measures. In a similar attempt, Dirks and Ferrin (2002) classified them as cognitive, affective, and overall; which can be respectively comparable to Colquitt et al.'s content types. These can enrich our current understanding of the conceptualization of trust. Consequently, there has been a push towards the adoption of a more nuanced view of trust (Lewicki et al., 2005).

Despite the fact that many researchers have not used trust at the team-level (Surva, Fuller, & Mayer, 2005), literature begins to point in the direction that studying the components of trust can be beneficial. Through the study of affective and cognitive components separately, these dimensions show they can predict different outcomes (e.g., Akgün, Byrne, Keskin, Lynn, & Imamoglu, 2005; Colquitt et al., 2012). Research on diversity, for instance, show its impact on trust due to individuals' social categorization. Such social categorizations are often associated with more affective constructs (e.g., anxiety, Dovidio et al., 2003; anger, Miville et al., 2005; etc.). When social categorization results from similarity, these similar others are often labeled as trustworthy and supportive (Mannix & Neale, 2005). Considering the affective component of trust as one's willingness to be vulnerable and caring for their teammates (Erdem & Ozen, 2003), diversity is likely to have a strong impact on the extent to which team members' care and monitor each other. Accordingly, researchers have found a link between affective trust and

interpersonal relationships (Webber, 2008). Consequently, diversity –with its many categories– is likely to have a higher impact on the affective component of mutual trust than the cognitive or behavioral facets of this construct.

When trust is defined as having positive expectations regarding others' behaviors, one cognitively recognizes the referent as someone who is reliable, responsible, and competent. This is more closely related to the cognitive-based trust, and linked to more important team outcomes (e.g., team performance). Because cognitive trust is associated with one's competence instead of motives and values (Barber, 1983; Sitkin & Roth, 1993), it brings the task-relatedness of cognitive trust to the forefront. This could have potentially led to the phenomena that many trust measures solely focus on the cognitive component (Dirks & Ferrin, 2002). This type of trust is not only more prevalent in the literature, but more challenging to withstand (McAllister, 1995; Webber, 2008). When cognitive trust exists, team members can refrain from questioning others' competence and focus on their tasks (Colquitt et al., 2007; Salas et al., 2005). Thus, team performance is likely to have a stronger relationship to cognitive component of mutual trust than the affective or behavioral facets of this construct.

As previously mentioned, the affective trust is likely more important for the interpersonal relationships that are impacted by diversity while cognitive trust is related to one's ability and integrity that influence how the team perform. Lau and Cobb (2010) properly differentiated previous literature on the components of trust as (1) affective (McAllister, 1995), relational (Kramer, 1999; Rousseau et al., 1998), or identification-based (Lewicki et al., 2005) form of trust, and (2) cognitive (McAllister, 1995), calculus-based (Lewicki et al., 2005; Rousseau et al., 1998), or rational (Kramer, 1999) form of trust. Accordingly, previous research found that affect-based trust was more predictive of team psychological safety, whereas cognition-based trust was

more predictive of team potency (Schaubroeck et al., 2011). Ultimately, in addition to considering the behavioral component of mutual trust, it is coherent to then hypothesize:

Hypothesis 8: The relationship between (a) diversity and mutual trust is stronger when the mutual trust measure is affective (rather than cognitive or behavioral), whereas the relationship between (b) mutual trust and team performance is stronger when the mutual trust measure is cognitive (rather than affective or behavioral).

Referent of Trust

Recommendations regarding the aggregation of constructs exist (e.g., Johnson et al., 2011; Kozlowski & Klein, 2000), but researchers vary in how they aggregate data to the teamlevel. A common way is to aggregate self-report measures from the individual-level to the teamlevel of analysis. Aggregate constructs emerge from the summation of lower-level indicators (Johnson et al., 2011). However, studies have argued and shown that having the referent to the proper level can explain variance above and beyond those that use the individual as referent (English, Griffith, & Steelman, 2004). According to the compatibility principle (Ajzen, 2005; Fishbeing & Ajzen, 1974), it is important that both variables of interest –such as, mutual trust and satisfaction- match in regards to their level of analysis and target (i.e., team). To further support this idea, Chan (1998) argues for the referent-shift consensus model utilizing "we" versus "I" when collecting data from individuals for constructs that require consensus and distinction from one level to another (similar to claims from Klein, Dansereau, & Hall, 1994; Rousseau, 1985). Empirical research has also shown that targeting the unit –instead of the individual – can lead to better predictions of justice climate and team effectiveness (Whitman, Caleo, Carpenter, Horner & Bernerth, 2012). Some have followed this approach by adapting known measures, such as McAllister (1995), and use the referent of *teammate* (Dirks, 1999; Webber, 2008) or adapting Schoorman, Mayer, and Davis (1996) with the group as a referent

(Polzner, Crisp, Jarvenpaa, & Kim, 2006), but the inconsistencies within these instruments

remain. Table 2.2 shows a breakdown of self-report in which "I" is used as referent versus "we."

Based on the arguments above, I hypothesize the following.

Hypothesis 9: The relationship between (a) diversity and mutual trust, and (b) mutual trust and team performance is stronger when the source of measurement is "we" (rather than "I").

# **CHAPTER THREE: METHODOLOGY**

#### Literature Search

To identify primary studies for inclusion, a search was conducted using the American Psychological Association's PsycINFO (1895-April 2015), Business Source Premier (1915-April 2015), and Dissertation Abstracts International (1981-March 2015). Keywords included *trust* and *team* or *trust* and *group*. Searches produced 21,533 results that were then reviewed to assess their relevance to the current study. Supplementing this, "*team trust*" and "*group trust*" were searched in Google Scholar, and crosschecking was conducted of studies from previous meta-analyses on trust (e.g., Balliet & Van Lange, 2013; Colquitt et al., 2007; Dirks & Ferrin, 2002) and diversity (e.g., Bell, 2007; Bell et al., 2011) to ensure that all relevant articles are included. A final database of 93 articles was obtained after evaluating studies against various inclusion criteria. These final set of articles are marked with an asterisk in the reference list. A total of 130 independent effect sizes were found, in which 35 pertained to the diversity-trust relationship and the remaining 95 were part of the trust-performance relationship (see Appendix A for effect sizes and further details).

#### Inclusion Criteria

To be included in the meta-analysis, certain criteria had to first be met. First, the study had to contain enough information to calculate a correlation between trust at the team-level and either diversity (i.e., surface- or deep- level) or team performance. Studies that did not examine trust at the team-level of analysis were not included (e.g., trust with supervisor, trust with organization, etc.). Similarly, primary studies in which the antecedent or consequence of trust measure was not at the team-level (e.g., correlation between mutual trust and individual performance) were excluded from the meta-analytic database. Second, effect sizes representing the trust in children or animal samples were not included because they were not relevant to our topic of interest (i.e., trust in work teams). Third, teams had to contain three or more individuals to be included in this analysis. Even though teams have been defined as two or more individuals working together towards a shared goal (Salas, Dickinson, Converse, & Tannenbaum, 1992), dyads are shown to have distinct characteristics from other teams. These differences include the time duration, strength of emotional ties, limited team dynamics and the way research is conducted (Moreland, 2010), which can all pose systematic differences in how mutual trust develops.

## Coding Procedures

Studies that met the inclusion criteria were coded for several categories of variables. Three raters first coded and discussed 50 articles together in order to develop a shared mental model of the coding scheme. This process ensured that the coding was appropriate, rigorous, and aligned with the teams literature. Subsequently, all remaining articles were divided between raters in a manner that resulted in every article being coded by at least two raters. Raters coded articles independently, and then came together to reach consensus on any discrepancies in their coding. Inter-rater agreement of 96% of was reached for initial coding. When discrepancies did arise, disagreements were discussed and resolved through discussion in a consensus meeting.

# Description of Coding Schema

A brief description of the major coding categories is presented below, including mutual trust, related variables, and moderators of these relationships. Sample size, number of teams,

sample and team characteristics, and measure reliabilities were also incorporated when available. Appendices provide a summary of the coding and the coding categories as supplementary materials.

#### Coding of Mutual Trust

Trust at the team-level can be defined as a "shared psychological state among team members comprising willingness to accept vulnerability based on positive expectations of a specific other or others" (Fulmer & Gelfand, 2012, p. 1174). Variables were coded if the study included trust/willingness to be vulnerable/positive expectations within the team. It is common for team studies to adapt interpersonal measures such as McAllister (1995) interpersonal trust and change the referent to the *team*. A sample item of a trust measure at the team-level includes "Members of our team follow through on their commitment to one another" (Chang, Sy, & Choi, 2012). Below, the categorization of the three measurement components of mutual trust is explained in detail.

## Definitions of Trust

The definition of trust greatly varies from study to study. In order to capture the item content of measures of mutual trust (i.e., positive expectations, willingness to be vulnerable, etc.), the classification of how studies operationalized trust at the team-level was considered. The categorization of studies into those categories relied on previously established categorizations (e.g., Colquitt et al., 2007; Dirks & Ferrin, 2002). More specifically, the general measures are the most inclusive ones that contain all three components that were then compared to the more specific measures that either only assesses positive expectations, willingness to be vulnerable or direct measures.

#### **Dimensionality of Trust**

As aforementioned, the dimensionality of trust required further investigation. In order to start parsing out the nuances about the dimensions of mutual trust, measures were categorized as unidimensional (e.g., when there is only one overarching factor, such as in Prichard & Ashleigh, 2007) or multidimensional (e.g., three-factor model: calculus-based, knowledge-based, identification-based trust, such as in Lewicki & Bunker, 1995).

#### Referent of Trust

When dealing with constructs at the team-level, it is common for researchers to change the referent from "T" to "we" in order to get at the perception of the aggregate. This is actually the approach recommended by Chan (1998) when dealing with team-level constructs. To address our referent hypothesis, I categorized the articles depending on whether the self-report measures had "T" (e.g., I trust my teammates), "we" (e.g., we can rely on each other), or "mixed" (e.g., when referent varied from item to item) item sources.

## Coding of Diversity

Diversity is broadly defined as the existing differences across individual's attributes, which then makes diversity a collective-level construct (Ferdman & Sagiv, 2012). The way in which these attributes are combined can vary (e.g., Euclidian distance, Tsui et al., 1992; Blau's index, 1977; etc.). Indices comparing teammates in regards to their attributes were coded and further categorized into surface-level or deep-level categories.

# Type of Diversity

For surface-level, I included age, gender, and race/ethnicity (Bell et al., 2011; Harrison et al., 2002; Mohammed & Angel, 2004). Less readily available categories (i.e., deep-level diversity) included values (Bell, 2007; Harrison et al., 2002), educational, and functional

diversity. The inclusion for the last two under deep-level is based on the potential inaccessibility of this information, at least in comparison to other surface-level categories (e.g., age, gender, and race). Effect size signs were reversed when homogeneity or another type of similarity was included instead of diversity. Team familiarity served as the operationalization of time for each study. Following other diversity and teams researchers (e.g., Joshi & Rho, 2009; Salas, DiazGranados, Klein, Burke, Stagl, Goodwin, & Halpin, 2008), low familiarity teams reflect more ad hoc types of teams, often short-term, whereas high familiarity have higher team tenure in more intact types of teams, often long-term.

### Coding of Team Performance

As noted, the criterion in this study was team performance. Team performance outcomes are combined, but also coded for specificities to determine differences when related to mutual trust. The types of outcomes included under the team performance umbrella are discussed below. Type of Performance

For team performance, I limit this category for those measures that include task performance, completion of a task, and/or proficiency (e.g., DeChurch & Mesmer-Magnus, 2010). Going beyond the team's goal, efficiency encompasses not only the completion, but also the quality of team performance and/or product as others have included in their meta-analyses (e.g., Burke et al., 2006; Joshi & Rho, 2009). For efficiency, time and inputs are considered in addition to outputs (Beal et al., 2003). Furthermore, more distal performance outcomes (i.e., results) are codes, such as financial or operational measures (e.g., sales; Joshi & Rho, 2009). Lastly, I include creativity and innovation to broaden our outcomes within team performance (Bell et al., 2011).

#### Contextual Moderators

In addition to scrutinizing the characteristics of mutual trust, diversity and performance measures, I coded the context in which these effect sizes came from. The two contextual variables are study setting and team distribution, which will now be described in detail. Study setting

This moderator has been used in other meta-analysis (e.g., Bell, 2007) for helping to parse out the contextual influence of the effect sizes found. I categorized studies that were conducted in a controlled setting as laboratory studies. Field studies were coded as such when teams were part of a real team (e.g., within organizations). Student samples are not as clear-cut when categorizing them, so it is important to clearly define where they lay. For the purposes of our meta-analysis, I categorized project teams that are together for a semester-long (e.g., MBA students) as a field sample due to its similarity in regards to consequences and limited options in terminating the study or not. This type of sample, similar to a work team, will have to deal with repercussions if they chose to contribute less than expected (e.g., this may affect their grade and reputation with classmates). In addition to making theoretical sense, results with MBA samples removed were not significantly different.

# Team distribution

The distribution of the team is categorized as either co-located (i.e., almost of the team members are in the same geographic region) or distributed (i.e., most of the team members are dispersed and crossing geographic boundaries). The first category includes the more traditional type of teams, in which all members meet face-to-face. The second category includes the teams in which members communicate via virtual means. A third category can exist that includes studies with moderate levels of team distribution (e.g., correlation included conditions in which

members were distributes and others were co-located), but there were not enough of them to include in the moderating analysis (k= 3).

#### <u>Analyses</u>

Analyses for the current study followed Hunter and Schmidt's (2004) meta-analytic procedures, which draw from a random-effects model and utilize a weighted mean estimate of the overall effect size, which takes into account the heterogeneity of studies including the various sample size. All effect sizes were corrected for unreliability in the trust measure and the diversity or performance measure. When multiple effect sizes were presented within a single sample, composites correlations were created (Nunnally, 1978). If the information required to calculate a composite was not available, the mean of the effect sizes were used. In cases where a composite or average is calculated, the reported reliability estimates were inserted in the Spearman-Brown formula in order to calculate the reliability of the combined measures. In cases where reliability estimates were not reported, the mean reliability of all studies included was input as the artifact distribution.

Trim-and-fill publication bias analyses (Duval & Tweedie, 2000) were conducted to ensure that inaccessibility of research was not driving our results. When inputting only published results, the analysis recommended trimming three studies for the diversity-trust relationship and nine for the trust-performance relationship. Fortunately, over 10 and 20 effect sizes were included in the overall meta-analytic review that came from unpublished sources, for each relationship, respectively.

In order to interpret the results, both 95% confidence intervals and 80% credibility intervals for each effect size were calculated. It is important to clarify the difference and

underlying interpretation of each (cf. Whitener, 1990). The former can inform the extent to which a given effect size estimate is accurate or contains sampling error. It is required that the confidence interval does not include zero to say the estimated population mean effect size is significantly different from zero (Aguinis, Pierce, Bosco, Dalton, & Dalton, 2011). The latter interval, on the other hand, gives information about whether the range of values includes most of just part of the population. If there is a lot of variability and the interval includes zero, this is likely an indicator of moderators.

To test the mediation analysis, several steps were taken. First, the meta-analytic estimates from this study were calculated for each diversity category and mutual trust, followed by the mutual trust and team performance relationship. Second, I compiled previously established metaanalytic estimates for the diversity-performance relationship (Bell, 2007; Bell et al., 2011). Table 3.1 presents the meta-analytic correlation matrix. Third, these values with their respective harmonic means as the sample size were integrated as one model per diversity category in LISREL 8.8 (Jöreskog & Sorbom, 2006). To determine the significance of the indirect effects, the standardized coefficients and standard errors were then input using the Monte Carlo method for assessing mediation (Selig & Preacher, 2008). This procedure tests the null hypothesis that the indirect path from the diversity term to the trust does not significantly differ from zero. If the confidence intervals do not include zero, it can be concluded that the indirect effect is, in fact, different from zero at p < .05.

# Table 3.1: Meta-Analytic Correlation Matrix

	Mutual trust	Team performance
1. Age diversity	.12	<b>03</b> <sup>b</sup>
k studies	9	40
N total observations	490	10953
2. Gender diversity	03	<b>06</b> <sup>b</sup>
k studies	18	38
N total observations	1477	6186
3. Racial diversity	.02	<b>11</b> <sup>b</sup>
k studies	5	31
N total observations	585	5298
4. Value diversity	34	.25ª
k studies	5	14
N total observations	334	1299
5. Functional diversity	.00	<b>.10</b> <sup>b</sup>
k studies	8	31
N total observations	536	3726
6. Educational diversity	.01	<b>.01</b> <sup>b</sup>
k studies	7	13
N total observations	379	2629
7. Mutual trust	-	.32
k studies	-	95
N total observations	-	5812

*Note.* The subscripts indicate the source of the meta-analytic correlations, which are as follows: <sup>a</sup>Bell (2007), <sup>b</sup>Bell et al. (2011). All meta-analytic estimates that appear without a subscript are original analyses.

# **CHAPTER FOUR: RESULTS**

Learning more about trust at the team-level is crucial for the understanding of what influences trust as well as their consequences within the team context. More importantly, this quantitative review compares and contrasts different conditions under which mutual trust becomes more or less important. I will now present the meta-analytic findings of this study in detail.

#### Trust and Diversity

The literature on diversity has compiled the impact of such amalgam of categories as predictors of more distal outputs, such as team performance (e.g., Bell, 2007; Bell et al., 2011; Horwitz & Horwitz, 2007). However, the relationship between diversity and team emerging states, such as mutual trust, was still nascent. Table 4.1 presents the relationship of overall diversity and trust ( $\hat{\rho} = -.06, k = 35, N = 2633, 95\%$  CI: -.12, .01), along with the breakdown of categories to detect its nuances. Because the confidence intervals included 0, I cannot consider the diversity-trust relationship to be statistically negative. The non-significant relationship between diversity and trust does not indicate they are not indeed related. This finding is consistent with previous meta-analyses (e.g., Joshi & Roh, 2009; Webber & Donahue, 2001), which then provides further evidence for the necessity to conduct separate analysis depending on the diversity category type. Hypotheses 1a-c then proposed that surface-level diversity would be negatively related to trust. As shown in Table 4.1, none of the surface-level variables (e.g., age, gender, racial diversity) were statistically different from 0 when relating them to trust at the team-level. Thus, surface-level diversity was not related to mutual trust ( $\hat{\rho} = .02, k = 22, N =$ 

1751, 95%CI: -.05, .09), providing no support for hypothesis 1. Interestingly, age diversity shows the trend to be mostly positive as contrary to the other surface-level diversity categories.

Furthermore, deep-level categories were examined in light of the potential benefits of education and functional diversity. Hypotheses 2a-c proposed that values diversity would be negatively related to trust, but functional and educational diversity would be positively related to trust. First and foremost, there is a negative main effect for overall deep-level diversity and mutual trust ( $\hat{\rho} = -.12$ , k = 23, N = 1597, 95% CI: -.20, -.02). As suggested by hypothesis 2a, value diversity showed a significantly negative relationship to trust,  $\hat{\rho} = -.34$  [95% CI= -.56,-.06]. However, the positive link hypothesized was not found for the remaining deep-level diversity categories. Functional and educational diversity did not show the expected positive relationship,  $\hat{\rho} = .00$ ; .01 [95% CI= -.13,.13; -.10,.12] respectively. This can be an indication that diversity in regards to education and functional background is not as detrimental as diversity in value systems to trust development in teams.

				_		95%	95%	80%	80%
	k	Ν	r	$\hat{ ho}$	$SD\rho$	CIL	$CI_U$	$CV_L$	$CV_{U}$
Diversity	35	2633	06	06	.17	12	.01	28	.16
Surface-level Diversity	22	1751	.02	.02	.14	05	.09	15	.20
Age diversity	9	490	.11	.12	.15	02	.24	08	.32
Gender diversity	18	1477	02	03	.08	08	.04	13	.08
Racial diversity	5	585	.02	.02	.00	04	.09	.02	.02
Deep-level Diversity	23	1597	11	12	.21	20	02	39	.15
Value diversity	5	334	31	34	.28	56	06	70	.02
Functional diversity	8	536	.00	.00	.15	13	.13	19	.19
Educational diversity	7	379	.01	.01	.07	10	.12	07	.10

Table 4.1: Meta-Analytic Summary of Diversity and Trust

*Note.* k= number of correlations; N= total sample size; r= average uncorrected correlation;  $\rho$ = average true score correlation; CI= confidence interval; CV= credibility interval

In order to start understanding the diversity-trust relationship, hypothesis 3 proposed that surface-level diversity would have a stronger relationship with trust than deep-level diversity

earlier on, whereas deep-level diversity would have a stronger relationship with trust than surface-level diversity in later phases of team development. Even though deep-level diversity seemed to have a stronger relationship with trust,  $\hat{\rho} = -.12$  [95%CI= -.20, -.02], than surfacelevel diversity,  $\hat{\rho} = .02$  [95%CI= -.05,.09], the overlapping confidence intervals do not let us make the inference that they are indeed statistically different from one another when time was not taken into account. Considering the influence of diversity over time (e.g., Harrison et al., 2001), I included whether the team has a shared history with the other team members or not. Accordingly, team member stability was used to determine whether surface-level becomes less important as deep-level diversity becomes more important over time (see Table 4.2 for details). Along these lines, surface-level diversity was negatively related to trust in low familiarity teams,  $\hat{\rho}$  = -.16 [95%CI= -.29,-.03], whereas it had a positive impact in high familiarity teams,  $\hat{\rho}$  = .11 [95% CI= .08,.13]. Similarly, deep-level diversity was only negatively related in high familiarity,  $\hat{\rho} = -.30$  [95%CI= -.46,-.03]. This shows that beyond looking at values in a static manner, the time component adds another level of complexity to the diversity-trust relationship. Thus, hypothesis 3 was supported. However, it is important to interpret these results with caution due to small number of studies in each moderator level.

	k	Ν	r	ê	SDρ	95% CI <sub>L</sub>	95% CI <sub>U</sub>	80% CV <sub>L</sub>	80% CV <sub>U</sub>
Team Familiarity					•				
Low Familiarity									
· Surface-level	4	165	16	16	.00	29	03	16	16
· Deep-level	5	431	06	06	.11	19	.07	20	.07
High Familiarity									
· Surface-level	2	50	.11	.11	.00	.08	.13	.11	.11
· Deep-level	5	405	28	30	.19	46	10	05	55

Table 4.2: Meta-Analytic Summary of the Role of Time to the Diversity-Trust Relationship

*Note.* k= number of correlations; N= total sample size; r= average uncorrected correlation;  $\rho$ = average true score correlation; CI= confidence interval; CV= credibility interval

#### Trust and Performance

As a core emergent state that often proceeds team performance in the literature, hypothesis 4 proposed that trust would be positively related to team performance. Accordingly, trust indeed showed a significantly positive relationship to performance ( $\hat{\rho} = .32, k = 95, N =$ 5721, 95%CI: .24, .33), as depicted in Table 4.3. The failsafe *k* is 3539, which suggest that it would take at least this amount of file-drawer null effects to turn this positive trust-performance relationship into a non-significant one. Thus, hypothesis 4 was supported. Furthermore, an exploratory analysis helped to parse out team performance to consider its nuances, for instance whether the criterion takes inputs into account (e.g., efficiency) or not. Even though not hypothesized, our data showed important differences regarding the type of performance measurement. More specifically, trust seems to be more influential when the outcome is creativity,  $\hat{\rho} = .55$  [95%CI=.35,.61], than results, such as ROE and market success,  $\hat{\rho} = .15$ [95%CI=.04,.23]. This shows that not only trust matters to performance, but also the way the criterion is operationalized will influence the strength of the relationship.

				_		95%	95%	80%	80%
	k	N	r	$\hat{ ho}$	$SD\rho$	CIL	$CI_U$	$CV_{L}$	$CV_U$
Team performance	95	5721	.29	.32	.19	.24	.33	.08	.57
Creativity	7	393	.48	.55	.16	.35	.61	.35	.75
Effectiveness	43	2759	.32	.37	.20	.26	.39	.12	.63
Goal completion	31	1812	.23	.26	.16	.16	.30	.05	.47
Efficiency	10	486	.26	.29	.15	.14	.38	.09	.48
Results	10	694	.14	.15	.10	.04	.23	.02	.28

 Table 4.3: Meta-Analytic Summary of Trust and Performance

*Note.* k= number of correlations; *N*= total sample size; *r*= average uncorrected correlation;  $\rho$ = average true score correlation; CI= confidence interval; CV= credibility interval

### Underlying Mechanisms

In addition to the main effects regarding the extent to which diversity and performance relate to trust, this research aims to shed light on the underlying mechanisms that influence the aforementioned relationships. First, hypothesis 5 proposed trust as the mediator of the diversitytrust relationship. In order to test this hypothesis, the meditational models in Figure 4.1 were estimated with meta-analytic structural equation modeling and the indirect effects of diversity onto team performance were tested with a 95% Monte Carlo confidence interval for each of the diversity types: (a) age, (b) gender, (c) race, (d) value, (e) function, and (f) education. Results suggest that trust partially mediated the relationship of age (95%CI: .03, .05), gender (95%CI: -.02, -.002), value (95%CI: -.18, -.14), and functional (95%CI: .14, .18) diversity with team performance as the direct effects were significant and the confidence intervals were significantly different from zero. Interestingly, age –albeit the small effect– and value diversity show a suppressor effect in which the relationship to team performance has a different direction as the one presented with the mediator mutual trust. Contrary to our hypothesis 5, neither racial diversity (95%CI: -.003, .02) nor educational diversity (95%CI: -.003, .01) seemed to be mediated by trust, especially without a significant relationship to trust (i.e., the *a* path). With that being said, hypothesis 5 was partially supported due to significant indirect effects for most diversity categories onto performance through trust.



*Note.* Standardized estimates. The value on the left of the slash denotes the indirect effect, and the value on the right denotes the direct effect when it applies. \*p<.05

Figure 4.1: Test of mediating role of trust

# Moderator Analyses

Hypotheses 6-9 dealt with the interactive effect of contextual and measurement components to the aforementioned relationships. Hypotheses 6a and 6b proposed that the relationships with trust would be strengthen when study sample was field rather than laboratory teams. As Table 4.4 shows, both the diversity-trust as well as trust-performance relationships seemed to be generalizable across study settings instead of stronger in a given study setting. Even though the trust-performance relationship seemed to be stronger within field settings,  $\hat{\rho} = .34$  [95%CI= .25, .34], than in laboratory settings,  $\hat{\rho} = .17$  [95%CI= .04,.28], the overlapping confidence intervals do not let us make the inference that they are indeed statistically different. It is important to highlight the amount of studies current available that investigate the diversity-trust within laboratories (*k*=4) is very limited. Consequently, hypotheses 6a and 6b were not supported.

Table 4.4: Moderator Analys	sis of Contextual Issues
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				_		95%	95%	80%	80%
	k	Ν	r	$\hat{ ho}$	$SD\rho$	CIL	CIU	$\mathrm{CV}_\mathrm{L}$	$CV_U$
Study Setting									
Diversity-Trust									
Laboratory	4	163	03	03	.00	11	.05	03	03
Field	31	2470	06	07	.18	13	.01	30	.17
Trust-Performance									
Laboratory	9	379	.16	.17	.10	.04	.28	.04	.31
Field	86	5342	.29	.34	.19	.25	.34	.09	.58
Team Distribution									
Diversity-Trust									
Co-located	21	1770	05	05	.12	11	.02	21	.11
Distributed	7	356	11	12	.26	32	.10	45	.22
Trust-Performance									
Co-located	54	3090	.27	.30	.20	.21	.32	.04	.55
Distributed	15	792	.34	.39	.20	.23	.46	.13	.64

*Note.* k= number of correlations; N= total sample size; r= average uncorrected correlation;  $\rho$ = average true score correlation; CI= confidence interval; CV= credibility interval

Regarding the types of teams, hypotheses 7a and 7b proposed team distribution had divergent impact on the trust relationship. More specifically, it proposed co-located teams would have higher diversity-trust relationship and at the same time lower trust-performance relationship in comparison to distributed teams. As depicted in Table 4.4, diversity did not seem to be significantly related to trust in neither co-located,  $\hat{\rho} = -.05$  [95%CI= -.11,.02], or distributed

teams,  $\hat{\rho} = -.11$  [95%CI= -.32,.10]. Hence, hypothesis 7a was not supported. Similarly, even though the trust-performance relationship seemed to be stronger within distributed teams,  $\hat{\rho} = .39$ [95%CI= .23, .46], than in laboratory settings,  $\hat{\rho} = .30$  [95%CI= .21,.32], the overlapping confidence intervals do not let me make the inference that they are indeed statistically different from each other. Consequently, hypotheses 7b was not supported.

## **Trust Measurement**

Lastly, this meta-analysis compiles some of the issues with the measurement of trust. Table 4.5 summarizes these findings, divided by relationship and measurement topics. Hypothesis 8 suggested that affective and cognitive measures, respectively, would be stronger for the diversity-trust and trust-performance relationships. Even though affective measures of trust seemed to have a stronger relationship between diversity and mutual trust,  $\hat{\rho} = -.18$ [95%CI= -.21, -.11], than cognitive,  $\hat{\rho} = -.08$  [95%CI= -.19,.06], or behavioral measures,  $\hat{\rho} = .01$ [95%CI= -.19,.122], the overlapping confidence intervals do not let us make the inference that they are indeed statistically different. Similarly, cognitive measures of trust did not appear to be statistically more impactful in the trust-performance relationship,  $\hat{\rho} = .33$  [95%CI= .22, .37], when compared against affective,  $\hat{\rho} = .30$  [95%CI= .17, .35], and behavioral measures of mutual trust,  $\hat{\rho} = .26$  [95%CI= .11, .33]. Therefore, hypothesis 8 was not supported, but interesting findings emerged from the different dimensions of trust.

Another topic for a wide variability is the referent used in trust surveys. Accordingly, hypothesis 9 proposed that drawing from the referent shift to "we" recommended by Chan (1998) would lead to stronger relationship than utilizing "I" or a mixture of reference sources in both diversity-trust and trust-performance links. Even though measures that used referent of "we" seemed to have a stronger relationship between diversity and trust,  $\hat{\rho} = -.12$  [95%CI= -.20,

-.03], than measures that used "I,"  $\hat{\rho} = -.06$  [95%CI= -.17,.07], or both,  $\hat{\rho} = -.05$  [95%CI= -

.19,.10], the overlapping confidence intervals do not let us make the inference that they are indeed statistically different. Thus, hypotheses 9a was not supported. Contrary to our hypothesis 9b, findings regarding the trust and performance relationship were not statistically different regardless if the measurement source was "I," "we," or a mixture of the referent sources. Similarly, hypothesis 9 was not supported.

	k	Ν	r	ô	SDρ	95% CI <sub>L</sub>	95% CI <sub>U</sub>	80% CV <sub>L</sub>	80% CV <sub>U</sub>
					, ,				
Dimensionality									
Diversity-Trust									
Cognitive	3	259	06	08	.00	19	.06	08	08
Affective	4	405	16	18	.00	21	11	18	18
Behavioral	3	229	.01	.01	.15	19	.22	17	.20
Trust-Performance									
Cognitive	25	1302	.29	.33	.15	.22	.37	.13	.53
Affective	21	1446	.26	.30	.20	.17	.35	.05	.55
Behavioral	9	661	.22	.26	.13	.11	.33	.09	.43
Measurement Source									
Diversity-Trust									
"I"	8	653	05	06	.14	17	.07	23	.12
"We"	16	1186	11	12	.13	20	03	29	.05
Trust-Performance									
"I"	21	1238	.28	.32	.14	.20	.35	.14	.50
"We"	36	2299	.28	.32	.19	.21	.35	.07	.57

 Table 4.5: Moderator Analysis of Measurement Issues

*Note.* k= number of correlations; N= total sample size; r= average uncorrected correlation;  $\rho$ = average true score correlation; CI= confidence interval; CV= credibility interval.

Interestingly, trend analysis showed that measurement that has stronger relationships for diversity and trust include specific (i.e., willingness to be vulnerable), unidimensional, and using the referent shift "we" as measurement tool, whereas the relationship between trust and performance was strongest –although not significantly different– when trust measurement tool was more general, multidimensional, and had mixed referent sources. This warrants attention to

what variable one is relating trust to prior to choosing the proper measurement tool, but this will be discussed in greater detail in the following section. A summary of the hypothesized relationships and their findings is presented below in Table 4.6. Table 4.6: Summary of Hypothesized Relationships and Findings

	Hypotheses	Findings
•	<i>H1:</i> Surface-level [i.e., (a) age, (b) gender, (c) racial] diversity is negatively related to mutual trust	Not supported
•	<i>H2:</i> Deep-level [i.e., (a) value] diversity is negatively related to mutual trust, whereas more job-related deep-level [i.e., (b) functional, (c) educational] diversity is positively related to mutual trust	2a supported, 2b,2c not supported
•	<i>H3:</i> Surface-level diversity shows a stronger relationship with mutual trust than deep-level diversity in teams of low familiarity, whereas deep-level diversity shows a stronger relationship with mutual trust than surface-level diversity in teams of high familiarity	Supported
•	H4: Mutual trust is positively related to team performance	Supported
•	<i>H5</i> : Mutual trust mediates the relationship between diversity and team performance	Partially supported
•	<i>H6</i> : The relationship between (a) diversity and mutual trust, and (b) mutual trust and team performance is stronger in field (rather than laboratory) settings	Not supported
•	<i>H7</i> : The relationship between (a) diversity and mutual trust is stronger when the team is co-located (rather than distributed), whereas the relationship between (b) mutual trust and team performance is stronger when the team is distributed (rather than co-located)	Not supported
•	<i>H8</i> : The relationship between (a) diversity and mutual trust is stronger when the mutual trust measure is affective (rather than cognitive or behavioral), whereas the relationship between (b) mutual trust and team performance is stronger when the mutual trust measure is cognitive (rather than affective or behavioral)	Not supported
•	<i>H9</i> : The relationship between (a) diversity and mutual trust, and (b) mutual trust and team performance is stronger when the source of measurement is "we" (rather than "I")	Not supported

# **CHAPTER FIVE: DISCUSSION**

The purpose of this study was to address the role of trust on performance within teams, and more specifically, within diverse teams. Through meta-analysis, I provided an integration of current issues associated with the trust construct at the team-level, including interactive effects, antecedents (i.e., diversity), consequences (i.e., team performance), and its role as a mediator. First and foremost, I reiterate the importance of breaking diversity down into smaller categories, as one may misrepresent its influence on trust if only an overall diversity effect is taken into account. The inclusion of surface-level and deep-level diversity variables led to wide variability in results, ranging from -.34 to .12. Although the small number of independent samples in this study was insufficient to show the intricacies relevant to surface-level diversity variables, an examination of trends suggests that age diversity may have a positive impact on mutual trust. This serves as initial support for potential positive effects of surface-levels categories under the right circumstances, as found in a recent meta-analysis (Joshi & Roh, 2009). Accordingly, these findings discourage the use of over-simplistic thinking that any type of diversity that leads to social categorization will be detrimental. The relationship is far more complex than that, and I urge further research to try to understand the conditions under which diversity of both types may actually be positive for team performance.

Along these lines, some deep-level diversity variables have a stronger history of being beneficial to outcomes in comparison to surface-level variables when they are task-related (e.g., functional, Bantel & Jackson, 1989; Bell et al., 2011; educational, Dahlin et al., 2005; Kearney et al., 2009). However, our results did not support this thinking. It is important to contrast these types of diversity (i.e., functional, educational) with values diversity, which was extremely

negative for mutual trust, and is often lumped together under the umbrella of deep-level diversity categories. It can be deceiving when looking at the negative influence of deep-level diversity if one does not take into consideration whether the variables are task-related or not. In sum, this meta-analysis showed a moderate and negative correlation between value diversity and mutual trust, bringing attention to difficulties a team may face when members have divergent cultural values (e.g., individualism/collectivism, power distance, etc.) and must come together to perform collective tasks. When comparing the impact of deep-level versus surface-level diversity, a significant difference was not found without considering team familiarity. This brings attention to the importance of considering the interactive effect of time and type of diversity when one is interested in understanding the diversity-trust relationship.

Additionally, 95 independent samples involving 5,721 teams provide quantitative evidence for the importance of trust for team performance. With a moderate and positive relationship ( $\hat{\rho} = .32$ ), mutual trust was crucial for all types of team performance, even more distant, organization-relevant financial outcomes (e.g., return of equity). This finding provides support for aspects of social exchange theory suggesting that trust is important for performance because it highlights team members' reciprocity, positive exchanges, and relationship emergence. Although mutual trust was related to a number of performance outcomes, this construct showed to be most influential for creativity. This can be worrisome, as teams comprised to generate creative outcomes are shifting to a more diverse pool of members in order increase the breadth of knowledge and ideas available, yet this study shows that diversity may threaten levels of mutual trust.

I have begun to answer calls from scholars —such as van Knippenberg and Schippers (2007)— by putting forth and testing a framework in which mutual trust serves as the underlying

mechanism that drives the diversity-performance relationship. Adding to other studies that have already found diversity to be important for team performance (Bell, 2007; Bell et al., 2007), our investigation of the indirect effects of mutual trust showed age, gender, value, and functional diversity to be related to performance through this variable. Findings shed some light into the potential benefits of age and functional diversity to trust, which in turn can be associated with better performance. On the other hand, gender and value diversity were negatively associated to trust. However, this relationship also showed to be more complex than just a simple diversity leads to detriments in performance through the decrease of levels of mutual trust. Even though age diversity showed to be positively associated with mutual trust, it is still negatively related to team performance. It is understandable how divergent in age may impair performance as a whole, especially when it is a complex task (Wegge et al., 2008).

With that being said, this study has implications for the role of mutual trust not only as directly influencing team performance, but also as serving as a main emergent state that minimizes the negative consequences of diversity. Yet, variability in age may not enhance a high sense of uncertainty that is detrimental to trust. Along the same lines, values diversity was extremely harmful to mutual trust, but the opposite effect was found to team performance. It is important to highlight the inclusion of creativity and innovation as team performance. Others have found positive effect of diversity in cultural values on idea generation and creativity (McLeod et al., 1996; Stahl et al., 2010). These differences, however, are not likely to increase mutual trust, especially earlier on.

Furthermore, this study explores whether contextual (e.g., team distribution) as well as measurement (e.g., referent) issues pose systematic differences in the diversity-trust and trustperformance relationships. Surprisingly, the construct of trust at the team-level showed to be

generalizable across a number of unique conditions. Most of the diversity-trust moderators were rending towards the hypothesized directions, but the amount of studies available was very limiting. With enough evidence, I am certain time (e.g., team familiarity) and context (e.g., field) will bring the importance of certain types of diversity to the development of trust to the forefront. On a more positive note, trust was related to team performance at all levels of moderators. Even though a number of moderators were considered, the relationship between trust and performance remained significantly positive. The lowest trust-performance correlation was .17 in laboratory settings, whereas the highest was .39 for distributed teams. On the one hand, the laboratory findings shows both a lack of studies in this type of settings (k= 9) whereas field studies are overly abundant (k= 86), showing that perhaps the little room for trust to develop in those controlled settings is discouraging researchers from developing more internally construct-valid studies. On the other hand, the growing concern regarding trust in virtual teams seems to be justifiable and likely to strengthen this correlation with more data.

This study also aimed to identify boundary conditions in which the relationship to trust will differ depending on measurement specifications. The small amount of studies shows the lack of power to detect systematic difference in the diversity-trust relationship. This calls for future research to strengthen the findings that more specific measurement (e.g., affective) and with the proper referent shift to "we" will be the most adequate to relate mutual trust to diversity. Furthermore, the large heterogeneity in the trust to performance effect sizes across multiple levels of moderators inhibited the emergence of statistically significant differences. It is important to note, though, that trust measures may need different specifications (e.g., cognitive dimension) when relating this variable to team performance. Even though this is based on trends,

I urge researchers to consider the dimensions of mutual trust depending on which variables this is being related to.

# Theoretical Implications

These meta-analytic findings shape a number of theoretical implications. First, this study shed some light regarding the discrepancies in whether diversity is beneficial, detrimental, or even indifferent to team processes and outcomes. Albeit the amount of studies that investigate the diversity-trust link is still small, this paper highlights the importance of some types of diversity (e.g., value diversity) and the timing of measurement (e.g., long-term teams). Moving past the static question whether diversity matter, this study suggests looking at what type of diversity and when they become more important to trust as suggested by previous researchers (e.g., Harrison et al., 1998). In general, these diversity findings show that delineating the specific diversity category of interest as well as the team familiarity can be crucial components to understand the impact of these dissimilarities in the development of trust at the team-level.

Furthermore, placing mutual trust as an explanatory mechanism between diversity and trust starts to get at *how* diversity influences outcomes (Joshi & Roh, 2009; van Knippenberg & Schippers, 2007). This study suggests that mutual trust partially mediates the impact of age, gender, value and functional diversity onto team performance, but some of these relationships show distinct idiosyncrasies (e.g., suppressor effect) and other types of diversity (e.g., race) was not mediated by trust. As the first meta-analysis to attempt to place mutual trust as a mediator of diversity-trust relationship, I recognize this is by no means the only possible explanatory mechanism for the "black box." Future research should investigate other mediators, such as conflict (e.g., relationship conflict) and cognition (e.g., transactive memory systems). For the

diversity-trust relationship, there is a need for additional studies, and greater consideration of multiple types of diversity.

More impactful, this study shows the relationship between mutual trust and performance. This study shows that the speculation of trust as an important emergent state in teams is not without reason. In this analysis, I distinguished the different performance outcomes. Once again, lumping different types of indicators of performance can provide a story that overlooks nuances. The potential differences, for instance between creativity and financial performance, may be a topic that future research should explore. The use of process or behavioral measures of performance rather than more outcome-based measures can greatly change the intensity, albeit not the direction, of the impact of trust onto performance.

Accordingly, the compilation of empirical evidence show that this moderate and significantly positive relationship between trust and performance occurs across contexts. Even though the relationships with trust did not seem to significantly differ depending on study setting, team distribution, and measurement details, these are not the only potential moderators. Additional moderators of the relationships I examined should also be considered. As Joshi and Roh (2009) found occupational demography, industry setting, team interdependence, and team type to moderate the diversity-performance link, it is likely that similar patterns can be found when relating diversity to a more proximal construct, such as mutual trust. For the trust-performance relationship, further exploration of the heterogeneity in those effect sizes is needed. On that note, diversity, trust, and performance have all been operationalized in a number of ways, and a closer examination of how these differences can influence relationships is warranted.

### Practical Implications

In addition to advancing the science, our meta-analytic review has several implications for real-world practices. First, findings suggest that diversity categories should be evaluated, and targeted in interventions separately. Despite the common practice of lumping different types of diversity under an overarching term (e.g., diverse or homogeneous team), our results suggest the use of more specific diversity categories. When age, race, gender, values, functional, and educational diversity are considered part of diversity, this umbrella term has little to none predictive power for mutual trust. Practices that are tailored to the appropriate type of diversity will not only be more informative, but also more accurate. For instance, the reduction of categorization when teams are gender diverse may improve mutual trust, whereas age diversity may be something that leaders may want to bring up as a positive characteristic of their team composition. Consequently, considering diversity categories separately can help identify appropriate ways to diminish any negative consequence that some types of diversity may have.

Second, findings suggest that values diversity should be navigated with caution in practice. Results clearly demonstrate a negative influence of value diversity on mutual trust. Compared to all other categories, value diversity was the only negative diversity category significantly related to mutual trust. This suggests that practitioners managing culturally diverse teams should focus on developing trust between dissimilar others through other mechanisms, and should be prepared to frame conflict in a positive manner. Diversity research has uncovered some techniques, such as focusing on a common ingroup identity model (Gaertner, Mann, Murrell, & Dovidio, 1989; Gaertner & Dovidio, 2000), which can help bring people together albeit their divergent thinking through the mitigation of bias. The assessment of value differences can signal potential for mutual team issues. Hence, practitioners should be ready to intervene in order to improve trust when team members vary in regards to their value system.

Third, this study provides evidence that focusing on mutual trust is a worthwhile investment for improving team performance. This study delineates the relationship between trust and team performance, showing that trust is equally, if not more important than other emergent states that have been examined previously. Specifically, team cohesion (Beal et al., 2003), efficacy (Gully et al., 2002), cognition (DeChurch & Mesmer-Magnus, 2010), and conflict (de Wit et al., 2012; DeDreu & Weingart, 2003) have all been meta-analyzed in relation to performance, with effect sizes ranging from -.23 to .38. Through our meta-analysis, I now also show the contribution of mutual trust to team performance of .32 as well as its generalizability across different team development and team performance contexts. If the performance of a team is hurting, savvy practitioners should then assess mutual trust in order to remedy the situation, at least in part.

Additionally, our review indicates that team diversity should be monitored and manipulated where possible, as a means of shaping mutual trust and performance. The development of trust is an avenue for improving diverse teams' performance, but as the mediation model suggests, the levels and types of diversity in the team can influence mutual trust. This finding can inform practitioners about how to compose their teams with levels of diversity that are not detrimental to mutual trust (e.g., educational diversity), or at least make them aware of trust drawbacks that can later influence team performance. In other words, showing that trust is a meaningful mediator of the diversity-performance relationship sheds light on the underlying mechanisms that make diverse team functioning challenging, and helps answer calls about the "black box" between diversity and team outcomes (van Knippenberg &

Schippers, 2007) that has made practical interventions difficult. Knowing that value diversity can be detrimental to mutual trust, but can have a significantly positive indirect effect ( $\beta$ = .41) on team performance should encourage practitioners to invest in interventions that increase mutual trust. Thus, monitoring team diversity can help boost not only mutual trust, but also team performance as whole.

Furthermore, findings suggest that the type of diversity practitioners focus on should be dependent upon the team's level of familiarity. This study shows that the type of diversity will influence trust in teams differently at different levels of familiarity. Specifically, surface-level diversity seems to be the only concern at early stages of the team lifespan, which is consistent with Harrison and colleagues (1998), who noted these effects decreased over time, while deeplevel diversity became increasingly detrimental. This study further supported this, but also showed that surface-level diversity can even beneficial after teams work together for long enough. Watson, Kumar, and Michaelson (1993) showed how racially diverse teams underperformed homogeneous teams in the beginning, but ended up surpassing them over time. Integrating these findings, practitioners should know that surface-level diverse teams may have a certain disadvantage, thus should make an effort to facilitate the benefits of this type of diversity, particularly over time. In parallel, assessing deep-level diversity at the early stages is recommended. Even though research shows these variables may not be very detrimental at first, they can lead to a number of issues as teams develop, including a reduction in trust and subsequent process loss. With that information ahead of time, management can come up with preventive conflict management strategies and team building exercises. Destroying trust is a lot easier than building it (Colquitt et al., 2012). Thus, pre-emptive measures for teams with high levels of deep-level diversity are a more efficient way than to remedy the negative consequences.

Finally, this study proposes that managers should avoid a "one-size fits all" approach in regards to their trust measurement. The trend analysis of the measurement moderators led to different focus pending whether trust was being related to diversity or performance. Fortunately, there is a wealth of available trust measures to choose from (see McEvily & Tortoriello, 2011, for a collection). Depending on the construct of interest, dimensions of trust measures may vary (e.g., affective for diversity, cognitive for performance, etc.). Consequently, tailor the trust measure to be compatible to the variable of interest in order to obtain better results.

## **Limitations**

This study is not without limitations. The issue of causality exists since I included all studies that examine diversity-trust and trust-performance, regardless of the direction and/or control of time across these variables. Research can gain from lagged measures of trust to really understand how this construct is developed, violated, and rebuilt in different types of teams. Another limitation is the amount of information available in each article. For instance, the measures are sometimes not fully described in the methods section that constrained the inclusion of some studies in moderator analysis (e.g., lack of item description to categorize their performance as efficiency or effectiveness). Additionally, the mediation test included weighted sample means from different meta-analyses for the diversity-performance link. It is possible that the conceptualizations of diversity could have slightly differed across the meta-analyses (e.g., sports teams were not included in Bell et al., 2011). It is possible that expanding the searches to include diversity-performance articles up to date can introduce more articles and better confidence in this study's findings.

Last but not least, these findings pertain to trust at the team-level, thus the dyadic exchanges or other levels of analysis (e.g., organizational trust) were not incorporated into this study. Conclusions are strictly relevant to team-level, but future investigation, when independent sample size permits, can include more forward thinking that captures the nuances of each dyadic relationship in a team. Specifically, the actor-partner independent model already includes the effect of one's trust on the other person's outcome (Kenny, Kashy, & Cook, 2006). Yakovleva, Reilly, and Werko (2010) were the first to use this model when looking at trust, but data lacked in independence of dyads, and the study was cross-sectional. In sum, these findings are associated mostly with traditional self-report measures of trust that are aggregated to the teamlevel. I urge future research to continue to validate current measures as well as to think of innovative ways (e.g., group actor-partner interdependence model; Kenny & Garcia, 2012) to assess trust within teams.

# **CHAPTER SIX: CONCLUSION**

This meta-analysis provided an integration of current issues associated with the construct of trust at the team level of analysis. Diversity, in many cases, was not as detrimental as initially thought. Values diversity was the only statistically negative diversity category that can pose a real threat to the development and maintenance of trust team settings. These results make progress toward merging the diversity and teams literatures, and identifying the power of trust as a mediating mechanism. Age, gender, value, and functional diversity seem to influence performance through mutual trust. Further, mutual trust showed its importance when relating it to performance, and this effect was generalizable across a number of unique conditions. Trust was related to team performance at all levels of moderators, including creativity, effectiveness, and distal financial outcomes. Considering the gaps in the literature that still remain, research on this construct at the team-level is a ripe topic for further exploration. In addition to quantitatively reviewing the literature, implications and future research were discussed.
## **APPENDIX A: SUMMARY OF CODING**

Study	Ν	r <sub>xx</sub>	r <sub>yy</sub>	Diversit	Trust	Study	Team	r
				y type	measur	setting	distributio	
D 1 1		1.00	0.04		e	<b>D</b> <sup>1</sup> 1 1	n	0.00
Barczak et al., 2010	82	1.00	0.94	Deep	G/m	Field	Co-located	-0.08
Blatt, 2009	46	1.00	0.95	Deep	G/m	Field	-	-0.12
Brahm & Kunze, 2012	50	1.00	0.87	Mixed	G/W	Field	Distributed	-0.12
Camelo-Ordaz et al., 2014	64	0.87	0.71	Deep	C/W	Field	-	-0.25
Chen, 2014	225	1.00	0.97	Surface	G/m	Field	Co-located	0.13
Choi & Cho,	74		0.92	Mixed	G/W	Field	Co-located	-0.53
2011		0.99						
Crisp &	68	1.00	0.93	Surface	G/W	Field	Distributed	-0.24
Jarvenpaa, 2013								
Curșeu &	174	1.00	0.75	Mixed	A/I	Field	Co-located	-0.17
Schruijer, 2010								
Dayan et al., 2012	103	(0.98)	0.90	Mixed	G/m	Field	-	0.34
Dooley, 1996	86	1.00	0.94	Mixed	B/W	Field	Co-located	0.01
Friedlander, 1966	11	1.00	(0.88)	Deep	G/W	Field	Co-located	-0.11
Fulmer, 2012	105	1.00	0.90	Surface	C/I	Field	Co-located	-0.13
Greer et al., 2007	60	1.00	0.85	Mixed	G/I	Field	Co-located	-0.01
Greer et al., 2007	28	1.00	0.97	Mixed	G/I	Field	Co-located	-0.25
Khan et al., 2014	44	0.65	0.88	Deep	A/m	Field	-	-0.29
Krebs et al., 2006	25	1.00	0.96	Mixed	G/m	Lab	Co-located	-0.20
Krebs et al., 2006	25	1.00	0.96	Mixed	G/m	Lab	Distributed	0.05
Leslie, 2007	121	1.00	0.95	Surface	G/W	Field	Co-located	-0.03
Li, 2013	113	0.77	0.73	Deep	C/W	Field	Co-located	0.01
Liu et al., 2014	138	1.00	0.81	Surface	G/W	Field	Co-located	0.05
MacCurtain et al., 2008	39	1.00	0.81	Mixed	B/I	Field	Co-located	0.39
Mishra, 1992	91	1.00	0.95	Mixed	G/W	Field	Co-located	0.01
Mockaitis et al., 2009	59	1.00	0.84	Mixed	-/-	Field	Distributed	0.20
Muethel et al.,	80		0.82	Mixed	G/-	Field	Mixed	-0.01
2012		1.00						
Pinjani & Palvia,	58		0.89	Deep	G/W	Field	Distributed	-0.24
2013		0.93		•				
Polzer et al., 2006	45	1.00	0.90	Mixed	G/I	Field	Distributed	0.32
Rau, 2001	111	1.00	0.85	Mixed	G/m	Field	Co-located	-0.21
Rispens et al., 2007	27	1.00	0.89	Surface	G/W	Field	Co-located	-0.32

# Diversity-Trust Relationship

Roberge, 2007	47	1.00	(0.88)	Surface	G/m	Lab	Co-located	0.019
Simons, 1993	55	1.00	0.76	Deep	G/W	Field	Co-located	-0.03
Small & Rentsch,	60		0.86	Surface	G/I	Field	Co-located	0.04
2010		1.00						
Wells, 2006	51	0.97	0.92	Deep	G/m	Field	Distributed	-0.58
Zheng, 2012	98	1.00	0.91	Mixed	G/I	Field	Co-located	0.01
Zolin et al., 2004	104	1.00	0.93	Deep	G/m	Field	Mixed	-0.28
Zornoza et al.,	66	1.00	0.80	Surface	-/W	Lab	Mixed	-0.03
2009								

*Note.* Reliabilities under parentheses were input based on average reliabilities per analysis; Surface= Surface-level diversity; Deep= Deep-level diversity; G= Global; C= Cognitive; A= Affective; B= Behavioral; U= Unidimensional; M= Multidimensional; I= Referent "I;" W= Referent "We;" m= Referent mixed.

Study	Ν	r <sub>xx</sub>	r <sub>yy</sub>	Performance measure	Trust measure	Study setting	Team distribution	r
Akgün et al., 2007	53	0.94	0.80	Goal comp.	G/U/m	Field	-	0.43
Akgün et al., 2014	129	0.93	0.87	Effectiveness	A/U/m	Field	Co-located	0.30
Barczak et al., 2010	82	0.95	0.94	Creativity	G/M/m	Field	Co-located	0.54
Bijlsma- Frankema et al., 2008	57	(0.92)	(0.88)	Effectiveness	B/U/I	Field	Co-located	0.30
Blatt, 2009	46	0.89	0.95	Creativity	G/U/m	Field	-	0.48
Boies et al., 2010	49	1.00	0.91	Effectiveness	G/U/m	Field	Co-located	0.11
Brahm & Kunze, 2012	50	0.97	0.87	Effectiveness	G/U/W	Field	Distributed	0.59
Braun et al., 2013	28	1.00	0.80	Goal comp.	-/U/-	Field	Co-located	0.15
Bresnahan, 2009	49	(0.92)	0.82	Goal comp.	G/M/W	Field	Co-located	- 0.02
Camelo- Ordaz et al., 2014	64	1.00	0.71	Goal comp.	C/U/W	Field	-	0.13
Carmeli et al., 2012	77	0.96	0.86	Goal comp.	G/U/W	Field	Co-located	0.25
Chang et al., 2012	91	0.81	0.79	Goal comp.	C/U/I	Field	Co-located	0.54
Chen & Wang 2008	112	1.00	0.84	Distal	A/U/W	Field	-	0.04
Chen et al., 2006	14	(0.92)	0.91	Effectiveness	G/U/m	Field	Distributed	0.77
Chen et al.,	54	0.82	0.83	Creativity	G/U/W	Field	-	0.62
Chieh & FengChia, 2012	65	0.80	0.83	Goal comp.	G/U/W	Field	Distributed	0.59
Chou et al., 2013	39	0.94	0.85	Effectiveness	C/U/m	Field	-	0.58
Chuang et al., 2004	64	0.94	0.92	Effectiveness	G/M/W	Field	Co-located	0.44
Chung & Jackson, 2013	58	1.00	0.88	Goal comp.	B/U/-	Field	Co-located	- 0.10

# Trust-Performance Relationship

Study	Ν	r <sub>xx</sub>	r <sub>yy</sub>	Performance measure	Trust measure	Study setting	Team distribution	r
Cogliser et al., 2012	71	(0.92)	0.88	Goal comp.	G/U/W	Field	Distributed	0.06
Costa et al.,	112	0.75	0.87	Goal comp.	-	Field	-	0.03
Costa et al., 2009	79	(0.92)	(0.88)	Effectiveness	G/M/m	Field	Co-located	0.18
Crisp & Jarvenpaa, 2013	68	0.79	0.93	Goal comp.	G/U/W	Field	Distributed	0.50
Curșeu & Schruijer, 2010	174	(0.92)	0.75	Goal comp.	A/U/I	Field	Co-located	0.47
Danganan, 2001	24	(0.92)	(0.88)	Goal comp.	B/U/W	Field	Co-located	0.53
Dayan et al., 2012	103	0.86	0.90	Efficiency	G/U/m	Field	-	0.50
De Jong & Dirks. 2012	67	(0.92)	(0.88)	Goal comp.	G/U/I	Field	Co-located	0.42
De Jong & Dirks, 2012	41	0.95	0.81	Goal comp.	G/U/I	Field	Co-located	0.33
de Jong & Elfring, 2010	73	0.87	0.91	Goal comp.	C/U/I	Field	Co-located	0.30
DeLuca, 1981	24	(0.92)	(0.88)	Goal comp.	G/U/-	Field	Co-located	0.4
Dirks, 1999	42	1.00	0.98	Goal comp.	G/U/m	Lab	Co-located	- 0.1.
Dirks, 2000	30	1.00	0.96	Effectiveness	G/M/m	Field	Co-located	0.3
Dooley, 1996	86	0.93	0.94	Goal comp.	B/M/W	Field	Co-located	0.24
Druskat & Pescosolido, 2006	16	1.00	0.73	Effectiveness	C/U/m	Field	Co-located	0.48
Edinger, 2012	38	0.74	(0.88)	Creativity	B/U/-	Field	Co-located	0.26
Erdem & Ozen, 2003	50	(0.92)	0.80	Goal comp.	G/M/W	Field	-	0.53
Greer et al., 2007	60	1.00	0.85	Goal comp.	G/U/I	Field	Co-located	0.04
Greer et al., 2007	28	(0.92)	0.97	Effectiveness	G/U/I	Field	Co-located	- 0.04
Gupta et al., 2011	28	1.00	(0.88)	Efficiency	G/U/W	Field	-	0.17
Hakonen & Lipponen,	31	0.73	0.94	Effectiveness	G/U/W	Field	Distributed	0.70
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Study	Ν	r <sub>xx</sub>	r <sub>yy</sub>	<b>Performance</b> measure	Trust	Study	Team distribution	r
Hempel et al., 2009	102	0.77	0.89	Goal comp.	G/M/m	Field	-	0.25
Herndon, 2009	38	1.00	0.96	Goal comp.	C/U/W	Field	Distributed	0.35
Hu. 2013	67	0.74	0.93	Effectiveness	G/U/W	Field	-	0.35
Huang, 2009	60	0.82	0.87	Goal comp.	G/U/W	Field	_	0.56
Huansuriya, 2014	31	(0.92)	(0.88)	Effectiveness	G/M/W	Field	Co-located	0.39
Huansuriya, 2014	37	(0.92)	(0.88)	Effectiveness	G/M/W	Field	Co-located	0.06
Jarvenpaa et al., 2004	52	(0.92)	0.88	Goal comp.	G/M/m	Field	Distributed	0.40
Joshi et al., 2009	28	0.72	0.68	Goal comp.	C/U/m	Field	Mixed	0.31
Kanawattanac hai, 2002	38	1.00	0.97	Goal comp.	C/U/I	Field	Distributed	0.37
Khan et al., 2014	44	(0.92)	0.88	Effectiveness	A/U/m	Field	-	0.37
Kirkman et al., 2006	40	(0.92)	0.93	Effectiveness	G/U/W	Field	Distributed	0.24
Langfred, 2004	71	(0.92)	0.83	Goal comp.	G/U/m	Field	Co-located	- 0.10
Langfred, 2007	31	(0.92)	0.94	Goal comp.	G/U/I	Field	Co-located	0.26
Lee et al., 2010	34	0.90	0.966	Goal comp.	G/M/I	Field	Co-located	0.64
Lee, 2005	88	1.00	0.84	Effectiveness	G/M/W	Field	Co-located	0.24
Leslie, 2007	49	0.97	0.95	Goal comp.	G/U/W	Field	Co-located	0.14
MacCurtain et al., 2008	39	1.00	0.81	Distal	B/U/I	Field	Co-located	0.11
Mach et al., 2010	59	1.00	0.83	Effectiveness	G/U/m	Field	Co-located	0.33
Maurer, 2010	218	(0.92)	(0.88)	Goal comp.	B/U/W	Field	-	0.15
Ming-Huei et al., 2008	54	0.82	0.83	Creativity	G/W	Field	-	0.62
Muethel et al., 2012	80	0.92	0.82	Goal comp.	G/-	Field	Mixed	0.36
Myers & McPhee, 2006	62	0.88	0.73	Goal comp.	B/W	Field	Co-located	0.55
Niemitz, 1983	20	1.00	0.76	Effectiveness	_/_	Lab	Co-located	0.09
Palanski et al., 2011	35	(0.92)	(0.88)	Goal comp.	G/m	Field	-	0.38

Study	N	r <sub>xx</sub>	r <sub>yy</sub>	Performance measure	Trust measure	Study setting	Team distribution	r
Palanski et al., 2011	16	(0.92)	(0.88)	Goal comp.	G/m	Field	Co-located	0.73
Parayitam & Dooley, 2009	109	0.85	0.95	Goal comp.	G/W	Field	Co-located	0.51
Patel, 2012	36	1.00	0.95	Effectiveness	C/-	Lab	Co-located	- 0.02
Peterson & Bebfar, 2003	67	(0.92)	0.89	Goal comp.	G/W	Field	Co-located	- 0.20
Phillips, 1996	91	0.85	0.74	Effectiveness	G/I	Field	Co-located	0.20
Pinjani & Palvia 2013	58	0.86	0.89	Effectiveness	G/W	Field	Distributed	0.37
Pitariu, 2007	71	1.00	0.90	Effectiveness	G/I	Lab	Co-located	0.24
Pitts, 2010	49	1.00	0.88	Efficiency	G/m	Lab	Distributed	0.03
Politis, 2003	49	0.93	0.90	Goal comp.	G/m	Field	Co-located	- 0.08
Porter & Lilly 1996	80	(0.92)	0.93	Goal comp.	G/I	Field	Co-located	0.22
Prichard & Ashleigh, 2007	16	1.00	0.94	Effectiveness	G/I	Lab	Co-located	0.48
Purvanova, 2008	112	(0.92)	0.88	Goal comp.	G/W	Field	Distributed	0.04
Qiu & Peschek 2012	26	0.91	0.90	Effectiveness	G/m	Field	Co-located	0.59
Rau, 2001	111	1.00	0.85	Effectiveness	G/m	Field	Co-located	- 0.05
Rispens et al., 2007	27	0.87	0.89	Goal comp.	G/W	Field	Co-located	0.76
Roberge,	47	1.00	(0.88)	Effectiveness	G/m	Lab	Co-located	0.18
Rodney, 1997	35	0.94	(0.88)	Goal comp.	G/W	Field	-	0.38
Small & Rentsch, 2010	60	0.99	0.94	Goal comp.	G/W	Field	Co-located	0.40
Stephens et al., 2013	82	1.00	0.89	Creativity	A/W	Field	Co-located	0.14
Stewart & Gosain 2006a	55	0.98	0.91	Effectiveness	G/W	Field	Distributed	0.35
Stewart & Gosain 2006b	67	1.00	0.94	Effectiveness	G/W	Field	-	0.09
Tang, 2015	86	1.00	0.93	Effectiveness	G/W	Field	-	0.21
Tsai et al., 2012	68	0.87	0.93	Creativity	C/m	Field	-	0.18

Study	Ν	r <sub>xx</sub>	r <sub>yy</sub>	Performance	Trust	Study	Team	r
				measure	measure	setting	distribution	
Webber,	31	0.92	0.86	Effectiveness	G/m	Field	Co-located	0.75
2008a								
Webber,	54	(0.92)	(0.88)	Effectiveness	G/-	Field	Co-located	0.48
2008b								
Wells, 2006	51	(0.92)	0.92	Effectiveness	G/m	Field	Distributed	0.56
Wiedow et al.,	32	1.00	0.85	Efficiency	G/W	Lab	Co-located	0.52
2013				•				
Wiedow et al.,	137	(0.92)	0.94	Goal comp.	G/m	Field	-	0.29
2013		. ,		Ĩ				
Zheng, 2012	98	0.83	0.91	Goal comp.	G/I	Field	Co-located	0.10
Zornoza et al.,	66	1.00	0.80	Goal comp.	-/W	Lab	Mixed	0.21
2009								

*Note.* Reliabilities under parentheses were input based on average reliabilities per analysis; Goal comp.= Goal completion; G= Global; C= Cognitive; A= Affective; B= Behavioral; I= Referent "I," W= Referent "We," m= Referent mixed.

### **APPENDIX B: FINAL CODESHEET**

Label	Categories
Basic Study Information	
Article Identifier	
Year	
Independent sample number	Article #.1
-	Article #.2
Sample type	1. Employed (non-military) adults
	2. Confege students 3. Community sample of adults
	4 Sports adults
	5. Military
	6. Mixed
Setting	1. Field (including MBA project teams)
<u> </u>	2. Lab
Job/Sample description	
Age mean	
Gender	1. All female
	2. All male
	3. Mixed
Gender ratio	% female
Sample location	1. U.S.
	2. South America 3. Europa
	4  Africa
	5. Middle East
	6. Asia
	7. Australia
	8. Mixed
	9. North America (non U.S.)
Race	% Caucasian
Individual sample size	
Sample size	
Team size	
Team familiarity/Tenure	
Team duration	
Team distribution	1. Mostly co-located (i.e., FtF)
	2. Mostly distributed
	3. Partially distributed
Tool intondon on don on	4. witzeu (e.g., maniputating 121 VS Dist)
rask interdependence	2. Low
Leadership	1. Assigned (internal) leader
Leuderbinp	2. Assigned (external) leader
	3. Shared leadership
	4. Non-assigned leader
Assigned role diversity	1. Yes
	2. No
Task type	1. Creativity tasks (e.g., idea generation)
	2. Decision-making (e.g., simulators)

Label	Categories
	4. Project tasks (e.g., RD team)
	5. Mixed
	6. Service (e.g., healthcare, sales, etc.)
	7. Psychomotor tasks (e.g., sports teams)
	8. Managing others (e.g., TMT)
Relationship	
Trust linked to	1= Diversity
	2= Team Performance
Diversity measurement	
Measure of diversity description	
Specific categorization	1. Age
	2. Gender
	3. Race/Ethnicity
	4. Cognitive ability
	5. Culture
	6. Conscientious
	7. Emotional stability
	8. Agreeableness
	9. Extroversion
	10. Education/Degree
	11. Function
	12. Openness to Experience
	13. Perceptual/cognitive
	14. Tenure
	15. Experience (including intl)
	16. Group value
	17. Nationality/birthplace
	18. Time zone/geography
	19. Language
	20. Composite of surface-level
	21. Composite of deep-level
	22. Composite of surface- and deep-level
	22. Composite of diversity
	23. Work/ethnic status
	24 Locus of control
Brood diversity type	1 Surface-level
bload diversity type	2 Deen-level
	3 Mixed
Operationalization of diversity	1 Perceived diversity
Operationalization of diversity	2 Observer report
	2. Observer report 3. Dummy coded
	4. Difference score
	5. Polotional (Taui at al. 1002)
	5. Relational (1 sur et al., 1992)
	0. Colletation 7. Euclidean distance (constantion)
	<ul> <li>A Lucidean distance (separation)</li> <li>A Marianaa (SD (separation))</li> </ul>
	o. variance/ SD (separation)
	9. Blau's index (variety)
	10. 1 eachman's entropy (variety)
	11. Allison's coefficient of variation (disparity)
	12. Gini coefficient (disparity)
	13. Faultlines

Label	Categories
	15. Absolute number of (category)
	16. Geodesic distance
	20. Opposite of diversity (e.g., similarity, homogeneity
	homophily)
	21. Mixed
Diversity measure, # of iteams	
Diversity measure, reliability	1. Objective
	2. Alpha 2. ICC2 (forces this subar all searce to d)
	3. ICC2 (lavor this when all reported)
	4. Iwg 5. ICC1
	6 Spearman-Brown
	7 sart AVE
	8. team-level alpha
	9. Interrater reliability
erformance measurement	·
Specific categorization	1. Performance
1 0	2. Team performance
	3. Indicator of performance
	4. Effectiveness
	5. Group performance
	6. Group productivity
	<ul> <li>Decision/Outcome quality</li> <li>Derf/Time</li> </ul>
	0. Creativity
	10 Innovative Perf
	11 Efficiency
	12 Project success
	13. Past performance
	14. Processing time
	15. ROA
	20. Composite
Measure of Outcome description	
Operationalization of Outcome	1. Efficiency
	2. Team performance
	3. Creativity or Innovation
	4. General performance (e.g., efficiency, innovation,
	quanty, etc.) 5. Distal outcome (e.g. $PO(\Lambda)$ )
Outcome measure # items	5. Distai outcome (e.g., KOA)
Outcome measure, # items	1 Objective
Outcome measure, renability	2. Alpha
	3. ICC2 (favor this when all reported)
	4. rwg
	5. ICC1
	6. Spearman-Brown
	7. sqrt AVE
	8. team-level alpha
	9. Interrater reliability
Aggregation method	1. Self-report (referent "I")
	2. Self-report (referent "we")
	3. Self-report (referent mixed)

Label	Categories
	4. Self-report (referent unknown)
	5. Self-report (referent "other," e.g., this performance)
	10. Observer report (e.g., supervisor)
	12. Difference score (considering individual responses)
	13. Social network
	20. Mixed
Trust measurement	
Definition of trust	1. Global (e.g., mixed)
	2. Positive expectations (e.g., cognitive)
	3. Willingness to be vulnerable (e.g., affective)
	4. Direct measure (e.g., looking at behaviors or trust
	itself)
Dimensionality of trust	1. Unidimensional
	2. Cognitive-driven/Competence/Confidence/Reliance
	3. Affect-driven/Motives of Values/Social
	1 Distrust: confident negative expectations
	4. Distrust. confident negative expectations
	6 Composite (3 dimensions)
	7 Composite (4 dimensions)
	8 Composite of diff measures of trust
Trust measure, # of items	0. Composite of diff inclusives of thist
Trust measure, reliability	1. Objective
,	2. Alpha
	3. ICC2
	4. rwg
	5. ICC1
	6. Spearman-Brown
	7. sqrt AVE
	8. team-level alpha
	9. Interrater reliability
Aggregation on method	1. Self-report- REFERENT: Individual
	2. Self-report - REFERENT: Team
	3. Self-report - REFERENT: Mixed
	4. Self-report - REFERENT: Unknown
	5. Self-report - UNLY UNE TEAMMATE
	10. Observer report (e.g., supervisor)
	12. Polotional GADIM
	12. Relational - OAFIM
	14 Relational Standard deviation
	20. Mixed
Statistics	
Type of effect size	1. r
	2. F
	3. t
	4. d
	5. Ms, SDs
	6. z
Effect size	

Label	Categories
Correlation (r)	
Page number	

Note. Blank cells indicate continuous or descriptive variable

#### LIST OF REFERENCES

- Adler, P. S. (2001). Market, hierarchy, and trust: The knowledge economy and the future of capitalism. *Organization Science*, *12*(2), 215-234.
- Aguinis, H., Pierce, C. A., Bosco, F. A., Dalton, D. R., & Dalton, C. M. (2011). Debunking myths and urban legends about meta-analysis. *Organizational Research Methods*, 14(2), 306-331.
- Ajzen, I. (2005). Laws of human behavior: Symmetry, compatibility, and attitude behavior correspondence. In A. Beauducel, B. Biehl, M. Bosnjak W. Conrad, G. Schönberger and D. Wagener (Eds.), *Multivariate Research Strategies* (pp. 3-19). Aachen: Shaker Verlag.
- Akgün, A. E., Byrne, J., Keskin, H., Lynn, G. S., & Imamoglu, S. Z. (2005). Knowledge networks in new product development projects: A transactive memory perspective. *Information & Management*, 42(8), 1105-1120.
- \*Akgün, A. E., Keskin, H., Byrne, J., & Imamoglu, S. Z. (2007). Antecedents and consequences of team potency in software development projects. *Information & Management, 44*(7), 646-656.
- \*Akgün, A. E., Lynn, G. S., Keskin, H., & Dogan, D. (2014). Team learning in IT implementation projects: Antecedents and consequences. *International Journal of Information Management*, 34(1), 37-47.
- Axelrod, R. (1987). The evolution of strategies in the iterated prisoner's dilemma. In L. Davis (Ed.), *Genetic Algorithms and Simulated Annealing* (pp. 32-41). London: Pitman.
- Balliet, D., & Van Lange, P. A. (2013). Trust, conflict, and cooperation: A meta-analysis. *Psychological Bulletin*, 139(5), 1090-1112.

- Bantel, K. A., & Jackson, S. E. (1989). Top management and innovations in banking: Does the demography of the top team make a difference? *Strategic Management Journal*, 10, 107-124.
- Barber, B. (1983). The logic and limits of trust. New Brunswick, NJ: Rutgers University Press.
- \*Barczak, G., Lassk, F., & Mulki, J. (2010). Antecedents of team creativity: An examination of team emotional intelligence, team trust and collaborative culture. *Creativity and Innovation Management*, 19(4), 332-345.
- Barrick, M. R., Stewart, G. L., Neubert, M. J., & Mount, M. K. (1998). Relating member ability and personality to work-team processes and team effectiveness. *Journal of Applied Psychology*, 83(3), 377-391.
- \*Brahm, T., & Kunze, F. (2012). The role of trust climate in virtual teams. *Journal of Managerial Psychology, 27*(6), 595-614.
- Bell, S. T. (2007). Deep-level composition variables as predictors of team performance: A metaanalysis. *Journal of Applied Psychology*, *92*(3), 595-615.
- Bell, S. T., Villado, A. J., Lukasik, M. A., Belau, L., & Briggs, A. L. (2011). Getting specific about demographic diversity variable and team performance relationships: A metaanalysis. *Journal of Management*, 37(3), 709-743.
- Bergman, J. Z., Small, E. E., Bergman, S. M., & Rentsch, J. R. (2010). Asymmetry in perceptions of trustworthiness: It's not you; it's me. *Negotiation and Conflict Management Research*, 3(4), 379-399.
- \*Bijlsma-Frankema, K., De Jong, B., & Van de Bunt, G. (2008). Heed, a missing link between trust, monitoring and performance in knowledge intensive teams. *The International Journal of Human Resource Management, 19*(1), 19–40.

\*Blatt, R. (2009). *Developing relational capital in team-based new ventures* (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses A&I (304573459).

Blau, P. M. (1964). Justice in social exchange. Sociological Inquiry, 34(2), 193-206.

- Blau, P. M. (1977). Inequality and heterogeneity: A primitive theory of social structure (Vol. 7). New York: Free Press.
- Boehm, S. A., Kunze, F., & Bruch, H. (2014). Spotlight on age-diversity climate: The impact of age-inclusive HR practices on firm-level outcomes. *Personnel Psychology*, 67(3), 667-704.
- \*Boies, K., Lvina, E., & Martens, M. L. (2010). Shared leadership and team performance in a business strategy simulation. *Journal of Personnel Psychology*, *9*(4), 195–202.
- Bowers, C. A., Pharmer, J. A., & Salas, E. (2000). When member homogeneity is needed in work teams a meta-analysis. *Small Group Research*, *31*(3), 305-327.
- \*Braun, S., Peus, C., Weisweiler, S., & Frey, D. (2013). Transformational leadership, job satisfaction, and team performance: A multilevel mediation model of trust. *The Leadership Quarterly*, *24*(1), 270-283.
- \*Bresnahan, C. G. (2009). Attachment style as a predictor of group conflict, post-conflict relationship repair, trust and leadership style (Doctoral dissertation) Retrieved from ProQuest Dissertations & Theses A&I (3325094).
- Brett, J., Behfar, K., & Kern, M. C. (2006). Managing multicultural teams. *Harvard Business Review*, 84(11), 85-97.
- Burke, C. S., Sims, D. E., Lazzara, E. H., & Salas, E. (2007). Trust in leadership: A multi-level review and integration. *The Leadership Quarterly*, 18(6), 606-632.

- Butler Jr, J. K., & Cantrell, R. S. (1984). A behavioral decision theory approach to modeling dyadic trust in superiors and subordinates. *Psychological Reports*, *55*(1), 19-28.
- Byrne, B. M. (2001). Structural equation modeling with AMOS, EQS, and LISREL:Comparative approaches to testing for the factorial validity of a measuring instrument.*International Journal of Testing*, *1*(1), 55-86.

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

- Cadiz, D., Sawyer, J. E., & Griffith, T. L. (2009). Developing and validating field measurement scales for absorptive capacity and experienced community of practice. *Educational and Psychological Measurement.* 69(6), 1035-1058.
- \*Camelo-Ordaz, C., García-Cruz, J., & Sousa-Ginel, E. (2014). Antecedents of relationship conflict in top management teams. *International Journal of Conflict Management*, 25(2), 124-147.
- Cannon-Bowers, J. A., & Bowers, C. (2011). Team development and functioning. In Zedeck, S. (Ed.), *APA handbook of industrial and organizational psychology, Vol 1: Building and developing the organization* (pp. 597-650). Washington, DC, US: American Psychological Association.
- \*Carmeli, A., Tishler, A., & Edmondson, A. C. (2012). CEO relational leadership and strategic decision quality in top management teams: The role of team trust and learning from failure. *Strategic Organization*, 10(1), 31-54.
- Carpenter, M. A. (2002). The implications of strategy and social context for the relationship between top management team heterogeneity and firm performance. *Strategic Management Journal*, 23(3), 275-284.

- Cascio, W.F., & Aguinis, H. (2005). *Applied psychology in human resource management* (6th ed.). Upper Saddle River, NJ: Person Education, Inc.
- 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(2), 234-246.
- \*Chang, J. W., Sy, T., & Choi, J. N. (2012). Team emotional intelligence and performance: Interactive dynamics between leaders and members. *Small Group Research*, *43*, 75-104
- Chatman, J. A., & Flynn, F. J. (2001). The influence of demographic heterogeneity on the emergence and consequences of cooperative norms in work teams. *Academy of Management Journal*, 44(5), 956-974.
- Chatman, J. A., Polzer, J. T., Barsade, S. G., & Neale, M. A. (1998). Being different yet feeling similar: The influence of demographic composition and organizational culture on work processes and outcomes. *Administrative Science Quarterly*, 43(4), 749-780.
- Chattopadhyay, P. (1999). Beyond direct and symmetrical effects: The influence of demographic dissimilarity on organizational citizenship behavior. *Academy of Management Journal*, 42(3), 273-287.
- \*Chen, C., Wu, J., & Hayashi, A. (2006). Importance of diversified leadership roles in improving team effectiveness in a virtual collaboration learning environment. *Educational Technology & Society*, 11(1), 304-321.
- \*Chen, M. H., Chang, Y. C., & Hung, S. C. (2008). Social capital and creativity in R&D project teams. *R&D Management*, *38*(1), 21-34.

- \*Chen, M. H., & Wang, M. C. (2008). Social networks and a new venture's innovative capability: the role of trust within entrepreneurial teams. *R&D Management*, 38(3), 253-264.
- \*Chen, T. R. (2014). *Team composition, emergent states, and shared leadership emergence on project teams: A longitudinal study* (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses A&I (1651237390).
- Cheng, C. Y., Chua, R. Y., Morris, M. W., & Lee, L. (2012). Finding the right mix: How the composition of self managing multicultural teams' cultural value orientation influences performance over time. *Journal of Organizational Behavior*, 33(3), 389-411.
- \*Chieh, L. Y., & FengChia, L. (2012). Exploration of social capital and knowledge sharing: An empirical study on student virtual teams. *International Journal of Distance Education Technologies*, 10(2), 17-38.
- \*Choi, K., & Cho, B. (2011). Competing hypotheses analyses of the associations between group task conflict and group relationship conflict. *Journal of Organizational Behavior*, 32(8), 1106-1126.
- \*Chou, H. W., Lin, Y. H., Chang, H. H., & Chuang, W. W. (2013). Transformational leadership and team performance: The mediating roles of cognitive trust and collective efficacy. *SAGE Open*, *3*(3), 1-10.
- Chowdhury, S. (2005). Demographic diversity for building an effective entrepreneurial team: is it important? *Journal of Business Venturing*, 20(6), 727-746.
- \*Chuang, W. W., Chou, H. W., & Yeh, Y. J. (2004). The impacts of trust, leadership and collective efficacy on cross-functional team performance. *In Proceedings of the Second*

*Workshop on Knowledge Economy and Electronic Commerce*. Retrieved from: http://moe.ecrc.nsysu.edu.tw/English/workshopE/2004/33.pdf

- \*Chung, Y., & Jackson, S. E. (2013). The internal and external networks of knowledge-intensive teams: The role of task routineness. *Journal of Management*, *39*(2), 442-468.
- \*Cogliser, C. C., Gardner, W. L., Gavin, M. B., & Broberg, J. C. (2012). Big five personality factors and leader emergence in virtual teams relationships with team trustworthiness, member performance contributions, and team performance. *Group & Organization Management*, 37(6), 752-784.
- Coleman, J. S. (1988). Social capital in the creation of human capital. *American Journal of Sociology*, S95-S120.
- Colquitt, J. A., LePine, J. A., Piccolo, R. F., Zapata, C. P., & Rich, B. L. (2012). Explaining the justice–performance relationship: Trust as exchange deepener or trust as uncertainty reducer? *Journal of Applied Psychology*, 97(1), 1-15.
- Colquitt, J. A., Scott, B. A., & LePine, J. A. (2007). Trust, trustworthiness, and trust propensity: A meta-analytic test of their unique relationships with risk taking and job performance. *Journal of Applied Psychology*, *92*(4), 909-927.
- Colquitt, J.A., Conlon, D.E., Wesson, M.J., Porter, C., Ng, K.Y. (2001). Justice at the millennium: A meta analytic review of 25 years of organizational justice research. *Journal of Applied Psychology*, 86(3), 425-445.
- Cook, J., & Wall, T. (1980). New work attitude measures of trust, organizational commitment and personal need non-fulfilment. *Journal of Occupational Psychology*, *53*(1), 39-52.

Costa, A. C. (2003). Work team trust and effectiveness. Personnel Review, 32(5), 605-622.

- Costa, A. C., & Anderson, N. (2011). Measuring trust in teams: Development and validation of a multifaceted measure of formative and reflective indicators of team trust. *European Journal of Work and Organizational Psychology*, 20(1), 119-154.
- \*Costa, A. C., Roe, R. A., & Taillieu, T. (2001) Trust within teams: The relation with performance effectiveness. *European Journal of Work and Organizational Psychology*, *10*(3), 225–244.
- Costa, P. T., & McCrae, R. R. (1985). *Manual for the NEO personality inventory* (pp. 323-339). Odessa, FL: Psychological Assessment Resources.
- \*Costa, A. C., Bijlsma-Frankema, K., & de Jong, B. (2009). The role of social capital on trust development and dynamics: implications for cooperation, monitoring and team performance. *Social Science Information*, *48*(2), 199-228.
- \*Crisp, C. B., & Jarvenpaa, S. L. (2013). Swift trust in global virtual teams: Trusting beliefs and normative actions. *Journal of Personnel Psychology*, *12*(1), 45-56.
- Cronin, M. A., & Weingart, L. R. (2007). Representational gaps, information processing, and conflict in functionally diverse teams. *Academy of Management Review*, *32*(3), 761-773.
- Cropanzano, R., & Mitchell, M. S. (2005). Social exchange theory: An interdisciplinary review. *Journal of Management*, *31*(6), 874-900.
- \*Curşeu, P. L., & Schruijer, S. G. (2010). Does conflict shatter trust or does trust obliterate conflict? Revisiting the relationships between team diversity, conflict, and trust. *Group Dynamics: Theory, Research, and Practice*, *14*(1), 66-79.
- Dabos, G. E., & Rousseau, D. M. (2004). Mutuality and reciprocity in the psychological contracts of employees and employers. *Journal of Applied Psychology*, *89*(1), 52-72.

- Daft, R. L., & Lengel, R. H. (1986). Organizational information requirements, media richness and structural design. *Management Science*, *32*(5), 554-571.
- Dahlin, K. B., Weingart, L. R., & Hinds, P. J. (2005). Team diversity and information use. *Academy of Management Journal, 48*(6), 1107-1123.
- \*Danganan, N. B. (2001). *The relationship between the developmental profile of a student affairs management team and its effectiveness productivity* (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses A&I (251774284).
- Davis, J. H., Schoorman, F. D., Mayer, R. C., & Hwee Hoon, T. (2000). The trusted general manager and business unit performance: Empirical evidence of a competitive. *Strategic Management Journal*, 21(5), 563-576.
- Dayan, M., & Di Benedetto, C. A. (2010). The impact of structural and contextual factors on trust formation in product development teams. *Industrial Marketing Management*, 39(4), 691-703.
- \*Dayan, M., Elbanna, S., & Di Benedetto, A. (2012). Antecedents and consequences of political behavior in new product development teams. *IEEE Transactions on Engineering Management*, 59(3), 470-482.
- De Dreu, C. K., & Weingart, L. R. (2003). Task versus relationship conflict, team performance, and team member satisfaction: A meta-analysis. *Journal of Applied Psychology*, 88(4), 741-749.
- \*De Jong, B. A., & Dirks, K. T. (2012). Beyond shared perceptions of trust and monitoring in teams: implications of asymmetry and dissensus. *Journal of Applied Psychology*, 97(2), 391-406.

- \*De Jong, B. A., & Elfring, T. (2010). How does trust affect the performance of ongoing teams? The mediating role of reflexivity, monitoring, and effort. *Academy of Management Journal*, *53*(3), 535-549.
- De Wit, F. R. C., Greer, L. L., & Jehn, K. A. (2012). The paradox of intergroup conflict: A metaanalysis. *Journal of Applied Psychology*, 97(2), 360-390.
- DeChurch, L. A., & Mesmer-Magnus, J. R. (2010). The cognitive underpinnings of effective teamwork: A meta-analysis. *Journal of Applied Psychology*, *95*(1), 32-53.
- \*DeLuca, J. R. (1981). Adaptive learning and project team effectiveness: A test of an *intervention* (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses A&I (303180624).
- \*Dirks, K. T. (1999). The effects of interpersonal trust on work group performance. *Journal of Applied Psychology*, *84*(3), 445-455.
- \*Dirks, K. T. (2000). Trust in leadership and team performance: Evidence from NCAA basketball. *Journal of Applied Psychology*, *85*(6), 1004-1012.
- Dirks, K. T., & Ferrin, D. L. (2002). Trust in leadership: Meta-analytic findings and implications for research and practice. *Journal of Applied Psychology*, 87(4), 611-628.
- \*Dooley, R. S. (1996). The effect of top management team trust on the relationship among top management team heterogeneity, collaborative decision-making processes, and strategic decision-making outcomes (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses A&I (304272515).
- Dovidio, J. F., Gaertner, S. L., & Kawakami, K. (2003). Intergroup contact: The past, present, and the future. *Group Processes & Intergroup Relations*, 6(1), 5-21.

- Drescher, M. A., Korsgaard, M. A., Welpe, I. M., Picot, A., & Wigand, R. T. (2014). The dynamics of shared leadership: Building trust and enhancing performance. *Journal of Applied Psychology*, *99*(5), 771-783.
- Driskell, J. E., Goodwin, G. F., Salas, E., & O'Shea, P. G. (2006). What makes a good team player? Personality and team effectiveness. *Group Dynamics: Theory, Research, and Practice, 10*(4), 249-271.
- Driskell, J. E., Hogan, R., & Salas, E. (1987). Personality and group performance. In C.
  Hendrick (Ed.), *Group processes and intergroup relations: Review of personality and* social psychology (Vol. 9, pp. 91–112). Newbury Park, CA: Sage
- \*Druskat, V. U., & Pescosolido, A. T. (2006). The impact of emergent leader's emotionally competent behavior on team trust, communication, engagement, and effectiveness. *Research on Emotion in Organizations, 2*, 25-55.
- Duval, S., & Tweedie, R. (2000). Trim and fill: a simple funnel-plot–based method of testing and adjusting for publication bias in meta-analysis. *Biometrics*, *56*(2), 455-463.
- Eagly, A. H., & Chaiken, S. (1993). *The psychology of attitudes*. Fort Worth, TX: Harcourt Brace Jovanovich.
- Earl, T. R., Saha, S., Lombe, M., Korthuis, P. T., Sharp, V., Cohn, J., ... & Beach, M. C. (2013).
   Race, relationships, and trust in providers among black patients with HIV/AIDS. *Social Work Research*, 37(3), 219-226.
- Earle, T. C., & Siegrist, M. (2006). Morality information, performance information, and the distinction between trust and confidence. *Journal of Applied Social Psychology*, 36(2), 383-416.

- \*Edinger, S. K. (2012). Transferring social capital from individual to team: An examination of moderators and relationships to innovative performance (Doctoral dissertation).
   Retrieved from ProQuest Dissertations & Theses A&I (1179028221).
- Eigel, K. M., & Kuhnert, K. W. (1996). Personality diversity and its relationship to managerial team productivity. In M. N. Ruderman, M. W. Hughes-James, & S. E. Jackson (Eds.), *Selected research on work team diversity* (pp. 75-98). Washington, DC: American Psychological Association.
- English, A., Griffith, R. L., & Steelman, L. A. (2004). Team performance: The effect of team conscientiousness and task type. *Small Group Research*, *35*(6), 643-665.
- \*Erdem, F., & Ozen, J. (2003). Cognitive and affective dimensions of trust in developing team performance. *Team Performance Management: An International Journal*, 9(5/6), 131-135.
- Ferdman, B. M., & Sagiv, L. (2012). Diversity in organizations and cross-cultural work psychology: What if they were more connected? *Industrial and Organizational Psychology*, 5(3), 323-345.
- Fishbein, M., & Ajzen, I. (1974). Attitudes towards objects as predictors of single and multiple behavioral criteria. *Psychological Review*, 81(1), 59-74.
- Fisher, D. M., Bell, S. T., Dierdorff, E. C., & Belohlav, J. A. (2012). Facet personality and surface-level diversity as team mental model antecedents: implications for implicit coordination. *Journal of Applied Psychology*, 97(4), 825-841.
- Fiske, S. T., & Neuberg, S. L. (1990). A continuum of impression formation, from categorybased to individuating processes: Influences of information and motivation on attention

and interpretation. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 23, pp. 1-74). San Diego, CA: Academic Press.

- \*Friedlander, F. (1966). Performance and interactional dimensions of organizational work groups. *Journal of Applied Psychology*, *50*(3), 257-265.
- \*Fulmer, C. A. (2012). *Getting on the same page: How leaders build trust consensus in teams and its consequences* (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses A&I (1346683560).
- Fulmer, C. A., & Gelfand, M. J. (2012). At what level (and in whom) we trust: trust across multiple organizational levels. *Journal of Management*, 38(4), 1167-1230.
- Gaertner, S. L., Mann, J., Murrell, A., & Dovidio, J. F. (1989). Reducing intergroup bias: The benefits of recategorization. *Journal of Personality and Social Psychology*, 57(2), 239-249.
- Garrison, G., Wakefield, R. L., Xu, X., & Kim, S. H. (2010). Globally distributed teams: The effect of diversity on trust, cohesion and individual performance. ACM SIGMIS Database, 41(3), 27-48.
- Gellert, F. J., & Kuipers, B. S. (2008). Short- and long-term consequences of age in work teams: An empirical exploration of ageing teams. *Career development international*, 13(2), 132-149.
- George, E., & Chattopadhyay, P. (2005). One foot in each camp: The dual identification of contract workers. *Administrative Science Quarterly*, *50*(1), 68-99.
- Gibson, L. L., Maynard, M. T., Young, N. C. J., Vartiainen, M., & Hakonen, M. (2015). Virtual teams research: 10 years, 10 themes, and 10 opportunities. *Journal of Management*, 41(5), 1313-1337.

- Gillespie, N. (2003). Measuring trust in working relationships: The behavioral trust inventory. *Proceedings of the Academy of Management Conference*. Seattle, WA.
- Gillespie, N. A., & Mann, L. (2004). Transformational leadership and shared values: The building blocks of trust. *Journal of Managerial Psychology*, *19*(6), 588-607.
- Gladstein, D.L. (1984). Groups in context: A model of task group effectiveness. *Administrative Science Quarterly*, 29(4), 499-517.
- \*Greer, L., Jehn, K. A., Thatcher, S., & Mannix, E. A. (2007). The effect of trust on conflict and performance in groups split by demographic faultlines. In IACM 2007 Meetings Paper. Retrieved from: http://papers.ssrn.com/sol3/papers.cfm?abstract\_id=1100580
- \*Gupta, V. K., Huang, R., & Yayla, A. A. (2011). Social capital, collective transformational leadership, and performance: A resource-based view of self-managed teams. *Journal of Managerial Issues*, 23(1), 31.
- Hackman, J. R. (1987). The design of work teams. In J. W. Lorach (Ed.), *Handbook of organizational behavior* (pp. 315-342). Englewood Cliffs, NJ: Prentice Hall.
- \*Hakonen, M., & Lipponen, J. (2009). It takes two to tango: The close interplay between trust and identification in predicting virtual team effectiveness. *The Journal of eWorking*, 3(1), 17-32.
- Hansen, M. H., Morrow, J. L., & Batista, J. C. (2002). The impact of trust on cooperative membership retention, performance, and satisfaction: an exploratory study. *The International Food and Agribusiness Management Review*, 5(1), 41-59.
- Harrison, D. A., Price, K. H., & Bell, M. P. (1998). Beyond relational demography: Time and the effects of surface-and deep-level diversity on work group cohesion. *Academy of Management Journal*, 41(1), 96-107.

- 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(5), 1029-1045.
- \*Harvey, D. L. (2010). A team process and emergent states approach to understanding team conflict and outcomes (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses A&I (816892149).
- Haythorn, W. W. (1968). The composition of groups: A review of the literature. *Acta Psychologica*, *28*, 97-128.
- \*Hempel, P. S., Zhang, Z.-X., & Tjosvold, D. (2009). Conflict management between and within teams for trusting relationships and performance in China. *Journal of Organizational Behavior, 30*(1), 41–65.
- \*Herndon, B. D. (2009). When can it be said, "you are what you know"? A multilevel analysis of expertise, identity, and knowledge sharing in teams (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses A&I (305022172).
- Hoffman, L. R. (1959). Homogeneity of member personality and its effect on group problemsolving. *The Journal of Abnormal and Social Psychology*, *58*(1), 27-32.
- Hofstede, G. (1984). Cultural dimensions in management and planning. *Asia Pacific Journal of Management, 1*(2), 81-99.
- Hogg, M. A., & Terry, D. I. (2000). Social identity and self-categorization processes in organizational contexts. *Academy of Management Review*, 25(1), 121-140.
- Hogg, M. A., & Williams, K. D. (2000). From I to we: Social identity and the collective self. *Group Dynamics: Theory, Research, and Practice*, *4*(1), 81-97.

- Homans, G. C. (1961). The humanities and the social sciences. *American Behavioral Scientist*, 4(8), 3-6.
- 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*(6), 987-1015.
- \*Hu, J. (2013). A team-level social exchange model: The antecedents and consequences of leader-team exchange (Doctoral Dissertation). Retrieved from ProQuest Dissertations & Theses A&I (2013-99210-087).
- Hu, L., & Bentler, P. M. (1995). Evaluating model fit. In R. H. Hoyle (Ed.), *Structural equation modeling: Concepts, issues, and applications* (pp. 76-99). Thousand Oaks, CA, US: Sage Publications, Inc.
- \*Huansuriya, T. (2014). *From trust to group efficacy: The moderating effect of culture* (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses A&I (1526005719).
- \*Huang, C. (2009). Knowledge sharing and group cohesiveness on performance: An empirical study of technology R&D teams in Taiwan. *Technovation*, *29*(11), 786-797.
- Hubbell, A. P., & Medved, C. E. (2001). Measuring trustworthy organizational behaviors: A review of the literature and scale validation. *Paper presented at the International Communication Association Annual Conference*. Washington, DC.
- Hunter, J. E., & Schmidt, F. L. (2004). Methods of meta-analysis: Correcting error and bias in research findings (2nd ed.). Thousand Oaks, CA: Sage Publications, Inc.
- Hurley, R. F. (2006). The decision to trust. Harvard Business Review, 84(9), 55-62.
- Ilgen, D. R., Hollenbeck, J. R., Johnson, M., & Jundt, D. (2005). Teams in organizations: From input-process-output models to IMOI models. *Annual Review Psychology*, 56, 517-543.

- Jackson, J. W. (2012). Reactions to a social dilemma as a function of intragroup interactions and group performance. *Group Processes & Intergroup Relations*, *15*(4), 559-574.
- Jackson, J. W., & Smith, E. R. (1999). Conceptualizing social identity: A new framework and evidence for the impact of different dimensions. *Personality and Social Psychology Bulletin*, 25(1), 120-135.
- Jackson, S. E., & Joshi, A. (2011). Work team diversity. In S. Zedeck (Ed.), APA handbook of industrial and organizational psychology: Building and developing the organization (pp. 651-686). Washington, DC, US: American Psychological Association.
- Jackson, S. E., Joshi, A., & Erhardt, N. L. (2003). Recent research on team and organizational diversity: SWOT analysis and implications. *Journal of Management*, 29(6), 801-830.
- Janmaat, J. G. (2015). School ethnic diversity and White students' civic attitudes in England. *Social Science Research*, 49, 97-109.
- Jarvenpaa, S. L., Knoll, K., & Leidner, D. E. (1998). Is anybody out there? Antecedents of trust in global virtual teams. *Journal of Management Information Systems*, *14*(4), 29-64.
- \*Jarvenpaa, S. L., Shaw, T. R., & Staples, D. S. (2004). Toward contextualized theories of trust: The role of trust in global virtual teams. *Information Systems Research*, *15*(3), 250-267.
- Jehn, K. A., Chadwick, C., & Thatcher, S. M. (1997). To agree or not to agree: The effects of value congruence, individual demographic dissimilarity, and conflict on workgroup outcomes. *International Journal of Conflict Management*, 8(4), 287-305.
- 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(2), 238-251.

- Jehn, K. A., Northcraft, G. B., & Neale, M. A. (1999). Why differences make a difference: A field study of diversity, conflict and performance in workgroups. *Administrative Science Quarterly*, 44(4), 741-763.
- Jiang, C. X., Chua, R. Y., Kotabe, M., & Murray, J. Y. (2011). Effects of cultural ethnicity, firm size, and firm age on senior executives' trust in their overseas business partners: Evidence from China. *Journal of International Business Studies*, 42(9), 1150-1173.
- Johnson, R. E., Rosen, C. C., & Chang, C. H. (2011). To aggregate or not to aggregate: Steps for developing and validating higher-order multidimensional constructs. *Journal of Business* and Psychology, 26(3), 241-248.
- Jones, G. R., & George, J. M. (1998). The experience and evolution of trust: Implications for cooperation and teamwork. *Academy of Management Review*, *23*(3), 531-546.
- Jöreskog, K. G., & Sörbom, D. (2005). *LISREL 8.7 for Windows*. Retrieved from: http://www.ssicentral.com/lisrel.
- \*Joshi, A., Lazarova, M. B., & Liao, H. (2009). Getting everyone on board: The role of inspirational leadership in geographically dispersed teams. *Organization science*, 20(1), 240-252.
- Judge, T. A., & Bono, J. E. (2000). Five-factor model of personality and transformational leadership. *Journal of Applied Psychology*, 85(5), 751-765.
- Judge, T. A., Thoresen, C. J., Bono, J. E., & Patton, G. K. (2001). The job satisfaction–job performance relationship: A qualitative and quantitative review. *Psychological Bulletin*, *127*(3), 376.

- Kahane, L., Longley, N., & Simmons, R. (2013). The effects of coworker heterogeneity on firm-level output: Assessing the impacts of cultural and language diversity in the National Hockey League. *Review of Economics and Statistics*, 95(1), 302-314.
- \*Kanawattanachai, P. (2002). Formation and development of socially shared cognition and its impact on performance of virtual teams over time (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses A&I. (276543210).
- Kanawattanachai, P., & Yoo, Y. (2007). Dynamic nature of trust in virtual teams. *The Journal of Strategic Information Systems*, *11*(3), 187-213.
- Kane, A. A., Argote, L., & Levine, J. M. (2005). Knowledge transfer between groups via personnel rotation: Effects of social identity and knowledge quality. *Organizational Behavior and Human Decision Processes*, 96(1), 56-71.
- Kearney, E., Gebert, D., & Voelpel, S. C. (2009). When and how diversity benefits teams: The importance of team members' need for cognition. *Academy of Management Journal*, 52(3), 581-598.
- Kenny, D. A., & Garcia, R. L. (2012). Using the actor–partner interdependence model to study the effects of group composition. *Small Group Research*, *43*(4), 468-496.
- Kenny, D. A., Kashy, D. A., & Cook, W. L. (2006). *Dyadic data analysis*. New York, NY, US: Guilford Press.
- \*Khan, M. S., Breitenecker, R. J., & Schwarz, E. J. (2014). Entrepreneurial team locus of control: Diversity and trust. *Management Decision*, 52(6), 1057-1081.
- Kirkman, B. L., & Mathieu, J. E. (2005). The dimensions and antecedents of team virtuality. *Journal of Management*, *31*(5), 700-718.

- Kirkman, B. L., & Shapiro, D. L. (1997). The impact of cultural values on employee resistance to teams: Toward a model of globalized self-managing work team effectiveness. *Academy of Management Review*, 22(3), 730-757.
- \*Kirkman, B. L., Rosen, B., Tesluk, P. E., & Gibson, C. B. (2006). Enhancing the transfer of computer-assisted training proficiency in geographically distributed teams. *Journal of Applied Psychology*, 91(3), 706-716.
- Klein, K. J., & Kozlowski, S. W. (2000). From micro to meso: Critical steps in conceptualizing and conducting multilevel research. *Organizational Research Methods*, *3*(3), 211-236.
- Klein, K. J., Dansereau, F., & Hall, R. J. (1994). Levels issues in theory development, data collection, and analysis. *Academy of Management Review*, *19*(2), 195-229.
- Korsgaard, M. A., Schweiger, D. M., & Sapienza, H. J. (1995). Building commitment, attachment, and trust in strategic decision-making teams: The role of procedural justice. *Academy of Management Journal*, 38(1), 60-84.
- Kozlowski, S. W. J., & Klein, K. J. (2000). A multilevel approach to theory and research in organizations: Contextual, temporal, and emergent processes. In K. J. Klein & S. W. J. Kozlowski (Eds.), *Multilevel theory, research, and methods in organizations: Foundations, extensions, and new directions* (pp. 3-90). San Francisco: Jossey-Bass.
- Kozlowski, S. W. J., Gully, S. M., Nason, E. R., & Smith, E. M. (1999). Team compilation:
  Development, performance, and effectiveness across levels and time. In Pulakos (Eds.), *The changing nature of work and performance: Implications for staffing, motivation, and development* (pp. 240-292). Jossey-Bass: San Francisco.

- Kramer, A., Bhave, D. P., & Johnson, T. D. (2014). Personality and group performance: The importance of personality composition and work tasks. *Personality and Individual Differences*, 58, 132-137.
- Kramer, R. M. (1991). Intergroup relations and organizational dilemmas-The role of categorization processes. *Research in Organizational Behavior, 13*, 191-228.
- Kramer, R. M. (1999). Trust and distrust in organizations: Emerging perspectives, enduring questions. *Annual Review of Psychology*, *50*(1), 569-598.
- \*Krebs, S. A., Hobman, E. V., & Bordia, P. (2006). Virtual teams and group member dissimilarity: Consequences for the development of trust. *Small Group Research*, 37(6), 721-741.
- Kristof-Brown, A., Barrick, M. R., & Stevens, C. K. (2005). When opposites attract: a multisample demonstration of complementary person-team fit on extraversion. *Journal of Personality*, 73(4), 935-958.
- Kuo, F. Y., & Yu, C. P. (2009). An exploratory study of trust dynamics in work-oriented virtual teams. *Journal of Computer-Mediated Communication*, 14(4), 823-854.
- Lambert, L. S. (2011). Promised and delivered inducements and contributions: an integrated view of psychological contract appraisal. *Journal of Applied Psychology*, *96*(4), 695.
- \*Langfred, C. W. (2004). Too much of a good thing? Negative effects of high trust and individual autonomy in self-managing teams. *Academy of Management Journal*, 47(3), 385–399.
- \*Langfred, C. W. (2007). The downside of self-management: A longitudinal study of the effects of conflict on trust, autonomy, and task interdependence in self-managing teams. *Academy of Management Journal, 50*(4), 885-900.

- Lau, D. C., & Murnighan, J. K. (1998). Demographic diversity and faultlines: The compositional dynamics of organizational groups. *Academy of Management Review*, 23(2), 325-340.
- Lau, D. C., & Murnighan, J. K. (2005). Interactions within groups and subgroups: The effects of demographic faultlines. *Academy of Management Journal*, 48(4), 645-659.
- Lau, R. S., & Cobb, A. T. (2010). Understanding the connections between relationship conflict and performance: The intervening roles of trust and exchange. *Journal of Organizational Behavior*, 31(6), 898-917.
- \*Lee, D. (2005). *Collective efficacy formation: A field study in China* (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses A&I (305396450).
- \*Lee, P., Gillespie, N., Mann, L., & Wearing, A. (2010). Leadership and trust: Their effect on knowledge sharing and team performance. *Management Learning*, *41*(4), 473-491.
- \*Leslie, L. M. (2007). *Putting differences in context: Incorporating the role of status and cooperation into work unit ethnic composition research* (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses A&I (304854819).
- Levine, J. M., & Moreland, R. L. (1998). Small groups. In D. T. Gilbert, S. T. Fiske, & G.
  Lindzey (Eds.), *The handbook of social psychology* (4th ed., Vol. 2, pp. 415–469).
  Boston, MA: McGraw-Hill.
- Lewicki, R. J., & Bunker, B. B. (1995). Trust in relationships: A model of development and decline. In B. B. Bunker, J. Z. Rubin (Eds.), *Conflict, cooperation, and justice: Essays inspired by the work of Morton Deutsch* (pp. 133-173). San Francisco, CA, US: Jossey-Bass.
- Lewicki, R. J., McAllister, D. J., & Bies, R. J. (1998). Trust and distrust: New relationships and realities. *Academy of Management Review*, *23*(3), 438-458.
- Lewicki, R. J., Tomlinson, E. C., & Gillespie, N. (2006). Models of interpersonal trust development: Theoretical approaches, empirical evidence, and future directions. *Journal* of Management, 32(6), 991-1022.
- Lewicki, R. J., Wiethoff, C., & Tomlinson, E. C. (2005). What is the role of trust in organizational justice?. In J. Greenberg, J. A. Colquitt (Eds.), *Handbook of organizational justice* (pp. 247-270). Mahwah, NJ, US: Lawrence Erlbaum Associates Publishers.
- Lewis, K. (2003). Measuring transactive memory systems in the field: scale development and validation. *Journal of Applied Psychology*, *88*(4), 587-604.
- \*Li, C. (2013). How top management team diversity fosters organizational ambidexterity: The role of social capital among top executives. *Journal of Organizational Change Management, 26*(5), 874-896.
- \*Liu, D., Hernandez, M., & Wang, L. (2014). The role of leadership and trust in creating structural patterns of team procedural justice: A social network investigation. *Personnel Psychology*, 67(4), 801-845.
- Locke, E.A. (1976). The nature and causes of job satisfaction. In M.D. Dunnette (Ed.), *Handbook of industrial and organizational psychology* (pp. 1297-1343). Chicago, US: Rand McNally.
- \*MacCurtain, S., Flood, P. C., Ramamoorthy, N., West, M. A., & Dawson, J. F. (2008). Top team trust, knowledge sharing and innovation. *LINK Research Centre Working Paper Series*. Retrieved from: http://doras.dcu.ie/2420/1/wp0508.pdf

- \*Mach, M., Dolan, S., & Tzafrir, S. (2010). The differential effect of team members' trust on team performance: The mediation role of team cohesion. *Journal of Occupational and Organizational Psychology*, 83(3), 771-794.
- Makela, K., Kalla, H. K., & Piekkari, R. (2007). Interpersonal similarity as a driver of knowledge sharing within multinational corporations. *International Business Review*, 16(1), 1-22.
- Malhotra, A., Majchrzak, A., & Rosen, B. (2007). Leading virtual teams. *The Academy of Management Perspectives*, 21(1), 60-70.
- Mannix, E., & Neale, M. A. (2005). What differences make a difference? The promise and reality of diverse teams in organizations. *Psychological Science in the Public Interest*, 6(2), 31-55.
- Matzler, K., Renzl, B., Müller, J., Herting, S., & Mooradian, T. A. (2008). Personality traits and knowledge sharing. *Journal of Economic Psychology*, *29*(3), 301-313.
- \*Maurer, I. (2010). How to build trust in inter-organizational projects: The impact of project staffing and project rewards on the formation of trust, knowledge acquisition and product innovation. *International Journal of Project Management, 28*(7), 629-637.
- Mayer, R. C., & Gavin, M. B. (2005). Trust in management and performance: Who minds the shop while the employees watch the boss? *Academy of Management Journal*, 48(5), 874-888.
- Mayer, R. C., Davis, J. H., & Schoorman, F. D. (1995). An integrative model of organizational trust. *Academy of Management Review*, *20*(3), 709-734.
- McAllister, D. J. (1995). Affect-and cognition-based trust as foundations for interpersonal cooperation in organizations. *Academy of Management Journal*, *38*(1), 24-59.

- McCroskey, J. C., & Teven, J. J. (1999). Goodwill: A reexamination of the construct and its measurement. *Communications Monographs*, *66*(1), 90-103.
- McGrath, J. E. (1964). *Social psychology: A brief introduction*. Austin, TX, US: Holt, Rinehart and Winston.
- McGrath, J. E., & Tschan, F. (2007). Temporal matters in the study of work groups in organizations. *Psychologist Manager Journal*, *10*(1), 3–12
- McKnight, D., Cummings, L. L., & Chervany, N. L. (1998). Initial trust formation in new organizational relationships. *Academy of Management Review*, *23*(3), 473-490.
- McPherson, M., Smith-Lovin, L., & Cook, J. M. (2001). Birds of a feather: Homophily in social networks. *Annual Review of Sociology*, *27*, 415-444.
- Measom, C. (n.d.). The importance of trust within a team. *Houston Chronicle*. Retrieved from: http://work.chron.com/importance-trust-within-team-3940.html
- Mesmer-Magnus, J. R., & DeChurch, L. A. (2009). Information sharing and team performance: A meta-analysis. *Journal of Applied Psychology*, *94*(2), 535.

Mesmer-Magnus, J. R., DeChurch, L. A., Jimenez-Rodriguez, M., Wildman, J., & Shuffler, M.
 (2011). A meta-analytic investigation of virtuality and information sharing in teams.
 Organizational Behavior and Human Decision Processes, 115(2), 214-225.

- \*Ming-Huei, C., Yuan-Chieh, C., & Shih-Chang, H. (2008). Social capital and creativity in R&D project teams. *R&D Management*, 38(1), 21-34.
- Millar, C. C., & Choi, C. J. (2009). Networks, social norms and knowledge sub-networks. *Journal of Business Ethics*, 90(4), 565-574.

- Milliken, F. J., & Martins, L. L. (1996). Searching for common threads: Understanding the multiple effects of diversity in organizational groups. *Academy of Management Review*, 21(2), 402-433.
- Miner, A. G., Chernyshenko, O. S., & Stark, S. E. (2000, April). *A dynamic computational model of cue weighting during group discussion*. Paper presented at the 15th annual conference of the Society for Industrial and Organizational Psychology, New Orleans, LA.
- \*Mishra, A. K. (1992). Organizational responses to crisis: The role of mutual trust and top management teams (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses A&I (303997757).
- Miville, M. L., Constantine, M. G., Baysden, M. F., & So-Lloyd, G. (2005). Chameleon Changes: An exploration of racial identity themes of multiracial people. *Journal of Counseling Psychology*, 52(4), 507-516.
- \*Mockaitis, A. I., Rose, E. L., & Zettinig, P. (2009). The determinants of trust in multicultural global virtual teams. *In Academy of Management Proceedings*. Chicago, IL.
- Mohammed, S., & Angell, L. C. (2004). Surface-and deep-level diversity in workgroups: Examining the moderating effects of team orientation and team process on relationship conflict. *Journal of Organizational Behavior*, 25(8), 1015-1039.
- Moorman, C., Zaltman, G., & Deshpande, R. (1992). Relationships between providers and users of market research: The dynamics of trust. *Journal of Marketing Research, 29*(3), 314-328.
- Moon, H. (2001). The two faces of conscientiousness: Duty and achievement striving in escalation of commitment dilemmas. *Journal of Applied Psychology*, *86*(3), 533-540.

- Morris, S. A., Marshall, T. E., & Rainer Jr, R. K. (2002). Impact of user satisfaction and trust on virtual team members. *Information Resources Management Journal*, *15*(2), 22-30.
- Mount, M. K., Barrick, M. R., & Stewart, G. L. (1998). Five-Factor Model of personality and performance in jobs involving interpersonal interactions. *Human Performance*, 11(2-3), 145-165.
- \*Muethel, M., Siebdrat, F., & Hoegl, M. (2012). When do we really need interpersonal trust in globally dispersed new product development teams?. *R&D Management*, *42*(1), 31-46.
- \*Myers, K. K., & McPhee, R. D. (2006). Influences on member assimilation in workgroups in high-reliability organizations: A multilevel analysis. *Human Communication Research*, 32(4), 440-468.
- Nemeth, C. J., & Kwan, J. L. (1985). Originality of word associations as a function of majority vs. minority influence. *Social Psychology Quarterly*, *48*(3), 277-282.
- \*Niemitz, A. B. (1983). The impact of structured introductory exercises on discussion participation, trust, cooperation, and group productivity (Doctoral dissertation).
   Retrieved from ProQuest Dissertations & Theses A&I (303176629).

Nunnally, J.C. (1978). Psychometric Theory. New York, NY, US: McGrawHill.

- \*Palanski, M. E., Kahai, S. S., & Yammarino, F. J. (2011). Team virtues and performance: An examination of transparency, behavioral integrity, and trust. *Journal of Business Ethics*, 99(2), 201–216.
- \*Patel, N. B. (2012). *The effect of strategic core on psychological safety and trust relationships with team performance* (Masters thesis). Retrieved from ProQuest Dissertations & Theses A&I (1033781686).

- Parayitam, S., & Dooley, R. S. (2009). The interplay between cognitive- and affective conflict and cognition- and affect-based trust in influencing decision outcomes. *Journal of Business Research*, 62(8), 789-796.
- Pearsall, M. J., & Ellis, A. P. (2006). The effects of critical team member assertiveness on team performance and satisfaction. *Journal of Management*, *32*(4), 575-594.
- Peeters, M. G., Van Tuijl, H. M., Rutte, C. G., & Reymen, I. J. (2006). Personality and team performance: A meta-analysis. *European Journal of Personality*, 20(5), 377-396.
- 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), 1-28.
- Peñarroja, V., Orengo, V., Zornoza, A., & Hernández, A. (2013). The effects of virtuality level on task-related collaborative behaviors: The mediating role of team trust. *Computers in Human Behavior*, 29(3), 967-974.
- Penner, L. A., Harper, F. W. K., & Albrecht, T. L. (2011). The role of empathic emotions in caregiving: Caring for pediatric cancer patients. *Moving Beyond Self-Interest: Perspectives from Evolutionary Biology, Neuroscience, and the Social Sciences*, 166-177.
- Peters, L., & Karren, R. J. (2009). An examination of the roles of trust and functional diversity on virtual team performance ratings. *Group & Organization Management*, 34(4), 479-504.
- \*Peterson, R. S., & Behfar, K. J. (2003). The dynamic relationship between performance feedback, trust, and conflict in groups: A longitudinal study. *Organizational Behavior and Human Decision Processes*, 92(1-2), 102–112.

- \*Phillips, J. I. (1996). The effect of group resources and individual group processes on the use of minority knowledge and group decision-making outcomes (Doctoral dissertation).
   Retrieved from ProQuest Dissertations & Theses A&I (304254452).
- Phillips, K. W., Northcraft, G. B., & Neale, M. A. (2006). Surface-level diversity and decisionmaking in groups: When does deep-level similarity help? *Group Processes & Intergroup Relations*, 9(4), 467-482.
- \*Pinjani, P., & Palvia, P. (2013). Trust and knowledge sharing in diverse global virtual teams. *Information & Management*, *50*(4), 144-153.
- \*Pitariu, A. H. (2007). *Monitoring in teams* (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses A&I (304808703).
- \*Pitts, V. E. (2010). Towards a better understanding of virtual team effectiveness: An integration of trust (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses A&I (751000169).
- Podsakoff, P. M., MacKenzie, S. B., Moorman, R. H., & Fetter, R. (1990). Transformational leader behaviors and their effects on followers' trust in leader, satisfaction, and organizational citizenship behaviors. *The Leadership Quarterly*, 1(2), 107-142.
- \*Politis, J. D. (2003). The connection between trust and knowledge management: What are its implications for team performance. *Journal of Knowledge Management*, 7(5), 55-66.
- \*Polzer, J. T., Crisp, C. B., Jarvenpaa, S. L., & Kim, J. W. (2006). Extending the faultline model to geographically dispersed teams: How collocated subgroups can impair group functioning. *Academy of Management Journal*, 49(4), 679-692.
- Polzer, J. T., Milton, L. P., & Swarm, W. B. (2002). Capitalizing on diversity: Interpersonal congruence in small work groups. *Administrative Science Quarterly*, 47(2), 296-324.

- Ponterotto, J. G., Gretchen, D., Utsey, S. O., Stracuzzi, T., & Saya, R. (2003). The multigroup ethnic identity measure (MEIM): Psychometric review and further validity testing. *Educational and Psychological Measurement*, 63(3), 502-515.
- \*Porter, T. W., & Lilly, B. S. (1996). The effects of conflict, trust, and task commitment on project team performance. *International Journal of Conflict Management*, 7(4), 361-376.
- \*Prichard, J. S., & Ashleigh, M. J. (2007). The effects of team-skills training on transactive memory and performance. *Small Group Research*, *38*(6), 696-726.
- Pudelko, M., Tenzer, H., & Harzing, A. W. (2014). Cross-cultural management and language studies within international business research: Past and present paradigms and suggestions for future research. Retrieved from:

http://www.harzing.com/download/ccmls.pdf

- \*Purvanova, R. K. (2008). Linking personality judgment accuracy and the sense of feeling known to team effectiveness in face-to-face and virtual project teams: A longitudinal investigation (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses A&I (3343552)
- \*Qiu, T., & Peschek, B. S. (2012). The effect of interpersonal counterproductive workplace behaviors on the performance of new product development teams. *American Journal of Management*, 12(1), 21-33.
- Quintana, S. M., & Maxwell, S. E. (1999). Implications of recent developments in structural equation modeling for counseling psychology. *The Counseling Psychologist*, 27(4), 485-527.
- Racherla, P., Mandviwalla, M., & Connolly, D. J. (2012). Factors affecting consumers' trust in online product reviews. *Journal of Consumer Behaviour*, 11(2), 94-104.

- \*Rau, D. (2001). Knowing who knows what: The effect of transactive memory on the relationship between diversity of expertise and performance in top management teams (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses A&I (304703040).
- Rico, R., Molleman, E., Sánchez-Manzanares, M., & Van der Vegt, G. S. (2007). The effects of diversity faultlines and team task autonomy on decision quality and social integration. *Journal of Management*, 33(1), 111-132.
- Rink, F. A., & Jehn, K. A. (2010). How identity processes affect faultline perceptions and the functioning of diverse teams. In R. Crisp (Ed.), *Psychology of social and cultural diversity* (pp. 281-296). Malden, MA: Wiley-Blackwell.
- Riordan, C. M., & Shore, L. M. (1997). Demographic diversity and employee attitudes: An empirical examination of relational demography within work units. *Journal of Applied Psychology*, 82(3), 342.
- \*Rispens, S., Greer, L. L., & Jehn, K. A. (2007). It could be worse: A study on the alleviating roles of trust and connectedness in intragroup conflicts. *International Journal of Conflict Management, 18*(3-4), 325-344.
- \*Roberge, M. (2007). When and how does diversity increase group performance?: A theoretical model followed by an experimental study (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses A&I (304833647).
- Rockstuhl, T., & Ng, K. Y. 2008. The effects of cultural intelligence on interpersonal trust in multicultural teams. In Ang, S., & Van Dyne, L. (Eds.) *Handbook on cultural intelligence: Theory, measurement and applications*: (pp.206-220). New York, NY, US: M.E. Sharpe.

- \*Rodney, P. A. (1997). Toward connectedness and trust: Nurses' enactment of their moral agency within an organizational context (Masters thesis). Retrieved from ProQuest Dissertations & Theses A&I (1997-95024-033).
- Rosen, B., Furst, S., & Blackburn, R. (2006). Training for virtual teams: An investigation of current practices and future needs. *Human Resource Management*, 45(2), 229-247.
- Rousseau, D. M. (1985). Issues of level in organizational research: Multi-level and cross-level perspectives. *Research in Organizational Behavior*, *7*(1), 1-37.
- Rousseau, D. M., Sitkin, S. B., Burt, R. S., & Camerer, C. (1998). Not so different after all: A cross-discipline view of trust. *Academy of Management Review*, *23*(3), 393-404.
- Russel, J. E.A. (2014). Career coach: How to build trust at work. *Washington Post*. Retrieved from http://www.washingtonpost.com/business/capitalbusiness/career-coach-how-to-build-trust-at-work/2014/04/11/bc2cb6ec-c0be-11e3-bcec-b71ee10e9bc3\_story.html
- Salas, E., Salazar, M. R., Feitosa, J., & Kramer, W. (2014). Collaboration and conflict in work teams. In B. Schneider & K. M. Barbera (Eds.), *Handbook of organizational climate and culture: An integrated perspective on research and practice* (pp. 382-399). New York, NY, US: Oxford University Press.
- Salas, E., Stagl, K. C., & Burke, C. S. (2004). 25 years of team effectiveness in organizations: research themes and emerging needs. In C. L. Cooper & I. T. Robertson (Eds.), *International review of industrial and organizational psychology* (Vol. 19, pp. 47-92). West Sussex, England: John Wiley & Sons, Ltd.
- Saonee, S., Manju, A., Suprateek, S., & Kirkeby, S. (2011). The role of communication and trust in global virtual teams: A social network perspective. *Journal of Management Information Systems*, 28(1), 273-309.

Schaubroeck, J., Lam, S. S., & Peng, A. C. (2011). Cognition-based and affect-based trust as mediators of leader behavior influences on team performance. *Journal of Applied Psychology*, 96(4), 863.

Schneider, B. (1987). The people make the place. Personnel Psychology, 40(3), 437-453.

- Schippers, M. C., Den Hartog, D. N., Koopman, P. L., & Wienk, J. A. (2003). Diversity and team outcomes: The moderating effects of outcome interdependence and group longevity and the mediating effect of reflexivity. *Journal of Organizational Behavior*, 24(6), 779-802.
- Schoorman, F. D., Mayer, R. C., & Davis, J. H. (1996). Organizational trust: Philosophical perspectives and conceptual definitions. *Academy of Management Review*, 21(2), 337– 340.
- Schoorman, F. D., Mayer, R. C., & Davis, J. H. (2007). An integrative model of organizational trust: Past, present, and future. *Academy of Management Review*, 32(2), 344-354.
- Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). *Experimental and quasi-experimental designs for generalized causal inference*. Wadsworth Cengage learning.
- Shockley-Zalabak, P., Ellis, K., & Cesaria, R. (2000). IABC Research Foundation unveils new study on trust. *Communication World*, *17*(6), 7-9.
- \*Simons, T. L. (1993). Clash of the titans: The performance impact of top management team debate. A test of multiple contingency models (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses A&I (304059585).
- Simons, T. L., & Peterson, R. S. (2000). Task conflict and relationship conflict in top management teams: The pivotal role of intragroup trust. *Journal of Applied Psychology*, 85(1), 102-111.

- Simons, T. L., Pelled, L. H., & Smith, K. A. (1999). Making use of difference: Diversity, debate, and decision comprehensiveness in top management teams. *Academy of Management Journal*, 42(6), 662-673.
- Sitkin, S. B., & Roth, N. L. (1993). Explaining the limited effectiveness of legalistic "remedies" for trust/distrust. *Organization Science*, *4*(3), 367-392.
- \*Small, E. E., & Rentsch, J. R. (2010). Shared leadership in teams: A matter of distribution. *Journal of Personnel Psychology*, 9(4), 203–211.
- Spearman, C. (1910). Correlation calculated from faulty data. *British Journal of Psychology*, *3*(3), 171-195.
- Spector, M. D., & Jones, G. E. (2004). Trust in the workplace: Factors affecting trust formation between team members. *Journal of Social Psychology*, *144*(3), 311-321.
- Stahl, G. K., Maznevski, M. L., Voight, A., & Jonsen, K. (2010). Unraveling the effects of cultural diversity in teams: A meta-analysis of research on multicultural work groups. *Journal of International Business Studies*, 41(4), 690-709.
- Stasser, G., & Stewart, D. (1992). Discovery of hidden profiles by decision-making groups: Solving a problem versus making a judgment. *Journal of Personality and Social Psychology*, 63(3), 426-434.
- \*Stephens, J. P., Heaphy, E. D., Carmeli, A., Spreitzer, G. M., & Dutton, J. E. (2013).
   Relationship quality and virtuousness: Emotional carrying capacity as a source of individual and team resilience. *The Journal of Applied Behavioral Science*, 49(1), 13-41.
- \*Stewart, K. J., & Gosain, S. (2006a). The impact of ideology on effectiveness in open source software development teams. *MIS Quarterly*, *30*(2), 291-314.

- \*Stewart, K. J., & Gosain, S. (2006b). The moderating role of development stage in free/open source software project performance. *Software Process: Improvement and Practice*, 11(2), 177-191.
- Stolle, D., Soroka, S., & Johnston, R. (2008). When does diversity erode trust? Neighborhood diversity, interpersonal trust and the mediating effect of social interactions. *Political Studies*, 56(1), 57-75.
- Surva, 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*(6), 625-648.
- Susman, G. I., Gray, B. L., Perry, J., & Blair, C. E. (2003). Recognition and reconciliation of differences in interpretation of misalignments when collaborative technologies are introduced into new product development teams. *Journal of Engineering and Technology Management, 20*(1), 141-159.
- Tajfel, H. E. (1978). Differentiation between social groups: Studies in the social psychology of intergroup relations. Oxford, England: Academic Press.
- \*Tang, F. (2015). When communication quality is trustworthy? Transactive memory systems and the mediating role of trust in software development teams. *R&D Management*, 45(1), 41-59.
- Thatcher, S., & Patel, P. C. (2011). Demographic faultlines: A meta-analysis of the literature. *Journal of Applied Psychology*, *96*(6), 1119-1139.
- Timmerman, T. A. (2000). Racial diversity, age diversity, interdependence, and team performance. *Small Group Research*, *31*(5), 592-606.
- Totterdell, P., Kellett, S., Teuchmann, K., & Briner, R. B. (1998). Evidence of mood linkage in work groups. *Journal of Personality and Social Psychology*, *74*(6), 1504-1515.

- \*Tsai, W., Chi, N., Grandey, A. A., & Fung, S. (2012). Positive group affective tone and team creativity: Negative group affective tone and team trust as boundary conditions. *Journal* of Organizational Behavior, 33(5), 638-656.
- Tsui, A. S., Egan, T. D., & O'Reilly III, C. A. (1992). Being different: Relational demography and organizational attachment. *Administrative Science Quarterly*, *37*(4), 549-579.
- Tsui, A. S., Porter, L. W., & Egan, T. D. (2002). When both similarities and dissimilarities matter: Extending the concept of relational demography. *Human Relations*, 55(8), 899-929.
- Turner, J.C. (1982). Towards a cognitive redefinition of the social group. In Tajfel, H. (Ed.) Social identity and intergroup relations (pp. 15-40). Cambridge, UK: Cambridge University Press.
- Van Dyne, L., & LePine, J. A. (1998). Helping and voice extra-role behaviors: Evidence of construct and predictive validity. *Academy of Management Journal*, 41(1), 108-119.
- Van Knippenberg, D., & Schippers, M. C. (2007). Work group diversity. Annual Review of Psychology, 58, 515-541.
- Van Knippenberg, D., De Dreu, C. K., & Homan, A. C. (2004). Work group diversity and group performance: an integrative model and research agenda. *Journal of Applied Psychology*, 89(6), 1008-1022.
- Vandenberg, R. J., & Lance, C. E. (2000). A review and synthesis of the measurement invariance literature: Suggestions, practices, and recommendations for organizational research. *Organizational Research Methods*, 3(1), 4-70.
- Walther, J. B., & Bunz, U. (2005). The rules of virtual groups: Trust, liking, and performance in computer-mediated communication. *Journal of Communication*, *55*(4), 828-846.

- Wang, M., & Russell, S. S. (2005). Measurement equivalence of the job descriptive index across Chinese and American workers: Results from confirmatory factor analysis and item response theory. *Educational and Psychological Measurement*, 65(4), 709-732.
- \*Webber, S. S. (2008a). Blending service provider–client project teams to achieve client trust: Implications for project team trust, cohesion, and performance. *Project Management Journal*, 39(2), 72-81.
- \*Webber, S. S. (2008b). Development of cognitive and affective trust in teams a longitudinal study. *Small Group Research*, *39*(6), 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(2), 141-162.
- Wegge, J., Roth, C., Neubach, B., Schmidt, K. H., & Kanfer, R. (2008). Age and gender diversity as determinants of performance and health in a public organization: The role of task complexity and group size. *Journal of Applied Psychology*, 93(6), 1301-1313.
- \*Wells, K. J. (2006). Creating contexts for tacit knowledge sharing in virtual teams: The role of socialization. (Doctoral dissertation). Retrieved from PsycINFO. (2006-99020-383)
- Whitener, E.M (1990). Confusion of confidence intervals and credibility intervals on metaanalysis. *Journal of Applied Psychology*, 75(3), 315-321.
- Whitman, D. S., Caleo, S., Carpenter, N. C., Horner, M. T., & Bernerth, J. B. (2012). Fairness at the collective level: A meta-analytic examination of the consequences and boundary conditions of organizational justice climate. *Journal of Applied Psychology*, *97*(4), 776-791.

- Wildman, J. L., Shuffler, M. L., Lazzara, E. H., Fiore, S. M., Burke, C. S., Salas, E., & Garven,
  S. (2012). Trust development in swift starting action teams: A multilevel framework. *Group & Organization Management*, 37(2), 137-170.
- \*Wiedow, A., Konradt, U., Ellwart, T., & Steenfatt, C. (2013). Direct and indirect effects of team learning on team outcomes: A multiple mediator analysis. *Group Dynamics: Theory, Research, and Practice, 17*(4), 232-251.
- Williams, K. Y., & O'Reilly, C. A. (1998). Demography and diversity in organizations: A review of 40 years of research. *Research in Organizational Behavior*, *20*, 77-140.
- Williams, M. (2001). In whom we trust: Group membership as an affective context for trust development. *Academy of Management Review*, 26(3), 377-396.
- Williamson, O. E. (1981). The economics of organization: The transaction cost approach. *American Journal of Sociology*, 87(3), 548-577.
- Yakovleva, M., Reilly, R. R., & Werko, R. (2010). Why do we trust? Moving beyond individual to dyadic perceptions. *Journal of Applied Psychology*, *95*(1), 79-91.
- Zeffane, R., & Connell, J. (2003). Trust and HRM in the new millennium. *International Journal of Human Resource Management*, *14*(1), 3-11.
- \*Zheng, Y. (2012). Unlocking founding team prior shared experience: A transactive memory system perspective. *Journal of Business Venturing*, 27(5), 577-591.
- \*Zolin, R., Hinds, P. J., Fruchter, R., & Levitt, R. E. (2004). Interpersonal trust in crossfunctional, geographically distributed work: A longitudinal study. *Information & Organization*, 14(1), 1-26.
- \*Zornoza, A., Orengo, V., & Peñarroja, V. (2009). Relational capital in virtual teams: The role played by trust. *Social Science Information*, 48(2), 257-281.