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# Diversity Team Building: Impact on Virtual Team Performance

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# DIVERSITY TEAM BUILDING: IMPACT ON VIRTUAL TEAM PERFORMANCE

by

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## ABSTRACT

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Although organizations have addressed diversity issues at the organizational-level with resulting positive employee outcomes, lack of scholarly attention to team-level interventions remain. Team-level interventions would benefit organizations more directly as they address issues directly related to task accomplishment. Since diversity may lead to negative performance results for teams, a team building intervention based on the latest empirical research was developed and tested to address the potential performance losses associated to diversity in decision-making teams. The team building intervention provides six crucial elements, namely (1) direct experience of how deep-level team diversity affect team dynamics, (2) diversity education, (3) cultivation of awareness of self and other deep-level traits, (4) self-disclosure, (5) collaborative reflection and planning, and (6) cultivation of awareness of similarities. The effectiveness of the team-building intervention was tested by an embedded mixed method approach that comprises a primary quantitative approach involving a post-test only control group experiment and conditional process modeling, and a secondary qualitative approach involving thematic analysis. Based on 68 undergraduate engineering student teams, ANOVA results show that the team building had a significant positive impact on objective performance and significant negative impact on perceived performance. Furthermore, conditional process modeling results show that benevolence trust mediate the positive impact of the team building on objective team performance. In addition, propensity to trust, attitude toward diversity and perceived diversity

moderated the indirect impact of the team building on team performance. Specifically, regarding objective performance, teams with low propensity to trust, high attitude toward diversity and high perceived diversity experienced the most positive indirect effect of the team building on objective performance through *benevolence* trust while the teams experienced the most negative indirect effect of the team building on objective performance through *competence* trust. With regards to perceived performance, the teams experienced the most negative indirect impact of the team building on perceived performance through *benevolence* trust while they experienced the most positive indirect effect of the team building on perceived performance through *competence* trust. The qualitative findings support the quantitative findings. The divergent mediating impact of the two distinct dimensions of trust on team decision-making performance, the moderating role of propensity to trust, attitude toward diversity and perceived diversity, and the opposite impact of the team building on objective and perceived performance open new possibilities for future research.

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# CHAPTER 1

# INTRODUCTION

## 1.1. Theoretical Formulations

As organizations become more interconnected globally, they take advantage of the business opportunities while dealing with the challenges inherent in managing virtual and diverse teams (Chiu & Staples, 2013; Townsend, DeMarie & Hendrickson, 1998). Team diversity is defined as "differences between individuals on any attribute that may lead to the perception that another person is different from oneself" (van Knippenberg, De Dreu & Homan, 2004, p. 1008). While cognitive resource diversity theory claims that diverse teams make high quality decisions because they can integrate different ideas and viewpoints from their expert team members (Cox & Blake, 1991; Hambrick, Cho & Chen, 1996), the similarity-attraction paradigm (Pinjani & Palvia, 2013) argues that individuals who are attracted to others who are similar (O'Reilly, Caldwell & Barnett, 1989; Smith et al., 1994; Tziner, 1985;Wiersema & Bantel, 1992) may form stereotypes, compete for resources, exhibit in-group/out-group biases, and engage in miscommunication (Thatcher, Jehn & Zanutto, 2003). To integrate the two models, Van Knippenberg et al. (2004) developed an integrative model of diversity known as the categorization-elaboration model (CEM) that shows that the social categorization process disrupts the elaboration process of task-relevant information during team interaction by negatively influencing affective constructs such as team trust. When the categorization process in teams negatively impacts the quality of interpersonal relationships, team members lose the motivation to bring up divergent perspectives that are relevant to the task at hand (e.g., De Dreu, Nijstad & van Knippenberg, 2008).

## 1.2. Problem

Organizations have recognized the value of diversity; however, they have also experienced its adverse consequences. As explained earlier, social categorization processes disrupt the positive link between cognitive diversity and information elaboration, leading to loss of performance. Interventions focused on avoiding these performance losses provide an opportunity to enhance team performance.

Diversity interventions explored in research are often designed to address organization-level goals by implementing strategies such as selecting minority individuals, reducing workplace discrimination, establishing diversity-oriented organizational culture, mentoring and implementing diversity training (Kormanik & Rajan, 2010; Kossek & Pichler, 2006). Diversity training in particular aims to increase intergroup positive behavior and decrease negative intergroup behavior by letting individuals become aware of their own prejudices and biases, teaching individuals skills to address those biases and encouraging individuals to use diversity for good work pursuits (Holladay & Quiñones, 2005). There is no standard protocol for implementing diversity training; thus, different companies may differ in the content and structure of their training. However, in designing the training, the overall goal is kept in mind that is "to increase knowledge about diversity, to improve attitudes about diversity, and to develop diversity skills" (Kulik & Roberson, 2008, p. 310) so that individuals will learn how to work with different others and contribute to the overall success of organizations (Bezrukova, Jehn & Spell, 2012).

Successful diversity training has been linked to positive work climate, which elicits satisfaction in individuals (Combs & Luthans, 2007). It also leads to group effectiveness through generation of new ideas (Williams & O'Reilly, 1998). Other benefits include less turnover, better

coordination of information, better client relationships, and fewer law suits (Naff & Kellough, 2003).

Although diversity training has shown positive effects, it fails to address specific team issues during task accomplishment. Most of the instructional methods in diversity training are lecture-based with less focus on supporting actual team processes. Team-level diversity interventions can also encourage more participation from team members since they can work on relevant issues together. Most prior team-level training interventions in the literature addressed mostly personality diversity by focusing on promoting awareness of other team members' personalities; however, there is a need for more in depth and comprehensive interventions and exploration of other deep-level traits as well. There is also a need for team-level interventions that are tested with rigorous statistical analysis (e.g. Clinebell & Stecher, 2003). The team building intervention developed for this study aims to fill the gap by developing an evidence-based team building training targeting decision-making and communication styles diversity and by testing its impact through an experimental design.

### 1.3. Purpose

The purpose of this study is to develop and test the effectiveness of a team building intervention aimed at increasing decision-making performance by addressing deep-level diversity issues. This study also tested the mediating role of team trust and moderating role of propensity to trust, attitude toward diversity, and perceived diversity associated with the impact of the team building intervention on team decision-making performance.

### 1.4. Method and Procedure

An embedded mixed method approach was used to explore the impact of the team building intervention on decision making performance as well as the moderated mediation

model. The primary approach involved quantitative analysis, which comprise post-test only control group experiment and conditional process modeling. The secondary research design is qualitative in nature. Results from the thematic analysis of qualitative information from participants supported the quantitative findings by shedding light into the in-depth perspectives of the participants regarding the intervention.

# CHAPTER 2

# BACKGROUND OF THE STUDY

## 2.1. Literature Review

### 2.1.1 Team Diversity Model

Before discussing the development of the team-building intervention for this study, the succeeding sections will explain the relationship between team diversity and team performance that provide the rationale behind the development of the intervention.

Two competing theories of team diversity explain why the link between team diversity and team outcomes has low predictability. On one hand, the *cognitive resource diversity theory* claims that diverse teams make high quality decisions because they can integrate different ideas and viewpoints from their expert team members (Cox & Blake, 1991; Hambrick et al., 1996) from whom they discover new, useful and relevant information (Jackson & Ruderman, 1995). Their ability to process and integrate more information ultimately helps organizations deal with uncertainties and challenges (Pinjani & Palvia, 2013). According to past research, diversity in educational background, for instance, led to increased task-related debates (Pinjani & Palvia, 2013) that could lead to better team decision. Supporting this theory, other research found that diversity is positively related to various team outcomes such as performance, satisfaction, work motivation, creativity and innovation (e.g. Cox, Lobel, & McLeod, 1991; Milliken & Martins, 1996; van Knippenberg et al., 2004; Williams & O'Reilly, 1998). On the other hand, lack of diversity may engender *group think* leading team members to adhere to the team's decision even when they do not personally support it (Janis, 1972) leading to low quality decisions.

In contrast, the *similarity-attraction paradigm* (Pinjani & Palvia, 2013) argues that individuals are attracted to others who are similar to them (O'Reilly et al., 1989; Smith et al.,

1994; Tziner, 1985; Wiersema & Bantel, 1992); therefore, individual differences may lead to negative outcomes such as conflict (Pinjani & Palvia, 2013). The process of self-categorization can arouse stereotypes, drive competition for resources, create in-group/out-group biases, and inhibit communication (Thatcher, Jehn & Zanutto, 2003) leading to low team performance. Heterogeneous groups have been shown to suffer low levels of cohesiveness or high levels of emotional conflict (Jehn, Northcraft & Neale, 1999; Milliken, Bartel & Kurtzberg., 2003; Riordan & Shore, 1997).

To integrate the two incongruous theories, Van Knippenberg et al. (2004) developed an integrative model of diversity known as the categorization-elaboration model (CEM). The model proposes that intergroup biases that come from social categorization may disrupt the elaboration process of task-relevant information during team interaction by negatively affecting emergent states such as team trust. When the categorization process in teams negatively impacts the quality of relationship within the team, team members lose motivation to bring up divergent perspective that are relevant to the task at hand (e.g., De Dreu et al., 2008) leading to low team performance. Below is the graphical illustration of the categorization-elaboration model (CEM) (Van Knippenberg et al., 2004).

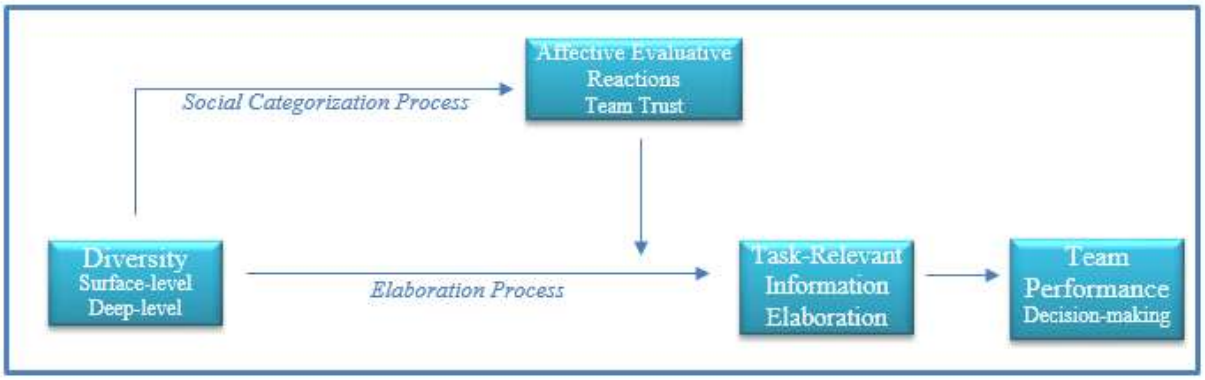


**Figure 1. Categorization-Elaboration Model (CEM)**

The model above is supported by several empirical studies that show inconsistent relationship between different measures of team diversity and decision-making performance (e.g. Ceschi, Dorofeeva & Sartori, 2014; McLeod, Lobel & Cox, 1996; Milliken et al., 2003; Nakui, Paulus & Van der Zee, 2011; Nevitt 2011; Paulus, 2000; Schruijer & Mostert, 1997; Watson, Kumar & Michaelson, 1993; van Knippenberg et al., 2004; Worley, Mohrman & Giambatista & Bhappu, 2010). One study shows evidence of impact of the social categorization process on decision-making performance. Chiu and Staples (2013) found a negative relationship between perceived faultlines, the extent to which team members perceive subgroups in the team (Cronin, Bezrukova, Weingart, and Tinsley, 2011), and decision process quality in virtual teams. Several meta-analysis also found no significant relationship between diversity and team performance (Horwitz & Horwitz; 2007; Stewart 2006; Webber & Donahue, 2001).

2.1.2. Deep-level Traits

Although individuals easily categorize other people based on observable characteristics such as age, gender, and race/ethnicity (Harrison, Price & Bell, 1998), the model may also apply to deep-level traits such decision-making and communication styles that become observable or

salient during task accomplishment like team decision making. While differences in ethnicity are salient in groups as a result of auditory and visual cues (e.g., Brewer & Brown, 1998), differences in decision-making and communication styles become salient in teams through interaction and cognition cues. Participants use their respective decision-making and communication styles during team decision making; thereby, becoming apparent to other members. Based on the cognitive theoretical perspective, the effects of deep-level diversity should be most evident when group members have different perspectives or styles that are relevant to their task (Paulus & Brown, 2007).

Since differences in decision-making and communication styles may elicit different perspectives about the task and the process, based on cognitive resource theory, diversity in these traits may lead to information elaboration (Pelled, 1996). On the other hand, diversity in these deep-level traits may also lead to self-categorization (Bell, Villado, Lukasik, Belau, & Briggs, 2011; Harrison, Price, Gavin & Florey, 2002; Stahl, Maznevski, Voigt, & Jonsen, 2010) since the differences are observed in the team that affect team processes, leading to less social integration, lower trust and poor team performance (Jackson & Ruderman, 1995; Milliken & Martins, 1996). Trait theories have asserted that individual differences explain decision-making outcomes regardless of the situational context (Funder, 2001; Haslam, 2007; Scott & Bruce, 1995).

On the contrary, less diverse teams have an advantage over diverse teams because, besides the similarity in traits that binds the team, they also tend to have an existing shared language, which is known to enhance communication (Wiersema & Bantel, 1992). As a result, less diverse teams tend to outperform heterogenous teams on tasks that require interaction and coordination (Wiersema & Bantel, 1992) such as team decision making. On top of that, trait

similarity may also drive individuals to assume that they are similar in other categories of traits as well (Janis & Mann, 1977; Nemetz & Christensen, 1996), leading to higher attraction and better social integration.

There is a lack of research exploring the link between deep-level diversity traits such as decision-making styles and communication styles and decision-making performance. MBTI has similar components with decision-making styles. For instance, they both have an intuitive dimension. One study looked at the relationship between MBTI diversity and team decision-making performance; however, the results were insignificant. In addition, Volkema and Gorman (1998) found no significant proof that teams with a combination of NT, NF, SJ, SP (diverse) outperformed teams with only SJ (less diverse) composition in team decision making performance. These findings, again, confirm the categorization-elaboration model discussed above.

### 2.1.3 Decision-making and Communications Styles

Van Knippenberg et al. (2004) propose that researchers should consider many types of diversity in determining the impact on team dynamics Deep-level diversity becomes relevant during team decision making include (1) decision making styles and (2) communication styles. Understanding how these deep-level diversity traits affects team dynamics is important in the development of the team building intervention.

#### 2.1.3.1 Decision Making Style

Scott and Bruce (1995) defined decision-making style as the "learned, habitual response pattern exhibited by an individual when confronted with a decision situation" (p. 820). They focused on individual differences in decision making rather than the role of the environment or situation. They developed the General Decision Making Style Inventory (GDMSI), which is the

most widely used instrument for decision-making styles in the judgment and decision making field. It has five subscales that show different decision making styles namely are (1) rational, (2) intuitive, (3) dependent, (4) avoidant, and (5) spontaneous decision making. A person with a rational decision making style tends to search information more comprehensively and evaluates alternatives using logical reasoning. A person with an intuitive decision making style tends to rely on gut feelings and hunches. A person with a dependent decision-making style tends to seek advice from others and rely on others for making decisions. A person with avoidant decision making style tends to escape decision situations. Lastly, a person with spontaneous decision-making style tends to make fast and quick decisions.

Wood and Highhouse (2014) tried to link particular decision making styles to decision quality. They found that rational and intuitive styles were positively related to self-rated decision quality. Avoidant style was negatively related to self-rated decision quality. Rational style was also related to peer-rated decision quality. They also found that decision making styles explain additional variance in decision quality over the Big Five personality traits. These findings show the important role of decision-making styles in decision-making performance.

Several studies have explored how MBTI, which has traits similar to decision-making and communication styles, relate to decision-making performance. MBTI comprise of four basic scales: (1) Extraversion-Introversion, (2) Sensing-Intuitive, (3) Thinking-Feeling, and (4) Judging-Perceiver (Myers & McCaulley, 1998), based on the work of Carl Jung (1976) in the field of personality and behavior. Hough and Ogilvie (2005) found that intuitive-thinking managers used both their intuition and objective data to finalize decisions that led them to generate more quality outcomes compared to other managers. Managers who are sensing-feeling, which is similar to the rationality dimension of decision-making styles and supportiveness

dimension of communication styles, made the lowest number of decisions and received the lowest ratings for perceived effectiveness because they often look for decisions that are acceptable to others. Managers with high extraversion, similar to the talkativeness dimension of communication styles, were perceived to be more effective than introverted managers even though the level of decisiveness is not different between the two.

2.1.3.2 Communication Styles

De Vries, Bakker-Pieper, Siberg, Van Gameren and Vlug (2009) define communication styles as

> the characteristic way a person sends verbal, paraverbal, and nonverbal signals in social interactions denoting (a) who he or she is or wants to (appear to) be, (b) how he or she tends to relate to people with whom he or she interacts, and (c) in what way his or her messages should usually be interpreted. (p. 179)

For instance, a person who has a dominant conversational style conveys not only their message but also that the recipient should take their message seriously, regard them with high status, and react submissively (De Vries et al., 2013).

Many scales were developed to measure communication styles such as the Norton's Communication Styles Measure (CSM; Norton 1978, 1983), the Relational Communication Styles (RCS; Burgoon & Hale, 1987) and the Communication Styles Scale (CSS; Gudykunst et al., 1996). However, there has been lack of integration (Beatty, 1998; Daly & Bippus, 1998; McCroskey, Daly, Martin & Beatty, 1998). Furthermore, Gudykunst et al.'s (1996) scale, which was the most used, included intrapersonal cognitions and feeling about communication (Inferring Meaning, Use of Feelings and Positive Perceptions of Silence) that is outside the definition provided by De Vries et al. (2009) which only included the way communication signals are sent

to other people. The Communication Styles Inventory (CSI) developed by De Vries et al. (2009) is comprised of six scales which are expressiveness, preciseness, verbal aggressiveness, questioningness, emotionality, and impression manipulativeness.

De Vries, Bakker-Pieper and Oostenveld (2010) used the Communication Style Inventory (CSI) to explore leadership effectiveness. They found that charismatic and human-oriented leadership are more communicative than task-oriented leadership. They also found that communication style is positively related to knowledge donating behavior and satisfaction with leader where in leader supportiveness, preciseness, and expressiveness were the main predictors of knowledge donating behavior. All components of the Communication Styles Inventory (CSI) except for expressiveness were significantly related to perceived leader performance and satisfaction with the leader. Although, there is lack of research linking communication styles with decision-making performance, communication styles are an important factor when it comes to team decision making because team members need to communicate with each other well to arrive at a satisfactory decision. Differences in communication styles may lead to misunderstandings, conflict, and ineffective decision making.

2.1.4. Team Trust

Lack of team trust is one of the factors that can inhibit the information elaboration process in teams because of the social-categorization process. Teams with long-term relationships usually form trust based on past working experiences. However, virtual teams may comprise contract-based temporary workforce (e.g., McKinney, Barker, Smith, & Davis, 2004). This trend is becoming a norm rather than an exception (Wildman et al., 2012) due to the need for organizational flexibility and adaptation. The newly formed teams are comprised of experts who have no prior working experience together and who are tasked to perform high stakes,

immediate, urgent, finite and time-bound work immediately after being formed (McKinney, Barker, Davis, & Smith, 2005; Saunders & Ahuja, 2006). Long-tenured employees also join together with no prior history because they address pressing issues such as advising upper management regarding strategic decisions, organizational change initiatives, and other urgent projects that will help companies remain competitive. Multidisciplinary research teams are also another example of individuals who come together without prior work history to work on a research endeavor. These teams are important interest in research because the urgent and high stakes nature of their tasks have high relevance on team and organizational performance. For instance, it was found that 73% of aviation errors occur during the first encounter of the pilot and co-pilot (National Transportation Safety Board, 1994). Therefore, team trust is particularly important for these teams because their work context presents many uncertainties, challenges, and complexities where maintaining an amiable working environment is crucial so the teams can generate high quality decisions.

Team trust operates differently for newly formed virtual teams. These teams have few opportunities to get to know each other in depth at the start preventing them from forming implicit coordination strategies that guide work processes smoothly. During their first encounter, they develop *swift trust*, a form of trust that quickly develops after individuals meet a new person without any information about that person's past behavior (Meyerson, Weick & Kramer, 1996; Xu, Feng, Wu & Zhao, 2007). In the formation of swift trust, individuals base their trust on easily discernible cues such as role of the other person, rules of the organization or team, third party recommendations, their own disposition to trust and category-based assumptions (Kramer, 1999). The first three bases enable the individual to predict the future behavior of the other person in the absence of personal knowledge (Fine & Holyfield, 1996). The fourth, disposition to

trust, is a stable individual difference that is defined as a person's general tendency to trust other people that is influenced by early caregivers and personal experience of past fulfilled or unfulfilled promises (Gurtman, 1992; Mayer, Davis & Schoorman, 1995; Rotter, 1967). Disposition to trust has a great influence on a team member's trust without substantial information about others (Aubert & Kelsey, 2003; Chen, Wu, Ma & Knight, 2011; Jarvenpaa, Knoll & Leidner, 1998; Mayer et al., 1995; McKnight, Choudhury & Kacmar, 2002; Robert, Dennis & Hung, 2009; Serva & Fuller, 2004). The fifth, category-based assumptions, consists of assumptions made about another person by categorizing them based on easily observable traits that results to a subgroup categorization also known as "us-them" distinction. Based on the similarity-attraction paradigm, category-based assumptions negatively influence trust. Other negative outcomes are less attraction, less frequent communication, lower team commitment, less interpersonal liking, less satisfaction, poor performance, and increased relationship conflict (e.g. Earley & Mosakowski, 2000; Homan & Greer, 2013; Thatcher et al., 2003). Wildman et al. (2012) proposed that a team member's perception of surface-level cues along with their cognitive interpretations and affective reactions to it will influence the initial levels of trust toward other teammates.

Since newly formed temporary virtual teams often deal with tasks with high uncertainty, social information processing theory asserts that social cues are given more weight by individuals under these circumstances (Salancik & Pfeffer, 1978). The theory developed by Williams (2007) supports this assertion by arguing that people develop initial trust towards others based on affect (i.e., subjective emotional experiences or states such as anger, joy, disgust) and cognition (i. e. mental processing of perceptions) that is influenced by category-based processing or ingroup/outgroup dynamics. The extent to which an individual perceives another

person to be part or not part of his/her social group (in-group) influences his/her initial trust toward the individual. Many studies have shown that individuals are more likely to trust members who are similar to them or are part of their social group (Brewer, 1979; Brewer & Silver, 1978; Dion, 1973; Gallois & Callan, 2003; Morand, 1996; Willemyns) through a sense of identification (Brewer, 1981; McKnight, Cummings & Chervany, 1998; Meyerson et al., 1996).

Wildman et al. (2012) provided a theoretical framework of trust that applies to newly-formed and temporary virtual teams. They used Ilgen, Hollenbeck, Johnson and Jundt's (2005) input-mediator-output-input (IMOI) model of team performance as a guide to develop their framework. They propose that surface-level and dispositional inputs influence individual-level trust in the team through psychological mediators that impact team processes and team performance that affects the inputs in a cyclical loop.

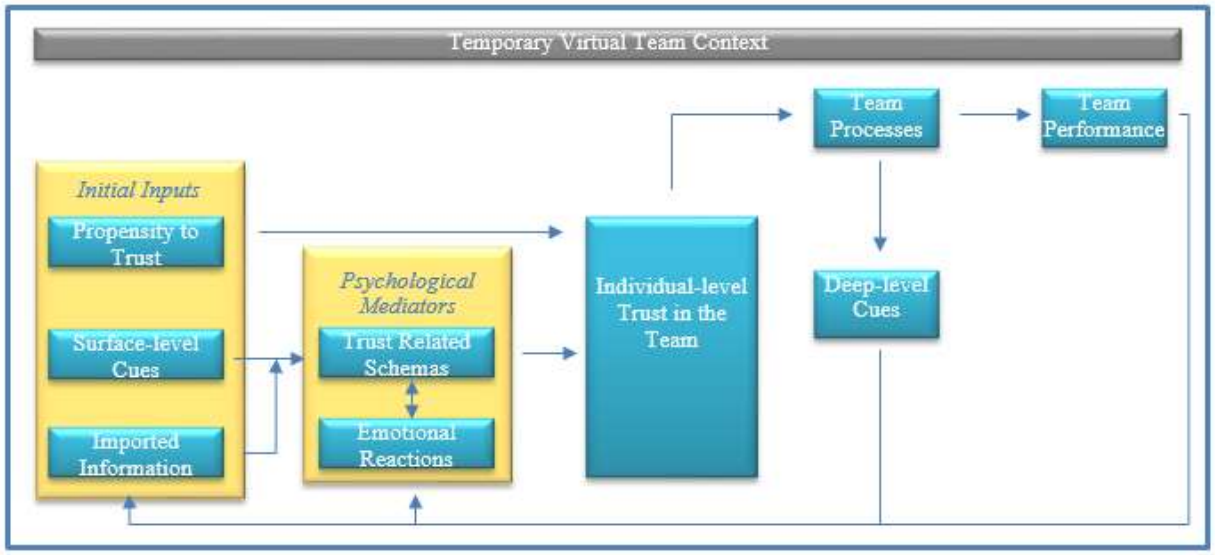


**Figure 2. Theoretical Framework of Trust Development in Newly-formed Temporary Virtual Teams**

The model also shows that during team processes, opportunity arise for team members to observe the deep-level cues of team members through their interactions. The imported information about deep-level traits is used to form trust that affect team processes.

Social psychology's research on interpersonal impression formation has shown that attitudes toward others such as trust can quickly form without one's awareness (McCulloch, Ferguson, Kawada, & Bargh, 2008). Individuals base their attitudes from information in the environment and preconceptions to form initial impressions of others (Fiske, 1993). Based on the continuum model of impression formation, initial formation of trust becomes category-based when there is time pressure where individuals don't have time to interact with each other (Fiske & Neuberg, 1990).

Mayer et al. (1995) adds that trust is a function of the trustor's perception of the trustee's ability, benevolence and integrity. These perceptions are based on individuals' characteristics (Wildman et al., 2012). Deep-level information imported from team interaction during team processes reflects individual characteristics that affect these perceptions through the social-categorization processes.

Deep-level diversity may also impact trust through process conflict that results from disagreements about task procedure that could hinder effectiveness (Wildman et al., 2012). For instance, if one team member is intuitive and the other is rational, their approach to analyzing information for decision making will be different and may lead to conflict and disagreements. Team members may also attribute the conflict to the person instead of the task or situation. Based on attribution theory, team members try to determine the cause of the problem either through personal attribution or situational attribution (Blakar, 1984; Cramton, 2001). Personal attribution involves blaming the problem to the characteristic or behavior of the person while

situational attribution links it to the situation (Hultberg, Alve & Blakar, 1980). Newly formed and temporary virtual team members may attribute the conflict to differences in traits known as categorical attribution (Lea & Spears, 1992).

In the context of team decision making, team trust is the willingness of team members to be vulnerable to the actions of the others because of positive and confident expectations of their behavior (Palvia et al., 2004). Team members trust other members during decision making when they know that their inputs will be heard and valued and when the decision-making process is perceived to be fair. The negative impact of team diversity on trust could negatively affect team decision making because team members may not feel confident in how other teammates will react to their input. As trust starts developing at the individual-level, it then emerges at the team-level as team memberse interact with one another (Klein & Kowlowski, 2000). Extremely low team trust may lead to negative consequences such as relationship conflict (e.g., Curşeu & Schruijer, 2010) negatively affecting willingness to share ideas and team performance.

Several empirical studies have shown negative relationships between deep-level similarity and trust. Pinjani and Palvia (2013) found a negative relationship between deep-level diversity and trust. Garrison, Wakefield, Xu and Kim (2010) found that perceived diversity, related to personal, physical and overall self-image (Sirgy et al., 1997), is negatively related to team trust in global virtual teams. Volk (2008) found a negative relationship between deep-level diversity, which is comprised of differences in career attitudes (Igbaria & Baroudi, 1993), personality type using Big Five (Gosling, Rentfrow & Swann, 2003) and values (Rokeach, 1973), and trustworthiness. They also found a negative relationship between work attitude diversity and beliefs of trustworthiness. In addition, Robert, Dennis and Hung (2009) have found that in-group bias, a favorable bias that one has toward a team member that one believes is

similar to him- or herself, has a positive relationship with swift trust (Robert et al., 2009). This becomes more amplified in virtual teams where personal cues are minimized (Walther, 1997). Chou, Wang, Wang, Huang and Cheng (2008) found that shared work values are positively related to trustworthiness in MBA students.

There is dearth in research exploring the link between team trust with decision making performance; however, many studies have explored the link between team trust and team performance for tasks that are not solely decision making. Several studies found a positive link (Altschuller & Benbunan-Fich, 2010; Chen et al., 2011; Crisp & Jarvenpaa, 2013; Dayan & Di Benedetto, 2010; DeOrtentiis, Summers, Ammeter, Douglas & Ferris, 2013; Muethel, Siebdrat & Hoegl, 2012; Fransen, Kirschner & Erkens, 2011; Jarvenpaa, Shaw & Staples, 2004; Peters & Karren, 2009; Tseng & Ku, 2011) while others did not find significant relationship (Cogliser, Gardner, Gavin & Broberg, 2012; Liu, Magjuka & Lee, 2008; Mat and Jantan, 2009). Other studies found that trust mediates the impact of diversity (Pinjani & Palvia, 2013) and shared work values (Chou et al., 2008) on team performance. One study found the moderating role of trust between diversity and team performance (Peters & Karren, 2009).

2.1.5. Information Elaboration

Information sharing is one mechanism in which the task-related information elaboration process occurs in teams. Team decision-making performance is contingent upon the amount of information shared by team members. Lu, Yuan and McLeod (2012) found that the percentage of unique information mentioned out of the total available information was positively related to decision quality. They also found that the percentage of unique information shared out of total discussion was positively related to decision quality.

As explained earlier, based on the categorization-elaboration model by Van Knippenberg et al. (2004), team diversity negatively impacts team performance by disrupting the information-elaboration processes. The reluctance to express ideas in newly formed group situations may decrease the number of ideas generated in diverse groups (Nakui et al., 2011). Several empirical studies support this. Jiang, Jackson, Shaw and Chung (2012) found that education specialty faultline strength negatively predicted task-relevant information sharing. Stahl et al. (2010) have found that the surface-level diversity of a team has a negative impact on communication effectiveness. On the other hand, diversity may also lead to high decision making performance when information elaboration is enhanced or encouraged. Chiu and Staples (2013) found the interaction effect of perceived faultlines and task elaboration is significant for decision process quality where the negative effect of perceived faultlines on decision process quality is weaker when task elaboration is high.

2.1.6. Virtual Teams

Aside from increasing diversity in teams, virtual teams are also becoming a trend. According to Virtual Teams Survey Report (RW3 Culture Wizard, 2010), 80% of employees said that they belong to a team with members from different locations. Virtual teams enable organizations to reduce travel time and costs, hire talented employees and increase diversity in their workforce (Chiu & Staples, 2013). Compared to traditional teams, technology plays a different role in virtual teams as they conduct their team processes in a shared virtual space (Beise Carte, Vician & Chidambaram, 2010; Sundholm, 2007) through the use of communication and collaboration technologies (Jackson & Ruderman, 1995). In virtual teams, effective use of technologies such as laptop computers, email, voice mail, video conferencing,

and interactive databases greatly determines collaboration effectiveness (Jackson & Ruderman, 1995).

Despite advancements in technology, managers still find that distance remain a challenge in human resource management (Jackson & Ruderman, 1995). The degree of proximity and the use of electronic media affect work interaction (Jackson & Ruderman, 1995) and group development stages (Armstrong & Cole, 1995). Research found that virtuality dampens surface-level traits and reduces its salience depending on the technical capabilities communication media (Pinjani & Palvia, 2013). Giambatista and Bhappu (2010) suggest that reluctance to share information in teams becomes nonexistent in computer-mediated communication (CMC) groups due to reduced visual cues. However, others studies suggest that deep-level diversity may become a more important issue in virtual teams (Martins, Milliken, Wiesenfeld & Salgado, 2003). Therefore, deep-level diversity may have more relevance to team decision making in virtual teams than surface-level diversity.

2.1.6.1. Trust in Virtual Teams

Some studies explored team trust in virtual and face to face teams. One study has found that team trust is higher in virtual teams than face-to-face teams (Beranek & French, 2011). Beranek and French (2011) explain that virtual teams anticipate more difficulties at the start of the project that motivated them to exert more effort on the project. However, one study found the reverse. Dayan and Di Benedetto (2010) found that team member proximity is positively related to interpersonal trust in new product teams. This suggest that there is higher level of trust in new product development teams when they are working in close proximity rather than virtually.

One factor that affects virtual team trust in perceived risk. Virtual team environment has also been found to have a positive relationship with perceived risk with regards to working with others (Robert et al., 2009). Perceived risk is an individual's subjective assessment of experiencing a negative outcome (Sitkin & Pablo, 1992). The perceived risk influences virtual team member's trust behavior by negatively affecting their trust belief on others. Robert et al. (2009) have found that the virtual team member trusting behavior is dependent on the difference between trust belief and perceived risk.

Virtual teams are also more prone to conflict compared to face-to-face teams due to communication restrictions that lead to mistrust (Zakaria, Amelinckx & Wilemon, 2004). Bierly, Stark and Kessler (2009) found that virtuality moderates the relationship between relationship conflict and trust where for teams that are more virtual, relationship conflict has a more negative effect on trust.

The impact of trust on team outcomes may also weaken in a virtual environment. Bierly, Stark and Kessler (2009) found that virtuality moderates the relationship between trust and cooperation where for teams that are more virtual, trust had a less positive effect on cooperation. Another study found the opposite, where geographical dispersion and computer-mediated communication strengthened the relationship between team trust and team performance measured by new product development team effectiveness (Muethel et al., 2012).

2.1.6.2. Decision Making in Virtual Teams

Smith and Vanecek (1990) compared decision making in virtual teams and face to face teams using a quasi-experiment with professional workers from different organizations as participants. They found that virtual teams were less effective than face to face teams in decision making because they shared less unique information, engaged in less comprehensive discussions

and perceived less progress towards attaining decision goals. O'Neil, Hancock, Zivkov, Larson and Law (2016) also found that face-to-face teams were more effective than virtual teams in terms of sharing unique information. On the other hand, Pridmore and Phillips-Wren (2011) found that even though virtual teams took longer than face-to-face teams to make a decision, their decision accuracy was better.

2.1.7. Contingency Factors on Diversity and Team Outcomes Relationship

As stated before, the effects of diversity on team outcomes have been found to range from negative to neutral to positive (van Knippenberg & Schippers, 2007). Due to inconsistent results, many researchers have started exploring moderating variables that impact the relationship between diversity and team outcomes (e.g., Chatman, Polzer, Barsade, & Neale, 1998; Harrison et al., 1998; Homan et al., 2008; Homan, van Knippenberg, van Kleef, & De Dreu, 2007; Jehn et al., 1999; Pelled, Eisenhardt, & Xin, 1999). This approach is also known as the contingency approach (e.g. van Knippenberg et al., 2004; van Knippenberg & Schippers, 2007), which proposes that the link between diversity and team outcomes depends on moderating and mediating factors. In support of this, recent research has shown that the impact of diversity depends on contextual factors, such as time, diversity beliefs, organizational culture, and task type (e.g., Chatman et al., 1998; Ely & Thomas, 2001; Homan et al., 2008; Homan et al., 2007; Jackson, Joshi, & Erhardt, 2003; Jehn et al., 1999; Joshi & Roh, 2009; Schippers, Den Hartog, Koopman, & Wienk, 2003). Several other studies have explored various moderating variables. Martin-Alcazar, Romero-Fernandez and Sanchez-Gardey (2012) found that when the human resource management emphasizes task interdependence and employee involvement, the positive relationship between human capital diversity, which comprises knowledge and experience diversity, cognitive style diversity and value diversity, and the quality of the decision-making

process increases. Rico, Molleman, Sanchez-Manzanares and Van der Vegt (2007) found that weak-faultline teams (weak hypothetical dividing lines based on alignment of characteristics such as conscientiousness and educational background) made more quality decisions than strong-faultline teams in the high task-autonomy condition. In the meta-analysis done by Joshi and Joh (2009), they found that relations-oriented diversity (e.g. gender, race/ethnicity and age) was positively related to performance when task interdependence is low and negatively related to performance when task interdependence is moderate and high. They also found that relations-oriented diversity had a positive relationship with performance in short-term teams and negative relationship in long-term teams.

Contextual factors may lead to positive relationship between diversity and team outcomes in two ways. One is through providing appropriate circumstances where the team is more likely to elaborate on the differences in perspectives (e.g., Schippers et al., 2003). The other is through preventing individuals to categorize their dissimilar team members into subgroups (e.g., prodiversity beliefs) that is expected to improve the relationship between diversity and team performance by preventing the occurrence of negative affect such as distrust (e.g., Homan et al., 2008). The team building intervention, a contingency variable, developed in this study aims to positively enhance team outcomes through both routes. The only difference from other contingency variables already explored in literature is that this variable is an intervention aimed at proactively causing the emergence of positive team outcomes. Below is the framework that explains the role of the team building intervention in the diversity-performance relationship.

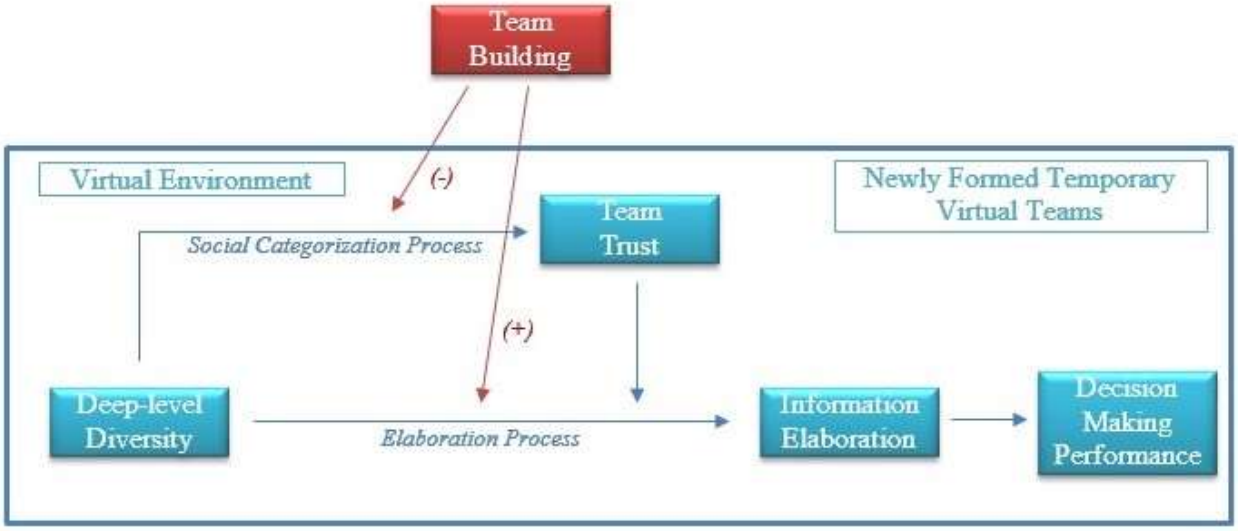


**Figure 3. Team Building Theoretical Framework**

2.1.8. The Team Building Intervention

The latest empirical research form the foundation for the development of the team building intervention that addresses deep-level diversity issues in teams. The team building is comprised of six (6) components namely (1) direct experience of how deep-level team diversity affect team dynamics, (2) diversity education, (3) cultivation of awareness of self and other deep-level traits, (4) self-disclosure and (5) collaborative reflection and planning and (6) cultivating awareness of similarities, each addressing diversity issues by enhancing trust, information elaboration and decision-making performance. The team building intervention aims to address the social categorization process that happens in the team so that less conflict and more trust will develop paving the way towards better task-elaboration process that is important in the decision-making process. This is expected to help enhance decision making performance through well-established positive interpersonal and task relationships in the team.

#### 2.1.8.1 Component 1: Direct Experience of How Deep-level Diversity Affect Team Dynamics

Most diversity training activities focused on raising awareness about biases of individuals against different others (Goodman, 2014). Ehrke, Berthold and Steffens (2014), for instance, used an activity where participants would draw a sheep. After pointing out the tendency of a large number of participants to draw a sheep facing the left side of the paper, the facilitator shows the many other ways one can draw a sheep that includes the top view, back view, side view, and bottom view. Then the facilitator would discuss how the same concept applies to how individuals hold stereotypes about other people. The training led to improved feelings toward others who have different gender, age and nationality. The diversity team building activity for this study aims to make team members aware of their own biases during team decision making stemming from their own decision-making and communication styles. They will learn that there are other ways to make decisions and communicate; therefore, promoting understanding and eliminating individual biases that affect the functioning of the team.

Another team building activity named the Integrity Ball (SOAR, n.d.), which was adapted from Journey toward the Caring Classroom (Frank, 2004) and “Fireball” in Affordable Portables (Cavert, 1999) instructs participants to pass a ball without communicating with one another and eliminate someone who violates the unspoken rule. The differences in perception of the rules would confuse participants. After the game, the facilitator highlights the assumptions relating to the unspoken rule that people often carry when interacting with others. In relation to that, often times, deep-level diversity traits are not communicated among each other because their effect on team functioning is not always obvious. Unspoken needs and preferences that become salient during team interactions may negatively impact the work processes and morale of the team. The diversity team building activity for this study intends to show team members how unarticulated

differences in perspectives and styles stemming from deep-level traits may impact team interactions.

Deep-level diversity may prevent teams from acting as one integrated unit because individuals may have conflicting ideas about how the team must proceed to accomplish their goals. This is known as process conflict (Jehn et al., 1999). Differences in ideas about work processes may stem from their underlying traits such as decision making styles and communication styles that are not instantly visible to the naked eye but become noticeable through interaction. Without awareness of the underlying differences among each other, frustration and conflict may prevent the team from working together well which may prevent them from attaining their goals. Team members may attribute the experienced conflict to the person instead of the task or situation. Based on attribution theory, team members try to determine the cause of the problem either through personal attribution or situational attribution (Blakar, 1984; Cramton, 2001). Personal attribution involves blaming the problem to the characteristic or behavior of the person while situational attribution links it to the situation (Hultberg et al., 1980). Situational attribution is more beneficial to the team because it tends to encourage more resolution-oriented communication (Blakar, 1984). Individuals may attribute conflict to differences in traits known as categorical attribution (Lea & Spears, 1992). Without awareness of how deep-level diversity impact team decision making, team members may attribute conflict arising from differences in work approach to the inherent characteristics of the person. Awareness of this phenomenon may expand the teams understanding of the whole situation leading them to have a situation attribution of conflict that will encourage them to resolve the problem and work together better.

2.1.8.2 Component 2: Diversity Education

This component of the team building activity focuses on discussion of diversity issues by reflecting on the team activity that the team worked on together. Kaser and Johnson (2011) explored the relationship of diversity education with diversity consciousness, which is an awareness of issues surrounding diversity. They also explored the relationship between diversity consciousness and team interactions. In a business cornerstone class where diversity issues were taught, students had a perception that diversity education improved their diversity consciousness, the level of which depended on the type of ethnic group. They found that Hispanic/Latinos had the greatest perception that diversity education increased their diversity consciousness while the African-American/Black group had the second highest, and the White group had the lowest. They also found that diversity consciousness is positively related to positive team interactions. Students with increased diversity consciousness used diversity principles when interacting with different others during team decision making that made them effective team members. This study shows a good indication that diversity education may increase trust among team members and decision making performance through better team interactions.

Kalinoski et al. (2013) have found that diversity education ($d = 0.45$) had a strong effect on affective-based outcomes. This provides a good support that incorporating diversity education into the team building activity may enhance trust and decision making performance. The teams will be educated about deep-level diversity traits that become observable during team decision making, how diversity will impact their task accomplishment and how to address the issues (see Appendix C).

2.1.8.3 Component 3: Awareness of Self and Others' Deep-level Traits

This component focuses on learning about oneself and others' deep-level traits. Awareness of one's own personality trait leads to positive team outcomes through self-regulation (Lancelloti & Boyd, 2008). Self-regulation occurs when behaviors are corrected based on the cognitive and affective processes that are monitored in oneself in efforts to successfully attain a particular end goal (e.g. get along well with teammates) (Corno & Mandinach, 1983). Snider (1987) has found that increased awareness of one's behavior may lead to change in that behavior. This finding gives support to the cognitive-behavioral model in psychology where self-behaviors are controlled through self-reinforcement of positive behaviors and self-punishment of negative ones (Kanfer, 1970). Lancelloti and Boyd (2008) found that self-regulation, which is influenced by the knowledge of one's and others' personality, leads to increased team satisfaction, better team output and improved individual performance compared to control group. The literature above provides indication that self-regulation through knowledge of one's own and others' personality traits may lead to team trust and better decision making.

Many studies explored the impact of awareness of other team member's deep-level traits on team functioning. Clinebell and Stecher (2003) had students share their personality traits (Big Five and MBTI) with their team members and come up with strategies to address difficulties. Students reported that the awareness of other's personality traits helped them understand their teammates' behavior and manage team dynamics better. Filbeck and Smith (1997) found that educating team members of family businesses about personality differences measured through MBTI significantly increased understanding of others' communication style and information processing methods that improved the perceptions of interpersonal relationships among the family management team. This workshop involved written and oral exercises where similarities

and differences among participants in all the four dimensions of MBTI were highlighted, insights were expressed regarding what one has learned about others including their strength, and goals were set to improve communications. Culp and Smith (2001) have suggested that understanding and acceptance of differences in personality traits (MBTI) may lead to engineering project performance.

Although the impact of awareness of one's and others' deep-level traits on emergent states such as team trust and cohesion hasn't been fully explored yet, being able to understand one's own and others' behavior may encourage team members to engage in self-regulating behaviors that increases behavior predictability enhancing trust within the team. The resulting high quality interpersonal relationships due to increased trust leads to better team decision making processes; hence, better team decision making performance. The team building intervention implemented for this study will provide an opportunity for the team to get to know each other on a deeper level and establish trust before working together that is expected to enhance decision-making performance.

2.1.8.4. Component 4: Self-Disclosure

Based on the common in-group identity model from the field of social psychology, personalized interaction may help change the perception of a member towards another member that is perceived to belong to an out-group (Gaertner & Dovidio, 2000). Personal interaction can be started through self-disclosure in which one person reveals personal information about oneself to others (Jourard & Lasakow, 1958). Self-disclosure has been regarded as an important avenue to improve interpersonal relationship as well as promote psychological health (Collins & Miller, 1994). In organizational settings where a great extent of socialization occurs, self-disclosure may play an important role in promoting interpersonal relationships (Chiu & Staples, 2013). It

triggers informal interactions which lead to more self-disclosure and information sharing (Chiu & Staples, 2013), improving individuals' impression of each other (Collins & Miller, 1994) and making them feel closer together leading to greater cohesion (Chiu & Staples, 2013). When the other person is liked, the separation between self and others become less resulting to feelings of closeness and trust (Aron, Aron, Tudor, & Nelson, 1991). Based on this, self-disclosure may help reduce the negative impact of diversity on team outcomes by improving the relationship between people who regard others as different and by making individuals more tolerant of other's differences (Allport, 1954). Through establishing personalized relationships, inter-group bias disappears through a process known as decategorization (Chiu & Staples, 2013). Through this process, out-group members are recognized as individuals instead of members of another group. Categorization disappears, and all the team members belong in one group.

The propositions above found support from research conducted by Chiu and Staples (2013) who found that disclosing personal information via weblogs and task elaboration reduced perceived faultlines. The relationship was moderated by social attraction in geographical dispersed teams. They also found that self-disclosure enables understanding among team members that encouraged them to exchange and integrate perspectives in teams.

The team building intervention would promote self-disclosure through encouraging participants to giving information regarding their decision-making and communication styles. Team members would share why they feel comfortable with having a certain decision-making or communication style, how it has worked or not work for them in past team interactions, experiences they had growing up that contributed to shaping of their style and how they think they can improve team interactions.

However, it is important to mention that self-disclosure could also lead to negative outcomes as deep-level differences become more visible (Chiu & Staples, 2013). So instead of eradicating the negative effects of diversity, it may actually strengthen it. Differences in underlying traits may lead to dislike that may prevent personalized relationships to get established. The impact of self-disclosure on interpersonal outcomes such as trust, therefore, depends on the level of social attraction that arise after self- disclosure (McCroskey, McCroskey, & Richmond, 2006). Based on contact hypothesis (Allport, 1954), when self-disclosure is combined with social attraction, individuals become more familiar with one another and feel safer with others. As a result, categorical perceptions are reduced. Establishing social attraction after self-disclosure is important during the team building activity. The team building activity will address this issue by emphasizing that it is normal to have differences in decision-making and communication style and that individuals should utilize diversity for the benefit of the team.

2.1.8.5. Component 5: Collaborative Reflection and Planning

Once the team has developed an understanding of the deep-level diversity traits in the team, the team must now engage in collaborative reflection and planning to address any future conflicts that may arise during task accomplishment due to their differences. Collaborative reflection and planning happens when a team reflects on their collaboration and plans their collaborative processes while considering their differences to utilize their areas of strength to address challenges (Woolley, Gerbasi, Chabris, Kosslyn & Hackman, 2008). In Woolley et al.'s (2008) study, they underscored the importance of collaborative planning in utilizing specialized skills of members to analyze data during a simulated terrorist investigative work. They concluded that expertise alone is not enough to predict team performance. Collaborative planning where teams formulate a performance strategy that will utilize the unique special

cognitive abilities of their team members helped them accomplish their tasks more efficiently (Hackman, Brousseau, & Weiss, 1976; Okhuysen, 2001; Okhuysen & Eisenhardt, 2002; Woolley, 1998). They found that collaborative planning interacts with team expertise to predict team performance. They also found that information integration mediated the interactive effect on team performance. The team building support collaborative planning in teams to address deep-level diversity issues. Collaborative planning, in this study, comprises reflecting on the existing collaboration process of the team, and explicit discussion of collaborative team work strategy that would consider the deep-level traits (decision-making styles and communication styles) of individual members that may become salient and relevant during team decision making to enhance the decision-making process. Similar with teams facing high cultural diversity (Homan et al., 2008; van Knippenberg & Schippers, 2007), team members may take advantage of members' various decision-making and communication styles to explore different perspectives and forge productive interactions.

Collaborative planning leads to shared and mutual understanding of deep-level traits and means to address the issues that enhances team performance. Several studies support this. Mohammed and Nadkarni (2014) found that when teams with polychronicity diversity, differences in preference for doing tasks simultaneously rather than sequentially (Bluedorn, Kalliath, Strube, & Martin, 1999), have low shared temporal cognition, the relationship between polychronicity diversity and team performance is significantly negative but when shared temporal cognition is high, the relationship is positive but not significant. They attributed the positive relationship to a team leader who actively manages the shared temporal aspects of teamwork. They also found that diversity in pacing style is more positively related to team performance when team temporal leadership is stronger. Although there will not be a team leader

who manages diversity issues of the team in the team building activity, the team will collectively manage the issues during the collaborative planning process to develop a shared understanding of diversity issues and strategies. The importance of collaborative planning was also suggested by Woehr, Arciniega and Poling (2013) who suggested that team leaders and facilitators should encourage the teams to analyze and discuss the value profile composition of the team after they found that team value diversity was negatively related to process outcomes such as team cohesion and efficacy and positively related to team conflict.

Collaborative team norms are usually established after collaborative planning. Team members would come up with rules that will govern how they will interact with each other during team decision making. Adair, Hideg and Spence (2013) found that behavioral and metacognitive cultural intelligence had a positive relationship with team shared values, the extent to which a broad set of cultural values are endorsed by the team members, in culturally heterogenous teams. In the team building activity, team members learn collaboration skills. Collaborative planning will encourage team members to negotiate for a favorable team norm that works for all team members. Examples of team norms that may arise from this activity are: encourage introverts to speak up, allow introverts to reflect on the information, extraverts should refrain from dominating the conversion, spontaneous decision makers should refrain from making fast decisions, respect each other's differences and use differences to team's advantage. Team norms enhance trust through predictability of other's actions (Kramer, 1999). Therefore, collaborative planning may lead to trust through establishment of team norms.

In long-term teams, the more members differ on personality and styles, the longer it will take to negotiate shared group norms (Armstrong & Cole, 1994; Jackson & Ruderman, 1995). McGrath, Berdahl and Arrow (1995) observed that groups grow less diverse over time as work

culture, goals, methods, roles and procedures are established. The team building activity developed in this study aims to speed up the process of establishing shared norms through collaborative planning during initial encounter by proactively addressing diversity issues beforehand especially because newly formed temporary virtual teams do not have enough time to go through long period of interactions with other team members like long-term teams do.

2.1.8.6. Component 6: Finding Similarities

Previous research has found that finding deep-level similarities among team mates leads to more liking within the team (Byrne, 1971). Phillips, Northkraft and Neale (2006) found that teams who learned about deep-level similarities had greater feelings of attraction with their teammates than those in the control condition. Chou et al. (2008) found that shared work values are positively related to trustworthiness, trustfulness and team member performance. They also found that shared values are related to team member performance through the mediation of trustworthiness of MBA students. If group members perceive one another as similar on relevant dimensions, they are more likely to feel attracted to one another, facilitating group well-being (Newcomb, 1961). During the promotion of awareness and one's and other's deep-level diversity traits in the team building, there is a chance that they will discover traits wherein they are similar to others that will enhance team trust and team performance.

Aside from deep-level similarities, team members could also find similarities through shared work goals. Van Knippenberg, Dawson, West and Homan (2011) found that the negative relationship between diversity faultlines (gender, tenure & functional background) and organizational performance is weaker with higher shared objectives. Algesheimer, Dholakia and Gurau (2011) found that shared goals to perform and collective intentions to perform are positively related to expected team performance, which was related to actual team performance.

Virtual teams become unified in general, especially across distances, through a shared understanding of the group's purpose or goal (Barlett & Ghoshal, 1991; Lipnack & Stamps, 1993). The shared work goals stemming from the collaborative planning activity during the team building activity will enhance team trust and decision-making performance in the team.

2.1.8.7. Other Elements of Team Building

2.1.8.7.1. Social Interaction

This team building activity is based on the proposition that trust in virtual teams can be improved through social communication (Pinjani & Palvia, 2013). Research on diversity training has suggested that social interdependence (e.g. Paluck & Green, 2009) and contact under optimal conditions (Pettigrew & Tropp, 2006) help reduce prejudice against different others. Increasing the opportunities to interact with others during diversity training leads to increased affective outcomes (Kalinoski et al., 2013). Active participation of individuals during the team building activity is suggested to be more effective than merely passively listening to a presentation (Kalinoski et al., 2013). In the meta-analysis done by Kalinoski et al. (2013), they found that diversity training that provided more opportunities for social interaction (task interdependence and active participation) resulted in stronger effects on affective-based outcomes.

2.1.8.7.2. Multi-feature Approach

The team building intervention developed for this study is composed of six components. These components are interrelated with each other. Diversity education is effectively implemented by discussing the new-found awareness about how deep-level diversity affect team dynamics based on a team activity. Self-disclosure is not possible without the awareness of one’s own deep-level traits. Lack of awareness of self and other's traits would make it hard to educate the teams about the impact of diversity on the team. Without knowledge about diversity issues, it

would be hard to emphasize the importance of collaborative planning. Finding similarities cannot be completely attained without awareness of one's own and others' traits. Shared work goals cannot be completely attained without collaborative planning. The combination of these features creates a solid and comprehensive intervention that has a great possibility of increasing team trust and decision making performance in teams.

2.8.1.7.3. Virtual Team Training

Virtual team training provides companies an alternative to onsite instructions that gives companies an opportunity to save expenses (Hannafin & Hannafin, 1995). However, virtual team training is characterized by a physical separation between team members and facilitator (Goldstein & Ford, 2002) where eye contact and nonverbal cues may be lacking (Peters, 1993). Even though it presents a barrier, several things can be done using technology to promote better interaction such as exchanging materials and editing files together at the same time. In addition, one study found no significant difference between distance and traditional learning (Threlkeld & Brzoska, 1994). Although face-to-face interaction was suggested to be more effective than interaction through a computer (Kalinoski et al., 2013), the inherent structure of virtual teams simply do allow face-to-face interaction that makes virtual team interventions more fitting for them. The aim of this research is to develop an effective team building intervention for virtual teams given the unique challenges that they face. The team building activity promotes high quality interaction between team members and facilitator that was found to determine training success (Goldstein & Ford, 2002), positive attitudes and satisfaction in virtual teams (Zhang & Fulford, 1994). Since the impact of trust may be determined by the richness of the communication media (Olson & Olson; 2012), the team building used videoconferencing, the media with the highest level of richness that can be attained in remote teams.

Technology reliability is also an issue (Goldstein & Ford, 2002). When the equipment malfunctions, the learning and discussion process is hampered especially when there is no available technical support (Goldstein & Ford, 2002). Slow transmission and time-lag issues may also interfere with the interactions (Goldstein & Ford, 2002). Sounds may also be choppy and video resolution may not be good (Goldstein & Ford, 2002). It is important to choose a technology that is reliable and ensure that network connection is strong. The team building activity is implemented with reliable equipment provided by the university that addresses these concerns.

2.1.8.8. Summary

Diverse groups are more likely to get along when they share superordinate goals and have frequent contact and communication, knowledge and accurate understanding of each other and positive views of each other (Trianis, 1994). Under these conditions, group members are likely to experience each other as more similar, more understandable and, therefore, more predictable (Armstrong & Cole, 1994). The components of the team building activity is expected to increase psychological closeness of team members that leads to increased likelihood of trust development in teams (Armstrong & Cole, 1994), that in turn possibly affects team decision making performance. Giambatista and Bhappu (2010) suggest that the disadvantaged position of the diverse groups in this regard is reduced as the activity help teams become more mature.

2.1.9. Participant Motivations

Effective team building considers participant motivation. According to motivated information processing theory, motivation shapes cognitive processing that drives attention, effort, persistence and task strategies to reach a goal (Mitchell & Daniels, 2003). Participants will give attention to, process and retain information that is consistent with their desires (Kunda,

1990; Nickerson, 1998). When participants are intrinsically motivated, they will act based on their interest, curiosity and desire to learn (Ryan & Deci, 2000). Colquitt, LePine and Noe (2000) found in their meta-analysis that trainee anxiety is related to motivation wherein highly anxious individuals have less motivation. When there is anxiety, the negative issues need to be addressed. In a meta-analysis done by Kalinoski (2013), they found that diversity training that includes features that are related to higher trainee motivation had stronger effects on affective-based outcomes. Prior studies suggest that trainees who are presented with information about the program and its benefits that align with their own objectives as well as dates and times available for training had higher levels of motivation (Hicks and Klimoski, 1987; Krendl, Hare, Reid and Warren, 1996) leading to attainment of post-training commitment goals (Tannenbaum, Mathieu, Salas & Cannon-Bowers, 1991). Using as many motivational factors in the team building activity is very important (Goldstein & Ford, 2002). Sanders and Yanouzas (1983) have also noted that trainees come in training with different attitudes and expectations which may inhibit learning. Positive attitude leads to positive outcomes. The training has to be framed in a way that it would be viewed positively by the trainee (Quiñones & Ehrenstein, 1997). Lowman (1991) mentions that one of the ethical considerations for giving training is voluntary consent. Participants should not be coerced into engaging in self-revealing activities. Trainers should also believe in the value of what they teach. Goldstein and Ford (2002) also reminded that trainers should be aware of the cognitive demands that the training place on trainees. All of these issues were considered during the development the team building activity.

2.1.10. Moderators

In this study, certain variables influence the magnitude and direction of the impact of the team building on team decision-making performance. Therefore, a moderation analysis is a

proper analytical strategy (Hayes, 2013). The moderators are propensity to trust, attitude toward diversity, and perceived diversity.

2.1.10.1. Propensity to Trust

Propensity to trust is an "individual difference variable that describes the baseline level of trust an individual is willing to extend to nearly all those with whom they interact with" even before he or she knows anything about that party (Burke, Sims, Lazzara, & Salas, 2007, pp. 609) or "the general willingness to trust others" (Mayer et al., 1995, p. 715). An individual with high propensity to trust easily trusts other people even with lack of information to base trust judgments. It is considered a personality trait (Jarvenpaa et al., 1998; McDonough, Kahn & Barczak, 2001) that often results from past experiences (McKnight et al., 1998, Rotter, 1967, 1971, 1980). Propensity to trust is a major determining factor for initial trust formation (Robert et al., 2009) in terms of assessing another individual's ability, benevolence and/or integrity (Wildman, 2012). Other studies also confirm that propensity to trust has a positive direct relationship with trust (e.g. Aubert & Kelsey, 2003, Chen et al., 2011; Jarvenpaa et al., 1998).

Propensity to trust is expected to influence the extent of the impact of the team building on decision-making performance. An individual with high propensity to trust may not benefit as much from the team building intervention that aims to increase team trust because they already easily trust other people even when meeting other people for the first time while an individual with low propensity to trust may benefit more from the team building because the activity will give them enough and relevant information to help them develop positive trust judgments.

2.1.10.2. Attitude toward Diversity

Attitude toward diversity in teams is defined as "an individual's generalized evaluation of diversity in workgroups or the extent to which an individual likes working with or interacting with those from different backgrounds in work contexts" (Nakui et al., 2011, p. 2). Several scholars have assessed attitude toward diversity (e.g., Hostager & De Meuse, 2002; Kossek & Zonia, 1993; Montei, Adams,& Eggers, 1996; Strauss, Connerley, & Ammerman, 2003). One study noted that attitude toward diversity may affect feelings and performance in diverse groups (van Knippenberg & Haslam, 2003; van Knippenberg & Schippers, 2007) as individuals with positive attitudes toward diversity feel more comfortable interacting with team members resulting to performance-enhancing work interactions. This type of individual is also less sensitive and prone to the negative effects of intergroup bias leading to more effective information exchange with diverse team members (van Knippenberg & Schippers, 2007). They also generate better quality of ideas because they are more likely to be attentive to the ideas shared in a diverse group (Paulus & Brown, 2007; van Knippenberg & Schippers, 2007).

Several studies have already demonstrated the potential benefits of attitude toward diversity on the task performance of diverse groups (Homan et al., 2007; van Knippenberg et al., 2007). Nakui et al. (2011) found that the affective scale of attitude toward diversity had a significant direct effect on motivation and enjoyment in teams while the productive dimension of attitude toward diversity moderates the relationship between cultural diversity and team performance measured by quality of unique ideas. This finding is consistent with Homan et al. (2007) that demonstrates the positive effect of attitude toward diversity to a creativity task involving ethnically diverse groups. In contrast to other factors that have general positive effects on team performance regardless of the team's diversity such as social interaction anxiety and

preference for working in groups (Camacho & Paulus, 1995; Larey & Paulus, 1999), the specific and direct relation of attitude toward to diversity with team diversity dynamics explains the significant positive results on team performance in studies conducted (Nakui et al., 2011; van der Zee et al., 2009).

Nakui et al. (2011) suggest that in future research, it will also be important to find out how attitudes toward diverse workgroups affect specific types of tasks such as decision-making. Presumably, individuals with positive attitudes would be more motivated to carefully evaluate ideas presented by diverse group members and be willing to integrate them into the decision-making or problem-solving process (e.g., Homan et al., 2007).

Giambatista and Bhappu (2010) suggest that selecting diverse group members who have positive attitude toward diversity or providing some intervention or training program to enhance these attitudes may be important for fully tapping the potential of teams and addressing the disadvantages of diversity. Also, just as exposure to individuals from other races (contact hypothesis; Pettigrew & Tropp, 2008) may lead to positive attitude, exposure to individuals with different decision-making and communication styles may also lead to positive attitude especially with guidance and education. In this study, the team building activity provides training to enhance attitude toward diversity and expose team members to individuals with different decision-making and communication styles. Attitude toward diversity may affect the level of impact of the team building intervention on trust and decision-making performance since team members with high attitude toward diversity may be more open to learning about diversity and how to address the issues relating to it during the team building activity while team members with low attitude towards diversity may not; therefore, affecting the level of effectiveness of the intervention.

2.1.10.3. Perceived Diversity

Most research has focused on the impact of actual diversity on team functioning (van Knippenberg & Schippers, 2007). However, researchers have recognized that the impact of actual diversity on team function depends on whether it is perceived. Since different diversity traits become salient in different circumstances for different people (Hentschel, Shemla, Wegge & Kearney, 2013), correlations between actual and perceived diversity is very weak (e.g. Curry & Kenny, 1974; Harrison et al., 2002). For instance, when national diversity is high, age diversity may not be too obvious to the team. Harrison, Price, Gavin and Florey (2000) have found that actual diversity in conscientiousness and values were not related to perceived deep-level diversity. The role of perceived diversity in this study is important because social categorization process occur based on whether similarities and differences are perceived or not.

Furthermore, Harrison and Klein (2007) explain that perceived diversity has more direct impact on team dynamics than actual diversity. In one study, employee perceptions of diversity at the senior management and non-management levels were strongly related to overall performance (Allen, Dawson, Wheatley, & White, 2008). Turban and Jones (1988) also showed that the perception of attitudinal similarity between supervisors and subordinates, and not so much attitudinal similarity itself, was positively related to subordinates' satisfaction, performance ratings, and pay ratings. At the team level, several researchers have found that actual diversity in work teams has only an indirect influence on team outcomes, an effect mediated by perceptions of diversity (Harrison et al., 2002; Ries, Diestel, Wegge, & Schmidt, 2010). For example, Harrison et al. (2002) have found that perceived diversity mediated the relationship of actual diversity on team function.

Since the team building activity addresses diversity issues, perceived diversity may moderate the impact of the team building activity on trust and decision-making performance. Teams who perceive the differences in decision-making and communication styles may benefit more from the team building activity in terms of decision-making performance. Perceived diversity, in this study, comes in many forms such as perceived conversational dominance and perceived dependent decision-making styles. Each type of diversity was assessed to determine which one will become salient during team decision-making and moderate the impact of the team building activity on team performance.

**2.2. Conceptual Model**

Based on the review of literature presented above, this study tested the effectiveness of the developed team building intervention, which is the independent variable in this research. Decision-making performance is the dependent variable while team trust is the mediator. Propensity to trust, attitude toward diversity, actual diversity and perceived diversity are the moderators. Below is the conceptual model that explains the relationship among the chosen variables for temporary virtual teams:

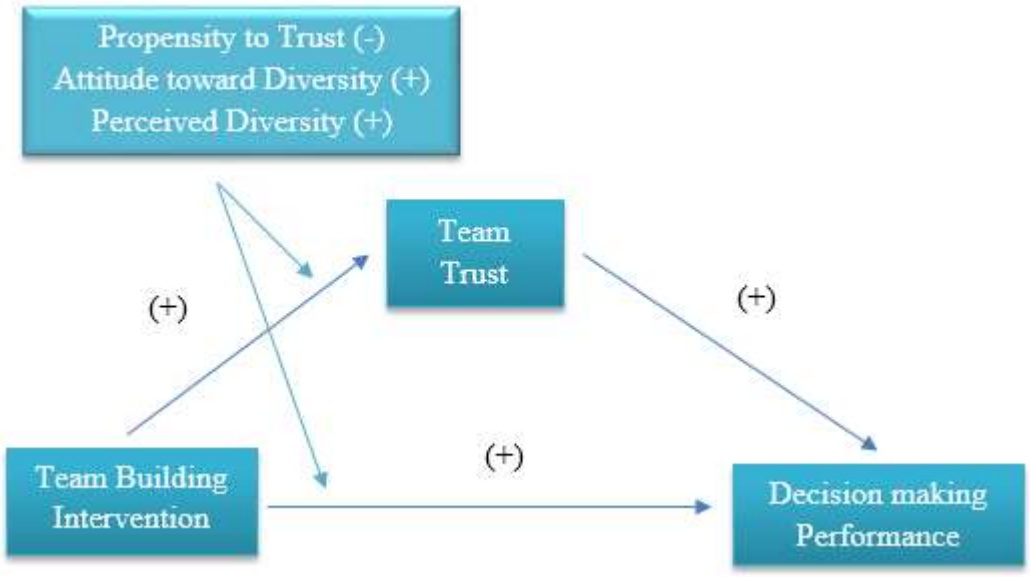


**Figure 4. Conceptual Model**

### 2.3. Hypotheses

Based on the conceptual model, the hypotheses of this study are:

**$H_1$:** The team building intervention has a positive direct impact on virtual team decision-making performance.

**$H_2$:** Team-trust will mediate the positive impact of the team building intervention on virtual team decision-making performance.

**$H_3$:** Propensity to trust will negatively moderate while attitude toward diversity and perceived diversity will positively moderate the indirect impact of the team building intervention on decision-making performance through team trust.

# CHAPTER 3

# METHODOLOGY

## 3.1. Literature Review

### 3.1.1. Mixed Methods Research Design

A mixed method research approach (Creswell, 2013) tested the hypotheses of this study. Mixed methods research incorporates elements of both quantitative and qualitative approaches placing it in the middle of the research method continuum (Creswell, 2013). This methodology started around the late 1980s and early 1990s in the field of evaluation, education, management, sociology and health sciences. Since then, it has undergone different stages of development through scholarly debates and resolutions. In recent years, many of the proponents of mixed methods research have begun to recommend and promote mixed method research as a separate method or design. Particularly, Tashakkori and Teddlie (2003) have named mixed methods research as the "third methodological movement". Others call it blended research (Thomas, 2003), integrative research (Johnson and Onwuegbuzie, 2004), multimethod research (Hunter & Brewer, 2003), triangulated studies (cf. Sandelowski, 2003), and mixed research.

Both quantitative and qualitative types of research design have benefits and disadvantages (Creswell, 2013). Quantitative approach provides an empirical finding that explains a bounded version of the phenomena while qualitative approach explores the richness of a phenomena (Corbin & Strauss, 1990; Donalek, 2004; Grey, 1998; Ornek, 2008). The type of research design used also has implications on the generalizability and validity of the study. In mixed method approach, the two designs are combined to take advantage of their strengths that

will enable us to better understand the problem or question. It also minimizes the disadvantages by letting the strength of each method compensate one another.

Although academic purists argue that quantitative and qualitative paradigms should never be mixed (Howe, 1988), Johnson and Onwuegbuzie (2004) claims that under the pragmatic view, the bottom line of choosing the best research approach is to be able to answer important and pertinent research questions. Case and Light (2011) further support this idea by claiming that the bottom line is not whether the two methodologies can be mixed, it's whether the kind of methods employed can answer the research question.

An embedded mixed methods approach will be conducted for this study (Creswell, 2013). It is an advanced mixed method that incorporates other simple approaches such as convergent, explanatory sequential and exploratory sequential. In an embedded approach, one or more forms of data are considered within a larger design. In this study, qualitative data will be nested under the quantitative research design. Qualitative data will be collected during (convergent) and after (sequential) the quantitative experiment. This approach fits the intent of the study (Creswell, 2013) because it enables us to understand experimental results by exploring the perspectives of participants during and after the intervention. The qualitative data will be used to support and to add depth to the larger quantitative research design, which is the hypothetical deductive. Below is the visual representation of the embedded mixed methods research design (Creswell, 2013).

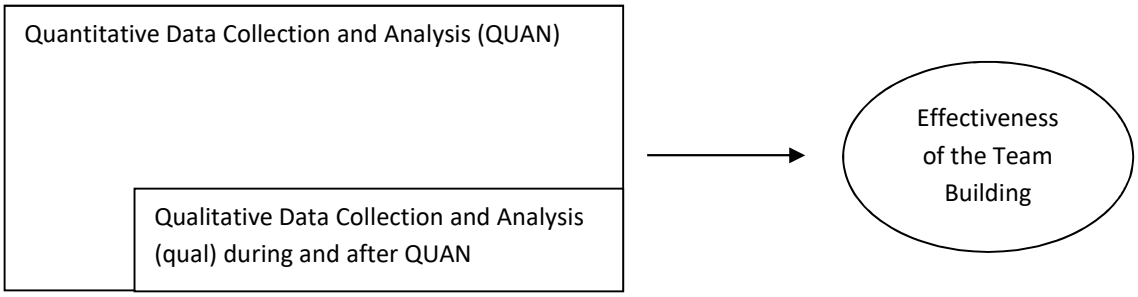


**Figure 5. Embedded Mixed Methods Research Design**

3.1.1.1. Quantitative Method Approach

For the quantitative part, the team building intervention was tested using a post-test only control group experimental design. This design allows the experimenter to manipulate one or more independent variables and to assess the impact on one or more dependent variable. This research only has one independent variable (team building intervention) and one dependent variable (decision making performance) with two subcomponents, namely, objective and perceived performance measured through process satisfaction. An experimental design enables the assessment of the impact of nonmetric independent variable on metric dependent variables. Post-test only control group experimental design also provides a great degree of control and internal validity (Creswell, 2013) that are needed to test the effectiveness of the team building intervention. Pre-tests are not included in the research design because pre-tests may influence post-test results of the experiment (Creswell, 2013) and also randomization was built into the participant assignment to treatment and control.

Random selection eliminates systematic bias in assigning the individuals to teams and experimental condition (control or treatment) so that the outcome of the study can be attributed to the treatment (Keppel & Wickens, 2003). Participants were randomly assigned to 2 to 4-person teams. Team size was held relatively constant because studies have found that it can

affect team performance in certain settings (LePine, Piccolo, Jackson, Mathieu & Saul, 2008). The experiment was conducted online using Webex. The table below is a representation of the post-test only control group experimental design.

| | | | |
|---|---|---|---|
| **Random Assignment** | Group 1 | Treatment | Measurement |
| | Group 2 | Control | Measurement |

**Table 1. Post-test Only Control Group Experimental Design**

As shown in the table, teams were randomly assigned to either group 1 (treatment group) or group 2 (control group). Treatment was given to group 1 consisting of the team building intervention. The control group worked on the decision-making task without the team building activity. Measurements were taken after the intervention was completed.

3.1.1.2.1. Threats to Validity

Several threats to validity can emerge in quantitative research (Creswell, 2013). History, maturation, and regression are not threats to validity for this research because the research setting occurs in a very short time frame (2 hours). A two-hour session is not enough time for participants to change, mature or regress naturally. Selection of participants who have certain characteristics that may impact the outcome is another threat to validity. This was addressed through random selection. Another threat is mortality where participants may drop out of the experiment due to various reasons. This was addressed by recruiting a large sample to account for dropouts. The characteristics of participants who dropped out and those who didn't were also compared. Compensatory/resentful demoralization may also be a threat as participants who do

not receive treatment may feel resentment. To address this, the control group were told that they have the option to go through the team building activity after the study is complete.

3.1.1.2. Qualitative Method Approach

Qualitative data were collected through discussion and reflection questions during the team building activity, observation during team decision making and open ended interview questions after the experiment. Attaining information from varying data sources is called triangulation, known to increase the validity of the analysis. Qualitative questions were aligned to the intent of the quantitative study by eliciting in depth answers relating to perceptions of diversity, trust and decision making. Coding and thematic analysis was used to analyze the qualitative information based on the following rules: find repeating events involving the individuals or teams to form a theme (Case & Light, 2011; Corbin & Straus, 1990). Qualitative research methods such as phenomenology and phenomenography, for instance, rely on the repetition of experiences to determine the overall theme (Donalek, 2004; Ornek, 2008). Note that the qualitative findings will only supplement the quantitative results.

**3.2. Sample Size**

ANOVA, the data analysis method used in this study, is greatly affected by sample size. The sample size for this study was calculated based on several requirements. For an experimental research design, the basic requirements for sample size are: (1) total number of participants in each group must be greater than the number of dependent variables and (2) the recommended minimum sample per condition is 20 (Hair, Black, Babin & Anderson, 2009). Aside from these basic requirements, based on power analysis, the sample size for an experimental research design also depends on four factors which are (1) the desired level of statistical significance or alpha (α), (2) amount of power desired, (3) effect size and (4) number of covariates (Lipsey, 1990).

Alpha (α) was set at 0.05, a value with the right amount of restrictiveness. Power is the probability that the statistical test will detect an effect if it exists (1 - β). Power was set at .80, the accepted level of power in literature (Cohen, 1988). An alpha that is too restrictive will reduce the power because it will make it harder to find a significant difference. On the other hand, increasing alpha makes the researcher more likely to detect a small group difference; however, it also increases the likelihood of falsely rejecting a null hypothesis. Therefore, there must be a balance between alpha and power. Effect size was set to moderate. Effect size is the expected difference in means between the control and experimental groups expressed in standard deviation units. The calculation of effect size for this study is discussed in the following section. Equal or approximately equal sample sizes per group were maintained even though computer programs can account for differences in group sizes. Using GPower 3.1 tool, sample size was calculated to be 68 teams total, 34 per condition (see Appendix A for GPower calculation). This translates to 204 individual participants. This sample size fits the recommendation of Läuter (1978) as shown below.

| | Number of Groups | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **3** | | | | **4** | | | | **5** | | | |
| | **Number of Dependent Variables** | | | | **Number of Dependent Variables** | | | | **Number of Dependent Variables** | | | |
| **Effect Size** | **2** | **4** | **6** | **8** | **2** | **4** | **6** | **8** | **2** | **4** | **6** | **8** |
| **Very Large** | 13 | 16 | 18 | 21 | 14 | 18 | 21 | 23 | 16 | 21 | 24 | 27 |
| **Large** | 26 | 33 | 38 | 42 | 29 | 37 | 44 | 46 | 34 | 44 | 52 | 58 |
| **Medium** | 44 | 56 | 66 | 72 | 50 | 64 | 74 | 84 | 60 | 76 | 90 | 100 |
| **Small** | 98 | 125 | 145 | 160 | 115 | 145 | 165 | 185 | 135 | 170 | 200 | 230 |

**Table 2. Sample Size Requirements per Group for Achieving Statistical Power of .80 in ANOVA**

3.2.1. Effect Size

The effect size was calculated based on a previous meta-analysis on team building and diversity training. Klein et al. (2009) found, in their meta-analysis, that all types of team building intervention had an effect size of 0.31 (r) on all team outcomes, which is considered a small effect (Ferguson, 2009). This is based on effect sizes from 26 independent studies with a combined sample size of 579 teams. In particular, an effect size of 0.44 (r) was found for the effect of team building on affective outcomes. This is based on effect sizes of 19 independent studies with a combined sample size of 482. An effect size of 0.26 (r) was found for the effect of team building on performance based on effect sizes from 18 independent studies and combined sample of 52 teams. Prior studies also examined mean effect sizes of different components of team building such as goal-setting, problem solving, role clarification and interpersonal relations. Based on effect sizes from 13 independent studies with a combined sample of 140 teams, they found that the interpersonal relations component of team building has an effect size of 0.26 (r) on

all team outcomes. A meta-analysis done by Klein et al. (2006) found that team-building interventions have an average effect size of 0.573 (r) on all team outcomes, 0.428 (r) on team performance improvements, and 0.384 (r) on team member affective outcomes. Kalinoski et al. (2013) found in their meta-analysis that diversity training had an effect size of 0.30 (Cohen-d) on affective-based outcomes. They also found that diversity training had larger effect size on trainee self-efficacy (0.55, Cohen-d) than on trainee attitudes (0.26, Cohen-d). Based on these sources, this research estimates the range of effect size of team building intervention on trust to be 0.384 - 0.44. The estimated range of effect size of team building intervention of decision making performance would be 0.26 - 0.573. Correlation effect size of 0.20 is often considered small, 0.50 is considered medium and 0.80 is often considered large (Ferguson, 2009). Based on this, the estimated effect sizes range from small to moderate. The effect sizes from the meta-analysis on diversity training is not included in the estimate of the range because these interventions are mostly implemented on the organizational-level; hence, that may be the reason why their effect sizes on affective outcomes and performance are lower. Team interventions have more direct impact on affective outcomes and performance so effect sizes from meta-analysis that explored team-level interventions were considered in the estimate.

Since this research is testing a difference of means, the range of effect size will be converted from r to d. To convert r to d, the formula below is used (Borenstein, Hedges, Higgins & Rothstein, 2009):

$$d = \frac{2r}{\sqrt{1 - r^2}} \qquad \text{(Eq. 1)}$$

The resulting range is 0.63 - 1.4, which is small to moderate. Effect size (d) of 0.41 is considered small, 1.15 is considered moderate and 2.7 is considered large (Ferguson, 2009). Therefore, the effect size (d) ranges from small to moderate.

## 3.3. Description of the Study Sample

200 mechanical, civil, electrical, computer, and engineering management students (68 engineering student teams) from Old Dominion University participated in the study. These students received extra credit for participating in the study. In addition, each student had the chance to win $50 visa gift card for participating in the experiment and interview. The students were informed that the purpose of the research is to study team dynamics in virtual team decision making. The Institutional Review Board for human subjects research approved the study.

## 3.4. Procedures

### 3.4.1. General Procedures

#### 3.4.1.1. Treatment and Control Group

1. Participants registered online. During the registration process, participants:
    a. filled out a survey about their demographic information (race/ethnicity, age, gender), undergraduate-level, major and virtual team experience.
    b. took assessments for Communication Styles Inventory (CSI) and General Decision Making Styles Inventory (GDMSI), propensity to trust and attitude toward diversity survey instruments.
    c. chose the schedule that they prefer to participate in the experiment.
2. According to the schedule provided, participants were randomly assigned to teams. Each team was randomly assigned to either treatment or control group.
3. Participants were notified about the schedule of their experiment through email. They also received instructions about how to join the meeting and use Webex.
4. Before the actual experiment, the profile of the team was summarized in a table (see Appendix B), which was used for the team building activity.

5. Participants received reminders of experiment schedule.
6. On the day of the experiment, the participants and the facilitator joined the Webex meeting. The facilitator performed a video and sound check. Before starting, the facilitator recorded the session.
7. The facilitator greeted each participant and explained the purpose of the study.
8. The team building intervention was administered to the treatment group (see next section on team building intervention procedures for details)
9. After the team building intervention, the team worked on a team decision making task. The control group worked on the task right away without the team building activity.
10. After the task, participants completed a set of survey instruments (trust and perceived decision-making performance, perceived diversity, attitude toward diversity, and familiarity of team members). They also indicated whether they wanted to participate in an interview (see Appendix F for the interview questions).
11. Participants were thanked and debriefed.
12. After all data were collected, the reward was given to a randomly chosen participant.

3.4.2. Team Building Intervention Procedures

(1) The facilitator administered a short team decision-making task called Road Accident Team Decision Making Activity (direct experience element) (15 mins)

(2) The facilitator administered the team building activity (50 mins)

   a. The facilitator presented reflective and discussion questions using a Powerpoint presentation (see Appendix C).

b. After the participants reflected on the questions, the facilitator provided a formal explanation aimed at educating the teams about diversity issues that affect team decision making (diversity education)

c. The facilitator presented the team's deep-level traits profile that shows the decision-making and communication styles of each team member in a table using Powerpoint Presentation (awareness of self and other's traits) (see Appendix B for illustration) while emphasizing that it is normal to have differences that the team should use for their collective benefit. The team answered discussion questions to share more about themselves (self-disclosure) (see Appendix B). More detailed information about each of the team member's trait and how they affect the team decision-making process was explained by the facilitator (awareness of how deep-level diversity affect team decision-making and diversity education). Similarities were discussed during this session as well (finding similarities).

d. The facilitator facilitated development of collaborative norms that address diversity issues (collaborative planning).

e. The facilitator asked the team members how they would apply what they learned to the next team decision-making activity (collaborative planning).

f. The facilitator thanked and debriefed the team, and then introduced the team to the decision-making task.

**3.5. Decision-making Task**

The team worked together on a task known as the Murder One: Information Sharing adapted from Pfeiffer and Jones (1977) (see Appendix D). This type of task involves unique information gathering, data interpretation, and assessment of alternatives (Smith & Vanecek,

1990). This task requires heavy interpersonal and task-related interaction. To mimic the work of engineers, it involves analysis of a complex scenario based on objective data (Herold, 1978) instead of social issues such as individual interests and preferences (Smith & Vanecek, 1990). This case doesn't require expertise in any specific field to avoid any biases due to different levels of expertise.

In this task, there are seven murder suspects from whom the team must choose the guilty one based on the information that is given to them during the team decision making activity. Each team member held unique information that others don't have. To be able to solve the case correctly, participants had to uncover and share their unique information and use the unique information to eliminate innocent suspects. There is only one correct answer to this case that enables a straightforward decision performance measure.

**3.6. Measures**

3.6.1. Dependent Variables

3.6.1.1 Team Trust

A modified version of Pearce et al.'s (1992) instrument developed by Jarvenpaa and Leidner (1999) was used for this study (see Appendix E). Jarvenpaa and Leidner (1999) modified the instruments to reflect team-level instead of dyad-level unit of analysis. They claim that a collective-level measure of trust is possible even if the team may consist of one individual who is recognized as less trustworthy (Jarvenpaa et al., 1998). For this study, rwg, ICC (1) and ICC (2) were used to justify aggregation. They performed a standard item reliability test to determine which items contribute to the reliability of the trust measures. Items with a loading lower than 0.4 were eliminated. In the reliability test, they found that Pearce et al.'s (1992) scale had a reliability of .92.

Three more trust constructs (benevolence, integrity and competence) were used based on established scales by McKnight et al. (2002) with construct reliability above .90. Confirmatory factor analysis and constrained analyses demonstrated convergent validity and discriminant validity respectively.

3.6.1.2 Decision-making Performance

Decision-making performance was assessed using a summed measure of eliminated suspects based on sharing of unique information with the group. Team performance is a configural team property where the sum of individual team members' contributions reflects team performance (Klein & Kozlowski, 2000) due to the nature of the task where each team member holds a unique information that increases the team's performance when shared. Therefore, the better each individual performs, the better team performance.

3.6.1.3. Propensity to Trust

I measured the four propensity to trust constructs (overall, benevolence, integrity, and competence) using established scales by McKnight et al. (2002) with construct reliability above .80. Confirmatory factor analysis and constrained analyses demonstrated convergent validity and discriminant validity respectively.

3.6.1.4. Attitude toward Diversity

This study used the discomfort with differences dimension of the universal-diverse orientation (UDO) as a measure of attitude toward diversity. Miville et al. (1999, p. 291) define UDO as "a social attitude characterized by awareness and acceptance of both the similarities and differences that exist among people." Discomfort with differences, pertains to a negative disposition toward diversity, reflected by the degree to which a person feels tension and

discomfort in connections with different others (Fuertes & Brobst, 2002; Fuertes et al., 2000; Miville et al., 1999).

Bartikowski and Walsh (2015) found that universal-diverse orientation mediated the relationship between national identity and reluctance to purchase foreign products. Although this measure has not been linked with team performance, the study used the discomfort with differences as a measure of attitude toward diversity. Discomfort with differences is relevant to decision-making and communication styles because some individuals feel discomfort when around people with different decision-making and communication styles.

3.6.1.5. Perceived Diversity

Although some research measured the general subjective perception of differences (see Hentschel et al., 2013), we asked participants to rate each type of diversity to determine which one is the most salient to them (Volk, 2008) using a 7-point Likert-type scale.

3.6.1.5.1. Decision-making and Communication Styles

3.6.1.5.1.1. General Decision-Making Style Inventory (GDMSI)

The scale was developed by Scott and Bruce (1995). The scale is composed of 25 items which can be rated on a five-point Likert type scale. The scale has been reported to have appropriate construct validity (Alam, 2010; Loo, 2000; McCrae & Costa, 1990; Scott & Bruce, 1995; Thunholm, 2004). Other studies that have used it have shown its high reliability and construct validity (Alam, 2010; Batool, 2003; Riaz, 2009).

3.6.1.5.1.2. Communication Styles Inventory (CSI)

To come up with this inventory, De Vries et al. (2009) conducted a lexical study under the assumption that any construct that one wants to study is embedded in language (Galton, 1884; Goldberg, 1990). Using 744 adjectives and 837 verbs from the dictionary, factor analysis

revealed the seven main communication styles dimensions. This was further developed resulting to six dimensions including expressiveness, preciseness, verbal aggressiveness, questioningness, emotionality, and impression manipulativeness (De Vries et al., 2013). The resulting inventory was found to have correspondence with Gudykunst et al. (1996) Communication Style Scale. Devries et al. (2009) found that their communication styles inventory is also associated with HEXACO Personality Inventory - Revised (HEXACO-PI- R) and Revised NEO Personality Inventory (NEO-PI-R) which supports the integration of trait and styles. Based on item and factor analysis, De Vries, Bakker-Pieper, Konings and Schouten (2011) have found that all the reliabilities of all domain-level scales surpassed .80 level. They found that the CSI has medium to high levels of convergent validity with lexical marker scales and behavior-oriented communication scales and discriminant validity with nonbehavioral intrapersonal cognitions and feeling vis-a-vis communication. The scale is composed of 96 items rated on a five-point Likert type scale. However, for this particular study, only 40 items were chosen to avoid participant mental fatigue while taking the survey.

3.6.2. Aggregation to Team-level Analysis

3.6.2.1. Shared Properties

Team trust and perceived performance are shared team properties that require within-team consensus (Klein & Kozlowski, 2000). A referent shift consensus was used in the items of the survey. To justify aggregation of individual-level construct to team-level construct for all dimensions of trust and perceived performance, Intraclass Correlation (1) or ICC (1) was used to provide an estimate of the proportion of the total variance that is explained by team membership (Bliese, 2000). The higher the ICC (1) the more alike the raters on their assessment (James, 1982). ICC (2) is a function of ICC (1) adjusted for group size (Bliese & Halverson, 1998). Other

things equal, the larger the group size, the larger ICC (2). The rationale for this is that group means based on team with more individuals are more reliable than teams with fewer individuals.

For ICC (1) and ICC(2), the general recommend cutoffs are .12 (James, 1982; Schneider, White, & Paul, 1998) and .60 (Glick, 1985) respectively. However, because ICC(2) is highly influenced by the number of raters from each group, the small average team size of this study led to a low ICC (2) value (Gong, Law, Chang, & Xin, 2009). Multiple recent studies have suggested that for small team sizes, ICC (2) values greater than .25 are still acceptable as long as Rwg and ICC (1) values are significant (e.g., Dietz, van Knippenberg, Hirst, & Restubog, 2015; Dong, Liao, Chuang, Zhou, & Campbell, 2015). I calculated an ICC(1) value of .19 and ICC (2) of .41 for overall trust, ICC(1) value of .16 and ICC (2) of .36 for benevolence trust,, ICC(1) value of .14 and ICC (2) of .32 for integrity trust, ICC(1) value of .16 and ICC (2) of .37 for competence trust, and ICC(1) value of .22 and ICC (2) of .45 for process satisfaction. Interrater agreement was measured via the Rwg statistic (James, Demaree, & Wolf, 1984; Kozlowski & Hattrup, 1992). Although there is no absolute standard value for these aggregation indices (Biemann, Cole, & Voelpel, 2012), previous studies have suggested that an Rwg value greater than .70 is sufficient to justify the aggregation (Bliese, 2000). If the variability within a unit is substantially smaller than the variability expected by chance, then the resulting Rwg value suggests that it is justifiable to aggregate lower level data. It does not assess within- versus between-unit variability in a given measure, as ICC (1) and ICC (2) do (Klein & Kozlowski, 2000). I calculated an Rwg of .93 for overall trust, Rwg of .93 for benevolence trust, Rwg of .93 for competence trust, Rwg of .93 for integrity trust, and Rwg of .95 for process satisfaction. The test support the existence of team-level constructs; therefore, the individual-level constructs were aggregated to a team-level construct that was used in the data analysis.

3.6.1.2.1. Configural Properties

Composition models for higher level constructs (e.g. team-level) (Chan, 1998) are categorized into three basic types: global, shared and configural unit properties (Kozlowski & Klein, 2000). Global unit properties (e.g. team size) originate and manifest at the team-level since their characteristics are readily observable at the team-level. In contrast, both shared and configural properties originate from the individual-level then manifests at the team-level through emergence (e.g. trust, motivation). To assess configural and shared team properties, researchers must typically gather data from (or about) individual team members, but only shared team properties require the demonstration of within-group consensus or consistency (Klein & Kozlowski, 2000). The moderators of this study have configural properties; therefore, their aggregation at the team level create a different conceptualization of the variable, method and interpretation than the original disaggregated measure (Fischer, 2008).

Configural team properties stem from individual team members' experiences, attitudes, perceptions, values, cognitions, or behaviors (Klein & Kozlowski, 2000; Kozlowski & Klein, 2000). Examples include team personality composition (Barry & Stewart, 1997) and abilities (Moreland & Levine, 1992). Configural unit properties are relatively rare in the organizational literature, but they are rampant in organizations (Kozlowski & Klein, 2000). Unlike shared team properties, with configural team properties, researchers make no assumption that the individual characteristics such as personality and age are held in common by the members of the team. The individual contributions to configural unit properties are distinctly different. Therefore, the researchers strive to capture the array, pattern, distribution, variability or configuration of these individual characteristics within the team (Klein & Kozlowski, 2000).

With configural team properties, individual-level data are summarized to describe the pattern or configuration of the individual contributions (Kozlowski & Klein, 2000). Possible operationalizations of a configural team property include the sum (or average) of individual team member values, indices of variability among team member values, the minimum or maximum value among a team's members, and measures of the team network (e.g., density, homophyly) (Klein & Kozlowski, 2000). The appropriate operationalization of configural team construct depends on the guiding theoretical conceptualization (Kozlowski & Klein, 2000). When studying configural unit properties, researchers need to explain in detail the theoretical processes by which different individual contributions combine to yield the emergent team property (Kozlowski & Klein, 2000). The bottom-up processes that lead to the emergence of higher level constructs need to be specified. Therefore, theory and the nature of its emergence of the property drives the operationalization of the measure (Kozlowski & Klein, 2000). In this study, taking the average of the moderators is appropriate based on the additive nature of the constructs that will be further explained below.

When determining the team-level model incorporating configural constructs such as personality, attitude and perception, the careful definition and operationalization of team outcomes becomes necessary (Kozlowski & Klein, 2000). For example, it is important to determine how the variation in cognitive ability within a unit may be predicted to influence team performance or how the personality configuration of a team predicts team creativity. For this study, team performance is a configural team property where the sum of individual team members' contributions reflects team performance (Klein & Kozlowski, 2000) due to the nature of the task where each team member holds a unique information that increases the team's performance when shared. Therefore, the better each individual performs, the better team

performance. The team properties such as personality, attitude and perception affect team performance through the process of emergence (Kozlowski & Klein, 2000) since the final team performance originates from the cognition, affect, behaviors, or other characteristics of individuals that is amplified by their interactions (Allport,1954; Katz & Kahn, 1966).

The process of emergence can be clearly explained by Chan's (1998) additive composition model. Personality, attitude and perception constructs fit an additive model where the higher-level unit is a summation of the lower level units regardless of the variance among these units. Conventional selection methodology, for example, generally promotes a "more is better" perspective when applied to the team level. For example, having more individuals with high conscientiousness, a personality trait, promotes better team performance (de Guinea, 2011). In this study, the role of propensity, attitude and perception in the context of the team task can be deciphered. Since it is additive, if there are more individuals with low propensity to trust, high attitude toward diversity and high perceived diversity, the more the team building activity will lead to team performance since each team member who are encouraged to speak up during the activity due their level of propensity, attitude and perception will share their unique information that will increase team performance. In addition, no special knowledge, skills, and abilities are required for the task so the team performance won't depend on only one individual.

Although Jehn and Greer (2013) proposed to look at asymmetry in perceptions of conflict as an operationalization to show relationship with team performance and creativity, in our case, the variance of the lower level units is of no theoretical or operational concern for composing the lower level construct to the higher-level construct. If during the team activity, one team member perceived high diversity, but has not yet shared one's own unique information, the team building activity may encourage person to verbally share the information that will increase team

performance. As opposed to Jehn and Greer (2013), the willingness or reluctance to share information will either positively or negatively affect team performance in a linear fashion whereas with Jehn and Greer (2013), behaviorally engaging in relationship or process conflicts can distract individuals from the task itself (Jehn & Bendersky, 2003) indicating a nonlinear situation. Another example of a study that did not take variance into account, Glick's (1985) conceptualization of organizational climate consists of high or low on various dimensions regardless of the level of within-organization individual agreement. The researcher averaged the climate perceptions of individuals within each organization regardless of within-organization variance to represent organizational climate. Chan explains that the typology used for a construct depends on how the higher order construct is conceptualized. If the individual perceptual agreement is central in the definition of the higher order construct, then an additive composition model would be inappropriate. In our case, perceptual agreement is not the focus of the study; therefore, an additive model is appropriate.

The additive model was adopted by several empirical studies to describe team-level operationalization of personality traits such as openness to experience (Bradley, Klotz, Postlethwaite & Brown; 2013; Le Pine, 2003), conscienciousness (Le Pine, 2003) and team proactive personality (Chiu, Owens & Tesluk, 2016). The credibility of these methods is increased by the fact that all of these articles come from the Journal of Applied Psychology, a reputable journal. The authors of these articles claim that justification for aggregation statistics are not necessary because of the additive nature of the index (Chan, 1998). Specifically, Chiu, Owens and Tesluk (2016) further claim that the additive approach of composition has been widely adopted by previous studies to capture team proactive personality (e.g., Williams, Parker

& Turner, 2010). Since the moderators of these study closely resemble a personality trait, the additive model applies to them as well.

As further support for the use of the additive model to explain emergence, Kozlowski and Klein (2000) provide a differentiated typology of six different emergent processes, based on contextual constraints and interaction processes, for how lower-level phenomena manifest at higher levels. Such models can assist researchers in determining the most appropriate method for representing lower-level phenomena at higher levels. They claim that when emergence is more continuous and linear such as the case of this study, averaged or summed values are an appropriate method of representing lower-level phenomena at the team level. However, when emergence is more discontinuous and nonlinear, it is more appropriate to use dispersion or configural models to capture the emergent characteristic of the team.

Furthermore, Kozlowski and Klein (2000) presented one type of emergence that took into account moderate to high variance but still considered the effect linear and recommended using summation or mean as operationalization. This is called the pooled unconstrained model. With pooled unconstrained emergence, individuals in the team may have moderate to high variation in contribution so that individual contribution and team performance may be different but the construct is still aggregated to group mean to represent the higher-level construct. No restriction is placed on how much variability can be eliminated through averaging. Examples are absence, turnover, accidents (e.g. Hofmann & Stetzer, 1996; Mathieu & Kohler, 1990) where even though the events vary from unit to unit, they are counted and sometimes, summarized by means.

An analogy will help explain why the team-level moderator constructs are not operationalized as shared constructs (Kozlowski & Klein, 2000). If team self-efficacy is defined as stemming from the individuals' self-efficacy belief then composition model for the team self-

efficacy variable should be a summation (or average) of individuals' self-efficacy. On the other hand, if the theory suggests that the individual's belief in oneself is different from the belief in the team (Klein & Kozlowski, 2000), then a reference shift consensus model is needed where the meaning of the construct is shifted from individual to the team (Chan, 1998). Team efficacy (i.e., team members' belief in the efficacy of the team as a whole) is more likely than self-efficacy (individual's belief in their own individual efficacy) to be shared among team members as a result of team interactions and shared experiences (Klein & Kozlowski, 2000) This example illustrates the extent to which constructs may shift in meaning as a researcher shifts the levels of analysis (Klein & Kozlowski, 2000). Team or collective efficacy (e.g., Bandura, 1997; Kozlowski, Gully, Nason, & Smith, 1999), is quite different than team members' average self-efficacy. Fischer (2008) explains that conceptual, methodological and interpretative issues change at different levels of analysis. They stress that the question of the nature of constructs is a theoretical question. De Guinea (2011) suggests that the aggregation method will depend on the theory guiding the research. Whether the aim is studying a collective construct (e.g., cultural or organizational values and practices) or focusing on average levels of individual attributes, the aim of the study would determine how researchers measure and operationalize the construct of interest. In our case, we are interested in the average levels of individual attributes for three main reasons. First, since these configural unit properties are latent constructs, unobserved properties of the team (Kozlowski & Klein, 2000**)**, the team would not be a reliable source of measurement unless they have been together for a long time. Second, due to the nature of the experiment, which only lasted from 1 to 2 hours, the amount of interaction is not enough to form a shared contruct of propensity, attitude and diversity of the team. Lastly, even though these constucts are latent and unshared, the effect on team performance still emerges through their effect on the

information sharing process through an additive model. Therefore, even though Kozlowski and Klein (2000) claim that the mean of individual members' characteristics is generally not an appropriate summary statistic to depict a configural unit property, the use of average in this study has a theoretical basis.

Regarding the interpretation of the team-level operationalization, Hofmann and Jones' (2004) summary index model is used. They claim that when the aggregate of a variable of interest is computed, the score should be interpreted as the central tendency of individuals, not a shared property. They further note that most nation-level analyses in cross-cultural research fall into this category (e.g., Chinese Culture Connection, 1987; Hofstede, 1980; Schwartz, 1994). Hofmann and Jones (2004) and Fischer (2008) explain that this type of aggregation will capture an index about a collection of individuals that may relate to a true collective-level construct; however, they caution that researchers must think critically about what they have measured and about the meaning of their aggregate variable in light of their compositional model. For example, current research on personal values aggregated to a nation-level might be best interpreted as capturing average value endorsement of individuals, but they say little about the sharedness of the construct. In this study, although our collective construct is not a "true collective-construct" that can be assessed using referent-shift models (Fischer, 2008), I do acknowledge the limitation of the interpretation of the team-level construct of our moderators. They measure the central tendency of the individuals in the teams but do not claim sharedness of the property among team members.

To understand why propensity, trust and attitude can be conceptualized at the team-level, Morgeson and Hofmann (1999) explained how the function of a construct that is defined by its outputs or effects can provide a mechanism for linking constructs across levels of analysis.

Functions generally remain the same across levels. Therefore, a functional analysis provides a way to utilize knowledge about lower-level constructs when describing and measuring the collective phenomena. In this case, propensity to trust at the individual level is the willingness of an individual to trust a stranger. At the team-level, if we apply the function of the willingness of an individual to trust a stranger to the team-level, then team-level propensity to trust will be the willingness of the whole team to trust a stranger. However, for the team-level construct to emerge, a good amount of interaction needs to happen among the team members to be able form a shared understanding of the team's propensity to trust, a property that is not easily observable with short interaction.

Based on the arguments above, for this study, the average of the team members' propensity to trust, attitude toward diversity and perceived diversity will be taken.

## 3.7. Data Analysis

### 3.7.1. ANCOVA

Analysis of Variance (ANOVA) is a method used to compare treatment means (Mendenhall & Sincich, 2007). It provides a set of formulas, developed in the 1900s, to compute test statistics and confidence intervals to make inferences. Calculations can become quite tedious but the advancement of technologies has made it easier to do. ANOVA calculation formulas has corresponding regression models. It compares the variation between the sample means to the variation within sample for each group.

Analysis of Variance (ANCOVA) is an extension of ANOVA that takes into account covariates. Covariates remove extraneous variation in dependent variables due to uncontrolled independent variables. If the effects of covariate variables are not removed, increased within group variance would make it harder to detect significant effects. Controlling for extraneous

factors eliminates systematic errors that are outside the researcher's control that may bias the results. It also accounts for differences in the responses due to the unique characteristic of the respondent. Covariates are assumed to be linearly related to the dependent variables but not to independent variables. If the covariate is related to the independent variable, it will reduce the statistical power of the treatment because the variation extracted by the covariate will not be available for the treatment. Maximum number of covariates is computed as follows:

Maximum number of covariates = (.10 x Sample size) - (Number of groups - 1)

With a sample size of 68 teams, the maximum number of covariates that this study can use is 5. This study will use three covariates namely team size, virtual team experience, and familiarity. After ANCOVA adjusts the influence of covariates, a mean comparison can then be used.

3.7.2. Mediation and Moderation Analysis with Bootstrapping

To test for the mediation role of trust on the relationship between the team building intervention and decision-making performance and the moderation role of propensity to trust, attitude toward diversity and perceived diversity, PROCESS analysis with bootstrapping was applied using SPSS (Hayes, 2013). Whereas moderation analysis tests the influence of a factor on the size of the effect, mediation analysis tests whether variable exerts its impact on another variable through an intervening variable (mediator). Since X is a dichotomous variable (treatment/control), the direct effect is the difference in two group means while the mediator variable is held constant. The indirect effect is the difference between total effect and direct effect.

Bootstrapping technique was introduced by Bradley Efron (1979). This method uses computer intensive statistical method that generate empirical estimates of population mean

distribution called bootstrap means using sampling with replacement which is repeated several times.

# CHAPTER 4

# RESULTS

One-way ANOVA was run to determine the effect of the team building intervention on objective and perceived performance. While objective performance was measured by counting the correct number of eliminated alternatives, perceived performance, measured through process satisfaction, was assessed through a survey instrument. The team-building intervention is the independent variable where teams were randomly assigned to either treatment or control group.

## 4.1. Objective Performance Results

### 4.1.1. Evaluation of Assumptions

#### 4.1.1.1. Normality

Preliminary assumption checking revealed that univariate data was not normally distributed, as assessed by Shapiro-Wilk test ($p < .05$) for objective performance. In addition, the skewness z-score were beyond the ±1.96 cutoff z-scores showing lack of normality test at alpha of 0.05. However, since the Shapiro-Wilk test can be very sensitive to slight departures from normality, using it almost always leads to the rejection of the null hypothesis that claims normality (Mendenhall & Sincich, 2007). Even if there is a slight deviation from normality, according to Hair, Black, Babin & Anderson (2009), violation of the normality assumption has little impact especially with large sample sizes ($n > 30$) for ANOVA. They also claim that for moderate sample sizes, modest violations can be accommodated as long as the differences are due to skewness, not outliers. As shown in the next section, there are no detected extreme outliers for objective performance. Mendenhall & Sincich (2007) also confirms that for relatively large sample size (20 or more observations per treatment), ANOVA is robust with respect to

normality assumptions, which means that slight deviations from normality will have little impact on the validity of the inferences derived from the analysis.

**Table 3. Shapiro-Wilk Test of Normality (Objective Performance)**

**Tests of Normality**

| | Kolmogorov-Smirnov[a] | | | Shapiro-Wilk | | |
|---|---|---|---|---|---|---|
| | Statistic | df | Sig. | Statistic | df | Sig. |
| PERF | .217 | 68 | .000 | .902 | 68 | .000 |

a. Lilliefors Significance Correction

**Table 4. Z-Scores Test of Normality (Objective Performance)**

| | **Z-Score** | |
|---|---|---|
| | Skewness | Kurtosis |
| **Perf** | -2.86 | 0.78 |

To determine the extent of nonnormality, below are the histograms and normal probability plots for objective performance:

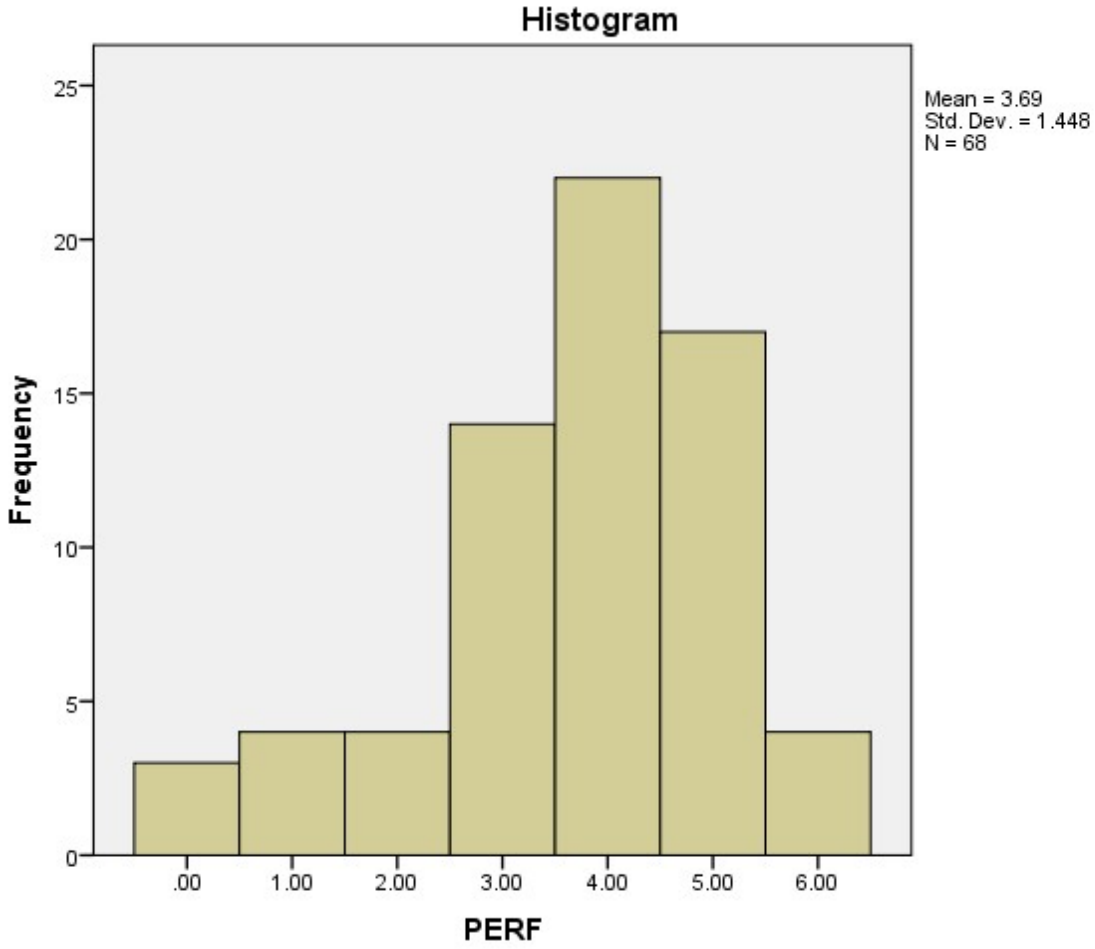


**Figure 6. Histogram - Objective Performance**

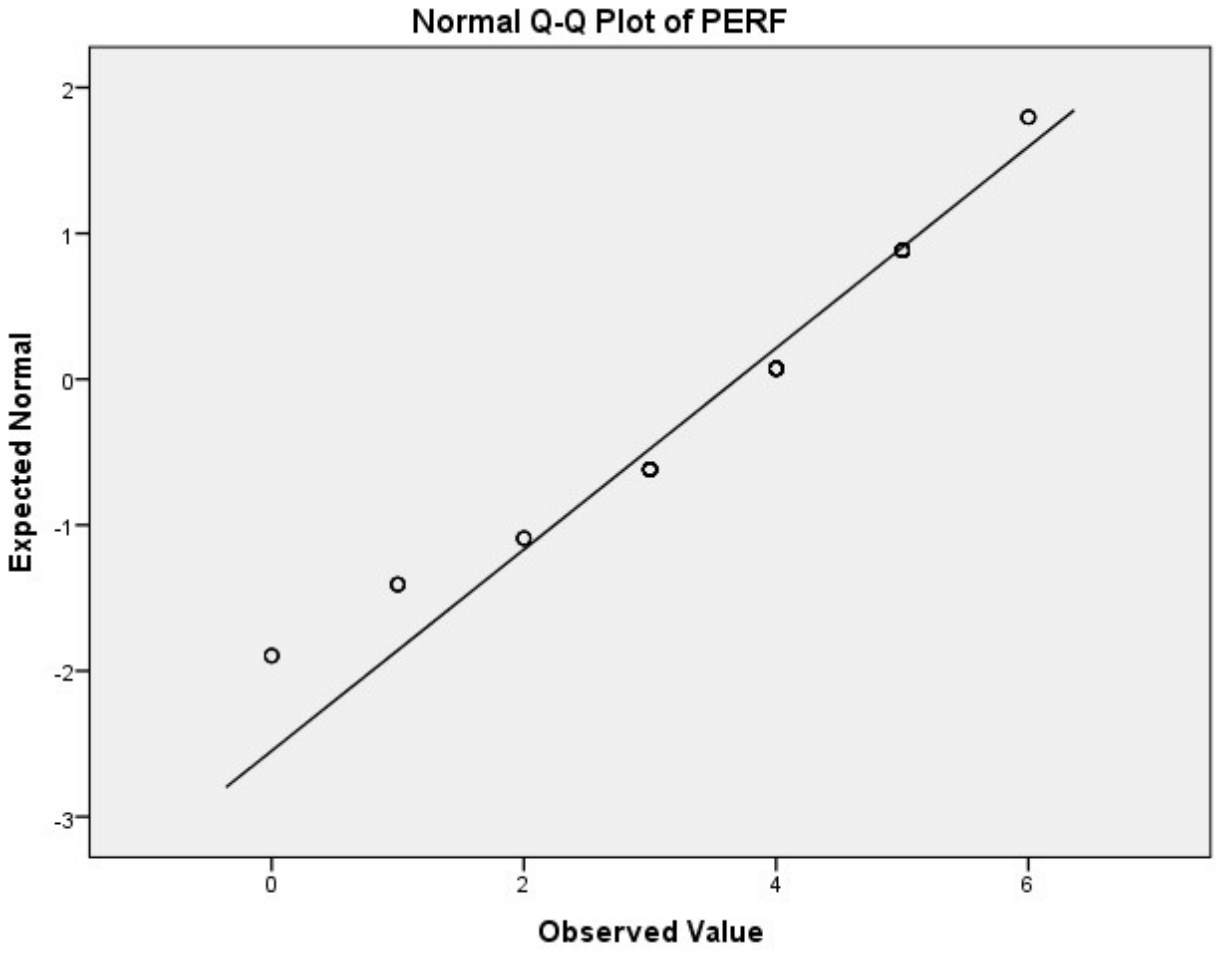


**Figure 7. Normal Q-Q Plot - Objective Performance**

Based on the graphs above, the deviations from normality are not very significant. Therefore, we can reasonably assume that the normality assumption is not violated.

4.1.1.2. Univariate Outliers

There were no univariate outliers in the data, as assessed by inspection of a boxplot for values greater than 1.5(IQR) from the edge of the box.

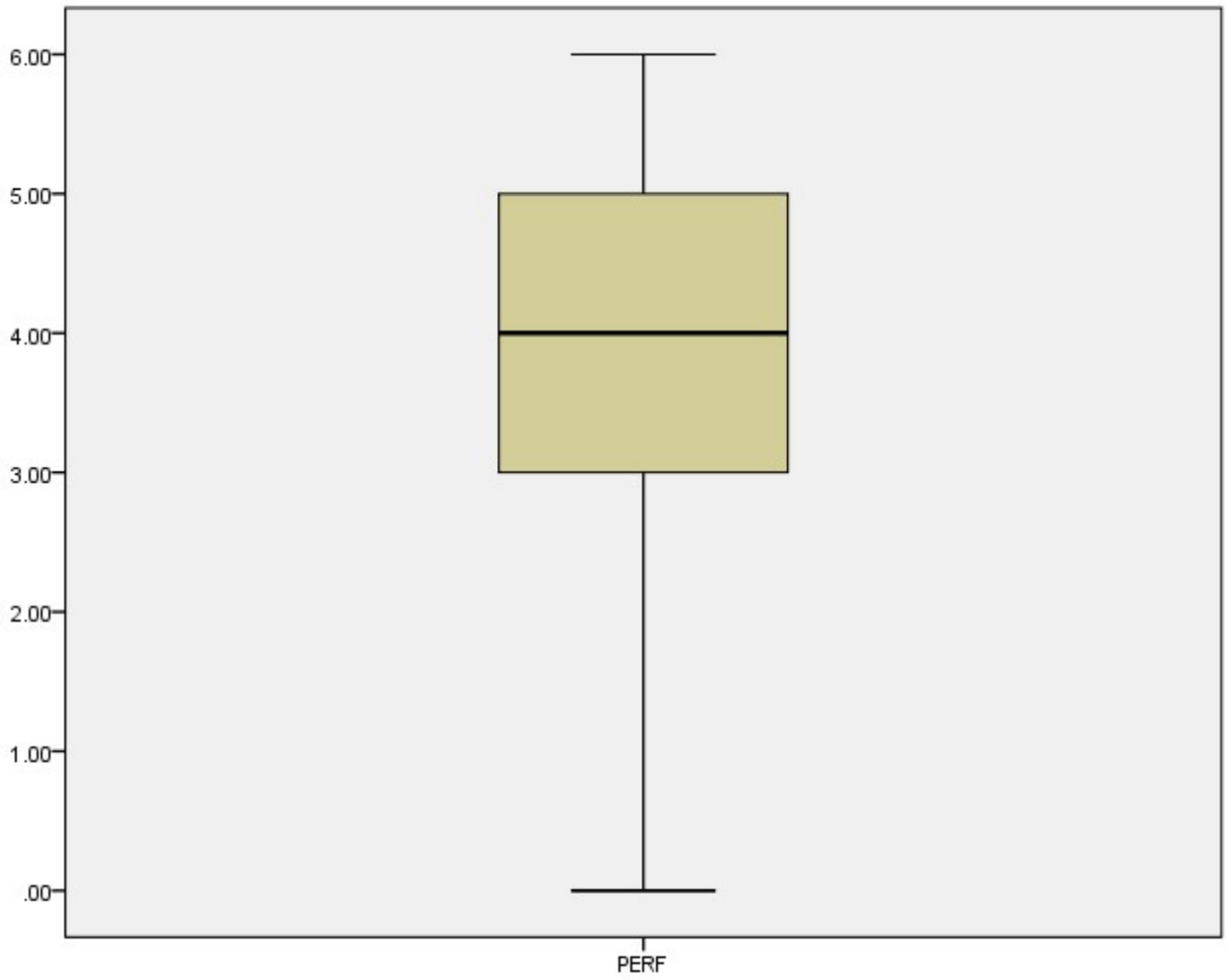


**Figure 8. Box Plot (Objective Performance)**

4.1.1.3. Homogeneity of Variances

Homogeneity of variance can be safely assumed as assessed by Levene's test for equality of variances ($p = .527$).

**Table 5. Levene's Test of Equality of Error Variances (Objective Performance)**

**Levene's Test of Equality of Error Variances[a]**

Dependent Variable: PERF

| F | df1 | df2 | Sig. |
|---|---|---|---|
| .404 | 1 | 66 | .527 |

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + OTrust + BTrust + ITrust + CTrust + Cond

4.1.2. Results – Direct Impact on Objective Performance

A one-way ANOVA was conducted to test hypothesis 1 to determine if the objective decision-making performance was different between treatment (n = 34) and control (n = 34) groups. Treatment group mean performance score (4.4 ± 0.9) was higher than control group (2.94 ± 1.4). Actual decision-making performance was statistically significantly different between the two groups, $F(1, 62) = 23.828$, $p < .0001$, $\omega^2 = 0.278$, observed power = .998, Cohen-d = 1.24 (moderate). The experimental group performed better than the randomized control group.

**Table 6. Test of Between-Subjects Effects (Objective Performance)**

**Tests of Between-Subjects Effects**

Dependent Variable: PERF

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared | Noncent. Parameter | Observed Power[b] |
|---|---|---|---|---|---|---|---|---|
| Corrected Model | 56.143[a] | 5 | 11.229 | 8.251 | .000 | .400 | 41.257 | .999 |
| Intercept | .115 | 1 | .115 | .085 | .772 | .001 | .085 | .059 |
| OTrust | 1.452 | 1 | 1.452 | 1.067 | .306 | .017 | 1.067 | .174 |
| BTrust | 11.696 | 1 | 11.696 | 8.595 | .005 | .122 | 8.595 | .823 |
| ITrust | 2.343 | 1 | 2.343 | 1.721 | .194 | .027 | 1.721 | .253 |
| CTrust | 8.322 | 1 | 8.322 | 6.115 | .016 | .090 | 6.115 | .682 |
| Cond | 32.426 | 1 | 32.426 | 23.828 | .000 | .278 | 23.828 | .998 |
| Error | 84.371 | 62 | 1.361 | | | | | |
| Total | 1067.000 | 68 | | | | | | |
| Corrected Total | 140.515 | 67 | | | | | | |

a. R Squared = .400 (Adjusted R Squared = .351)

b. Computed using alpha = .05

## 4.2. Perceived Performance Results

### 4.2.1. Evaluation of Assumptions

#### 4.2.1.1. Normality

Preliminary assumption checking revealed that the univariate data for process satisfaction was not normal as assessed by the Shapiro-Wilk test ($p > .05$). Mendenhall & Sincich (2007) claim that the Shapiro-Wilk test can be very sensitive to slight departures from normality making it almost always rejecting the null hypothesis that claim normality, limiting its practical use. Problems in skewness were found for the process satisfaction since its z-scores exceeded ±1.96 cutoff z-score for normality test at alpha of .05. However according to Hair, Black, Babin & Anderson (2009), violation of this assumption has little impact especially with large sample sizes

(n > 30) for both ANOVA. They also claim that for moderate sample sizes, modest violations can be accommodated as long as the differences are due to skewness, not outliers. As shown in the next section, there are no detected outliers.

**Table 7. Shapiro-Wilk Test of Normality (Perceived Performance)**

**Tests of Normality**

| | Kolmogorov-Smirnov[a] | | | Shapiro-Wilk | | |
|---|---|---|---|---|---|---|
| | Statistic | df | Sig. | Statistic | df | Sig. |
| PSat | .087 | 68 | .200* | .954 | 68 | .014 |

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

**Table 8. Z-Score Test of Normality (Perceived Performance)**

| | Z-Score | |
|---|---|---|
| | Skewness | Kurtosis |
| **Process Satisfaction** | -2.28 | .25 |

To determine the extent of possible nonnormality, below are the histograms and normal probability plots for perceived performance:

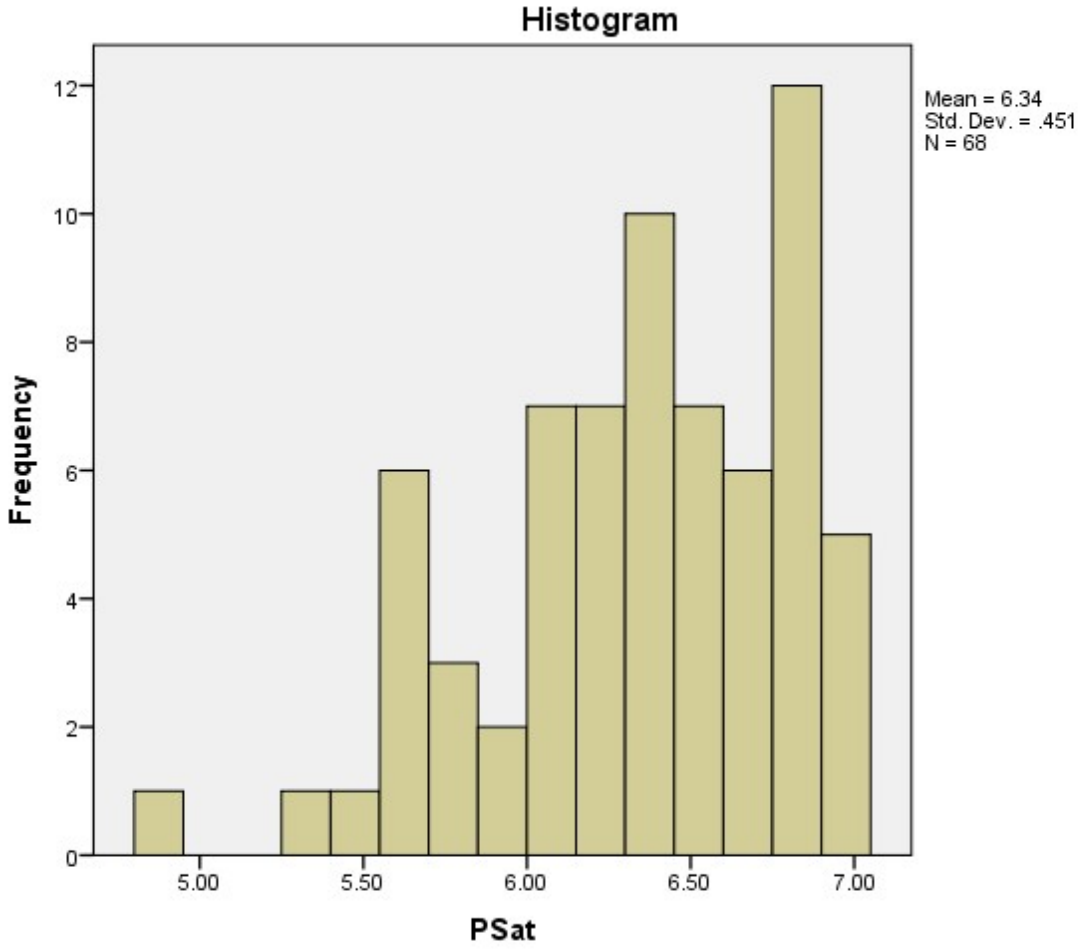


**Figure 9. Histogram – Perceived Performance**

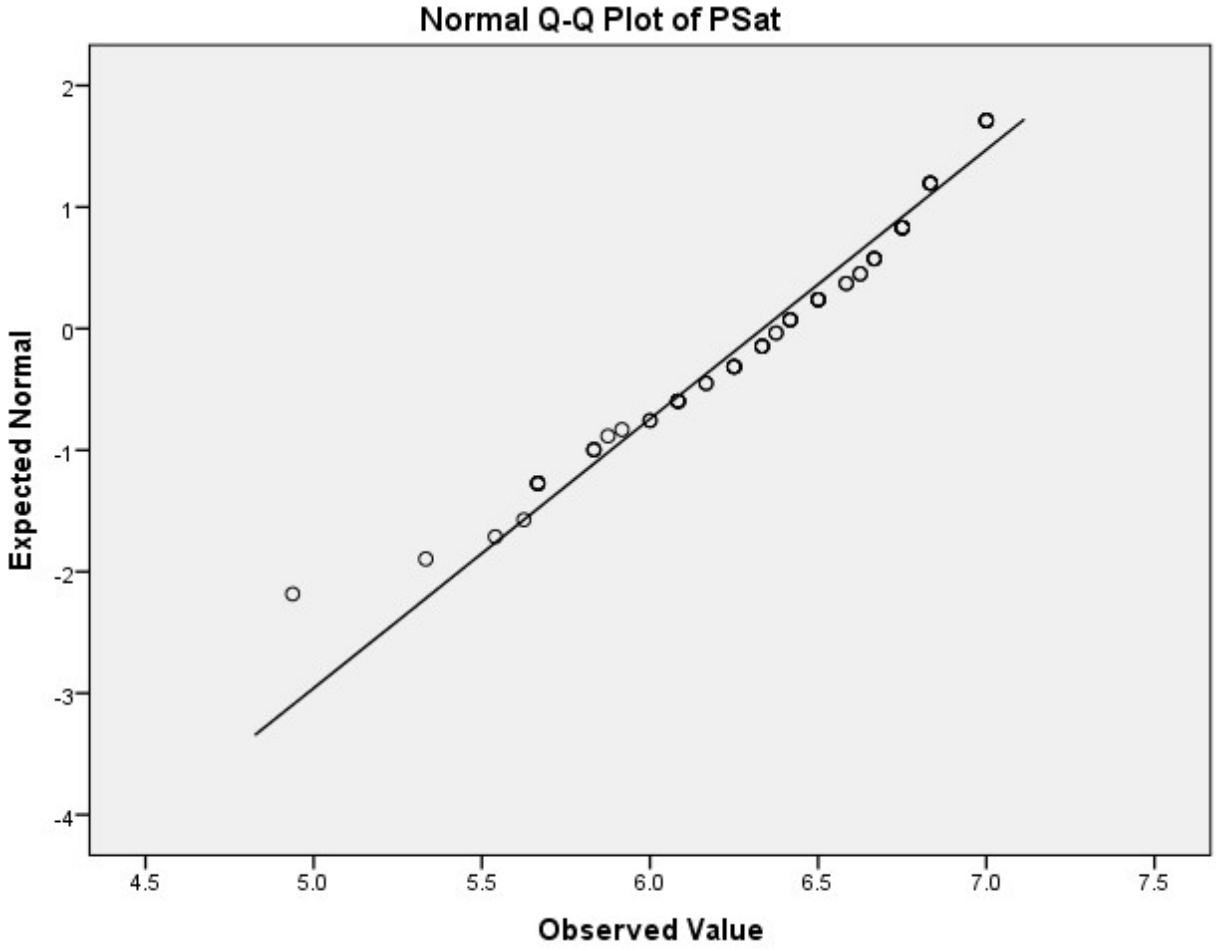


**Figure 10. Normal Q-Q Plot – Perceived Performance**

Based on the graphs above, the deviations from normality are not very significant. Therefore, the assumption of normality is not violated.

4.2.1.2. Univariate and Multivariate Outliers

There were no extreme univariate outliers in the data, as assessed by inspection of a boxplot for values greater than 1.5(IQR) from the edge of the box.

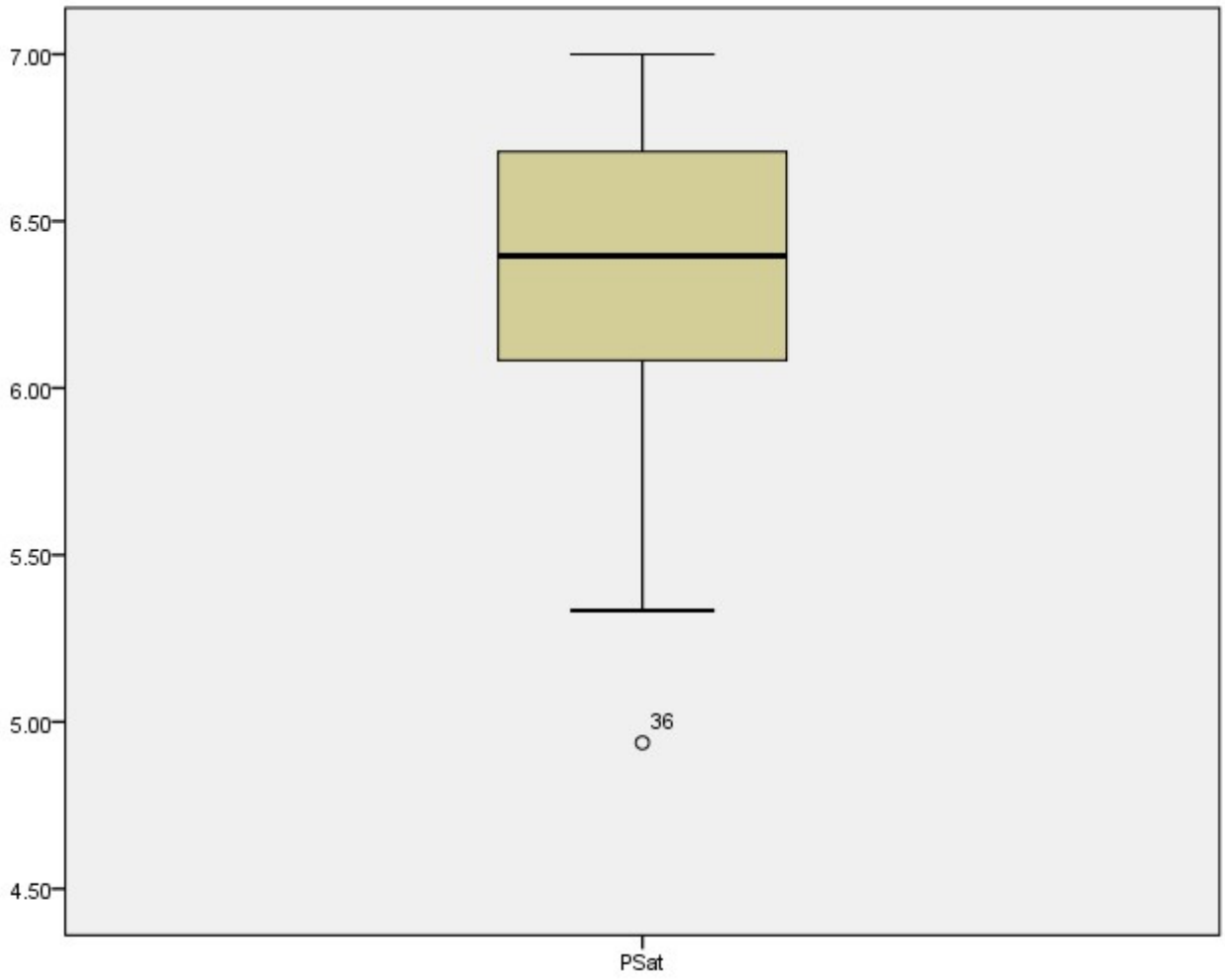


**Figure 11. Boxplot (Perceived Performance)**

4.2.1.3. Homogeneity of Variances

Homogeneity of variance can be safely assumed as assessed by Levene's test for equality of variances ($p = .663$).

**Levene's Test of Equality of Error Variances[a]**

Dependent Variable: PSat

| F | df1 | df2 | Sig. |
|---|---|---|---|
| .192 | 1 | 66 | .663 |

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + OTrust + BTrust + ITrust + CTrust + Cond

**Table 9. Levene's Test of Equiality of Variances (Perceived Performance)**

4.2.2. Results – Direct Impact on Perceived Performance

The differences between the two groups on process satisfaction was statistically significant, F(, 61) = 8.406, p = .005; Wilks' Λ = .521; partial η2 = .119. Observed power is .814 whole Cohen-d is .119 (small). Teams in the treatment group had lower average process satisfaction (6.29 ± .43) than teams in control group (6.38 ± .48).

**Table 10. ANOVA Test Results (Perceived Performance)**

**Tests of Between-Subjects Effects**

Dependent Variable: PSat

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared | Noncent. Parameter | Observed Power[b] |
|---|---|---|---|---|---|---|---|---|
| Corrected Model | 9.818[a] | 5 | 1.964 | 31.707 | .000 | .719 | 158.537 | 1.000 |
| Intercept | .794 | 1 | .794 | 12.817 | .001 | .171 | 12.817 | .941 |
| OTrust | .407 | 1 | .407 | 6.573 | .013 | .096 | 6.573 | .714 |
| BTrust | .234 | 1 | .234 | 3.775 | .057 | .057 | 3.775 | .481 |
| ITrust | .058 | 1 | .058 | .944 | .335 | .015 | .944 | .160 |
| CTrust | 1.450 | 1 | 1.450 | 23.413 | .000 | .274 | 23.413 | .997 |
| Cond | .521 | 1 | .521 | 8.406 | .005 | .119 | 8.406 | .814 |
| Error | 3.840 | 62 | .062 | | | | | |
| Total | 2743.039 | 68 | | | | | | |
| Corrected Total | 13.657 | 67 | | | | | | |

a. R Squared = .719 (Adjusted R Squared = .696)

b. Computed using alpha = .05

## 4.3. Mediation Results

### 4.3.1. Objective Performance Results

The succeeding sections present the mediation results for objective performance.

#### 4.3.1.1. Checking Assumptions

Before the results are presented, satisfaction of statistical assumptions was checked.

#### 4.3.1.2. Independence of Observations

There was independence of residuals, as assessed by a Durbin-Watson statistic, is 1.788. The Durbin-Watson statistic can range from 0 to 4, where a value of approximately 2 indicates that there is no correlation between residuals.

**Table 11. Independence of Observations (Objective Performance)**

**Model Summary[b]**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
|---|---|---|---|---|---|
| 1 | .632[a] | .400 | .351 | 1.16655 | 1.788 |

a. Predictors: (Constant), CTrust, Cond, ITrust, OTrust, BTrust

b. Dependent Variable: PERF

4.3.1.3. Multicollinearity

To check for multicollinearity, tolerance and VIF were examined. None of the tolerance values are less than .1 and none of the VIF values are greater than 10; therefore, there is no collinearity problem in this data set.

**Table 12. Tolerance & VIF Values (Objective Performance)**

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | | | 95.0% Confidence Interval for B | | Correlations | | | Collinearity Statistics | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | t | Sig. | Lower Bound | Upper Bound | Zero-order | Partial | Part | Tolerance | VIF |
| 1 | (Constant) | -1.568 | 2.020 | | -.776 | .441 | -5.607 | 2.471 | | | | | |
| | Cond | 1.439 | .295 | .500 | 4.881 | .000 | .850 | 2.028 | .522 | .527 | .480 | .921 | 1.085 |
| | OTrust | .702 | .679 | .221 | 1.033 | .306 | -.656 | 2.060 | .157 | .130 | .102 | .212 | 4.718 |
| | BTrust | 1.832 | .625 | .627 | 2.932 | .005 | .583 | 3.080 | .312 | .349 | .289 | .211 | 4.728 |
| | ITrust | -.784 | .598 | -.278 | -1.312 | .194 | -1.979 | .410 | .204 | -.164 | -.129 | .216 | 4.626 |
| | CTrust | -1.276 | .516 | -.464 | -2.473 | .016 | -2.307 | -.244 | .076 | -.300 | -.243 | (a) .275 | (b) 3.643 |

a. Dependent Variable: PERF

4.3.1.4. Outliers

No outliers have been detected by SPSS casewise diagnostics. The studentized deleted residuals also do not show any outliers based on a ±3 standard deviation criteria. In addition, all of Cook's distance values are less than 1 indicating that there are no influential points. None of the leverage values exceed .5 as well.

4.3.1.5. Homoscedasticity, Normality and Linearity

Hayes (2015) explained that bootstrap confidence interval can be used if one would rather not make an assumption relating to homoscedasticity or normality when conducting an

inferential test for models above 3. Since this study will use model 8, we can overlook the homoscedasticity assumption for this particular analysis. Hayes also explains that it is not necessary to establish linear relationship between X and Y, X and M, and M and Y because indirect effect is tested by determining whether combination of ab coefficients is significant rather than testing a and b separately. In addition, even though, the total effect (X to Y) may also be zero, indirect effect through different pathways may still exist.

4.3.2. Results – Mediation Results for Objective Performance

From a mediation analysis, team building intervention indirectly influenced objective performance through its effect on benevolence trust. As can be seen in the SPSS output below, teams in the treatment group had higher benevolence trust than teams in the control group (a = 0.2067), and teams with high benevolence trust had higher objective team performance (b = 1.8315). A bias-corrected bootstrap confidence interval for the indirect effect (ab = 0.3786) based on 10,000 bootstrap samples was entirely above zero (0.0147 to 1.0344). There was evidence that the team building intervention influenced objective team performance independent of its effect on benevolence team trust (c ′= 1.4388, p = .000).

**Table 13. SPSS Output (Mediation Results for Objective Performance)**

```
**************************************************************************
Outcome: PERF

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .6321      .3996     1.3608     8.2513     5.0000    62.0000      .0000

Model
              coeff         se          t          p       LLCI       ULCI
constant    -1.5677     2.0205     -.7759      .4407    -5.6066     2.4712
OTrust        .7018      .6794     1.0330      .3056     -.6563     2.0598
BTrust       1.8315      .6247     2.9317      .0047      .5827     3.0803
ITrust       -.7840      .5976    -1.3120      .1943    -1.9786      .4105
CTrust      -1.2756      .5158    -2.4729      .0162    -2.3067     -.2445
Cond         1.4388      .2948     4.8814      .0000      .8496     2.0280

************************* TOTAL EFFECT MODEL ****************************
Outcome: PERF

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .5217      .2722     1.5495    24.6859     1.0000    66.0000      .0000

Model
              coeff         se          t          p       LLCI       ULCI
constant     1.4412      .4773     3.0191      .0036      .4881     2.3942
Cond         1.5000      .3019     4.9685      .0000      .8972     2.1028

***************** TOTAL, DIRECT, AND INDIRECT EFFECTS ********************

Total effect of X on Y
     Effect         SE          t          p       LLCI       ULCI
     1.5000      .3019     4.9685      .0000      .8972     2.1028

Direct effect of X on Y
     Effect         SE          t          p       LLCI       ULCI
     1.4388      .2948     4.8814      .0000      .8496     2.0280

Indirect effect of X on Y
           Effect    Boot SE   BootLLCI   BootULCI
TOTAL       .0612      .1789     -.2664      .4441
OTrust      .0585      .1187     -.0700      .4806
BTrust      .3786      .2507      .0147     1.0344
ITrust     -.1672      .1590     -.6041      .0475
CTrust     -.2087      .2040     -.7577      .0574
```

4.3.3. Perceived Performance

The succeeding sections present the mediation results for perceived performance measured by process satisfaction.

4.3.1.1. Checking Assumptions

Satisfaction of statistical assumptions pertaining to process satisfaction was checked.

4.3.3.2. Independence of Observations

**Table 14. Independence of Obsevations (Perceived Performance)**

**Model Summary[b]**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
|---|---|---|---|---|---|
| 1 | .848[a] | .719 | .696 | .24885 | 1.982 |

a. Predictors: (Constant), CTrust, Cond, ITrust, OTrust, BTrust

b. Dependent Variable: PSat

There was independence of residuals, as assessed by a Durbin-Watson statistic of 1.982. The Durbin-Watson statistic can range from 0 to 4 where a value of approximately 2 indicates that there is no correlation between residuals.

4.3.3.3. Multicollinearity

To check for multicollinearity, tolerance and VIF were examined. None of the tolerance values are less than .1 and none of the VIF values are greater than 10; therefore, there is no collinearity problem in this data set.

**Table 15. Tolerance & VIF Values (Perceived Performance)**

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | | | 95.0% Confidence Interval for B | | Correlations | | | Collinearity Statistics | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | t | Sig. | Lower Bound | Upper Bound | Zero-order | Partial | Part | Tolerance | VIF |
| 1 | (Constant) | 2.025 | .544 | | 3.719 | .000 | .937 | 3.113 | | | | | |
| | Cond | -.205 | .079 | -.209 | -2.586 | .012 | -.364 | -.047 | -.124 | -.312 | -.201 | .921 | 1.085 |
| | OTrust | .340 | .183 | .314 | 1.857 | .068 | -.026 | .706 | .675 | .230 | .144 | .212 | 4.718 |
| | BTrust | -.320 | .168 | -.321 | -1.901 | .062 | -.657 | .016 | .482 | -.235 | -.148 | .211 | 4.728 |
| | ITrust | .073 | .161 | .076 | .452 | .653 | -.249 | .395 | .516 | .057 | .035 | .216 | 4.626 |
| | CTrust | .648 | .139 | .692 | 4.661 | .000 | .370 | .926 | .728 | .509 | .362 | .275 | 3.643 |

a. Dependent Variable: PSat

4.3.3.4. Outliers

No outliers were detected by SPSS casewise diagnostics. The studentized deleted residuals also do not show any outliers based on a ±3 standard deviation criteria. In addition, all of Cook's distance values are less than 1 indicating that there are no influential points. None of the leverage values exceed .5 as well.

4.3.3.5. Homoscedasticity, Normality, and Linearity

Hayes (2015) explained that bootstrap confidence interval can be used if one would rather not make an assumption relating to homoscedasticity or normality when conducting an inferential test for models above 3. Since this study will use model 8, we can overlook the homoscedasticity assumption for this particular analysis. Hayes also explains that it is not necessary to establish linear relationship between X and Y, X and M, and M and Y because indirect effect is tested by determining whether combination of a and b coefficients is significant

rather than testing a and b separately. Even though, the total effect (X to Y) may also be zero, indirect effect through different pathways may still exist.

4.3.3.6. Results – Mediation Results for Perceived Performance

From a mediation analysis, the team building intervention did not indirectly influenced perceived performance through its effect on any of the dimensions of trust. A bias-corrected bootstrap confidence interval for the indirect effect based on 10,000 bootstrap samples included zero for overall trust (-0.0483 to 0.1473), benevolence trust (-0.1651 to 0.0030), integrity trust (-0.0123 to 0.125) and competence trust (-0.0346 to 0.2454). There was no evidence that the team building intervention influenced perceived performance through its effect on any of the dimensions of trust (ab = 0.0837, -.1146 -to.2767).

**Table 16. SPSS Output (Mediation Analysis for Perceived Performance)**

```
**************************************************************************
Outcome: PSat

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .8479      .7189      .0619    31.7073     5.0000    62.0000      .0000

Model
              coeff         se          t          p       LLCI       ULCI
constant     1.8231      .4310     4.2297      .0001      .9615     2.6847
OTrust        .3715      .1449     2.5637      .0128      .0818      .6612
BTrust       -.2589      .1333    -1.9429      .0566     -.5253      .0075
ITrust        .1239      .1275      .9717      .3350     -.1310      .3787
CTrust        .5324      .1100     4.8387      .0000      .3125      .7524
Cond         -.1823      .0629    -2.8994      .0052     -.3080     -.0566

************************** TOTAL EFFECT MODEL ****************************
Outcome: PSat

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .1019      .0104      .2048      .6927     1.0000    66.0000      .4082

Model
              coeff         se          t          p       LLCI       ULCI
constant     6.4725      .1735    37.2977      .0000     6.1260     6.8190
Cond         -.0913      .1098     -.8323      .4082     -.3105      .1278

***************** TOTAL, DIRECT, AND INDIRECT EFFECTS ********************

Total effect of X on Y
     Effect         SE          t          p       LLCI       ULCI
     -.0913      .1098     -.8323      .4082     -.3105      .1278

Direct effect of X on Y
     Effect         SE          t          p       LLCI       ULCI
     -.1823      .0629    -2.8994      .0052     -.3080     -.0566

Indirect effect of X on Y
           Effect    Boot SE   BootLLCI   BootULCI
TOTAL       .0910      .0971     -.0967      .2862
OTrust      .0310      .0479     -.0483      .1473
BTrust     -.0535      .0413     -.1651      .0030
ITrust      .0264      .0310     -.0123      .1250
CTrust      .0871      .0693     -.0346      .2454
```

### 4.4 Covariates

To ensure that confounding variables are eliminated, a few covariates were considered such as team experience (Exp), familiarity (Fam) and team size (Size). However, none of the covariates are statistically correlated with the outcomes.

**Table 17. Correlation Matrix (Covariates)**

| | | PERF | PSat | Exp | Fam | Size |
|---|---|---|---|---|---|---|
| PERF | Pearson Correlation | 1 | -.037 | -.177 | -.024 | -.119 |
| | Sig. (2-tailed) | | .767 | .149 | .845 | .334 |
| | N | 68 | 68 | 68 | 68 | 68 |
| PSat | Pearson Correlation | -.037 | 1 | .139 | .052 | -.201 |
| | Sig. (2-tailed) | .767 | | .259 | .675 | .100 |
| | N | 68 | 68 | 68 | 68 | 68 |
| Exp | Pearson Correlation | -.177 | .139 | 1 | .150 | .037 |
| | Sig. (2-tailed) | .149 | .259 | | .223 | .766 |
| | N | 68 | 68 | 68 | 68 | 68 |
| Fam | Pearson Correlation | -.024 | .052 | .150 | 1 | -.115 |
| | Sig. (2-tailed) | .845 | .675 | .223 | | .349 |
| | N | 68 | 68 | 68 | 68 | 68 |
| Size | Pearson Correlation | -.119 | -.201 | .037 | -.115 | 1 |
| | Sig. (2-tailed) | .334 | .100 | .766 | .349 | |
| | N | 68 | 68 | 68 | 68 | 68 |

## 4.5. Moderation

### 4.5.1. Propensity to Trust

The succeeding sections present the results assessing the moderating role of propensity to trust on the indirect impact of the team building activity on objective and perceived performance.

#### 4.5.1.1. Objective Performance

The sections below present the results assessing the moderating role of propensity to trust on the indirect impact of the team building activity on objective performance.

##### 4.5.1.1.1. Moderating Role of Propensity to Trust Benevolence on Indirect Impact of Team Building on Objective Performance through Benevolence Trust

Evidence of moderated mediation was statistically significant since the index of moderated mediation is different from zero (-1.8309 to -0.1208) based on a 95% bootstrap confidence interval based on 10,000 bootstrap samples (derived using PROCESS). The treatment and control (X) groups had different effects on the level of benevolence trust (M), depending on the team's propensity to trust benevolence (W).

$$\theta_{X\rightarrow M} = a_1 + a_3 W = (2.043 - 0.4601W) \quad \text{(Eq. 2)}$$

Moreover, the effect of benevolence trust (M) on objective performance (Y) is $b_1 = 1.8339$ when controlling for the team building intervention (X). Multiplying these two components, $\theta_{X\rightarrow M}$ and $b_1$, yields the indirect effect of X on Y through M:

$$\theta_{X\rightarrow M} b_1 = (a_1 + a_3 W) b_1 = (2.043 - 0.4061W)1.8339 \quad \text{(Eq. 3)}$$

which is a function of W. Therefore, the indirect effect of the team building intervention on objective performance through benevolence trust depends on the team's propensity to trust benevolence.

**Table 18. Conditional Indirect Effect (Propensity to Trust, Benevolence Trust & Objective Performance)**

| Propensity to Trust (W) | $\theta_{X \rightarrow M}$ | $b_1$ | $\theta_{X \rightarrow M} b_1$ (Indirect Effect) | BootLLCI | BootULCI |
|---|---|---|---|---|---|
| **3.67** | 0.5540 | 1.8339 | 1.0159 | .2742 | 2.1661 |
| **4.11** | 0.3735 | 1.8339 | 0.6849 | .1832 | 1.5055 |
| **4.56** | 0.1930 | 1.8339 | 0.3539 | .0109 | .9934 |
| **4.89** | 0.0576 | 1.8339 | 0.1057 | -.3313 | .7128 |
| **5.22** | -0.0777 | 1.8339 | -0.1426 | -.9419 | .4159 |

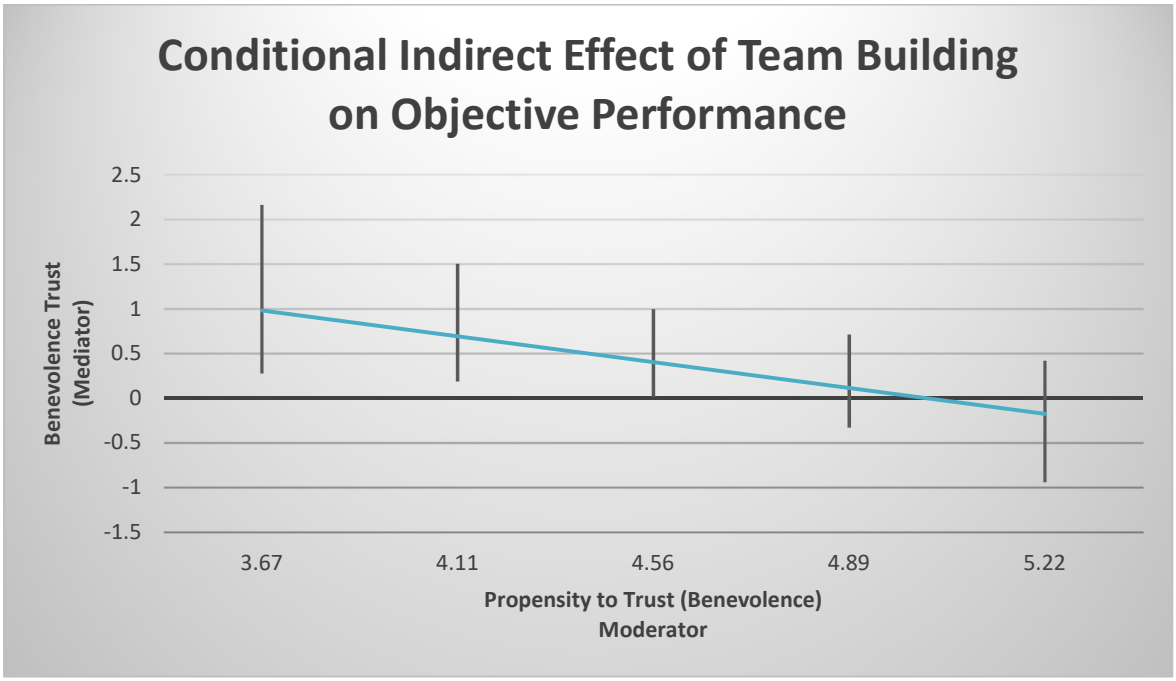


**Figure 12. Conditional Indirect Effect of Team Building on Objective Performance (through Benevolence Trust) based on Propensity to Trust Benevolence**

Observe that the conditional indirect effect starts as being positive for low values of *propensity to trust benevolence* and then becomes negative (although nonsignificant) as it decreases with increasing *propensity to trust benevolence.* Among teams with very high *propensity to trust benevolence*, the conditional indirect effect is not statistically different from zero based on a 95% bootstrap confidence interval based on 10,000 bootstrap samples (derived using PROCESS). These results support the claim that among those teams that already have *low propensity to trust benevolence*, the team building intervention led to higher benevolence trust (because $a_1$ is positive), and the higher the benevolence trust, the higher the objective performance (because $b_1$ is positive). That is, the indirect effect of X on Y through M is positive for teams with low level of *propensity to trust benevolence.* This means that teams with low propensity to trust

benevolence experienced the most from the positive indirect effect of the team building intervention on objective performance through benevolence trust.

4.5.1.1.2. Moderating Role of Propensity to Trust Competence on Indirect Impact of Team Building on Objective Performance through Competence Trust

Evidence of moderated mediation is found as statistically significant since the index of moderated mediation is different from zero (0.0455 to 1.765) based on a 95% bootstrap confidence interval based on 10,000 bootstrap samples (derived using PROCESS). The treatment and control (X) groups had different effects on the level of *competence* trust (M), depending on the team's *propensity to trust competence* (W).

$$\theta_{X\to M} = a_1 + a_3 W = (2.7244 - 0.4819W) \qquad \text{(Eq. 4)}$$

Moreover, the effect of *competence* trust (M) on objective performance (Y) is $b_1 = -1.2233$ when controlling for the team building intervention (X). Multiplying these two components, $\theta_{X\to M}$ and $b_1$, yields the indirect effect of X on Y through M:

$$\theta_{X\to M} b_1 = (a_1 + a_3 W) b_1 = (2.7244 - 0.4819W) - 1.2233 \qquad \text{(Eq. 5)}$$

which is a function of W. Therefore, the indirect effect of the team building intervention on objective performance through *competence* trust depends on the team's *propensity to trust competence*.

**Table 19. Conditional Indirect Effect (Propensity to Trust Competence, Competence Trust & Objective Performance)**

| Propensity to Trust (W) | $\theta_{X\rightarrow M}$ | $b_1$ | $\theta_{X\rightarrow M}b_1$ (Indirect Effect) | BootLLCI | BootULCI |
|---|---|---|---|---|---|
| 4.56 | 0.5291 | -1.2233 | -0.6472 | -1.7667 | -.0814 |
| 4.89 | 0.3684 | -1.2233 | -0.4507 | -1.2487 | -.0439 |
| 5.33 | 0.1543 | -1.2233 | -0.1887 | -.7054 | .0606 |
| 5.67 | -0.0064 | -1.2233 | 0.0078 | -.4069 | .4202 |
| 5.92 | -0.1269 | -1.2233 | 0.1552 | -.2652 | .8261 |

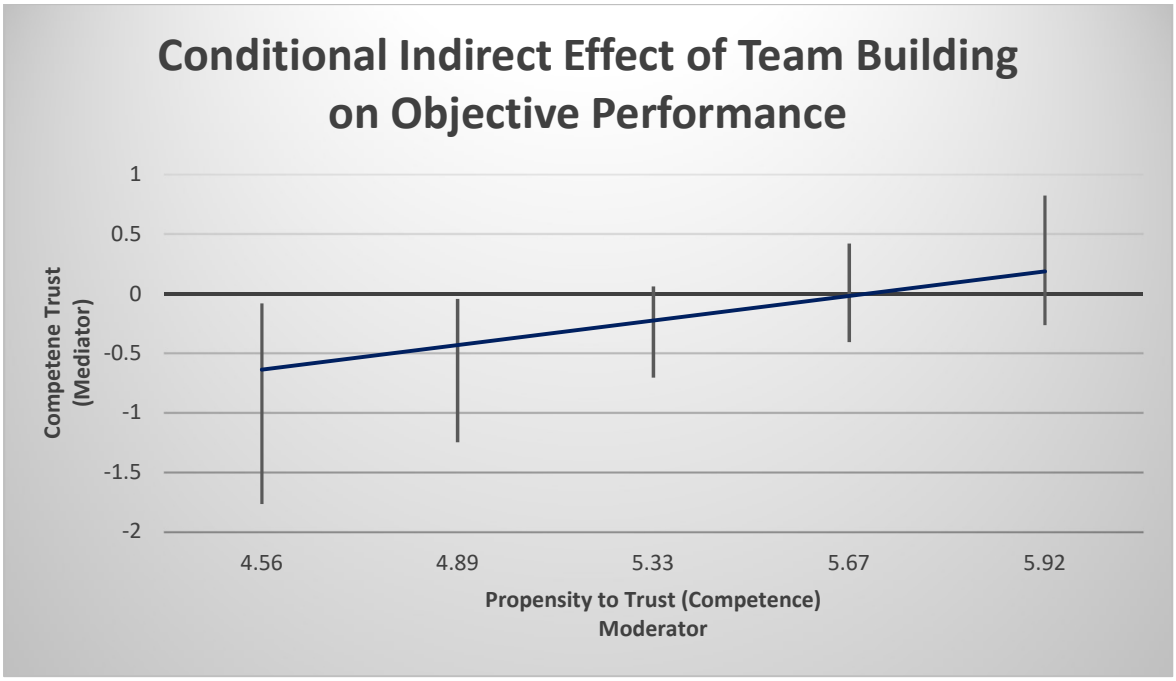


**Figure 13. Conditional Indirect Effect of Team Building on Objective Performance (through Competence Trust) based on Propensity to Trust Competence**

Observe that the conditional indirect effect starts as being significantly negative then becomes positive (although nonsignificant) as *propensity to trust competence* increases. Among those very high in *propensity to trust competence,* the conditional indirect effect is not statistically different from zero based on a 95% bootstrap confidence interval based on 10,000 bootstrap samples (derived using PROCESS). These results support the claim that among those who have low

*propensity to trust competence*, the team building intervention led to higher *competence* trust (because $a_1$ is positive), and the higher the *competence* trust, the lower the objective performance (because $b_1$ is negative). That is, the indirect effect of X on Y through M is negative for teams with low *propensity to trust competence.* This means that teams with low propensity to trust competence experienced the most negative indirect effect of the team building intervention on objective performance through *competence* trust.

4.5.1.2. Perceived Performance

The sections below present the results assessing the moderating role of propensity to trust on the indirect impact of the team building activity on perceived performance.

4.5.1.2.1. Moderating Role of Propensity to Trust Benevolence on Indirect Impact of Team Building on Perceived Performance through Benevolence Trust

Evidence of moderated mediation is found as statistically significant since the index of moderated mediation is different from zero (0.0048 to .2973) based on a 95% bootstrap confidence interval based on 10,000 bootstrap samples (derived using PROCESS). The treatment and control (X) groups had different effects on the level of *benevolence* trust (M), depending on the team's *propensity to trust benevolence* (W).

$$\theta_{X\rightarrow M} = a_1 + a_3W = (2.043 - 0.4061W) \quad \text{(Eq. 6)}$$

Moreover, the effect of *benevolence* trust (M) on objective performance (Y) is $b_1 = -.2605$ when controlling for the team building intervention (X). Multiplying these two components, $\theta_{X\rightarrow M}$ and $b_1$, yields the indirect effect of X on Y through M:

(Eq. 7)

$$\theta_{X\rightarrow M}b_1 = (a_1 + a_3W)b_1 = (2.043 - 0.4061W)(-.2605)$$

which is a function of W. Therefore, the indirect effect of the team building intervention on perceived performance through *benevolence* trust depends on the team's *propensity to trust benevolence*.

**Table 20. Conditional Indirect Effect (Propensity to Trust, Benevolence Trust & Perceived Performance)**

| Propensity to Trust (W) | $\theta_{X\rightarrow M}$ | $b_1$ | $\theta_{X\rightarrow M}b_1$ (Indirect Effect) | BootLLCI | BootULCI |
|---|---|---|---|---|---|
| 3.67 | 0.5540 | -0.2605 | -0.1443 | -.3560 | -.0211 |
| 4.11 | 0.3735 | -0.2605 | -0.0973 | -.2438 | -.0155 |
| 4.56 | 0.1930 | -0.2605 | -0.0503 | -.1632 | .0050 |
| 4.89 | 0.0576 | -0.2605 | -0.0150 | -.1157 | .0606 |
| 5.22 | -0.0777 | -0.2605 | 0.0203 | -.0738 | .1581 |

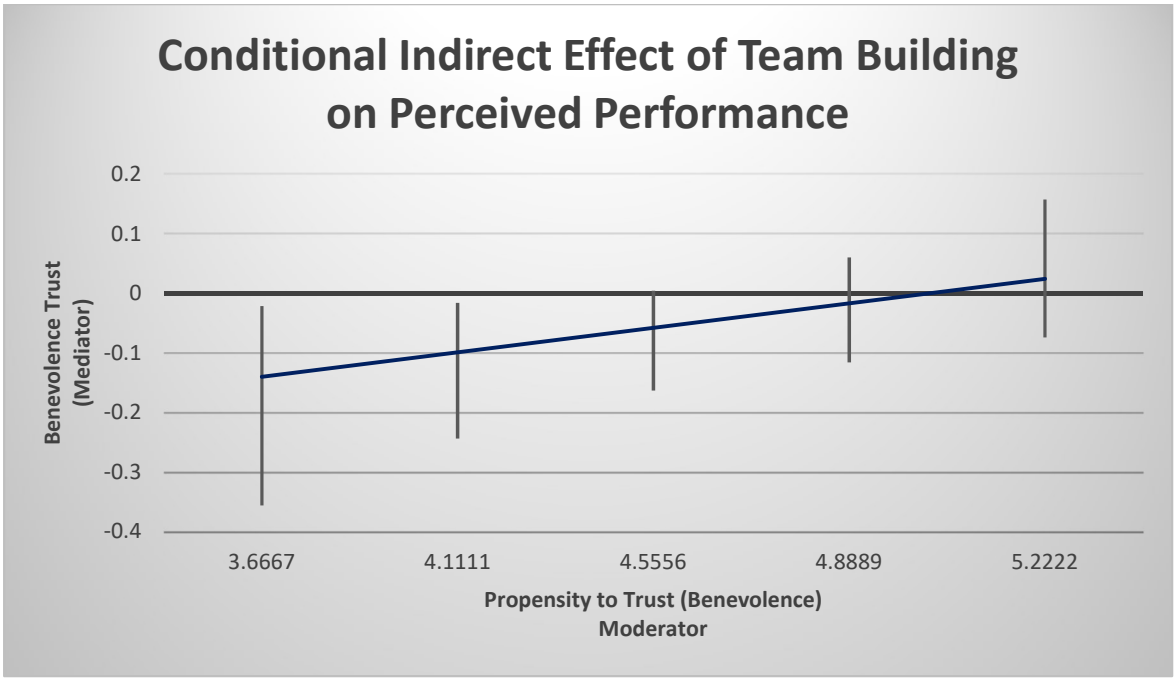


**Figure 14. Conditional Indirect Effect of Team Building on Perceived Performance (through Benevolence Trust) based on Propensity to Trust Benevolence**

Observe that the conditional indirect effect starts as being significantly negative then becomes positive (although not significant) as it increases with increasing *propensity to trust benevolence*. Among those very high in *benevolence* propensity to trust, the conditional indirect effect is not statistically different from zero based on a 95% bootstrap confidence interval based on 10,000 bootstrap samples (derived using PROCESS). These results support the claim that among those who have low *propensity to trust benevolence*, the team building intervention led to higher *benevolence* trust (because $a_1$ is positive), and the higher the *benevolence* trust, the lower the perceived performance (because $b_1$ is negative). That is, the indirect effect of X on Y through M is negative for teams with low *propensity to trust benevolence*. This means that teams with low *propensity to trust benevolence* experienced the most negative indirect effect of the team building intervention on perceived performance through *benevolence* trust.

4.5.1.2.2. Moderating Role of Propensity to Trust Competence on Indirect Impact of Team Building on Perceived Performance through Competence Trust

Evidence of moderated mediation is found as statistically significant since the index of moderated mediation is different from zero (-0.5891 to -0.0242) based on a 95% bootstrap confidence interval based on 10,000 bootstrap samples (derived using PROCESS). The treatment and control (X) groups had different effects on the level of *competence* trust (M), depending on the team's *propensity to trust competence* (W).

$$\theta_{X\rightarrow M} = a_1 + a_3 W = (2.7244 - 0.4819W) \quad \text{(Eq. 8)}$$

Moreover, the effect of *competence* trust (M) on process satisfaction (Y) is $b_1 = 0.4959$ when controlling for the team building intervention (X). Multiplying these two components, $\theta_{X\rightarrow M}$ and $b_1$, yields the indirect effect of X on Y through M:

$$\theta_{X\rightarrow M} b_1 = (a_1 + a_3 W) b_1 = (2.7244 - 0.4819W)0.4959 \quad \text{(Eq. 9)}$$

which is a function of W. Therefore, the indirect effect of the team building intervention on perceived performance through benevolence trust depends on the team's *propensity to trust competence*.

**Table 21. Conditional Indirect Effect (Propensity to Trust Competence, Competence Trust & Perceived Performance)**

| Propensity to Trust (W) | $\theta_{X\rightarrow M}$ | $b_1$ | $\theta_{X\rightarrow M}b_1$ (Indirect Effect) | BootLLCI | BootULCI |
|---|---|---|---|---|---|
| 4.56 | 0.5291 | 0.4959 | 0.2624 | .0728 | .5845 |
| 4.89 | 0.3684 | 0.4959 | 0.1827 | .0487 | .4112 |
| 5.33 | 0.1543 | 0.4959 | 0.0765 | -.0347 | .2056 |
| 5.67 | -0.0064 | 0.4959 | -0.0032 | -.1779 | .1265 |
| 5.92 | -0.1269 | 0.4959 | -0.0629 | -.3057 | .1009 |

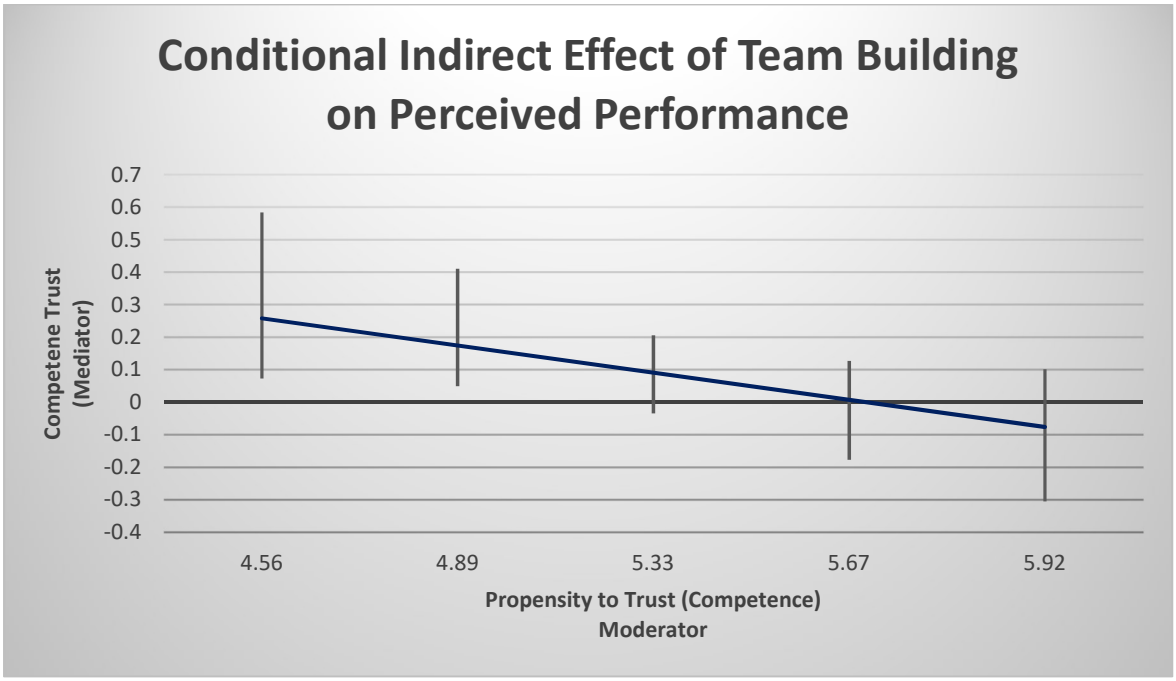


**Figure 15. Conditional Indirect Effect of Team Building on Perceived Performance (through Competence Trust) based on Propensity to Trust Competence**

Observe that the conditional indirect effect starts as being significantly positive then becomes negative (although nonsignificant) as it decreases with increasing propensity to trust competence. But among those very high in *propensity to trust competence*, the conditional indirect effect is

not statistically different from zero based on a 95% bootstrap confidence interval based on 10,000 bootstrap samples (derived using PROCESS). These results support the claim that among those who have low propensity to trust competence, the team building intervention led to higher *competence* trust (because $a_1$ is positive), and the higher the *competence* trust, the higher the perceived performance (because $b_1$ is positive). That is, the indirect effect of X on Y through M is positive for teams with low *propensity to trust competence*. This means that teams with low *propensity to trust competence* experienced the most positive indirect effect of the team building intervention on perceived performance through *competence* trust.

4.5.2. Attitude toward Diversity

The succeeding sections present the results assessing the moderating role of attitude toward diversity on the indirect impact of the team building activity on objective and perceived performance.

4.5.2.1. Objective Performance

The sections below present the results assessing the moderating role of attitude toward diversity on the indirect impact of the team building activity on objective performance.

4.5.2.1.1. Moderating Role of Attitude toward Diversity on Indirect Impact of Team Building on Objective Performance through Benevolence Trust

Evidence of moderated mediation was found as statistically significant since the index of moderated mediation is different from zero (0.3008 to 2.6738) based on a 95% bootstrap confidence interval based on 10,000 bootstrap samples (derived using PROCESS). The treatment and control (X) groups had different effects on the level of *benevolence* trust (M), depending on the team's *attitude toward diversity* (W).

(Eq. 10)

$$\theta_{X\rightarrow M} = a_1 + a_3 W = (-3.0952 + 0.6147W)$$

Moreover, the effect of *benevolence* trust (M) on objective performance (Y) is $b_1 = 1.9326$ when controlling for the team building intervention (X). Multiplying these two components, $\theta_{X\rightarrow M}$ and $b_1$, yields the indirect effect of X on Y through M:

$$\theta_{X\rightarrow M} b_1 = (a_1 + a_3 W) b_1 = (-3.0952 + .6147W)(1.9326) \qquad \text{(Eq. 11)}$$

which is a function of W. Therefore, the indirect effect of the team building intervention on objective performance through *benevolence* trust depends on the team's *attitude toward diversity*.

**Table 22. Conditional Indirect Effect (Attitude toward Diversity, Benevolence Trust & Objective Performance)**

| Attitude Toward Diversity (W) | $\theta_{X\rightarrow M}$ | $b_1$ | $\theta_{X\rightarrow M} b_1$ (Indirect Effect) | BootLLCI | BootULCI |
|---|---|---|---|---|---|
| 4.47 | -0.3495 | 1.9326 | -0.6755 | -1.9373 | -.0763 |
| 5.00 | -0.0217 | 1.9326 | -0.0419 | -.5607 | .3694 |
| 5.40 | 0.2242 | 1.9326 | 0.4333 | .0192 | 1.0947 |
| 5.67 | 0.3881 | 1.9326 | 0.7501 | .1416 | 1.6637 |
| 6.00 | 0.5930 | 1.9326 | 1.1460 | .2607 | 2.4508 |

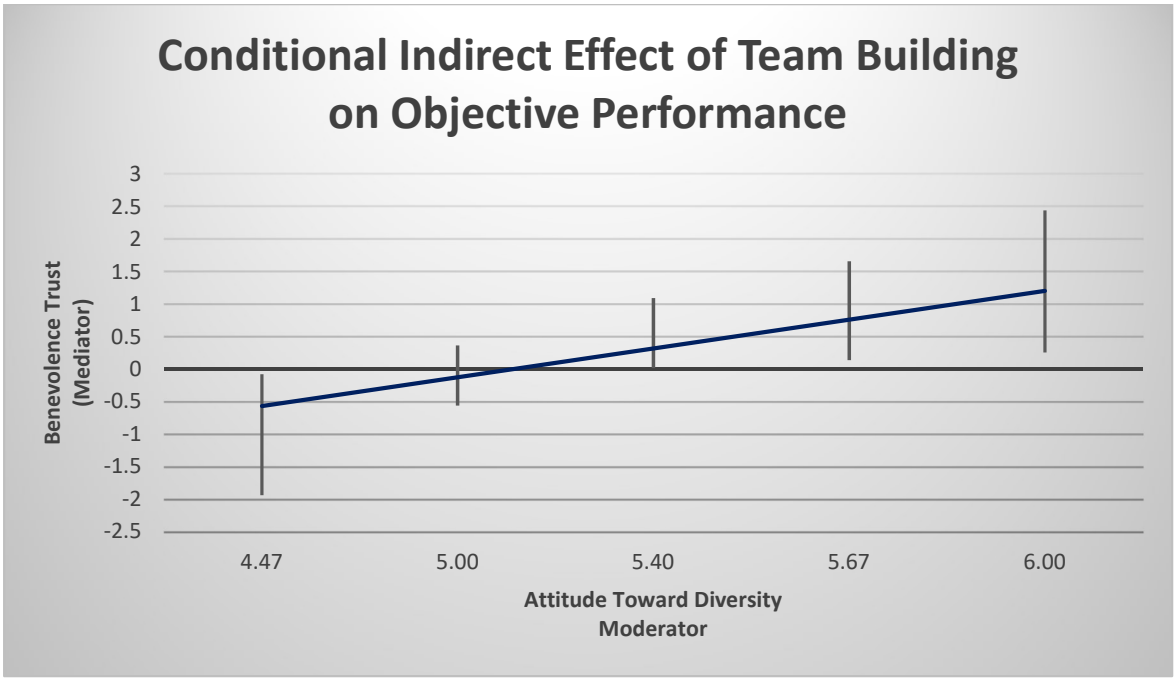


**Figure 16. Conditional Indirect Effect of Team Building on Objective Performance (through Benevolence Trust) based on Attitude toward Diversity**

Observe that the conditional indirect effect starts as being significantly negative then becomes significantly positive as it increases with increasing *attitude toward diversity*. Among those high and low in *attitude toward diversity*, the conditional indirect effect is statistically different from zero based on a 95% bootstrap confidence interval based on 10,000 bootstrap samples (derived using PROCESS). These results support the claim that for teams with high *attitude toward diversity,* although the team building intervention led to lower *benevolence* trust (because $a_1$ is negative), the high attitude toward diversity was able to offset the negative impact of the team building on benevolence trust that led to positive benevolence trust. The higher the *benevolence* trust, the higher the objective performance (because $b_1$ is positive). This means that teams with

high *attitude toward diversity* experienced the most positive indirect effect of the team building intervention on objective performance through *benevolence* trust.

4.5.2.1.2. Moderating Role of Attitude toward Diversity on Indirect Impact of Team Building on Objective Performance through Competence Trust

Evidence of moderated mediation was found as statistically significant since the index of moderated mediation is different from zero (-1.6592 to -.1282) based on a 95% bootstrap confidence interval based on 10,000 bootstrap samples (derived using PROCESS). The treatment and control (X) groups had different effects on the level of *competence* trust (M), depending on the team's *attitude toward diversity* (W).

$$\theta_{X\rightarrow M} = a_1 + a_3 W = (-3.2324 + 0.6339W) \quad \text{(Eq. 12)}$$

Moreover, the effect of *competence* trust (M) on objective performance (Y) is $b_1 = -1.1658$ when controlling for the team building intervention (X). Multiplying these two components, $\theta_{X\rightarrow M}$ and $b_1$, yields the indirect effect of X on Y through M:

$$\theta_{X\rightarrow M} b_1 = (a_1 + a_3 W) b_1 = (-3.2324 + .6339W)(-1.1658) \quad \text{(Eq. 13)}$$

which is a function of W. Therefore, the indirect effect of the team building intervention on objective performance through *competence* trust depends on the team's *attitude toward diversity*.

**Table 23. Conditional Indirect Effect (Attitude toward Diversity, Competence Trust & Objective Performance)**

| Attitude Toward Diversity (W) | $\theta_{X\rightarrow M}$ | $b_1$ | $\theta_{X\rightarrow M}b_1$ (Indirect Effect) | BootLLCI | BootULCI |
|---|---|---|---|---|---|
| 4.47 | -0.4010 | -1.1658 | 0.4674 | .0845 | 1.2231 |
| 5.00 | -0.0629 | -1.1658 | 0.0733 | -.1966 | .4477 |
| 5.40 | 0.1907 | -1.1658 | -0.2223 | -.7887 | .0239 |
| 5.67 | 0.3597 | -1.1658 | -0.4194 | -1.1572 | -.0307 |
| 6.00 | 0.5710 | -1.1658 | -0.6657 | -1.6370 | -.0754 |

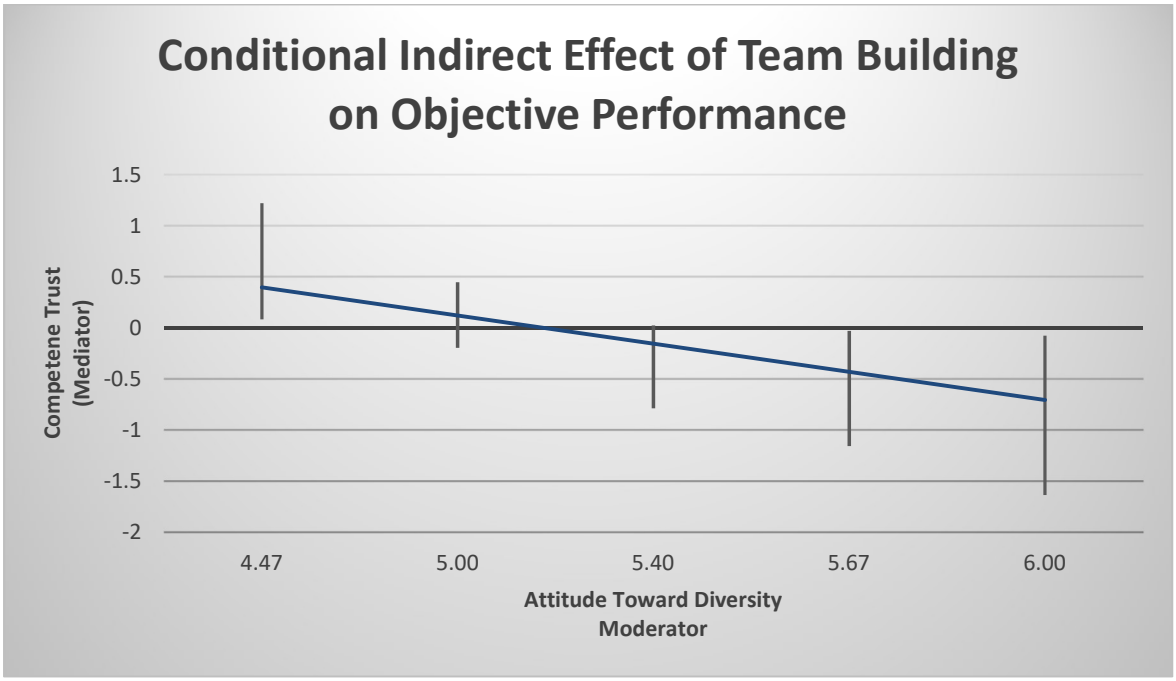


**Figure 17. Conditional Indirect Effect of Team Building on Objective Performance (through Competence Trust) based on Attitude toward Diversity**

Observe that the conditional indirect effect starts as being significantly positive then becomes significantly negative as it decreases with increasing *attitude toward diversity*. Among those with very high and low in *attitude toward diversity*, the conditional indirect effect is statistically different from zero based on a 95% bootstrap confidence interval based on 10,000 bootstrap samples (derived using PROCESS). These results support the claim for teams with high *attitude*

*toward diversity,* although the team building intervention led to lower *competence* trust (because $a_1$ is negative), the high attitude toward diversity was able to offset the negative impact of the team building on *competence* trust that led to positive *competence* trust. Unfortunately, the higher the *competence* trust, the lower the objective performance (because $b_1$ is negative). This means that teams with high *attitude toward diversity* experienced the most negative indirect effect of the team building intervention on objective performance through *competence* trust.

4.5.2.2. Perceived Performance

The sections below present the results assessing the moderating role of attitude toward diversity on the indirect impact of the team building activity on perceived performance.

4.5.2.2.1. Moderating Role of Attitude toward Diversity on Indirect Impact of Team Building on Perceived Performance through Benevolence Trust

Evidence of moderated mediation was found as statistically significant since the index of moderated mediation is different from zero (-.3611 to -.015) based on a 95% bootstrap confidence interval based on 10,000 bootstrap samples (derived using PROCESS). The treatment and control (X) groups had different effects on the level of *benevolence* trust (M), depending on the team's *attitude toward diversity* (W).

$$\theta_{X\rightarrow M} = a_1 + a_3W = (-3.0952 + 0.6147W) \quad \text{(Eq. 14)}$$

Moreover, the effect of *benevolence* trust (M) on process satisfaction (Y) is $b_1 = -.2448$ when controlling for the team building intervention (X). Multiplying these two components, $\theta_{X\rightarrow M}$ and $b_1$, yields the indirect effect of X on Y through M:

(Eq. 15)

$$\theta_{X \to M} b_1 = (a_1 + a_3 W) b_1 = (-3.0952 + .6147W)(-.2448)$$

which is a function of W. Therefore, the indirect effect of the team building intervention on process satisfaction through *benevolence* trust depends on the team's *attitude toward diversity*.

**Table 24. Conditional Indirect Effect (Attitude toward Diversity, Benevolence Trust & Perceived Performance)**

| Attitude Toward Diversity (W) | $\theta_{X\rightarrow M}$ | $b_1$ | $\theta_{X\rightarrow M}b_1$ (Indirect Effect) | BootLLCI | BootULCI |
|---|---|---|---|---|---|
| 4.47 | -0.3495 | -0.2448 | 0.0856 | -.0010 | .2689 |
| 5.00 | -0.0217 | -0.2448 | 0.0053 | -.0577 | .0908 |
| 5.40 | 0.2242 | -0.2448 | -0.0549 | -.1679 | .0024 |
| 5.67 | 0.3881 | -0.2448 | -0.0950 | -.2425 | -.0088 |
| 6.00 | 0.5930 | -0.2448 | -0.1452 | -.3507 | -.0165 |

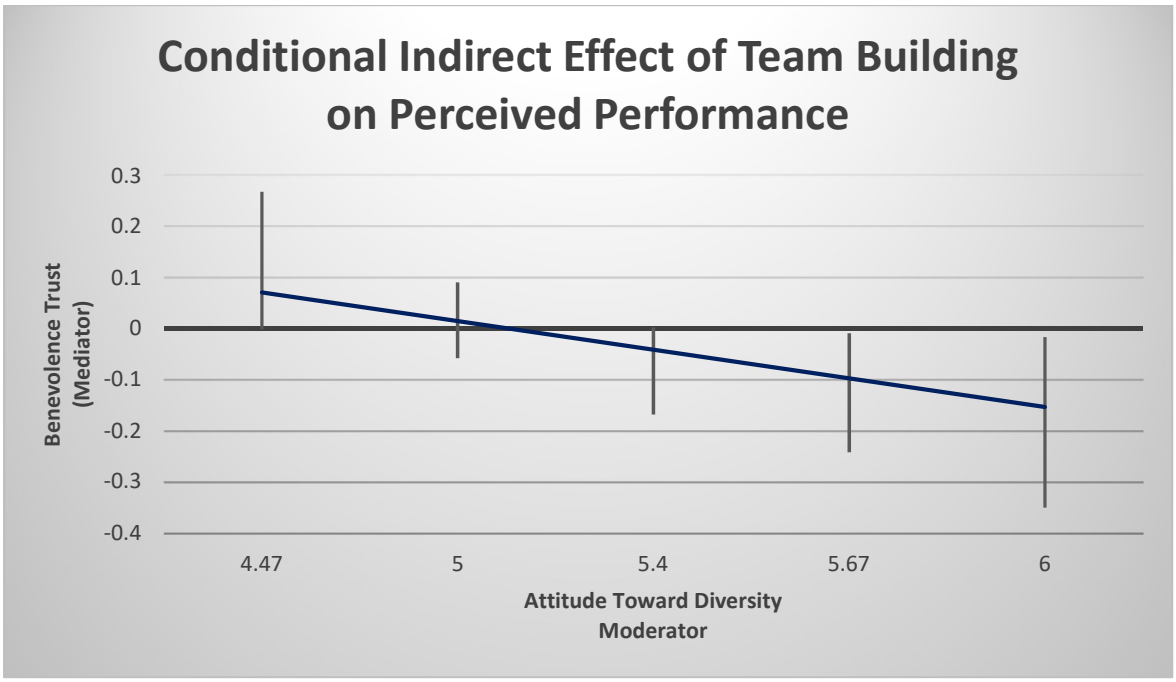


**Figure 18. Conditional Indirect Effect of Team Building on Perceived Performance (through Benevolence Trust) based on Attitude toward Diversity**

Observe that the conditional indirect effect starts as being positive (although nonsignificant) then becomes significantly negative as it decreases with increasing *attitude toward diversity*. Among those with low in *attitude toward diversity*, the conditional indirect effect is *not* statistically

different from zero based on a 95% bootstrap confidence interval based on 10,000 bootstrap samples (derived using PROCESS). These results support the claim that for teams with high *attitude toward diversity,* although the team building intervention led to lower *benevolence* trust (because $a_1$ is negative), the high attitude toward diversity was able to offset the negative impact of the team building on *benevolence* trust that led to positive *benevolence* trust. Unfortunately, the higher the *benevolence* trust, the lower the perceived performance (because $b_1$ is negative). This means that teams with high *attitude toward diversity* experienced the most negative indirect effect of the team building intervention on perceived performance through *benevolence* trust.

4.5.2.2.2. Moderating Role of Attitude Toward Diversity on Indirect Impact of Team Building on Perceived Performance through Competence Trust

Evidence of moderated mediation was found as statistically significant since the index of moderated mediation is different from zero (0.1371 to .6646) based on a 95% bootstrap confidence interval based on 10,000 bootstrap samples (derived using PROCESS). The treatment and control (X) groups had different effects on the level of *competence* trust (M), depending on the team's *attitude toward diversity* (W).

$$\theta_{X\rightarrow M} = a_1 + a_3 W = (-3.2324 + 0.6339W) \qquad \text{(Eq. 16)}$$

Moreover, the effect of *competence* trust (M) on process satisfaction (Y) is $b_1 = .5571$ when controlling for the team building intervention (X). Multiplying these two components, $\theta_{X\rightarrow M}$ and $b_1$, yields the indirect effect of X on Y through M:

$$\theta_{X\rightarrow M} b_1 = (a_1 + a_3 W) b_1 = (-3.2324 + .6339W)(.5571) \qquad \text{(Eq. 17)}$$

which is a function of W. Therefore, the indirect effect of the team building intervention on process satisfaction through *competence* trust depends on the team's *attitude toward diversity*.

**Table 25. Conditional Indirect Effect (Attitude toward Diversity, Competence Trust & Perceived Performance)**

| Attitude Toward Diversity (W) | $\theta_{X\rightarrow M}$ | $b_1$ | $\theta_{X\rightarrow M}b_1$ (Indirect Effect) | BootLLCI | BootULCI |
|---|---|---|---|---|---|
| 4.47 | -0.4010 | 0.5571 | -0.2234 | -.5415 | -.0426 |
| 5.00 | -0.0629 | 0.5571 | -0.0350 | -.2284 | .0823 |
| 5.40 | 0.1907 | 0.5571 | 0.1062 | -.0192 | .2734 |
| 5.67 | 0.3597 | 0.5571 | 0.2004 | .0579 | .4133 |
| 6.00 | 0.5710 | 0.5571 | 0.3181 | .1239 | .6139 |

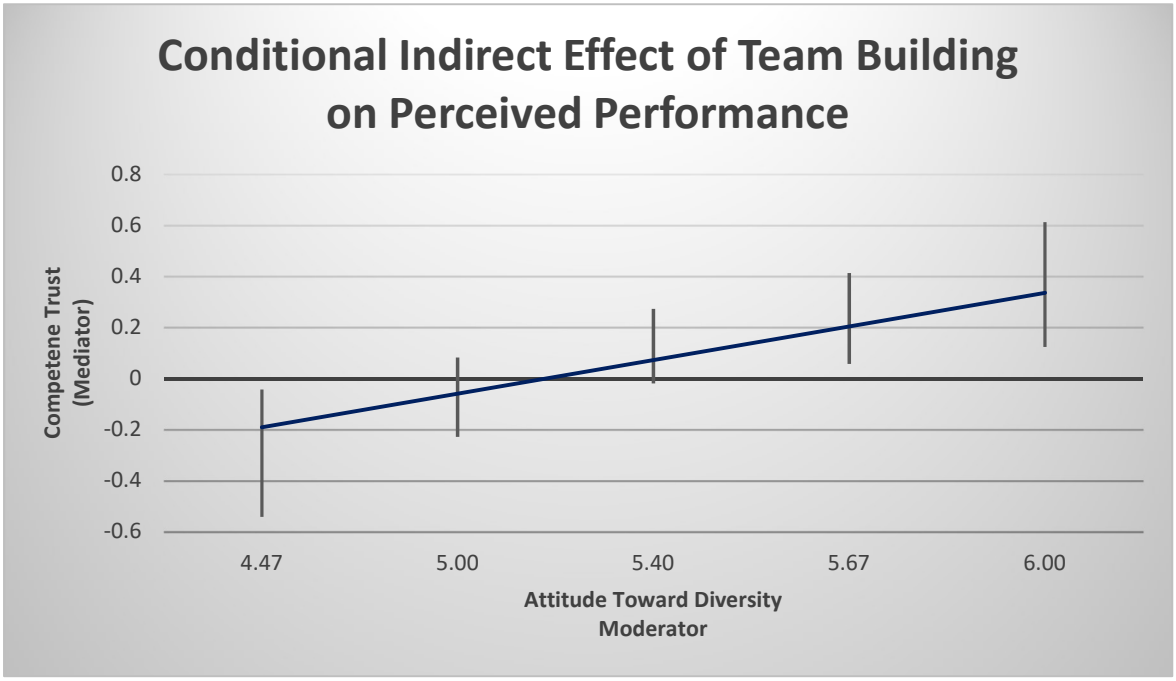


**Figure 19. Conditional Indirect Effect of Team Building on Perceived Performance (through Competence Trust) based on Attitude toward Diversity**

Observe that the conditional indirect effect starts as being significantly negative then becomes significantly positive as it increases with increasing *attitude toward diversity*. Among those high and low in *attitude toward diversity*, the conditional indirect effect is statistically different from zero based on a 95% bootstrap confidence interval based on 10,000 bootstrap samples (derived using PROCESS). These results support the claim for teams with high *attitude toward diversity,* although the team building intervention led to lower *competence* trust (because $a_1$ is negative), the high attitude toward diversity was able to offset the negative impact of the team building on *competence* trust that led to positive *competence* trust. The higher the *competence* trust, the higher the perceived performance (because $b_1$ is positive). This means that teams with high *attitude toward diversity* experienced the most positive indirect effect of the team building intervention on perceived performance through *competence* trust.

#### 4.5.3. Perceived Diversity

The succeeding sections present the results assessing the moderating role of perceived diversity on the indirect impact of the team building activity on objective and perceived performance.

##### 4.5.3.1. Objective Performance

The sections below present the results assessing the moderating role of perceived on the indirect impact of the team building activity on objective performance.

###### 4.5.3.1.1. Perceived Conversational Dominance Diversity

The section below present the results assessing the moderating role of perceived conversational dominance diversity on the indirect impact of the team building activity on objective performance.

4.5.3.1.1.1. Moderating Role of Perceived Conversational Dominance Diversity on Indirect Impact of Team Building on Objective Performance through Benevolence Trust

Evidence of moderated mediation was found as statistically significant since the index of moderated mediation is different from zero (0.109 to 1.517) based on a 95% bootstrap confidence interval based on 10,000 bootstrap samples (derived using PROCESS). The treatment and control (X) groups had different effects on the level of *benevolence* trust (M), depending on the team's *perceived conversational dominance diversity* (W).

$$\theta_{X\rightarrow M} = a_1 + a_3 W = (-1.1061 + 0.3050W) \quad \text{(Eq. 18)}$$

Moreover, the effect of *benevolence* trust (M) on objective performance (Y) is $b_1 = 1.8038$ when controlling for the team building intervention (X). Multiplying these two components, $\theta_{X\rightarrow M}$ and $b_1$, yields the indirect effect of X on Y through M:

$$\theta_{X\rightarrow M} b_1 = (a_1 + a_3 W) b_1 = (-1.1061 + 0.3050W)(1.8038) \quad \text{(Eq. 19)}$$

which is a function of W. Therefore, the indirect effect of the team building intervention on objective performance through *benevolence* trust depends on the team's *perceived conversational dominance diversity*.

**Table 26. Conditional Indirect Effect (Perceived Conversational Dominance Diversity, Benevolence Trust & Objective Performance)**

| Perceived Diversity (W) | $\theta_{X \rightarrow M}$ | $b_1$ | $\theta_{X \rightarrow M} b_1$ (Indirect Effect) | BootLLCI | BootULCI |
|---|---|---|---|---|---|
| 3.00 | -0.1911 | 1.8038 | -0.3447 | -1.4364 | .2151 |
| 3.67 | 0.0122 | 1.8038 | 0.0221 | -.4791 | .5787 |
| 4.33 | 0.2156 | 1.8038 | 0.3888 | .0232 | 1.2116 |
| 5.00 | 0.4189 | 1.8038 | 0.7556 | .1869 | 2.0362 |
| 5.67 | 0.6222 | 1.8038 | 1.1224 | .2961 | 3.0162 |

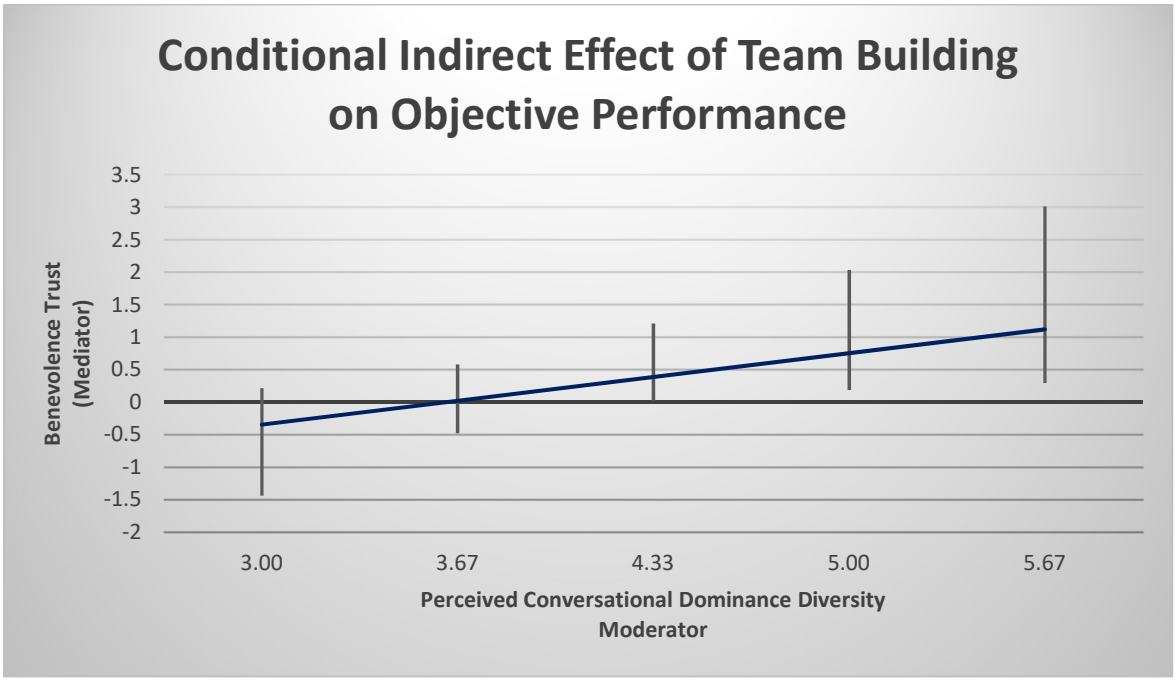


**Figure 20. Conditional Indirect Effect of Team Building on Objective Performance (through Benevolence Trust) based on Perceived Conversational Dominance Diversity**

Observe that the conditional indirect effect starts as being negative (although nonsignificant) then becomes significantly positive as it increases with increasing *perceived dominance diversity*. Among those low in *perceived conversational dominance diversity*, the conditional indirect effect is *not* statistically different from zero based on a 95% bootstrap confidence

interval based on 10,000 bootstrap samples (derived using PROCESS). These results support the claim that for teams with high *perceived dominance diversity,* although the team building intervention led to lower *benevolence* trust (because $a_1$ is negative), the high *perceived dominance diversity* was able to offset the negative impact of the team building on *benevolence competence* trust that led to positive *benevolence* trust. The higher the *benevolence* trust, the higher the objective performance (because $b_1$ is positive). This means that teams with high *perceived dominance diversity* experienced the most positive indirect effect of the team building intervention on objective performance through *benevolence* trust.

4.5.3.1.2. Perceived Argumentativeness Diversity

The sections below present the results assessing the moderating role of perceived argumentativeness diversity on the indirect impact of the team building activity on objective performance.

4.5.3.1.2.1. Moderating Role of Perceived Argumentativeness Diversity on Indirect Impact of Team Building on Objective Performance through Benevolence Trust

Evidence of moderated mediation was found as statistically significant since the index of moderated mediation is different from zero (0.0909 to 1.5301) based on a 95% bootstrap confidence interval based on 10,000 bootstrap samples (derived using PROCESS). The treatment and control (X) groups had different effects on the level of *benevolence* trust (M), depending on the team's *perceived argumentativeness diversity* (W).

$$\theta_{X\rightarrow M} = a_1 + a_3 W = (-1.3386 + 0.3349W) \quad \text{(Eq. 20)}$$

Moreover, the effect of *benevolence* trust (M) on objective performance (Y) is $b_1 = 1.7957$ when controlling for the team building intervention (X). Multiplying these two components, $\theta_{X \to M}$ and $b_1$, yields the indirect effect of X on Y through M:

$$\theta_{X \to M} b_1 = (a_1 + a_3 W) b_1 = (-1.3386 + 0.3349W)(1.7957) \quad \text{(Eq. 21)}$$

which is a function of W. Therefore, the indirect effect of the team building intervention on objective performance through *benevolence* trust depends on the team's *perceived argumentativeness diversity*.

**Table 27. Conditional Indirect Effect (Perceived Argumentativeness Diversity, Benevolence Trust & Objective Performance)**

| Perceived Diversity (W) | $\theta_{X \to M}$ | $b_1$ | $\theta_{X \to M} b_1$ (Indirect Effect) | BootLLCI | BootULCI |
|---|---|---|---|---|---|
| 3.00 | -0.3339 | 1.7957 | -0.5996 | -1.9844 | .1391 |
| 4.00 | 0.0010 | 1.7957 | 0.0018 | -.5097 | .5766 |
| 4.67 | 0.2243 | 1.7957 | 0.4027 | .0299 | 1.1441 |
| 5.33 | 0.4475 | 1.7957 | 0.8036 | .1574 | 1.8695 |
| 5.67 | 0.5592 | 1.7957 | 1.0041 | .2023 | 2.3102 |

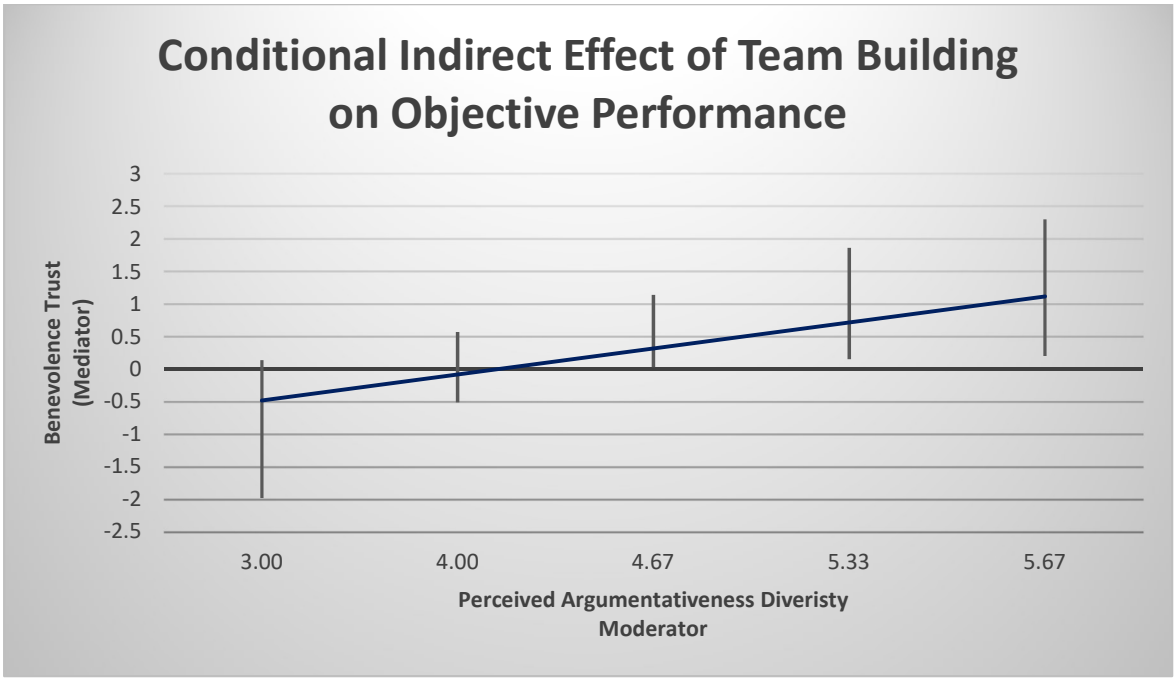


**Figure 21. Conditional Indirect Effect of Team Building on Objective Performance (through Benevolence Trust) based on Perceived Argumentativeness Diversity**

Observe that the conditional indirect effect starts as being negative (although nonsignificant) then becomes positive as it increases with increasing *perceived argumentativeness diversity*. Among those low in *perceived argumentativeness diversity*, the conditional indirect effect is *not* statistically different from zero based on a 95% bootstrap confidence interval based on 10,000 bootstrap samples (derived using PROCESS). These results support the claim that for teams with high *perceived argumentativeness diversity,* although the team building intervention led to lower *benevolence* trust (because $a_1$ is negative), the high *perceived argumentativeness diversity* was able to offset the negative impact of the team building on *benevolence* trust that led to positive *benevolence* trust. The higher the *benevolence* trust, the higher the objective performance (because $b_1$ is positive). This means that teams with

high *perceived argumentativeness diversity* experienced the most positive indirect effect of the team building intervention on objective performance through *benevolence* trust.

4.5.3.1.2.2. Moderating Role of Perceived Argumentativeness Diversity on Indirect Impact of Team Building on Objective Performance through Competence Trust

Evidence of moderated mediation was found as statistically significant since the index of moderated mediation is different from zero (-1.0755 to -.0793) based on a 95% bootstrap confidence interval based on 10,000 bootstrap samples (derived using PROCESS). The treatment and control (X) groups had different effects on the level of *competence* trust (M), depending on the team's *perceived argumentativeness diversity* (W).

$$\theta_{X\to M} = a_1 + a_3 W = (-1.37 + 0.3317W) \quad \text{(Eq. 22)}$$

Moreover, the effect of *competence* trust (M) on objective performance (Y) is $b_1 = -1.3102$ when controlling for the team building intervention (X). Multiplying these two components, $\theta_{X\to M}$ and $b_1$, yields the indirect effect of X on Y through M:

$$\theta_{X\to M} b_1 = (a_1 + a_3 W) b_1 = (-1.37 + 0.3317W)(-1.3102) \quad \text{(Eq. 23)}$$

which is a function of W. Therefore, the indirect effect of the team building intervention on objective performance through *competence* trust depends on the team's *perceived argumentativeness diversity*.

**Table 28. Conditional Indirect Effect (Perceived Argumentativeness Diversity, Competence Trust & Objective Performance)**

| Perceived Diversity (W) | $\theta_{X\rightarrow M}$ | $b_1$ | $\theta_{X\rightarrow M}b_1$ (Indirect Effect) | BootLLCI | BootULCI |
|---|---|---|---|---|---|
| 3.00 | -0.3749 | -1.3102 | 0.4912 | -.1201 | 1.4089 |
| 4.00 | -0.0432 | -1.3102 | 0.0566 | -.4280 | .4347 |
| 4.67 | 0.1779 | -1.3102 | -0.2331 | -.8463 | .0241 |
| 5.33 | 0.3991 | -1.3102 | -0.5228 | -1.3970 | -.1017 |
| 5.67 | 0.5096 | -1.3102 | -0.6677 | -1.7270 | -.1490 |

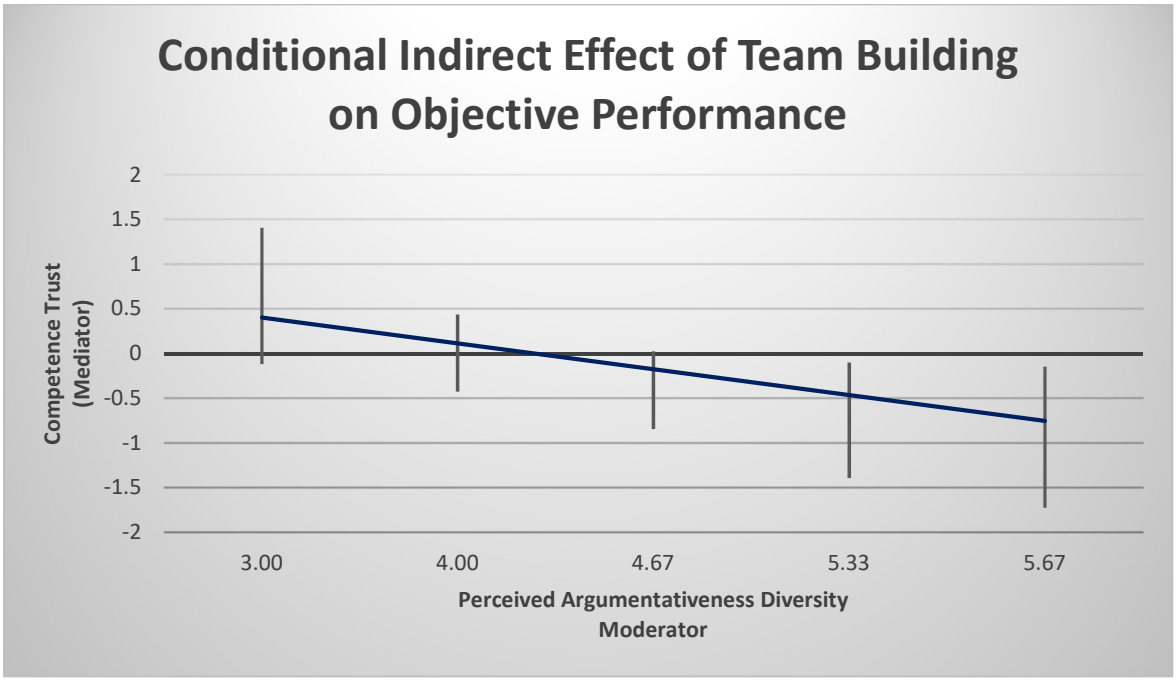


**Figure 22. Conditional Indirect Effect of Team Building on Objective Performance (through Competence Trust) based on Perceived Argumentativeness Diversity**

Observe that the conditional indirect effect starts as being positive (although nonsignificant) then becomes negative as it decreases with increasing *perceived argumentativeness diversity*. Among those low in *perceived argumentativeness diversity*, the

conditional indirect effect is *not* statistically different from zero based on a 95% bootstrap confidence interval based on 10,000 bootstrap samples (derived using PROCESS). These results support the claim that for teams with high *perceived argumentativeness diversity,* although the team building intervention led to lower *competence* trust (because $a_1$ is negative), the high *perceived argumentativeness diversity* was able to offset the negative impact of the team building on *competence* trust that led to positive *competence* trust. The higher the *competence* trust, the lower the objective performance (because $b_1$ is negative). This means that teams with high *perceived argumentativeness diversity* experienced the most negative indirect effect of the team building intervention on objective performance through *competence* trust.

4.5.3.1.3. Perceived Inquisitiveness Diversity

The section below present the results assessing the moderating role of perceived inquisitiveness diversity on the indirect impact of the team building activity on objective performance.

4.5.3.1.3.1. Moderating Role of Perceived Inquisitiveness Diversity on Indirect Impact of Team Building on Objective Performance through Benevolence Trust

Evidence of moderated mediation was found as statistically significant since the index of moderated mediation is different from zero (0.111 to 1.372) based on a 95% bootstrap confidence interval based on 10,000 bootstrap samples (derived using PROCESS). The treatment and control (X) groups had different effects on the level of *benevolence* trust (M), depending on the team's *perceived inquisitiveness diversity* (W).

$$\theta_{X\rightarrow M} = a_1 + a_3 W = (-1.3175 + 0.3129W) \quad \text{(Eq. 24)}$$

Moreover, the effect of *benevolence* trust (M) on objective performance (Y) is $b_1 = 1.9153$ when controlling for the team building intervention (X). Multiplying these two components, $\theta_{X\rightarrow M}$ and $b_1$, yields the indirect effect of X on Y through M:

$$\theta_{X\rightarrow M} b_1 = (a_1 + a_3 W) b_1 = (-1.3175 + 0.3129W)(1.9153) \quad \text{(Eq. 25)}$$

which is a function of W. Therefore, the indirect effect of the team building intervention on objective performance through *benevolence* trust depends on the team's *perceived inquisitiveness diversity*.

**Table 29. Conditional Indirect Effect (Perceived Inquisitiveness Diversity, Benevolence Trust & Objective Performance)**

| Perceived Diversity (W) | $\theta_{X\rightarrow M}$ | $b_1$ | $\theta_{X\rightarrow M} b_1$ (Indirect Effect) | BootLLCI | BootULCI |
|---|---|---|---|---|---|
| 3.67 | -0.1702 | 1.9153 | -0.3260 | -1.2735 | .2322 |
| 4.00 | -0.0659 | 1.9153 | -0.1262 | -.8540 | .3619 |
| 4.67 | 0.1427 | 1.9153 | 0.2733 | -.1012 | .8948 |
| 5.33 | 0.3513 | 1.9153 | 0.6728 | .1524 | 1.5919 |
| 6.00 | 0.5599 | 1.9153 | 1.0724 | .2852 | 2.3922 |

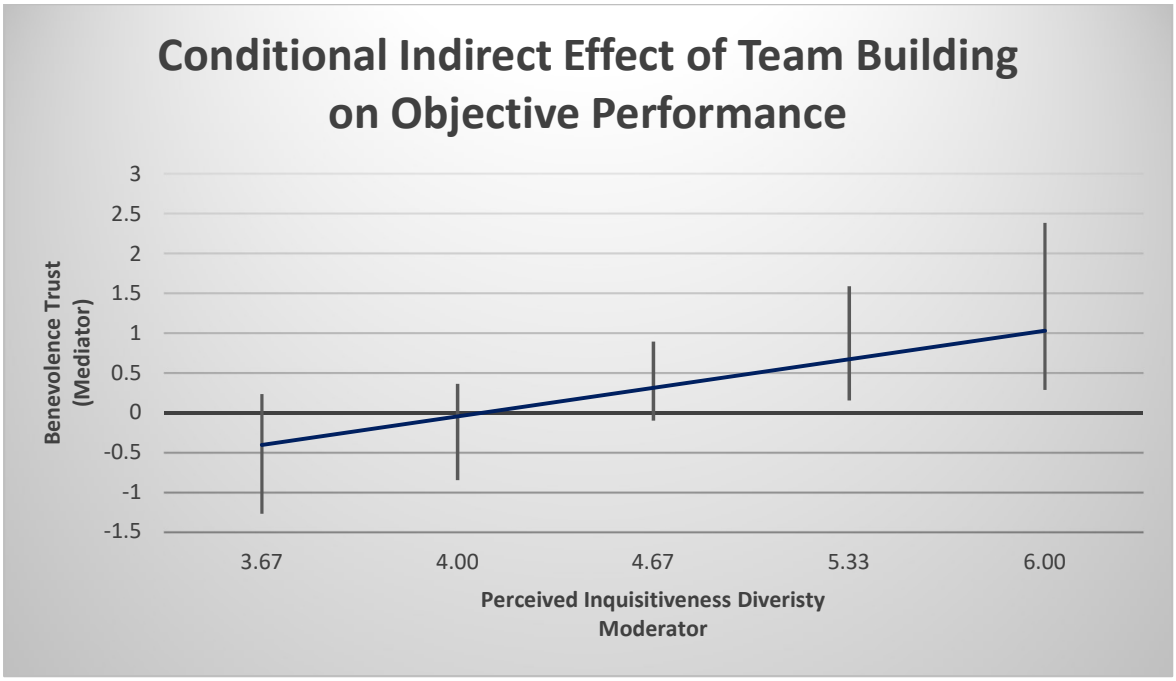


**Figure 23. Conditional Indirect Effect of Team Building on Objective Performance (through Benevolence Trust) based on Perceived Inquisitiveness Diversity**

Observe that the conditional indirect effect starts as being negative (although nonsignificant) then becomes significantly positive as it increases with increasing *perceived inquisitiveness diversity*. Among those low in *perceived inquisitiveness diversity*, the conditional indirect effect is *not* statistically different from zero based on a 95% bootstrap confidence interval based on 10,000 bootstrap samples (derived using PROCESS). These results support the claim that for teams with high *perceived inquisitiveness diversity,* although the team building intervention led to lower *benevolence* trust (because $a_1$ is negative), the high *perceived inquisitiveness diversity* was able to offset the negative impact of the team building on *benevolence competence* trust that led to positive *benevolence* trust. The higher the *benevolence* trust, the higher the objective performance (because $b_1$ is positive). This means that teams with

high *perceived inquisitiveness diversity* experienced the most positive indirect effect of the team building intervention on objective performance through *benevolence* trust.

4.5.3.1.3.2. Moderating Role of Perceived Inquisitiveness Diversity on Indirect Impact of Team Building on Objective Performance through Competence Trust

Evidence of moderated mediation was found as statistically significant since the index of moderated mediation is different from zero (-.9122 to -.0238) based on a 95% bootstrap confidence interval based on 10,000 bootstrap samples (derived using PROCESS). The treatment and control (X) groups had different effects on the level of *competence* trust (M), depending on the team's *perceived inquisitiveness diversity* (W).

$$\theta_{X\rightarrow M} = a_1 + a_3 W = (-1.1198 + 0.2609W) \quad \text{(Eq. 26)}$$

Moreover, the effect of *competence* trust (M) on objective performance (Y) is $b_1 = -1.2662$ when controlling for the team building intervention (X). Multiplying these two components, $\theta_{X\rightarrow M}$ and $b_1$, yields the indirect effect of X on Y through M:

$$\theta_{X\rightarrow M} b_1 = (a_1 + a_3 W) b_1 = (-1.1198 + 0.2609W)(-1.2662) \quad \text{(Eq. 27)}$$

which is a function of W. Therefore, the indirect effect of the team building intervention on objective performance through *competence* trust depends on the team's *perceived inquisitiveness diversity*.

**Table 30. Conditional Indirect Effect (Perceived Inquisitiveness Diversity, Competence Trust & Objective Performance)**

| Perceived Diversity (W) | $\theta_{X\rightarrow M}$ | $b_1$ | $\theta_{X\rightarrow M}b_1$ (Indirect Effect) | BootLLCI | BootULCI |
|---|---|---|---|---|---|
| 3.67 | -0.1632 | -1.2662 | 0.2066 | -.2330 | .8788 |
| 4.00 | -0.0762 | -1.2662 | 0.0965 | -.3029 | .6096 |
| 4.67 | 0.0977 | -1.2662 | -0.1238 | -.6470 | .1207 |
| 5.33 | 0.2717 | -1.2662 | -0.3440 | -1.0952 | -.0277 |
| 6.00 | 0.4456 | -1.2662 | -0.5642 | -1.6121 | -.0886 |

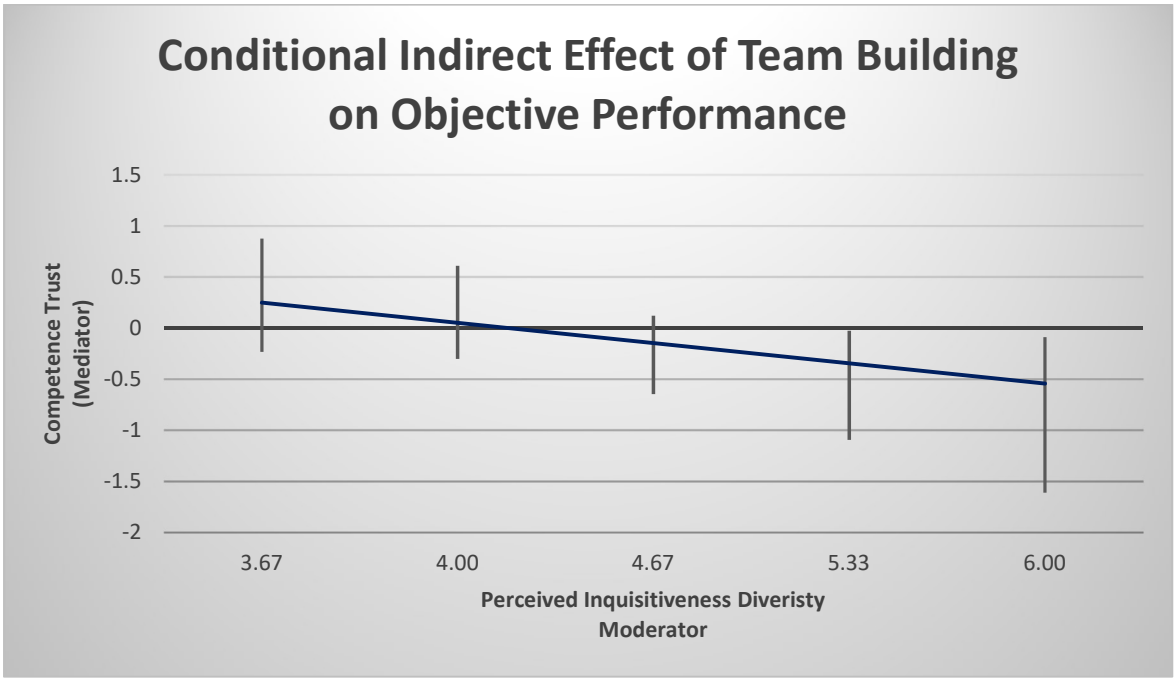


**Figure 24. Conditional Indirect Effect of Team Building on Objective Performance (through Competence Trust) based on Perceived Inquisitiveness Diversity**

Observe that the conditional indirect effect starts as being positive (although nonsignificant) then becomes significantly (significant) as it decreases with increasing *perceived inquisitiveness diversity*. Among those low in *perceived inquisitiveness diversity*, the conditional indirect effect is *not* statistically different from zero based on a 95% bootstrap confidence interval based on 10,000 bootstrap samples (derived using PROCESS). These results support the claim that for teams with high *perceived inquisitiveness diversity,* although the team building

intervention led to lower *competence* trust (because $a_1$ is negative), the high *perceived inquisitiveness diversity* was able to offset the negative impact of the team building on *competence* trust that led to positive *competence* trust. The higher the *competence* trust, the lower the objective performance (because $b_1$ is negative). This means that teams with high *perceived inquisitiveness diversity* experienced the most negative indirect effect of the team building intervention on objective performance through *competence* trust.

4.5.3.1.4. Perceived Dependent Decision-Making Style

The section below present the results assessing the moderating role of perceived decision-making style diversity on the indirect impact of the team building activity on objective performance.

4.5.3.1.4.1. Moderating Role of Perceived Dependent Decision-Making Style Diversity on Indirect Impact of Team Building on Objective Performance through Benevolence Trust

Evidence of moderated mediation was found as statistically significant since the index of moderated mediation is different from zero (0.0356 to 1.2403) based on a 95% bootstrap confidence interval based on 10,000 bootstrap samples (derived using PROCESS). The treatment and control (X) groups had different effects on the level of *benevolence* trust (M), depending on the team's *perceived dependent decision-making style diversity* (W).

$$\theta_{X\rightarrow M} = a_1 + a_3W = (-.9646 + 0.2564W) \quad \text{(Eq. 28)}$$

Moreover, the effect of *benevolence* trust (M) on objective performance (Y) is $b_1 = 1.8079$ when controlling for the team building intervention (X). Multiplying these two components, $\theta_{X\rightarrow M}$ and $b_1$, yields the indirect effect of X on Y through M:

$$\theta_{X\rightarrow M}b_1 = (a_1 + a_3W)b_1 = (-.9646 + 0.2564W)(1.8079) \quad \text{(Eq. 29)}$$

which is a function of W. Therefore, the indirect effect of the team building intervention on objective performance through *benevolence* trust depends on the team's *perceived dependent decision-making style diversity*.

**Table 31. Conditional Indirect Effect (Perceived Dependent Decision-making Style Diversity, Benevolence Trust & Objective Performance)**

| Perceived Diversity (W) | $\theta_{X\rightarrow M}$ | $b_1$ | $\theta_{X\rightarrow M}b_1$ (Indirect Effect) | BootLLCI | BootULCI |
|---|---|---|---|---|---|
| 3.33 | -0.1099 | 1.8079 | -0.1988 | -1.0496 | .3798 |
| 4.00 | 0.0610 | 1.8079 | 0.1103 | -.3110 | .6918 |
| 4.50 | 0.1892 | 1.8079 | 0.3421 | -.0151 | 1.0396 |
| 5.00 | 0.3174 | 1.8079 | 0.5738 | .0995 | 1.4953 |
| 5.50 | 0.4456 | 1.8079 | 0.8056 | .1559 | 2.0118 |

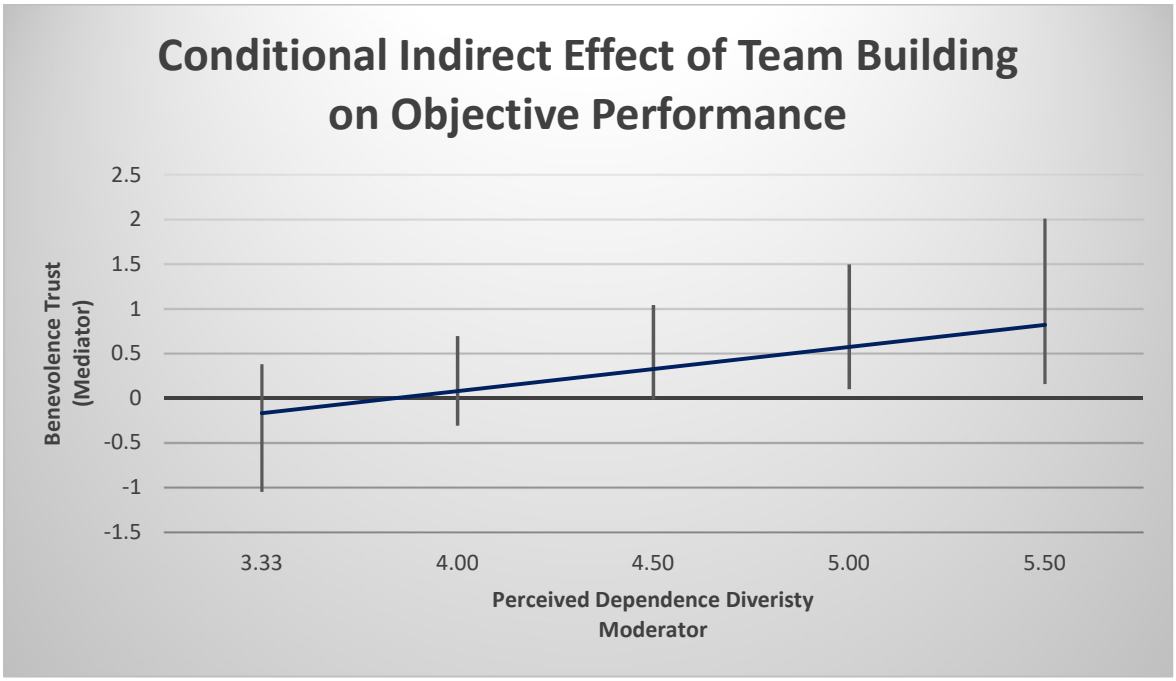


**Figure 25. Conditional Indirect Effect of Team Building on Objective Performance (through Benevolence Trust) based on Perceived Dependent Decision-Making Style Diversity**

Observe that the conditional indirect effect starts as being negative (although nonsignificant) then becomes significantly positive as it increases with increasing *perceived dependent decision-making style diversity*. Among those low in *perceived dependence diversity*, the conditional indirect effect is *not* statistically different from zero based on a 95% bootstrap confidence interval based on 10,000 bootstrap samples (derived using PROCESS). These results support the claim that for teams with high *perceived dependent decision-making style diversity,* although the team building intervention led to lower *benevolence* trust (because $a_1$ is negative), the high *perceived dependent decision-making style diversity* was able to offset the negative impact of the team building on *benevolence competence* trust that led to positive *benevolence* trust. The higher the *benevolence* trust, the higher the objective performance (because $b_1$ is

positive). This means that teams with high *perceived dependence diversity* experienced the most positive indirect effect of the team building intervention on objective performance through *benevolence* trust.

4.5.3.2. Perceived Performance

The section below presents the results assessing the moderating role of perceived diversity on the indirect impact of the team building activity on perceived performance.

4.5.3.2.1. Perceived Conversational Dominance Diversity

The section below presents the results assessing the moderating role of perceived conversational dominance diversity on the indirect impact of the team building activity on perceived performance.

4.5.3.2.1.1. Moderating Role of Perceived Conversational Dominance Diversity on Indirect Impact of Team Building on Perceived Performance through Benevolence Trust

Evidence of moderated mediation was found as statistically significant since the index of moderated mediation is different from zero (-.2108 to -0.0097) based on a 95% bootstrap confidence interval based on 10,000 bootstrap samples (derived using PROCESS). The treatment and control (X) groups had different effects on the level of *benevolence* trust (M), depending on the team's *perceived conversational dominance diversity* (W).

$$\theta_{X\rightarrow M} = a_1 + a_3 W = (-1.1061 + 0.3050W) \quad \text{(Eq. 30)}$$

Moreover, the effect of *benevolence* trust (M) on objective performance (Y) is $b_1 = -.2822$ when controlling for the team building intervention (X). Multiplying these two components, $\theta_{X\rightarrow M}$ and $b_1$, yields the indirect effect of X on Y through M:

$$\theta_{X\rightarrow M}b_1 = (a_1 + a_3W)b_1 = (-1.1061 + 0.3050W)(-.2822) \quad \text{(Eq. 31)}$$

which is a function of W. Therefore, the indirect effect of the team building intervention on process satisfaction through *benevolence* trust depends on the team's *perceived conversational dominance diversity*.

**Table 32. Conditional Indirect Effect (Perceived Dominance Diversity, Benevolence Trust & Perceived Performance)**

| Perceived Diversity (W) | $\theta_{X\rightarrow M}$ | $b_1$ | $\theta_{X\rightarrow M}b_1$ (Indirect Effect) | BootLLCI | BootULCI |
|---|---|---|---|---|---|
| 3.00 | -0.1911 | -0.2822 | 0.0539 | -.0495 | .2212 |
| 3.67 | 0.0122 | -0.2822 | -0.0035 | -.1057 | .0796 |
| 4.33 | 0.2156 | -0.2822 | -0.0608 | -.1783 | .0007 |
| 5.00 | 0.4189 | -0.2822 | -0.1182 | -.2824 | -.0222 |
| 5.67 | 0.6222 | -0.2822 | -0.1756 | -.4043 | -.0337 |

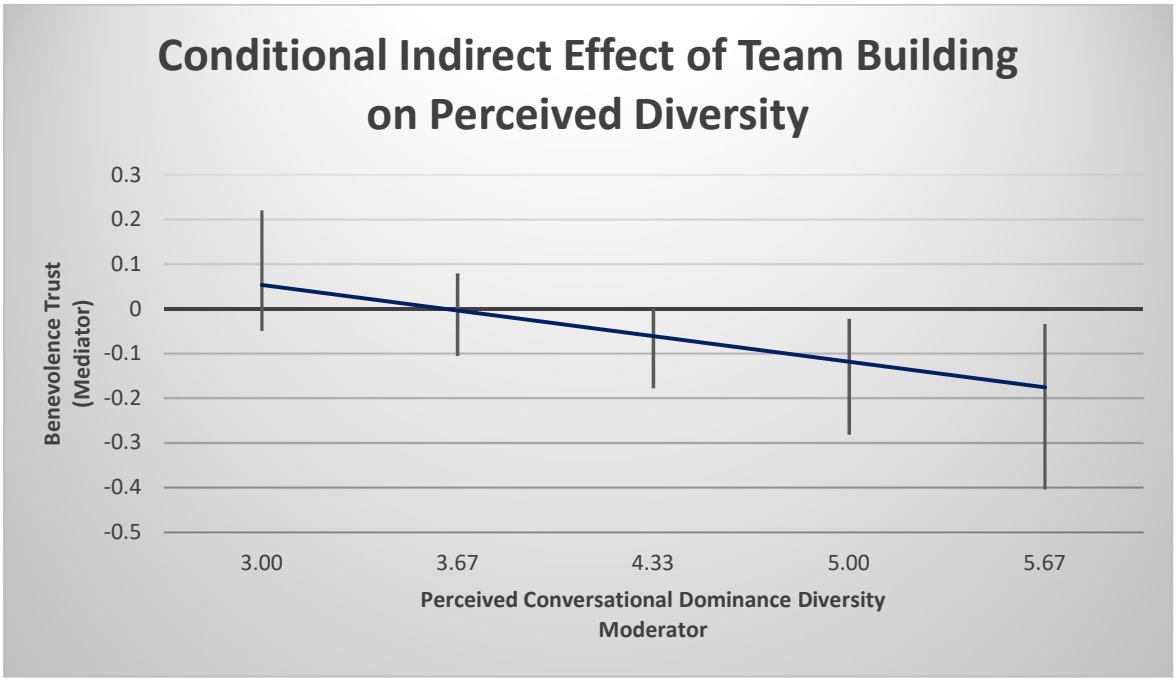

**Figure 26. Conditional Indirect Effect of Team Building on Perceived Performance (through Benevolence Trust) based on Perceived Conversational Dominance Diversity**

Observe that the conditional indirect effect starts as being positive (although nonsignificant) then becomes significantly negative as it decreases with increasing *perceived dominance diversity*. Among those low in *perceived dominance diversity*, the conditional indirect effect is *not* statistically different from zero based on a 95% bootstrap confidence interval based on 10,000 bootstrap samples (derived using PROCESS). These results support the claim that for teams with high *perceived conversational dominance diversity,* although the team building intervention led to lower *benevolence* trust (because $a_1$ is negative), the high *perceived conversational dominance diversity* was able to offset the negative impact of the team building on *benevolence competence* trust that led to positive *benevolence* trust. Unfortunately, the higher the *benevolence* trust, the lower the perceived performance (because $b_1$ is negative). This means that teams with high *perceived conversational dominance diversity* experienced the most negative indirect effect of the team building intervention on perceived performance through *benevolence* trust.

4.5.3.2.2. Perceived Argumentativeness Diversity

The section below presents the results assessing the moderating role of perceived argumentativeness diversity on the indirect impact of the team building activity on perceived performance.

4.5.3.2.2.1. Moderating Role of Perceived Argumentativeness Diversity on Indirect Impact of Team Building on Perceived Performance through Benevolence Trust

Evidence of moderated mediation was found as statistically significant since the index of moderated mediation is different from zero (-.238 to -0.0032) based on a 95% bootstrap

confidence interval based on 10,000 bootstrap samples (derived using PROCESS). The treatment and control (X) groups had different effects on the level of *benevolence* trust (M), depending on the team's *perceived argumentativeness diversity* (W).

$$\theta_{X\to M} = a_1 + a_3 W = (-1.3386 + 0.3349W) \quad \text{(Eq. 32)}$$

Moreover, the effect of *benevolence* trust (M) on process satisfaction (Y) is $b_1 = -.2611$ when controlling for the team building intervention (X). Multiplying these two components, $\theta_{X\to M}$ and $b_1$, yields the indirect effect of X on Y through M:

$$\theta_{X\to M} b_1 = (a_1 + a_3 W) b_1 = (-1.3386 + 0.3349W)(-.2611) \quad \text{(Eq. 33)}$$

which is a function of W. Therefore, the indirect effect of the team building intervention on process satisfaction through *benevolence* trust depends on the team's *perceived argumentativeness diversity*.

**Table 33. Conditional Indirect Effect (Perceived Argumentativeness Diversity, Benevolence Trust & Perceived Performance)**

| Perceived Diversity (W) | $\theta_{X\to M}$ | $b_1$ | $\theta_{X\to M} b_1$ (Indirect Effect) | BootLLCI | BootULCI |
|---|---|---|---|---|---|
| 3.00 | -0.3339 | -0.2611 | 0.0872 | -.0375 | .3259 |
| 4.00 | 0.0010 | -0.2611 | -0.0003 | -.0994 | .0903 |
| 4.67 | 0.2243 | -0.2611 | -0.0586 | -.1788 | -.0009 |
| 5.33 | 0.4475 | -0.2611 | -0.1168 | -.2871 | -.0132 |
| 5.67 | 0.5592 | -0.2611 | -0.1460 | -.3531 | -.0151 |

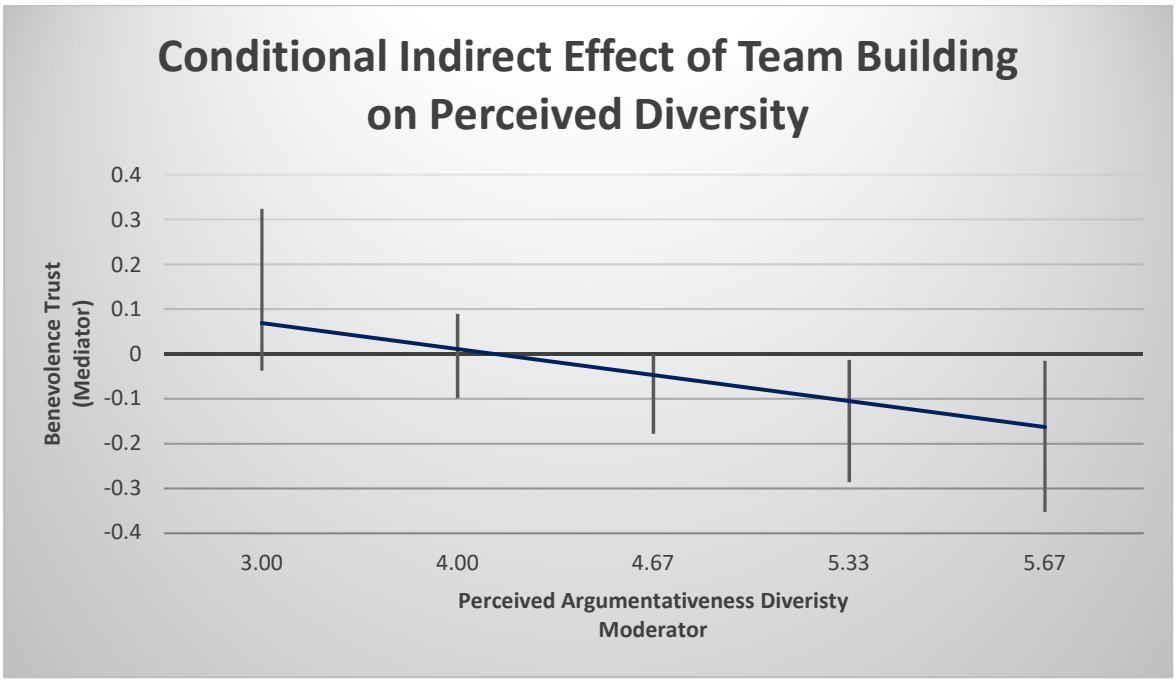


**Figure 27. Conditional Indirect Effect of Team Building on Perceived Performance (through Benevolence Trust) based on Perceived Argumentativeness Diversity**

Observe that the conditional indirect effect starts as being positive (although nonsignificant) then becomes negative as it decreases with increasing *perceived argumentativeness diversity*. Among those low in *perceived argumentativeness diversity*, the conditional indirect effect is *not* statistically different from zero based on a 95% bootstrap confidence interval based on 10,000 bootstrap samples (derived using PROCESS). These results support the claim that for teams with high *perceived argumentativeness diversity,* although the team building intervention led to lower *benevolence* trust (because $a_1$ is negative), the high *perceived argumentativeness diversity* was able to offset the negative impact of the team building on *benevolence* trust that led to positive *benevolence* trust. Unfortunately, the higher the *benevolence* trust, the lower the perceived performance (because $b_1$ is negative). This means that teams with high *perceived*

*argumentativeness diversity* experienced the most negative indirect effect of the team building intervention on perceived performance through *benevolence* trust.

4.5.3.2.2.2. Moderating Role of Perceived Argumentativeness Diversity on Indirect Impact of Team Building on Perceived Performance through Competence Trust

Evidence of moderated mediation was found as statistically significant since the index of moderated mediation is different from zero (.0392 to .3703) based on a 95% bootstrap confidence interval based on 10,000 bootstrap samples (derived using PROCESS). The treatment and control (X) groups had different effects on the level of *competence* trust (M), depending on the team's *perceived argumentativeness diversity* (W).

$$\theta_{X\rightarrow M} = a_1 + a_3 W = (-1.37 + 0.3317W) \quad \text{(Eq. 34)}$$

Moreover, the effect of *competence* trust (M) on process satisfaction (Y) is $b_1 = .5273$ when controlling for the team building intervention (X). Multiplying these two components, $\theta_{X\rightarrow M}$ and $b_1$, yields the indirect effect of X on Y through M:

$$\theta_{X\rightarrow M} b_1 = (a_1 + a_3 W) b_1 = (-1.37 + 0.3317W)(.5273) \quad \text{(Eq. 35)}$$

which is a function of W. Therefore, the indirect effect of the team building intervention on process satisfaction through *competence* trust depends on the team's *perceived argumentativeness diversity*.

**Table 34. Conditional Indirect Effect (Perceived Argumentativeness Diversity, Competence Trust & Perceived Performance)**

| Perceived Diversity (W) | $\theta_{X\rightarrow M}$ | $b_1$ | $\theta_{X\rightarrow M}b_1$ (Indirect Effect) | BootLLCI | BootULCI |
|---|---|---|---|---|---|
| 3.00 | -0.3749 | 0.5273 | -0.1977 | -.5625 | .0780 |
| 4.00 | -0.0432 | 0.5273 | -0.0228 | -.2165 | .1478 |
| 4.67 | 0.1779 | 0.5273 | 0.0938 | -.0099 | .2463 |
| 5.33 | 0.3991 | 0.5273 | 0.2104 | .0905 | .4159 |
| 5.67 | 0.5096 | 0.5273 | 0.2687 | .1173 | .5166 |

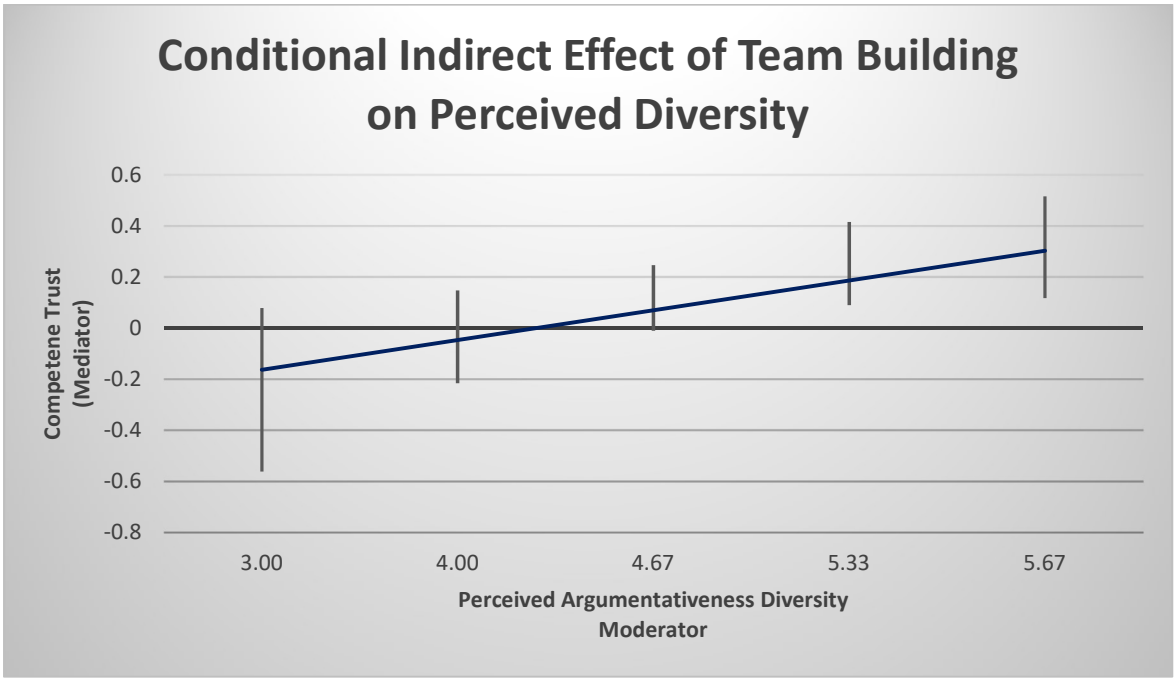


**Figure 28. Conditional Indirect Effect of Team Building on Perceived Performance (through Competene Trust) based on Perceived Argumentativeness Diversity**

Observe that the conditional indirect effect starts as being negative (although nonsignificant) then becomes significantly positive as it increases with increasing *perceived argumentativeness diversity*. Among those low in *perceived argumentativeness diversity*, the conditional indirect effect is *not* statistically different from zero based on a 95% bootstrap confidence interval based on 10,000 bootstrap samples (derived using PROCESS). These results support the claim that for teams with high *perceived argumentativeness diversity,* although the team building intervention

led to lower *competence* trust (because $a_1$ is negative), the high *perceived argumentativeness diversity* was able to offset the negative impact of the team building on *competence* trust that led to positive *competence* trust. The higher the *competence* trust, the higher the perceived performance (because $b_1$ is positive). This means that teams with high *perceived argumentativeness diversity* experienced the most positive indirect effect of the team building intervention on perceived performance through *competence* trust.

4.5.3.2.3. Perceived Inquisitiveness Diversity

The section below presents the results assessing the moderating role of perceived conversational dominance inquisitiveness diversity on the indirect impact of the team building activity on perceived performance.

4.5.3.2.3.1. Moderating Role of Perceived Inquisitiveness Diversity on Indirect Impact of Team Building on Perceived Performance through Benevolence Trust

Evidence of moderated mediation was found as statistically significant since the index of moderated mediation is different from zero (-.2246 to -.0088) based on a 95% bootstrap confidence interval based on 10,000 bootstrap samples (derived using PROCESS). The treatment and control (X) groups had different effects on the level of *benevolence* trust (M), depending on the team's *perceived inquisitiveness diversity* (W).

$$\theta_{X\rightarrow M} = a_1 + a_3 W = (-1.3175 + 0.3129W) \qquad \text{(Eq. 36)}$$

Moreover, the effect of *benevolence* trust (M) on process satisfaction (Y) is $b_1 = -.2675$ when controlling for the team building intervention (X). Multiplying these two components, $\theta_{X\rightarrow M}$ and $b_1$, yields the indirect effect of X on Y through M:

$$\theta_{X\rightarrow M}b_1 = (a_1 + a_3W)b_1 = (-1.3175 + 0.3129W)(-.2675) \quad \text{(Eq. 37)}$$

which is a function of W. Therefore, the indirect effect of the team building intervention on process satisfaction through *benevolence* trust depends on the team's *perceived inquisitiveness diversity*.

**Table 35. Conditional Indirect Effect (Perceived Inquisitiveness Diversity, Benevolence Trust & Perceived Performance)**

| Perceived Diversity (W) | $\theta_{X\rightarrow M}$ | $b_1$ | $\theta_{X\rightarrow M}b_1$ (Indirect Effect) | BootLLCI | BootULCI |
|---|---|---|---|---|---|
| 3.67 | -0.1702 | -0.2675 | 0.0455 | -.0382 | .2257 |
| 4.00 | -0.0659 | -0.2675 | 0.0176 | -.0569 | .1536 |
| 4.67 | 0.1427 | -0.2675 | -0.0382 | -.1406 | .0172 |
| 5.33 | 0.3513 | -0.2675 | -0.0940 | -.2409 | -.0149 |
| 6.00 | 0.5599 | -0.2675 | -0.1498 | -.3714 | -.0259 |

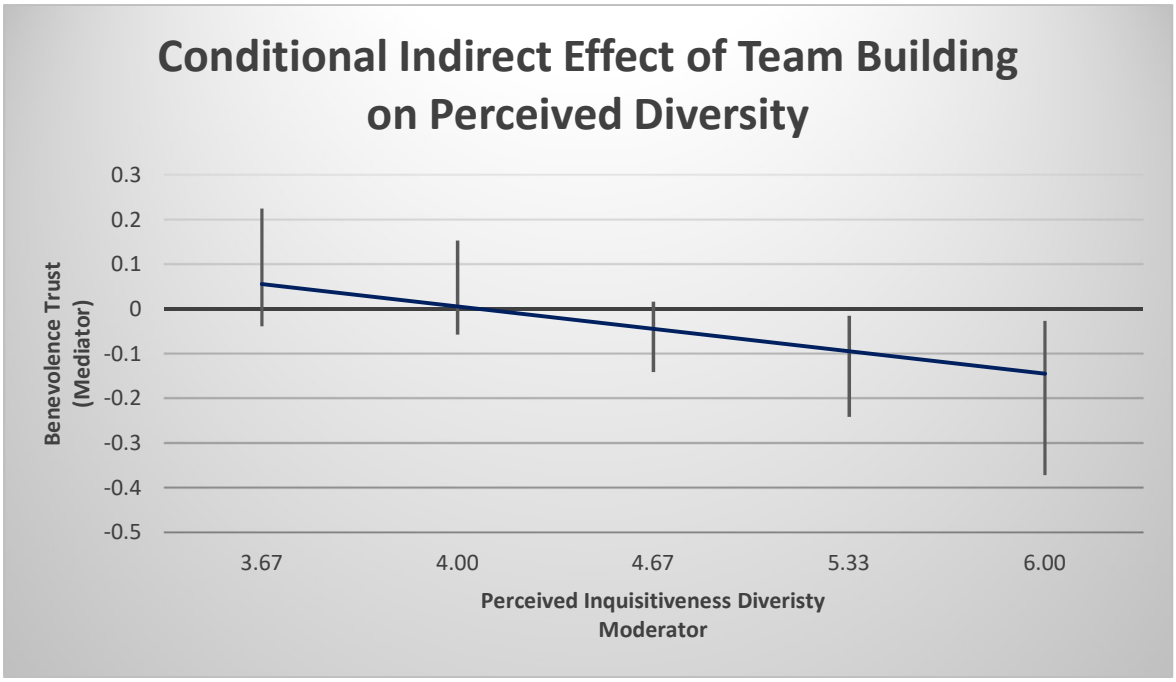


**Figure 29. Conditional Indirect Effect of Team Building on Perceived Performance (through Benevolence Trust) based on Perceived Inquisitiveness Diversity**

Observe that the conditional indirect effect starts as being positive then becomes negative as it decreases with increasing *perceived inquisitiveness diversity*. Among those low in *perceived inquisitiveness diversity*, the conditional indirect effect is *not* statistically different from zero based on a 95% bootstrap confidence interval based on 10,000 bootstrap samples (derived using PROCESS). These results support the claim that for teams with high *perceived inquisitiveness diversity,* although the team building intervention led to lower *benevolence* trust (because $a_1$ is negative), the high *perceived inquisitiveness diversity* was able to offset the negative impact of the team building on *benevolence competence* trust that led to positive *benevolence* trust. Unfortunately, the higher the *benevolence* trust, the lower the perceived performance (because $b_1$ is negative). This means that teams with high *perceived inquisitiveness diversity* experienced the most negative indirect effect of the team building intervention on perceived performance through *benevolence* trust.

4.5.3.2.3.2. Moderating Role of Perceived Inquisitiveness Diversity on Indirect Impact of Team Building on Perceived Performance through Competence Trust

Evidence of moderated mediation was found as statistically significant since the index of moderated mediation is different from zero (0.0058 to 0.3470) based on a 95% bootstrap confidence interval based on 10,000 bootstrap samples (derived using PROCESS). The treatment and control (X) groups had different effects on the level of *competence* trust (M), depending on the team's *perceived inquisitiveness diversity* (W).

$$\theta_{X\rightarrow M} = a_1 + a_3 W = (-1.1198 + 0.2609W) \qquad \text{(Eq. 38)}$$

Moreover, the effect of *competence* trust (M) on process satisfaction (Y) is $b_1 = .5319$ when controlling for the team building intervention (X). Multiplying these two components, $\theta_{X\rightarrow M}$ and $b_1$, yields the indirect effect of X on Y through M:

$$\theta_{X\rightarrow M} b_1 = (a_1 + a_3 W) b_1 = (-1.1198 + 0.2609W)(.5319) \quad \text{(Eq. 39)}$$

which is a function of W. Therefore, the indirect effect of the team building intervention on process satisfaction through *competence* trust depends on the team's *perceived inquisitiveness diversity*.

**Table 36. Conditional Indirect Effect (Perceived Inquisitiveness Diversity, Competence Trust & Perceived Performance)**

| Perceived Diversity (W) | $\theta_{X\rightarrow M}$ | $b_1$ | $\theta_{X\rightarrow M} b_1$ (Indirect Effect) | BootLLCI | BootULCI |
|---|---|---|---|---|---|
| 3.67 | -0.1632 | 0.5319 | -0.0868 | -.4019 | .1107 |
| 4.00 | -0.0762 | 0.5319 | -0.0405 | -.2951 | .1230 |
| 4.67 | 0.0977 | 0.5319 | 0.0520 | -.0871 | .1899 |
| 5.33 | 0.2717 | 0.5319 | 0.1445 | .0339 | .3493 |
| 6.00 | 0.4456 | 0.5319 | 0.2370 | .0668 | .5467 |

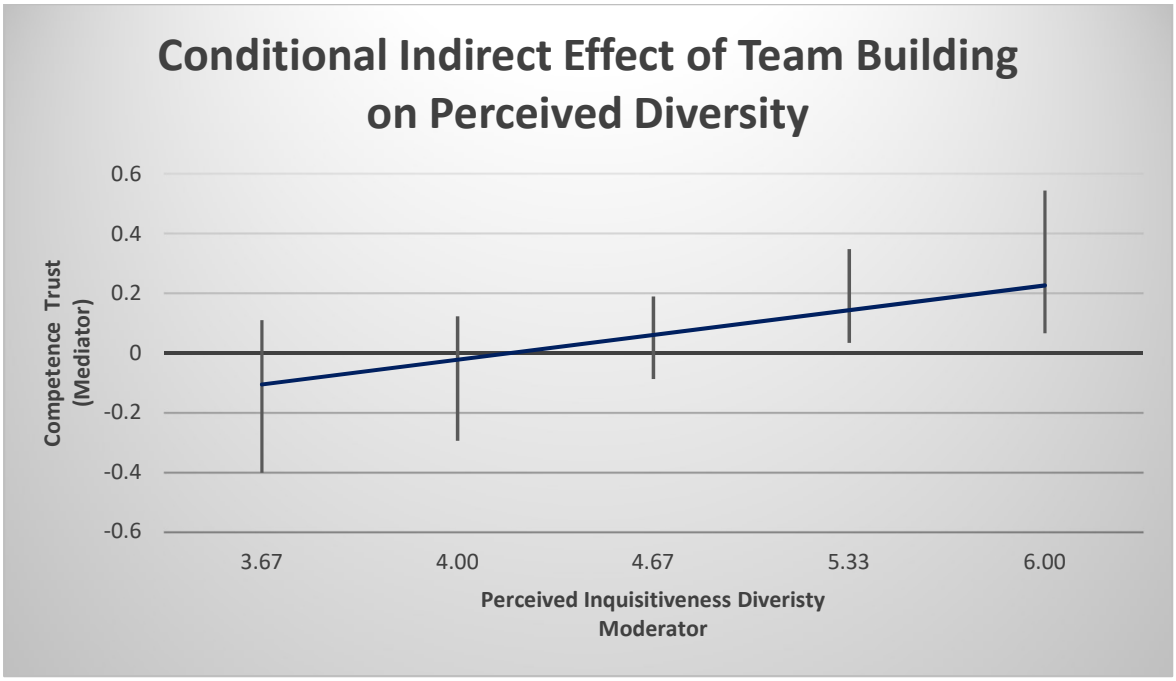


**Figure 30. Conditional Indirect Effect of Team Building on Perceived Performance (through Competence Trust) based on Perceived Inquisitiveness Diversity**

Observe that the conditional indirect effect starts as being negative (although nonsignificant) then becomes significantly positive as it increases with increasing *perceived inquisitiveness diversity*. Among those low in *perceived inquisitiveness diversity*, the conditional indirect effect is *not* statistically different from zero based on a 95% bootstrap confidence interval based on 10,000 bootstrap samples (derived using PROCESS). These results support the claim that for teams with high *perceived inquisitiveness diversity,* although the team building intervention led to lower *competence* trust (because $a_1$ is negative), the high *perceived inquisitiveness diversity* was able to offset the negative impact of the team building on *competence* trust that led to positive *competence* trust. The higher the *competence* trust, the higher the perceived performance (because $b_1$ is positive). This means that teams with high *perceived inquisitiveness diversity*

experienced the most positive indirect effect of the team building intervention on perceived performance through *competence* trust.

# CHAPTER 5

# CONCLUSIONS AND RECOMMENDATIONS

## 5.1. Discussion

The aim of this study was to develop and test a team building activity that would address deep-level diversity to increase the decision-making performance of virtual teams through team trust. The developed team building activity had a significant positive impact on objective decision-making performance based on the ANOVA findings. However, it also had a significant negative impact on perceived decision-making performance measured by process satisfaction. These findings align with Nguyen-Duc, Cruzes and Conradi's (2015) review of literature that show that certain variables may have opposite impacts on objective and subjective team performance. Existing literature may help explain the opposite results. Pazos (2005) found that while there was no significant increase in objective performance over time for both face-to-face and virtual teams, their perceived performance declined over time. The author attributed the declining perceived performance to the performance feedback given after each decision-making activity sessions. The author proposes that the feedback about the assessment of team performance after each team activity decreased the team's level of confidence in their final decision for the subsequent sessions even though their actual performance remained statistically the same for each session. She noted that in many cases, even though the participants perceived high values of the final decision, the actual score was below their expectations. Bi, Liu, Li and Zhang (2017) confirm the same findings. They found that participants who received feedback expressed greater dissatisfaction when they perceived a gap between their desired and actual performance and increased their effort to achieve their desired outcomes whereas participants

who did not received true feedback did not apply more effort. Luffarelli, Goncalves and Stamatogiannakis (2016) also found inconsistencies between an individual's belief about performance satisfaction and actual performance satisfaction. They found that even though individuals believe that their performance satisfaction will be higher if they received high absolute performance feedback, in reality, they experience higher performance satisfaction when they receive low absolute performance feedback. Feedback is a main component of the team building activity both from the facilitator and the team members themselves. The feedback given regarding the collaborative interactions during decision making may have increased performance expectations that led to lower perceived performance even though objective performance increased due to increased efforts.

Sierro and van Oudenhoven (1995) alluded to the importance of the individual's perceived controllability when giving feedback to enhance task performance. They found that certain feedback strategies significantly increased perceived controllability, which increased task performance. Martocchio and Dulebohn, (1994) confirmed their findings. They found that individuals who receive feedback that attribute their performance to factors within their control experienced high self-efficacy. For this study, even though the team building activity had important feedback strategies, the increased task conflict and discussion that are outside an individual's control that resulted from increased awareness of team's interaction may have lowered their perceived controllability that decreased perceived performance.

Previous meta-analysis about team building have found inconsistent results regarding its relationship with objective and perceived performance. Salas, Rozell, Mullen and Driskell (1999) found a nonsignificant tendency of team building to decrease objective performance and a significant but small tendency for team building to increase perceived performance. Klein et al.

(2009) found a non-significant negative effect of goal-setting, interpersonal relations and problem-solving team building on both objective and subjective performance while role clarification team building had a significant positive effect on both objective and subjective performance. Overall, they found non-significant negative effect of team building on objective performance and small positive relationship with subjective performance. On the other hand, Delise, Gorman, Brooks, Rentsch and Steel-Johnson (2010) found that team training had significant positive relationship with both objective and perceived performance. The inconsistent results of these meta-analyses may be due to differences in team building design and implementation. The team building in this study incorporated several elements such as goal-setting, problem solving, interpersonal relations and role clarification that may explain the unique set of results – significant positive effect on objective performance and significant negative effect on perceived performance.

This study also found that benevolence trust mediated the positive impact of the team building on objective performance confirming the important role of trust as a predictor of performance. The qualitative findings offer a richer insight into the quantitative results (see Appendix I for complete qualitative report). Forty-three (43) students volunteered to go through the interview process which lasted around 15 to 30 minutes. Twenty-three (23) were part of the treatment condition while twenty (20) were part of the control condition. Due to the agreement with the professors of the engineering classes that all students should experience the team building activity, all of the students in the control condition also went through the team building activity after data for the control condition were collected. As a result, all of the students were able to assess the team building activity. Qualitative analysis show that 72% of the students indicated that the team building increased the team benevolence trust level that lead to increased

decision making performance. Several students explained how the team building activity led to higher benevolence trust that some of them refer to as the level of comfort in the team. Many of them find the term “trust” very abstract. They could relate more to the word “comfort” in the team

*I would say that during the activity, I think everybody was nervous at first when we were first going at it but I think we were very comfortable towards the end so I think our teambuilding exercise really help towards the end. I think talking it through until the end really helps out. We understood each other’s communication style. One team member was a little bit more reserved so we were able to ask each other questions for the second time around because we knew what kind of personality he has and how to deal with it. To get over that barrier. I became more open during the activity because I felt a little bit more comfortable and also to try to make the other teammates feel comfortable as well. That was important to get over that difference. (Paw 3)*

*(After the team building activity), the second (decision-making) task was different in the way where, I think everyone else was a little bit more comfortable bringing up ideas. (Lion 1)*

*The level of trust was a little bit different between the first and second (decision-making) activity because during the second one, everyone was much more open. After kind of "vibing" with each other in a way, it just seem much more easier to bring out everything. (ODU 7)*

The students also explained how the team building activity led to decision-making performance of the team.

> *It changed a lot in the second decision-making task. We were all familiar with each other and we were involved. I think we just started asking each other questions, bouncing ideas off of each other. I think the level of trust increased in the second decision making task. I think also the information that we had that was given to us once we talked amongst ourselves, I think we were more expressive about what we need individually about the problem and then we were able to complete a conclusion after that. (Paw 3)*

> *I think the team building activity helped with decision-making performance. I think the team building activity brought it out more. With the second activity, everyone had their own set of data about the murder mystery so that made it more of an incentive to bring out what do I know. That definitely helped bring it out. Because we are not so afraid to be so gung-ho. It's not as intimidating. (ODU 7)*

On the other hand, 7% indicated that the team building activity led to higher decision-making team performance although it did not necessarily affect the trust level of the team. This supports the quantitative results where part of the impact of the team building activity was not mediated by trust. The qualitative finding also indicates that the team building activity does not work for all students (21%) that may explain why other of the mediation quantitative results

(competence, integrity and overall trust) were not significant. Several of the students who said that the team building activity did not help build trust in the team experienced an instant evaluation of the team at the start of the activity based on how their teammates interacted with them. When they instantly perceived the team as trustworthy, they easily trusted the team leading to the perception that the team building activity was not necessary to build trust.

> *I could already tell from the first activity that I can trust them because we did it so swiftly and we had our information so I don't think the getting to know you part was necessary I would say. (Majesty 3)*

> *Something about the way that the team member communicated, I immediately trusted him. I don't know what it was, it was just, and then after talking with him when we were walking out. I guess it's the way he presents and carries himself. He just seemed like he had the right or like mindset with me. (ODU 1)*

Other team members said that they normally trust people first until they have a reason not to.

> *I think the reflection and getting to know you part of the activity didn't have any impact (on trust) from my perception. I don't know that I trust them anymore or less than I would normally. I'm generally pretty trusting unless I catch something. (Big Blue 14)*

On the contrary, one student who benefitted from the team building activity had low propensity to trust. This supports the quantitative findings that show that teams who had low propensity to trust experienced the most positive effect from the team building.

> *Well, I don't easily trust people. But I've learned that in engineering, you have to have a level of trust so I'm trying. I'm working on that. In my personal life, it's hard for me to trust people but I learned after being in the field for five years that you have to trust other people. It was hard to trust my team especially since it's the first time seeing each other during the first exercise but then after spending an hour together talking to each other, it was very easy to trust them during the second. (ODU 47)*

Others attributed their level of trust on their perceptions of similarity in the team.

> *I would say no. The teambuilding activity did not change the result of the team. I think that we all, just a group with the similarity of personality, I think we kinda would've performed the same way if we haven't seen that. I think it was just interesting to see but I don't think it really changed what we did. (Big Blue 12)*

We also found that propensity to trust, attitude toward diversity and perceived diversity moderated the indirect impact of the team building activity on objective and perceived performance through benevolence and competence trust. Specifically, regarding *objective team performance,* teams with low propensity to trust benevolence, high attitude toward diversity, high perceived diversity (conversational dominance, argumentativeness, inquisitiveness and

dependence) experienced the most *positive indirect effect* of the team building intervention on *objective performance* through *benevolence trust*. On the other hand, the teams with low propensity to trust competence, high attitude toward diversity, high perceived diversity (argumentativeness, inquisitiveness) experienced the most *negative indirect effect* of the team building intervention on *objective performance* through *competence trust*.

Regarding *perceived team performance,* teams with low propensity to trust benevolence, high attitude toward diversity, high perceived diversity (conversational dominance, argumentativeness, inquisitiveness) experienced *the most negative indirect effect* of the team building intervention on *perceived performance* through *benevolence trust*. On the other hand, the teams experienced the most *positive indirect effect* of the team building intervention on *perceived performance* through *competence trust*. These results show that the effectiveness of the team building depends on the level of team's characteristics.

The results also show that benevolence trust and competence trust both have a role in the effectiveness of the team building. This confirms Hyllengren, Larsson, Fors, Sjöberg, Eid and Olsen's (2011) qualitative study and Lester's (2006) proposal that swift trust is both a cognition- and affective-driven construct. The findings also support Lapidot et al. (2007) findings. They found that, in a military sample, a leader's ability determined trust-erosion incidents while leader benevolence determined trust-building incidents" (p. 16).

If one will analyze the moderated mediation results more deeply, as mediators, benevolence and competence trust had opposite impacts on objective and perceived performance. Benevolence trust increased objective performance while competence trust decreased objective performance. On the other hand, competence trust increased perceived performance while benevolence trust decreased perceived performance. In contrast, studies that explored the link of

team trust with team performance mostly showed a positive association between trust and team performance (Altschuller and Benbunan-Fich, 2010; Chen et al., 2011; Crisp and Jarvenpaa, 2013; Dayan and Di Benedetto, 2010; DeOrtentiis et al., 2013; Fransen et al., 2011; Jarvenpaa et al., 2004; Muethel et al., 2012; Peters and Karren, 2009; Tseng & Ku, 2011) although they did not explore specific dimensions of trust. Therefore, the results of this study add new insights into this field. These results suggest that in the case of a decision-making task, competence trust might be counterproductive when compared to benevolence trust.

Existing literature may help explain these results. Overconfidence may explain why competence trust led to lower objective performance and high perceived performance. Prior research has shown that students consistently overestimate their performance on academic exams, where the higher the estimation error, the lower their objective performance. Clayson, (2005) explains that students with low competency may overestimate their performance because they do not know what they don't know. He also adds that students may be aware of their performance level but systematically overestimates their abilities based on past experience and expectations. Koku and Qureshi (2004) also found that poorer performing students tend to overestimate the probability of getting a correct answer. Bell and Volckmann (2011) also found that students scoring high on the exams estimated their knowledge with greater accuracy than the lower-scoring students, who overestimated their knowledge. This phenomenon is known as the Dunning-Kruger effect, a cognitive bias where individuals with low competence experience illusory superiority where they assess their ability greater than it actually is because of low metacognitive ability (Kruger & Dunning, 1999).

From the industry, a study sampled 52 small computer companies that had decided to introduce a product. Simon, Kim, Houghton and Deng (2011) found that a manager's

overconfidence decreased planning, which decreased performance. Similarly, Chen, Ho and Ho (2014) found that CEO overconfidence led to overinvestment and overestimation of future cash flows that supported the decision to increase R&D spending but did not provide any value to firms. Moores and Chang (2009) also found that overconfidence led to a significant negative relationship between self-efficacy and subsequent performance. Herz, Schunk and Zehnder (2013) found that overconfidence is negatively linked to innovation. Although the findings above pertain to individual-level analysis, the phenomena may also apply to teams where team members overestimate the team's competence as shown by a high team competence trust that lead to their perception of team performance to be higher than it actually is.

The qualitative analysis also indicated the existence of competence trust during the team interactions. It seems that team members who did not trust that their team members would share information or do well during the decision-making task spoke up more and asked more questions that probably explains why low competence trust led to high performance in the quantitative results.

> *The level of trust affected how much I contributed to that in some way. If I don't trust them I would normally talk more often. In the second task, I wasn't completely agreeing with the answer there so there was less trust in the second task in terms of the answer so I talked more. I shared my information with them. (Lion 2)*

> *I think the reflection part and the getting to know you part helped with the decision-making performance of the team. The first activity helped because it showed who was willing to present their information. After you gave us insight on who will withhold information, it gave me an idea that there was one member who withheld more*

*in certain cases, not all. I think that it helps to know that information so then I could work towards bringing out important information especially since there are differences in our information in the second part. I think it helped us solve the riddle or the murder case. (ODU 22)*

*I would have probably not contributed more than I would have if I have trust them. I would have let them, instead of trying to steer and keep us on this path, I would've let it drift more if I trusted them because of lack of trust I had to lead the team. (ODU 1)*

*The reason I started domineering was because I didn't trust that we were actually getting an answer. I'm normally a passive person but I didn't trust that we were actually getting anywhere just looking at the time I thought I would step up. (Paw 2)*

Other team members who had high competence trust decided to speak less about their thoughts during the second decision-making task that may explain why high competence trust led to low decision-making performance in the quantitative results.

*It definitely increased my trust because I trust people a lot more when, in the teamwork setting, I understand people a lot more when I understand how they make these decisions. He had already in my mind proven that he is a critical thinker. And brings up critical questions that can completely change your perception so before I go*

*and say what I'm thinking. I know him a little better, let me let him make his first call and then we'll go from there. I definitely trusted him more because I understood his thought process. (Big Blue 1)*

*With the second task, aside from trying to allow other people to speak more. I probably felt more inclined to believe and trust information that has been presented to me versus me presenting all the information. (Majesty 6)*

One student also shared a case of overconfidence in the team.

*The challenges that we had from the first one is not having all of the information because we were very confident but we were wrong. The good thing that I saw from us is that even though we were wrong, we were very confident in our decision at the conclusion we came to as a team that's pretty critical because it's not like well, I'm going to tell you this, you better believe it. We all believed and trusted each other, the information they had. We all went blindly in the same direction with confidence (Big Blue 20)*

The positive impact of benevolence trust on objective performance, on the other hand, confirms existing literature that have linked trust with high team performance. High benevolence trust within the team may have encouraged individuals to share and integrate their unique information leading to high objective team performance. However, since benevolence trust is not

a reflection of the team's competence like competence trust, the team's perception of the team performance was low.

Furthermore, some of the students cited descriptions related to conversation dominance that supports the quantitative findings.

> *Myself and other teammates were different because I like to talk. I like to bring up things. (My other teammates) prefer to wait and let all the ideas get on the table before making a decision. I just like to bring it to the table first. It's little bit different in that way. (Lion 1)*

> *A little bit from looking at the graphs, I guess it kind of help me think about how other people are different from me. I think one member was quiet and then we went through his, we went through the graphs and said, oh, he actually rated higher on the more thoughtful quiet side. I guess that helped. (ODU 38)*

The qualitative analysis also captured certain processes that quantitative analysis wasn't able to. The qualitative results show how the team building activity promoted self-awareness, other-awareness, self-regulation, collaborative planning and trust that led to better collaboration in the team.

> *I think I learned a lot about myself (SELF-AWARENESS). The questions and the graphs in between activities were really helpful for me. I learned a lot about how I communicate with others. I learned about things that I kinda need to work on like I tend to talk out loud when I'm working through stuff. I think that might actually be a weakness in some situations. Because I was talking about being in a leadership role*

*and when I think of the leader, it's somebody who makes decisive decisions. If you're just talking out loud, it kind of like influences, but not so sure, you know what I mean. I learned a lot about myself and how I work with people. (Big Blue 1)*

*The fact that one team member may be a little bit more soft-spoken and maybe withdrawn a little and I'm really not (SELF & OTHER-AWARENESS). In the second activity, after we had gone over stuff that I was more willing to not immediately set forth and take charge. Even when we were answering questions over the course of the intermediate stage, I started off and I generally spoke first for almost all of them. Towards the end, I was like I don't need to be always the first. (SELF-REGULATION) (Lion 14)*

*What I did in the first experiment was kind of be more reserved (SELF-AWARENESS) but then a second one I know after seeing the presentation of how decision dependent and independent decision-making, I was more likely to open up in the second one to compensate for that and not let it be a hindrance. (SELF-REGULATION) (ODU 10)*

*One team member, she's not always the one to contribute any ideas, but we learned during the activity that she would listen more and then contribute when she feels really certain about it (OTHER-AWARENESS) so now I am going to be more careful to solicit ideas from her (SELF-REGULATION) and I think that it will increase trust (TRUST). (Lion 6)*

*One of the team members talked a lot while another was not talking too much. I know that definitely affected the team. It was kinda nice that everybody kind of established their own little roles (COLLABORATIVE PLANNING). I can't really speak for them but it kind of felt like okay, we know you're going to talk. We know you're gonna listen. And then we'll come together at the end. We knew one team member was gonna take charge and once he was done I would step in and then may be the other person will give his part. And then we would kind of do that circle again. (Majesty 4)*

*In our first decision-making, was kind of, none of us even said anything yet and then were trying to figure something out. Then that's when you get to know a little bit about each other and you can actually see that the way the people come to decisions. When the second task comes around, you just kinda hop right in to it. You know what to look for and everything. You know what to ask each other for basically. (COLLABORATIVE PLANNING) (Paw 6)*

The qualitative analysis also shows what part of the team building activity benefitted the students most. Most of the students referred to the part of the team activity where they learned about their own and others' decision-making and communication styles as the most beneficial to them and their team.

*The slides were kind of the breakdown of the team analytics to know what would be better and what role kind of thing and who communicates in what way. It was also kind of helpful to see how your teams would communicate with each other. (ODU 10)*

*I think it really helped as far as getting to know the other team members. It was really good, honestly, because the presentation that you did showed the personality compared to everyone else. That kind of gave you a little insight as to who they are as a person and kind of discussing it to. So I liked it. That one was a very good window to as far as how everyone thinks. (Lion 9)*

*Definitely the reflection into getting to know you part let me know how to team members worked. To answer the question of the reflection help me understand or thought process more than the actual first activity. (Majesty 24)*

Some students also claim that they have established a better relationship after participating in the team experiment.

*After the experiment, it was easier to schedule meetings and talk to each other. Hey, can we meet at this time. Can we do this. It's not as intimidating. (ODU 7)*

*It goes further than you know because we discussed a little bit after you left and it turns out he is part of this organization and he invited me to join. So when you said that it's a shame that you're never going to work together again, it was kind of ironic because now we have that connection. (Big Blue 7)*

## 5.2. Conclusion

This study contributes to research by developing and testing a team building activity that that addresses critical diversity factors. The team building significantly increased objective decision-making performance through trust. Considering that the intervention is only a 2-hour team building, the results are very promising. Using conditional process modeling, this study further showed the mechanism and condition by which the team building affected both objective and perceived performance. The team building activity impacted team performance through benevolence trust. Propensity to trust, attitude to diversity and perceived diversity all played a role in the extent of the indirect impact of the team building on objective and perceived team performance. This study also demonstrated how quantitative and qualitative methods may complement one another. Each method gives a unique perspective into the phenomenon of interest.

The opposite impact of the team building on objective and perceived team performance warrants further future investigation by researchers and scholars. Perhaps the team building needs to incorporate a new element that encourages the accurate assessment of team performance to align objective and perceived performance. The new team building element will aim at preventing overconfidence due to high competence trust and underconfidence due to performance feedback and high expectations. The importance of benevolence trust in team performance must also be communicated to teams so they will perceive that benevolence trust is a performance-enhancing factor. It would be interesting as well to further investigate the effect of the alignment of the two measures of performance to the subsequent effort that will be expended by the team. If a team with high competence trust realize that their objective performance is low, would they increase their efforts? If a team with high benevolence trust

realize that their objective performance is high, would they decrease their efforts or elevate their perceptions of performance? The alignment of objective and perceived performance may be important for teams. According to Hackman (1987), while the assessment of team effectiveness pertain to how well the team is currently performing, assessment should also include the team's capacity to work well together in the future. Even though teams with high benevolence trust performed highly, if their perception does not reflect that, they may lose the capability and willingness to work together in the future. Therefore, alignment between perceptions and actual performance is important.

The ability of the team building intervention to increase objective team performance through trust may have operated through its ability to lower perceived risk and open lines of communication in a virtual environment. Team members may have perceived less risk working with others because of a more open communication. For future research, it will be interesting to see how virtual teams who underwent team building compare to face-to-face teams who did not go through the team building. The impact of the team building on face-to-face team performance is also of interest where the extent of direct, mediated and moderated impact may differ from virtual teams.

This team building intervention may be used also for addressing other types of diversity such as cultural diversity. Culturally diverse teams are becoming prevalent in organizations due to globalization. The team building intervention may also be tested in a field setting. Moreover, the temporal dynamics of the impact of team building interventions may also be explored in the future. Once the team completes their team building successfully, the impact on team performance after a month or a year may be explored.

### 5.3. Limitations

Due to the sample used in this study, the results of this study may not generalize to other groups that are not represented in the sample such as organizational teams and long-term teams. Future studies may include these samples.

Due to the controlled nature of an experimental study, the results of this study may not fully apply to the real world setting due to contextual factors that may impact the real phenomenon (Creswell, 2013). Bendrick, Egan & Lofhjelm (2001) found that diversity training that complemented with other diversity initiatives is more effective than isolated diversity training as perceived by providers of diversity training in the United States (Bezrukova et al., 2012). Organization context is also comprised of support from upper management through increased commitment, high strategic priority, assigning diversity manager and other diversity-supportive policies (Kalev, Dobbin & Kelly, 2006; Kellough & Naff, 2004; Rynes & Rosen, 1995).

This study did not take into account the length of relationship and anticipation of future interactions that reflect teams from the industry. Teams with members with longer relationship with each other and greater anticipation for future relationship may benefit more from this team building intervention. Future studies may also explore this proposition.

Other features that provide more opportunities for social interaction mentioned in Kalinoski's et al. (2013) meta-analysis which are spaced diversity training, face-to-face interaction and high training duration are not incorporated in the team building intervention in this study due to the design of the research and practical reasons. These features may be included in future studies.

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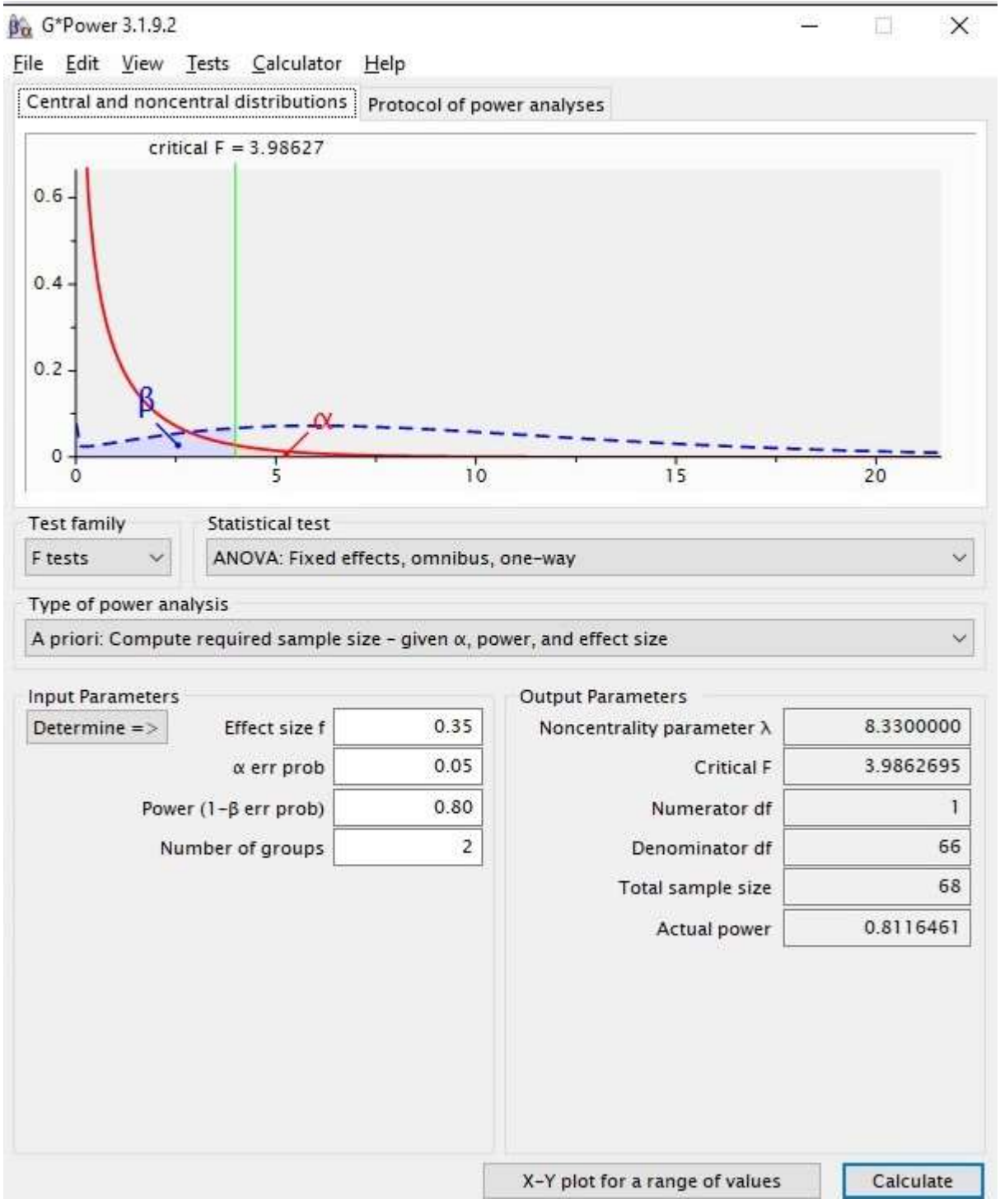
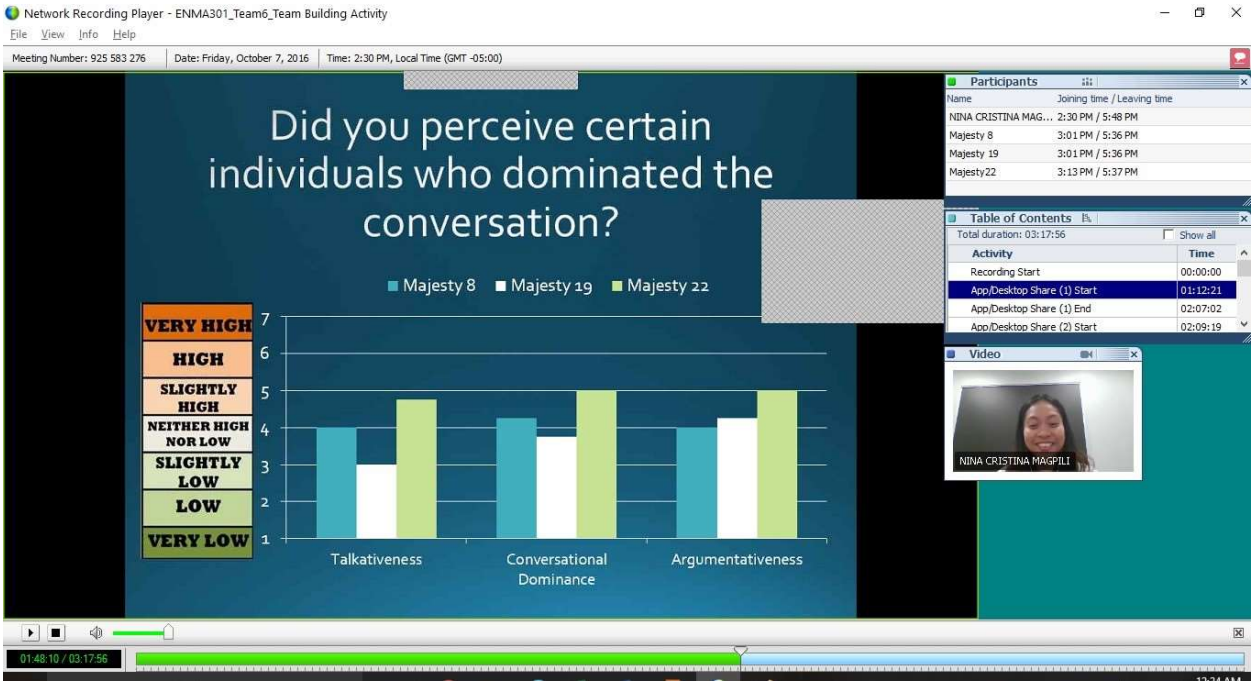
# APPENDICES

## Appendix A. Sample Size GPOWER 3.1 Output



## Appendix B. Screenshot of Team Profile during Virtual Team Bulding Activity in Webex



**Appendix C. Collaborative Reflection and Planning Discussion Questions**

1. *What do you think of your overall experience during the team decision making?*
2. *What were your feelings during the activity? (e.g. comfortable, interested, confused, frustrated etc.)*
3. *What happened during the information sharing process? How did new information affect the decision-making process? How did the teams participate during task conflict?*
4. *What were your feelings when you shared and/or received new ideas? (e.g. comfortable, interested, uncertain, nervous etc.)*
5. *What were your feelings towards your teammates during the activity? (e.g. comfortable, interested, uncertain, nervous etc.)*
6. *What factors were helpful or hindering during the decision-making process?*
7. *Did you perceive any social risk? How did this affect your willingness to share information?*
8. *How did the team separate idea generation from idea evaluation? Were the team members open to changing their initial answers?*
9. *What were the reactions of the team members to the final decision? Was the team happy with it?*
10. *Did you perceive certain individuals who dominated the conversation?*
11. *Were questions asked to fellow team members?*
12. *Did you notice certain individuals who relied on others to make a decision?*
13. *Did you notice any difference in terms rationality and intuitiveness among individuals?*
14. *Did you notice any individuals who made decisions spontaneously?*

15. *Did you notice individuals who likes to think first before they speak and others who speak as they think?*
16. *Do you feel that your teammates were supportive?*
17. *What learning points can you apply to the next decision-making activity?*

# Appendix D. Decision-Making Task Instructions and Scenario Sample (Team Member 1)

**MURDER CASE INSTRUCTION SHEET**

Instructions

1. The threat of violence between various factions of organized crime, over the control of narcotics, imperils the tranquility of your community. To combat this threat, the commissioner has directed a step-up in the activity against criminal organizations within your community.

2. You are a group of top detectives who have been assigned to the Organized Crime Bureau within your department.

3. Frank “Prime Minister” Costello’s gang has been singled out for particular attention by your team.

4. Your task becomes complicated when murder occurs during your investigation.

5. Your task, as a group, is to determine which suspect(s) is/are innocent or guilty from the members of the Costello’s gang for a specific reason which you as a group must declare at the termination of the activity. Circumstantial evidence may be used. Data has been supplied regarding the suspects. Your team has all the information necessary for the solution of the case.

Assumptions

1. Assume that all data are correct.

2. You have 15 minutes to do the activity individually and another 20 minutes to do the activity as a group.
3. Assume that today's date is March 7, 1987, and that all primary actions are taking place on this date.

4. There must be substantial agreement in your group that a problem is solved.

**MURDER SUSPECT DATA SHEET**

DeStefano, Samuel (Mad Sam) Age-52
Height: 5'-7" Weight: 245 Hair: Black/Gray
Eyes: Brown Blood Type: A Shoe: 8D
Tattoos: Left arm, “Al & Eloise” Vehicle: 1986 Mark IV Black Sedan
Record: 26 arrests
Charges: Gambling, Narcotics, Extortion, Assault, Statutory Rape, Homicide.

Corallo, Antonio (Tony Ducks) Age-50
Height: 5'-7" Weight: 235 Hair: Black/Gray
Eyes: Brown Blood Type: B Shoe: 8D
Tattoos: None Vehicle: 1987 Cadillac black sedan
Record: 19 arrests
Charges: Homicide, Robbery, Assault, Extortion, Narcotics, Gambling, Impairing Morals of a Minor

Bonanno, Joseph (Joe Bananas) Age-50
Height: 5'-4" Weight: 220 Hair: Gray/ Brown
Eyes: Brown Blood Type: B Shoe: 7.5 D
Tattoos: Right arm, “Mother” Vehicle: 1987 Mercedes dark blue Sedan
Record: 17 arrests
Charges: Gambling, Loan sharking, Extortion, Assault, Narcotics, Robbery, Rape.

Capone, Alphonse (Snorky) Age-52
Height: 5'-7" Weight: 210 Hair: Black/ Brown
Eyes: Blue Blood Type: B Shoe: 7.5 D
Tattoos: Chest, “Blue Birds” Vehicle: 1987 Cadillac dark green sedan
Record: 30 arrests
Charges: Gambling, Narcotics, Assault, Robbery, Loan sharking, Homicide.

Locurto, Stephen (Stevie Blue) Age-51
Height: 5'-7" Weight: 240 Hair: Black/Gray
Eyes: Brown Blood Type: B Shoe: 7.5 D
Tattoos: Right arm, “For God & Country” Vehicle: 1985 Chrysler black sedan
Record: 12 arrests
Charges: Gambling, Loan sharking, Assault, Rape, Extortion.

Rastelli, Philip (Rusty) Age-52
Height: 5'-7 1/2" Weight: 180 Hair: Brown
Eyes: Brown Blood Type: A Shoe: 8D
Tattoos: None Vehicle: 1986 Cadillac Black Sedan
Record: 20 arrests
Charges: Gambling, Narcotics, Assault, Extortion, Homicide.

Licavoli, Peter (Horseface) Age-39
Height: 5'-7 1/2" Weight 245 Hair: Black

Eyes: Brown Blood Type: B Shoe: 8D
Tattoos: Left arm, “To Mother with Love” Vehicle: 1986 Cadillac black sedan
Record: 23 Arrests
Charges: Gambling, Loan sharking, Assault, Extortion, Homicide.
**FOR YOUR EYES ONLY: DETECTIVE 1 Page 1** MURDER CASE: BRIEFING SHEET

Frank “Prime Minister” Costello has been linked to organized crime by both federal and state Organized Crime Task Forces. Information has been received that Prime Minister Costello has formed a gang of his own and is engaged in heavyweight narcotics traffic. Recent investigations by our department have disclosed the identity of seven members of the Costello gang. Further investigations and surveillances have revealed that the members of the gang are actively engaged in narcotics distribution despite severe pressure from the Joint Organized Task Force. Confidential information has disclosed a widening rift between gang members and Frank Costello; members of the gang have accused him of "skimming off the top." Threats have been made by gang members to blow Frank away if he doesn't shape up.

As a result of the threats, Prime Minister has been making himself scarce and rarely meets more than one gang member at a time. He has secluded himself in an apartment in a remote part of town, a relatively safe location unknown to the gang members. An informant has told your department about Costello's hideout, and a legal wiretap has been installed on his telephone. Several days have gone by, and no action has been indicated by the tap. On March 7, at 7:03 p.m., Frank made a call to an undetermined public phone booth and a taped conversation was recorded as follows:

Unknown Person: Yeah?
Prime Minister (Frank): Eh, I got a big one,
meet me at the
club at 10:30.
Unknown Person: O.K (Clicks off)

Past information indicates the club to be the Starlight Hunting & Fishing Club at 197 Kenmore Street, a secluded place used in the past for gang members. Other persons have divulged that some heavyweight drugs have come into town. Thus, it appears that Prime Minister may be getting a slice of the action. With this in mind, your squad C.O. decides to cover the club and put a close surveillance on all suspects at the location.

The Joint Task Force, having information confirming a big shipment to the city, swings into action at 9:00 p.m. this date and simultaneously rounds up suspects who might be involved. The sweep nets twenty suspects, including Johnny “Blue Eyes”, Harry Hinge, Bruce Comma, Benny Carato, Sam Perez, John Smith, Mike Crupa, Danny Skidmore, Frankie Todd, Sidney Hall, Jackie Leod, and Cary Crooke. All are known by the department to be actively engaged in illegal narcotics traffic. The stakeout at Prime Minister’s house reports that he leaves at 9:30 p.m., but he loses the tail at about 10 p.m. on the other side of town. Other tails report in, and information about the members of Prime Minister’s gang is compiled by the team. At 7:00 p.m. surveillance had disclosed that “Mad Sam” and “Joe Bananas” whereabouts were unknown, “Tony Ducks” and “Horseface” were near an offtrack betting office, “Snorky” was at some meeting, and “Rusty” and “Stevie Blue” were in the vicinity of a social club. Armed with this information, the team moves to 197 Kenmore Street.

**FOR YOUR EYES ONLY: DETECTIVE 1 Page 2**

At 10:30 p.m. the first unit of the team arrives and observes that the club door is ajar and Costello's car is parked outside. The area seems deserted, and only one light flickers through the open door. It appears from the outside that someone is laying on the floor. A decision is made to move in for a better look. Closer scrutiny reveals Frank's body lying face down on the floor. He is bleeding profusely from head wounds- apparently gunshot wounds from a weapon found lying near an open window at the rear of the premises. The area is immediately sealed off, and the forensic unit is called to the scene. While awaiting the results of the lab unit, the team makes a door-to-door canvas in an attempt to locate a witness or persons who might have seen Frank "Prime Minister" with someone at the location. The search is apparently fruitless until one middle-aged man is found who observed two men entering the abandoned club while he was walking his dog. The frightened witness, who resides three blocks from the club, says he saw the two enter the building and then heard a loud argument during which someone shouted "No! No!" At that time he heard two shots, and the door of the club opened but no one came out. Then he saw a man fleeing from behind the building. The man was in his 50's, wore a white shirt and black trousers, was about average in height, and was heavy. The man fled in a dark sedan parked on the next block. The witness fearful for his own life, ran home, and when a detective doing door-to-door interviews came to his house, the witness gave him the above information.

The forensic unit thoroughly searches the premises and comes up with prints belonging to Prime Minister; other prints are not distinguishable and cannot be classified. The weapon located at the scene is a .44 magnum of undetermined origin--no prints are obtained from the gun. Blood stains seem to indicate a fierce struggle, and apparently Frank had almost made it to the door. The blood stains on the floor fell into two groupings; A and B. Frank had bled profusely; he had blood Type A. Beneath his fingernails are tufts of hair. Further investigation reveals a footprint in the tomato patch below the window at the rear of the club. The print seems to be anywhere from a size 7D to a 8D; it is somewhat distorted and was made by a man of greater-than-average weight. (This is determined by a mold made at the scene and a measurement of the height of the drop from the window to the ground.) Pressure from the hierarchy of the department demands a quick solution to this case, especially in view of the recent mass arrests made by the Joint Task Force. On the basis of the facts herein your team is directed to make a prompt arrest.

The most likely suspects are the members of Frank "Prime Minister" Costello's gang. It would seem likely that Frank called a member of the gang and made an appointment with his killer. All the information available to your team can be pulled from this Briefing Sheet and the Suspects Data Sheet. Your task is to identify which suspect(s) is/are innocent or guilty using the facts available.

# Murder One Suspect Work Sheet

**Murder One Suspect List**

| | |
|---|---|
| **Benjie** | |
| **Jumbo** | |
| **Chills** | |
| **Digger** | |
| **Blue Eyes** | |
| **Hot Dog** | |
| **Gypsy** | |

## Appendix E. Quantitative Instruments

### Overall Trust

- *Overall, the people in my team were very trustworthy.*
- *We were usually considerate of one another's feelings in this team.*
- *The people in my team were friendly.*
- *We could rely on each other in my team.*

### Benevolence Trust

- *I believe that the team members would act in the best interest of the team.*
- *If someone required help, the team members would do their best to help each other.*
- *The team members are interested in each other's well-being, not just their own.*

### Integrity Trust

- *The team members are truthful in their dealings with each other.*
- *I would characterize my team as honest.*
- *My team would keep its commitments.*
- *My team is sincere and genuine.*

### Competence Trust

- *My team is competent and effective in team decision making.*
- *My team performs its role of assisting others during team decision making very well.*
- *Overall, my team is capable and proficient in team decision making.*
- *In general, my team is very knowledgeable about team decision making.*

### Process Satisfaction

- *My team has put forward good quality ideas during the discussion.*

- *The decision process went well.*
- *My team has exchanged enough information to reach a correct decision.*
- *My team was focused on the task.*

**Outcome Satisfaction**

- *I accept the outcome of my team's decision.*
- *I think we have made the right decision.*
- *I am satisfied with the result of our group decision.*

**Propensity to Trust – Overall Trust**

- *I usually trust people until they give me a reason not to trust them.*
- *I generally give people the benefit of the doubt when I first meet them.*
- *My typical approach is to trust new acquaintances until they prove I should not trust them.*

**Propensity to Trust – Benevolence**

- *In general, people really do care about the well-being of others.*
- *The typical person is sincerely concerned about the problems of others.*
- *Most of the time, people care enough to try to be helpful, rather than just looking out for themselves.*

**Propensity to Trust – Integrity**

- *In general, most folks keep their promises.*
- *I think people generally try to back up their words with their actions.*
- *Most people are honest in their dealings with others.*

**Propensity to Trust – Competence**

- *I believe that most professional people do a very good job at their work.*
- *Most professionals are very knowledgeable in their chosen field.*
- *A large majority of professional people are competent in their area of expertise.*

**Attitude Toward Diversity**

- *I am only at ease with people with the same decision-making style and communication style as me.*

- *It's really hard for me to feel close to a person with a different decision-making style and communication style.*
- *I often feel irritated by a person with a different decision-making style and communication style.*
- *Getting to know someone with a different decision-making style and communication style than me is generally an uncomfortable experience for me.*
- *It does not upset me if someone is unlike myself in terms of decision-making and communication style.*

**Perceived Diversity**

Please indicate how much you perceive your team to be similar or diverse (1: Very Similar to 7: Very Diverse) in terms of

- *Race/Ethnicity*
- *Age*
- *Gender*
- *Educational background*
- *Talkativeness*
- *Conversational Dominance*
- *Argumentativeness*
- *Inquisitiveness*
- *Dependence*
- *Rationality*
- *Intuitiveness*

- *Spontaneity*
- *Thoughtfulness*
- *Supportiveness*
- *Defensiveness*

## Appendix F. Qualitative Instruments

### *a) Qualitative Questionnaire - Treatment Group*

1. *Describe your overall experience during the team activity.*
2. *Did the team building activity help increase your trust with your teammates? How?*
3. *Did the team building activity help with your team's decision-making performance? How?*
4. *Did the team building activity change your perception of the level of team diversity in the team (decision-making and communication styles)?*
5. *Did the team building activity help address diversity or similarity issues?*
6. *Did the team building activity change your attitude toward diversity (decision-making and communication styles)?*
7. *Did you encounter any challenges during the team building activity?*
8. *Did the virtual team technology affect the effectiveness of the team building?*
9. *What improvements would you suggest for the team building activity?*
10. *What other factors affected the level of trust in the team?*
11. *What other factors affected your team's decision making performance?*
12. *Did the level of trust you had for your team influence how much you contributed to the team?*
13. *Was there a difference in your experience in the first and second decision-making task?*
14. *Did the virtual team technology affect your perception of diversity within the team?*
15. *Did the virtual team technology affect your trust with the team?*
16. *Did the virtual team technology affect the team's decision making performance?*

*b) Qualitative Questionnaire - Control Group*

1. *Describe your overall experience during the team activity.*
2. *Did you perceive any diversity or similarity in the team in terms of decision-making and communication styles?*
3. *Did the diversity or similarity in decision-making and communication styles affect your trust with the team? How?*
4. *Did the diversity or similarity in decision-making and communication styles affect the team's decision making performance? How?*
5. *Did the team try to address the diversity or similarity in decision-making and communication styles? If yes, did the resolution efforts contribute to your trust with the team? team decision making performance?*
6. *Did your perception of diversity or similarity change as you interacted with your teammates?*
7. *Did your attitude toward diversity change as you interacted with your teammates?*
8. *What team building activity do you think will help improve your trust with the team?*
9. *What team building activity do you think will help improve the team's decision making performance?*
10. *What other factors affected the level of trust in the team?*
11. *What other factors affected your team's decision making performance?*
12. *Did the level of trust you had for your team influence how much you contributed to the team?*
13. *Did the virtual team technology affect your perception of diversity within the team?*

*14. Did the virtual team technology affect your trust with the team?*

*15. Did the virtual team technology affect the team's decision making performance?*

## Appendix G. Mediation SPSS Process Results

### *a) Objective Performance*

```
Run MATRIX procedure:

************* PROCESS Procedure for SPSS Release 2.16.3 *****************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2013). www.guilford.com/p/hayes3

**************************************************************************
Model = 4
    Y = PERF
    X = Cond
   M1 = OTrust
   M2 = BTrust
   M3 = ITrust
   M4 = CTrust

Sample size
         68

**************************************************************************
Outcome: OTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .0921      .0085      .2090      .5649     1.0000    66.0000      .4550

Model
              coeff         se          t          p       LLCI       ULCI
constant     6.2004      .1753    35.3678      .0000     5.8503     6.5504
Cond          .0833      .1109      .7516      .4550     -.1380      .3047

**************************************************************************
Outcome: BTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .2099      .0441      .2388     3.0417     1.0000    66.0000      .0858

Model
              coeff         se          t          p       LLCI       ULCI
constant     5.8791      .1874    31.3730      .0000     5.5049     6.2532
Cond          .2067      .1185     1.7440      .0858     -.0299      .4433

**************************************************************************
```

```
Outcome: ITrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .2094      .0438      .2554     3.0265     1.0000    66.0000      .0866

Model
              coeff         se          t          p       LLCI       ULCI
constant     5.8346      .1938    30.1058      .0000     5.4476     6.2215
Cond          .2132      .1226     1.7397      .0866     -.0315      .4580

**************************************************************************
Outcome: CTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .1563      .0244      .2754     1.6523     1.0000    66.0000      .2031

Model
              coeff         se          t          p       LLCI       ULCI
constant     5.9075      .2012    29.3550      .0000     5.5057     6.3093
Cond          .1636      .1273     1.2854      .2031     -.0905      .4177

**************************************************************************
Outcome: PERF

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .6321      .3996     1.3608     8.2513     5.0000    62.0000      .0000

Model
              coeff         se          t          p       LLCI       ULCI
constant    -1.5677     2.0205     -.7759      .4407    -5.6066     2.4712
OTrust        .7018      .6794     1.0330      .3056     -.6563     2.0598
BTrust       1.8315      .6247     2.9317      .0047      .5827     3.0803
ITrust       -.7840      .5976    -1.3120      .1943    -1.9786      .4105
CTrust      -1.2756      .5158    -2.4729      .0162    -2.3067     -.2445
Cond         1.4388      .2948     4.8814      .0000      .8496     2.0280

************************ TOTAL EFFECT MODEL ***************************
Outcome: PERF

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .5217      .2722     1.5495    24.6859     1.0000    66.0000      .0000

Model
              coeff         se          t          p       LLCI       ULCI
constant     1.4412      .4773     3.0191      .0036      .4881     2.3942
```

```
Cond         1.5000      .3019     4.9685      .0000      .8972     2.1028

***************** TOTAL, DIRECT, AND INDIRECT EFFECTS ********************

Total effect of X on Y
     Effect         SE          t          p       LLCI       ULCI
     1.5000      .3019     4.9685      .0000      .8972     2.1028

Direct effect of X on Y
     Effect         SE          t          p       LLCI       ULCI
     1.4388      .2948     4.8814      .0000      .8496     2.0280

Indirect effect of X on Y
           Effect    Boot SE   BootLLCI   BootULCI
TOTAL       .0612      .1789     -.2664      .4441
OTrust      .0585      .1187     -.0700      .4806
BTrust      .3786      .2507      .0147     1.0344
ITrust     -.1672      .1590     -.6041      .0475
CTrust     -.2087      .2040     -.7577      .0574
(C1)       -.3201      .2357    -1.0357     -.0109
(C2)        .2257      .2361     -.0772      .9447
(C3)        .2672      .2987     -.1135     1.1507
(C4)        .5458      .3678      .0081     1.5375
(C5)        .5873      .4024     -.0405     1.5380
(C6)        .0415      .2137     -.2823      .5782


******************** ANALYSIS NOTES AND WARNINGS *************************

Number of bootstrap samples for bias corrected bootstrap confidence
intervals:
    10000

Level of confidence for all confidence intervals in output:
    95.00

------ END MATRIX -----
```

*b) Perceived Performance*

```
Run MATRIX procedure:

************* PROCESS Procedure for SPSS Release 2.16.3 *****************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2013). www.guilford.com/p/hayes3

**************************************************************************
```

```
Model = 4
    Y = PSat
    X = Cond
   M1 = OTrust
   M2 = BTrust
   M3 = ITrust
   M4 = CTrust

Sample size
         68

**************************************************************************
Outcome: OTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .0921      .0085      .2090      .5649     1.0000    66.0000      .4550

Model
             coeff         se          t          p       LLCI       ULCI
constant    6.2004      .1753    35.3678      .0000     5.8503     6.5504
Cond         .0833      .1109      .7516      .4550     -.1380      .3047

**************************************************************************
Outcome: BTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .2099      .0441      .2388     3.0417     1.0000    66.0000      .0858

Model
             coeff         se          t          p       LLCI       ULCI
constant    5.8791      .1874    31.3730      .0000     5.5049     6.2532
Cond         .2067      .1185     1.7440      .0858     -.0299      .4433

**************************************************************************
Outcome: ITrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .2094      .0438      .2554     3.0265     1.0000    66.0000      .0866

Model
             coeff         se          t          p       LLCI       ULCI
constant    5.8346      .1938    30.1058      .0000     5.4476     6.2215
Cond         .2132      .1226     1.7397      .0866     -.0315      .4580

**************************************************************************
Outcome: CTrust
```

```
Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .1563      .0244      .2754     1.6523     1.0000    66.0000      .2031

Model
              coeff         se          t          p       LLCI       ULCI
constant     5.9075      .2012    29.3550      .0000     5.5057     6.3093
Cond          .1636      .1273     1.2854      .2031     -.0905      .4177

**************************************************************************
Outcome: PSat

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .8479      .7189      .0619    31.7073     5.0000    62.0000      .0000

Model
              coeff         se          t          p       LLCI       ULCI
constant     1.8231      .4310     4.2297      .0001      .9615     2.6847
OTrust        .3715      .1449     2.5637      .0128      .0818      .6612
BTrust       -.2589      .1333    -1.9429      .0566     -.5253      .0075
ITrust        .1239      .1275      .9717      .3350     -.1310      .3787
CTrust        .5324      .1100     4.8387      .0000      .3125      .7524
Cond         -.1823      .0629    -2.8994      .0052     -.3080     -.0566

************************** TOTAL EFFECT MODEL ****************************
Outcome: PSat

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .1019      .0104      .2048      .6927     1.0000    66.0000      .4082

Model
              coeff         se          t          p       LLCI       ULCI
constant     6.4725      .1735    37.2977      .0000     6.1260     6.8190
Cond         -.0913      .1098     -.8323      .4082     -.3105      .1278

***************** TOTAL, DIRECT, AND INDIRECT EFFECTS ********************

Total effect of X on Y
     Effect         SE          t          p       LLCI       ULCI
     -.0913      .1098     -.8323      .4082     -.3105      .1278

Direct effect of X on Y
     Effect         SE          t          p       LLCI       ULCI
     -.1823      .0629    -2.8994      .0052     -.3080     -.0566

Indirect effect of X on Y
```

```
           Effect    Boot SE   BootLLCI   BootULCI
TOTAL       .0910      .0971     -.0967      .2862
OTrust      .0310      .0479     -.0483      .1473
BTrust     -.0535      .0413     -.1651      .0030
ITrust      .0264      .0310     -.0123      .1250
CTrust      .0871      .0693     -.0346      .2454

******************** ANALYSIS NOTES AND WARNINGS *************************

Number of bootstrap samples for bias corrected bootstrap confidence
intervals:
    10000

Level of confidence for all confidence intervals in output:
    95.00

------ END MATRIX -----
```

## Appendix H. Moderation SPSS Process Output

### *a) Propensity to Trust*

#### *i) Objective Performance*

##### *(1) Propensity to Trust Benevolence*

```
Run MATRIX procedure:

************* PROCESS Procedure for SPSS Release 2.16.3 *****************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2013). www.guilford.com/p/hayes3

**************************************************************************
Model = 8
    Y = PERF
    X = Cond
   M1 = OTrust
   M2 = BTrust
   M3 = ITrust
   M4 = CTrust
    W = PBTrust

Sample size
         68
```

```
**************************************************************************
Outcome: OTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .4043      .1634      .1818     4.1679     3.0000    64.0000      .0093

Model
              coeff         se          t          p       LLCI       ULCI
constant     2.8121     1.2751     2.2054      .0310      .2648     5.3594
Cond         1.5423      .7657     2.0141      .0482      .0125     3.0720
PBTrust       .7489      .2799     2.6758      .0095      .1898     1.3081
int_1        -.3222      .1681    -1.9163      .0598     -.6581      .0137

Product terms key:

 int_1    Cond        X     PBTrust

**************************************************************************
Outcome: BTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .3974      .1579      .2169     4.0014     3.0000    64.0000      .0113

Model
              coeff         se          t          p       LLCI       ULCI
constant     2.1666     1.3927     1.5557      .1247     -.6156     4.9487
Cond         2.0430      .8363     2.4428      .0173      .3722     3.7137
PBTrust       .8211      .3057     2.6860      .0092      .2104     1.4318
int_1        -.4061      .1836    -2.2115      .0306     -.7729     -.0392

Product terms key:

 int_1    Cond        X     PBTrust

**************************************************************************
Outcome: ITrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .4376      .1915      .2227     5.0539     3.0000    64.0000      .0033

Model
              coeff         se          t          p       LLCI       ULCI
constant     1.5793     1.4111     1.1192      .2672    -1.2397     4.3984
Cond         2.2657      .8474     2.6738      .0095      .5729     3.9586
PBTrust       .9410      .3097     3.0380      .0034      .3222     1.5598
```

```
int_1        -.4538      .1861    -2.4390      .0175     -.8255     -.0821

Product terms key:

 int_1    Cond        X     PBTrust

************************************************************************
Outcome: CTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .4626      .2140      .2288     5.8083     3.0000    64.0000      .0014

Model
              coeff         se          t          p       LLCI       ULCI
constant      .7640     1.4303      .5341      .5951    -2.0934     3.6214
Cond         2.7329      .8589     3.1817      .0023     1.0169     4.4488
PBTrust      1.1376      .3140     3.6234      .0006      .5104     1.7648
int_1        -.5683      .1886    -3.0130      .0037     -.9450     -.1915

Product terms key:

 int_1    Cond        X     PBTrust

************************************************************************
Outcome: PERF

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .6456      .4168     1.3659     6.1251     7.0000    60.0000      .0000

Model
              coeff         se          t          p       LLCI       ULCI
constant    -5.4941     3.7723    -1.4564      .1505   -13.0399     2.0516
OTrust        .8743      .6971     1.2541      .2147     -.5202     2.2687
BTrust       1.8339      .6290     2.9153      .0050      .5756     3.0921
ITrust       -.8729      .6052    -1.4422      .1544    -2.0836      .3378
CTrust      -1.4528      .5364    -2.7085      .0088    -2.5258     -.3799
Cond         4.3828     2.3039     1.9023      .0619     -.2257     8.9912
PBTrust       .9766      .8525     1.1456      .2565     -.7287     2.6819
int_2        -.6453      .5001    -1.2904      .2019    -1.6456      .3550

Product terms key:

 int_2    Cond        X     PBTrust

****************** DIRECT AND INDIRECT EFFECTS ************************

Conditional direct effect(s) of X on Y at values of the moderator(s):
```

| PBTrust | Effect | SE | t | p | LLCI | ULCI |
|---|---|---|---|---|---|---|
| 3.6667 | 2.0167 | .5394 | 3.7386 | .0004 | .9377 | 3.0957 |
| 4.1111 | 1.7299 | .3739 | 4.6266 | .0000 | .9820 | 2.4778 |
| 4.5556 | 1.4431 | .2957 | 4.8806 | .0000 | .8516 | 2.0346 |
| 4.8889 | 1.2280 | .3361 | 3.6534 | .0005 | .5556 | 1.9004 |
| 5.2222 | 1.0129 | .4406 | 2.2990 | .0250 | .1316 | 1.8942 |

Conditional indirect effect(s) of X on Y at values of the moderator(s):

Mediator

| | PBTrust | Effect | Boot SE | BootLLCI | BootULCI |
|---|---|---|---|---|---|
| OTrust | 3.6667 | .3155 | .3249 | -.0889 | 1.2380 |
| OTrust | 4.1111 | .1903 | .2097 | -.0528 | .8167 |
| OTrust | 4.5556 | .0651 | .1306 | -.0941 | .4763 |
| OTrust | 4.8889 | -.0288 | .1402 | -.4785 | .1594 |
| OTrust | 5.2222 | -.1227 | .2044 | -.8521 | .0884 |

Mediator

| | PBTrust | Effect | Boot SE | BootLLCI | BootULCI |
|---|---|---|---|---|---|
| BTrust | 3.6667 | 1.0158 | .4608 | .2742 | 2.1661 |
| BTrust | 4.1111 | .6848 | .3192 | .1832 | 1.5055 |
| BTrust | 4.5556 | .3538 | .2368 | .0109 | .9934 |
| BTrust | 4.8889 | .1056 | .2531 | -.3313 | .7128 |
| BTrust | 5.2222 | -.1426 | .3292 | -.9419 | .4159 |

Mediator

| | PBTrust | Effect | Boot SE | BootLLCI | BootULCI |
|---|---|---|---|---|---|
| ITrust | 3.6667 | -.5253 | .3958 | -1.4316 | .1848 |
| ITrust | 4.1111 | -.3492 | .2608 | -.9334 | .1113 |
| ITrust | 4.5556 | -.1732 | .1565 | -.5957 | .0419 |
| ITrust | 4.8889 | -.0411 | .1463 | -.4221 | .1921 |
| ITrust | 5.2222 | .0909 | .2090 | -.1726 | .7526 |

Mediator

| | PBTrust | Effect | Boot SE | BootLLCI | BootULCI |
|---|---|---|---|---|---|
| CTrust | 3.6667 | -.9433 | .4654 | -2.0748 | -.2301 |
| CTrust | 4.1111 | -.5763 | .3106 | -1.3660 | -.1218 |
| CTrust | 4.5556 | -.2094 | .2106 | -.7800 | .0805 |
| CTrust | 4.8889 | .0658 | .2235 | -.3582 | .5603 |
| CTrust | 5.2222 | .3410 | .3063 | -.1132 | 1.1612 |

Values for quantitative moderators are 10th, 25th, 50th, 75th, and 90th percentiles
Values for dichotomous moderators are the two values of the moderator.

---

Indirect effect of highest order product:

Mediator

```
           Effect   SE(Boot)   BootLLCI   BootULCI
OTrust     -.2817      .2965    -1.1304      .0748
BTrust     -.7447      .4043    -1.8309     -.1208
ITrust      .3961      .3378     -.1016     1.2983
CTrust      .8256      .4150      .2017     1.8531

******************** INDEX OF MODERATED MEDIATION ************************

Mediator
            Index   SE(Boot)   BootLLCI   BootULCI
OTrust     -.2817      .2965    -1.1304      .0748
BTrust     -.7447      .4043    -1.8309     -.1208
ITrust      .3961      .3378     -.1016     1.2983
CTrust      .8256      .4150      .2017     1.8531

******************** ANALYSIS NOTES AND WARNINGS *************************

Number of bootstrap samples for bias corrected bootstrap confidence
intervals:
    10000

Level of confidence for all confidence intervals in output:
    95.00

------ END MATRIX -----
```

*(2) Propensity to Trust Competence*

```
Run MATRIX procedure:

************* PROCESS Procedure for SPSS Release 2.16.3 *****************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2013). www.guilford.com/p/hayes3

**************************************************************************
Model = 8
    Y = PERF
    X = Cond
   M1 = OTrust
   M2 = BTrust
   M3 = ITrust
   M4 = CTrust
    W = PCTrust

Sample size
```

```
         68

**************************************************************************
Outcome: OTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .5408      .2925      .1538     8.8178     3.0000    64.0000      .0001

Model
              coeff         se          t          p       LLCI       ULCI
constant      .8620     1.3586      .6345      .5280    -1.8520     3.5760
Cond         2.5418      .9221     2.7566      .0076      .6998     4.3838
PCTrust      1.0041      .2542     3.9504      .0002      .4963     1.5119
int_1        -.4623      .1728    -2.6757      .0095     -.8075     -.1171

Product terms key:

 int_1    Cond        X     PCTrust

**************************************************************************
Outcome: BTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .4687      .2197      .2010     6.0061     3.0000    64.0000      .0011

Model
              coeff         se          t          p       LLCI       ULCI
constant     1.3508     1.5531      .8697      .3877    -1.7520     4.4536
Cond         2.2728     1.0541     2.1561      .0348      .1670     4.3787
PCTrust       .8518      .2906     2.9311      .0047      .2712     1.4323
int_1        -.3885      .1975    -1.9669      .0535     -.7832      .0061

Product terms key:

 int_1    Cond        X     PCTrust

**************************************************************************
Outcome: ITrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .4564      .2083      .2181     5.6141     3.0000    64.0000      .0018

Model
              coeff         se          t          p       LLCI       ULCI
constant     1.6808     1.6177     1.0390      .3027    -1.5510     4.9126
Cond         1.9447     1.0980     1.7712      .0813     -.2487     4.1382
```

```
PCTrust       .7812      .3027     2.5809      .0122      .1765     1.3858
int_1        -.3255      .2058    -1.5818      .1186     -.7365      .0856

Product terms key:

 int_1    Cond        X     PCTrust

**************************************************************************
Outcome: CTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .4059      .1647      .2431     4.2078     3.0000    64.0000      .0088

Model
              coeff         se          t          p       LLCI       ULCI
constant      .9938     1.7082      .5818      .5628    -2.4187     4.4063
Cond         2.7244     1.1594     2.3499      .0219      .4083     5.0405
PCTrust       .9245      .3196     2.8927      .0052      .2860     1.5630
int_1        -.4819      .2173    -2.2179      .0301     -.9159     -.0478

Product terms key:

 int_1    Cond        X     PCTrust

**************************************************************************
Outcome: PERF

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .6359      .4044     1.3949     5.8188     7.0000    60.0000      .0000

Model
              coeff         se          t          p       LLCI       ULCI
constant    -3.5578     4.1283     -.8618      .3922   -11.8157     4.7001
OTrust        .5137      .7424      .6919      .4916     -.9714     1.9988
BTrust       1.8002      .6341     2.8390      .0062      .5318     3.0686
ITrust       -.7566      .6082    -1.2441      .2183    -1.9731      .4599
CTrust      -1.2233      .5343    -2.2897      .0256    -2.2921     -.1546
Cond         2.8862     2.9498      .9784      .3318    -3.0142     8.7866
PCTrust       .5402      .8589      .6289      .5318    -1.1779     2.2583
int_2        -.2708      .5516     -.4910      .6252    -1.3742      .8325

Product terms key:

 int_2    Cond        X     PCTrust

******************** DIRECT AND INDIRECT EFFECTS ************************
```

Conditional direct effect(s) of X on Y at values of the moderator(s):

| PCTrust | Effect | SE | t | p | LLCI | ULCI |
|---|---|---|---|---|---|---|
| 4.5556 | 1.6523 | .5168 | 3.1971 | .0022 | .6185 | 2.6862 |
| 4.8889 | 1.5621 | .3819 | 4.0905 | .0001 | .7982 | 2.3259 |
| 5.3333 | 1.4417 | .2988 | 4.8249 | .0000 | .8440 | 2.0394 |
| 5.6667 | 1.3514 | .3546 | 3.8108 | .0003 | .6420 | 2.0608 |
| 5.9167 | 1.2837 | .4444 | 2.8886 | .0054 | .3948 | 2.1726 |

Conditional indirect effect(s) of X on Y at values of the moderator(s):

Mediator

| | PCTrust | Effect | Boot SE | BootLLCI | BootULCI |
|---|---|---|---|---|---|
| OTrust | 4.5556 | .2238 | .3661 | -.2937 | 1.2355 |
| OTrust | 4.8889 | .1446 | .2380 | -.1820 | .8367 |
| OTrust | 5.3333 | .0390 | .0987 | -.0637 | .4099 |
| OTrust | 5.6667 | -.0401 | .1299 | -.5791 | .0613 |
| OTrust | 5.9167 | -.0995 | .2144 | -.8787 | .1003 |

Mediator

| | PCTrust | Effect | Boot SE | BootLLCI | BootULCI |
|---|---|---|---|---|---|
| BTrust | 4.5556 | .9052 | .4971 | .1699 | 2.2107 |
| BTrust | 4.8889 | .6721 | .3622 | .1171 | 1.5755 |
| BTrust | 5.3333 | .3612 | .2346 | .0089 | .9447 |
| BTrust | 5.6667 | .1280 | .2383 | -.2787 | .6998 |
| BTrust | 5.9167 | -.0468 | .3019 | -.7169 | .5327 |

Mediator

| | PCTrust | Effect | Boot SE | BootLLCI | BootULCI |
|---|---|---|---|---|---|
| ITrust | 4.5556 | -.3496 | .3502 | -1.2152 | .2055 |
| ITrust | 4.8889 | -.2676 | .2594 | -.8839 | .1677 |
| ITrust | 5.3333 | -.1581 | .1608 | -.5747 | .0786 |
| ITrust | 5.6667 | -.0760 | .1377 | -.4994 | .0995 |
| ITrust | 5.9167 | -.0145 | .1656 | -.4282 | .2811 |

Mediator

| | PCTrust | Effect | Boot SE | BootLLCI | BootULCI |
|---|---|---|---|---|---|
| CTrust | 4.5556 | -.6474 | .4221 | -1.7667 | -.0814 |
| CTrust | 4.8889 | -.4510 | .3035 | -1.2487 | -.0439 |
| CTrust | 5.3333 | -.1890 | .1926 | -.7054 | .0606 |
| CTrust | 5.6667 | .0075 | .2017 | -.4069 | .4202 |
| CTrust | 5.9167 | .1549 | .2618 | -.2652 | .8261 |

Values for quantitative moderators are 10th, 25th, 50th, 75th, and 90th percentiles
Values for dichotomous moderators are the two values of the moderator.

---

Indirect effect of highest order product:

```
Mediator
           Effect   SE(Boot)   BootLLCI   BootULCI
OTrust     -.2375      .4038    -1.4097      .2917
BTrust     -.6995      .4764    -1.9772     -.0284
ITrust      .2462      .3057     -.1282     1.1583
CTrust      .5895      .4157      .0455     1.7650

******************** INDEX OF MODERATED MEDIATION ************************

Mediator
            Index   SE(Boot)   BootLLCI   BootULCI
OTrust     -.2375      .4038    -1.4097      .2917
BTrust     -.6995      .4764    -1.9772     -.0284
ITrust      .2462      .3057     -.1282     1.1583
CTrust      .5895      .4157      .0455     1.7650

******************** ANALYSIS NOTES AND WARNINGS *************************

Number of bootstrap samples for bias corrected bootstrap confidence
intervals:
    10000

Level of confidence for all confidence intervals in output:
    95.00

------ END MATRIX -----
```

### *ii) Perceived Performance*

#### *(1) Propensity to Trust Benelovence*

```
Run MATRIX procedure:

************* PROCESS Procedure for SPSS Release 2.16.3 *****************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2013). www.guilford.com/p/hayes3

**************************************************************************
Model = 8
    Y = PSat
    X = Cond
   M1 = OTrust
   M2 = BTrust
   M3 = ITrust
   M4 = CTrust
    W = PBTrust
```

```
Sample size
         68

*************************************************************************
Outcome: OTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .4043      .1634      .1818     4.1679     3.0000    64.0000      .0093

Model
              coeff         se          t          p       LLCI       ULCI
constant     2.8121     1.2751     2.2054      .0310      .2648     5.3594
Cond         1.5423      .7657     2.0141      .0482      .0125     3.0720
PBTrust       .7489      .2799     2.6758      .0095      .1898     1.3081
int_1        -.3222      .1681    -1.9163      .0598     -.6581      .0137

Product terms key:

 int_1    Cond        X     PBTrust

*************************************************************************
Outcome: BTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .3974      .1579      .2169     4.0014     3.0000    64.0000      .0113

Model
              coeff         se          t          p       LLCI       ULCI
constant     2.1666     1.3927     1.5557      .1247     -.6156     4.9487
Cond         2.0430      .8363     2.4428      .0173      .3722     3.7137
PBTrust       .8211      .3057     2.6860      .0092      .2104     1.4318
int_1        -.4061      .1836    -2.2115      .0306     -.7729     -.0392

Product terms key:

 int_1    Cond        X     PBTrust

*************************************************************************
Outcome: ITrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .4376      .1915      .2227     5.0539     3.0000    64.0000      .0033

Model
              coeff         se          t          p       LLCI       ULCI
```

```
constant     1.5793     1.4111     1.1192      .2672    -1.2397     4.3984
Cond         2.2657      .8474     2.6738      .0095      .5729     3.9586
PBTrust       .9410      .3097     3.0380      .0034      .3222     1.5598
int_1        -.4538      .1861    -2.4390      .0175     -.8255     -.0821

Product terms key:

 int_1    Cond        X     PBTrust

**************************************************************************
Outcome: CTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .4626      .2140      .2288     5.8083     3.0000    64.0000      .0014

Model
              coeff         se          t          p       LLCI       ULCI
constant      .7640     1.4303      .5341      .5951    -2.0934     3.6214
Cond         2.7329      .8589     3.1817      .0023     1.0169     4.4488
PBTrust      1.1376      .3140     3.6234      .0006      .5104     1.7648
int_1        -.5683      .1886    -3.0130      .0037     -.9450     -.1915

Product terms key:

 int_1    Cond        X     PBTrust

**************************************************************************
Outcome: PSat

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .8506      .7235      .0629    22.4245     7.0000    60.0000      .0000

Model
              coeff         se          t          p       LLCI       ULCI
constant     2.4756      .8098     3.0570      .0033      .8557     4.0954
OTrust        .3453      .1497     2.3073      .0245      .0459      .6447
BTrust       -.2605      .1350    -1.9290      .0585     -.5306      .0096
ITrust        .1392      .1299     1.0715      .2882     -.1207      .3991
CTrust        .5619      .1152     4.8796      .0000      .3316      .7922
Cond         -.6655      .4946    -1.3456      .1835    -1.6548      .3238
PBTrust      -.1648      .1830     -.9007      .3713     -.5309      .2012
int_2         .1059      .1074      .9860      .3281     -.1089      .3206

Product terms key:

 int_2    Cond        X     PBTrust
```

```
******************** DIRECT AND INDIRECT EFFECTS *************************

Conditional direct effect(s) of X on Y at values of the moderator(s):
    PBTrust     Effect         SE          t          p       LLCI       ULCI
     3.6667     -.2774      .1158    -2.3952      .0197     -.5090     -.0457
     4.1111     -.2303      .0803    -2.8694      .0057     -.3909     -.0698
     4.5556     -.1833      .0635    -2.8873      .0054     -.3102     -.0563
     4.8889     -.1480      .0722    -2.0508      .0447     -.2923     -.0036
     5.2222     -.1127      .0946    -1.1916      .2381     -.3019      .0765

Conditional indirect effect(s) of X on Y at values of the moderator(s):

Mediator
          PBTrust     Effect    Boot SE   BootLLCI   BootULCI
OTrust     3.6667      .1246      .0909     -.0004      .3541
OTrust     4.1111      .0752      .0619     -.0079      .2359
OTrust     4.5556      .0257      .0437     -.0409      .1370
OTrust     4.8889     -.0114      .0459     -.1161      .0761
OTrust     5.2222     -.0484      .0610     -.2095      .0433

Mediator
          PBTrust     Effect    Boot SE   BootLLCI   BootULCI
BTrust     3.6667     -.1443      .0851     -.3560     -.0211
BTrust     4.1111     -.0973      .0577     -.2438     -.0155
BTrust     4.5556     -.0503      .0403     -.1632      .0050
BTrust     4.8889     -.0150      .0422     -.1157      .0606
BTrust     5.2222      .0203      .0564     -.0738      .1581

Mediator
          PBTrust     Effect    Boot SE   BootLLCI   BootULCI
ITrust     3.6667      .0838      .0844     -.0518      .2924
ITrust     4.1111      .0557      .0547     -.0319      .1955
ITrust     4.5556      .0276      .0304     -.0107      .1237
ITrust     4.8889      .0066      .0268     -.0298      .0880
ITrust     5.2222     -.0145      .0408     -.1558      .0267

Mediator
          PBTrust     Effect    Boot SE   BootLLCI   BootULCI
CTrust     3.6667      .3648      .1362      .1494      .7047
CTrust     4.1111      .2229      .0862      .0904      .4504
CTrust     4.5556      .0810      .0654     -.0307      .2383
CTrust     4.8889     -.0254      .0846     -.2322      .1117
CTrust     5.2222     -.1319      .1206     -.4471      .0408

Values for quantitative moderators are 10th, 25th, 50th, 75th, and 90th
percentiles
Values for dichotomous moderators are the two values of the moderator.

-----
```

```
Indirect effect of highest order product:

Mediator
           Effect   SE(Boot)   BootLLCI   BootULCI
OTrust     -.1113      .0797     -.3252     -.0037
BTrust      .1058      .0746      .0048      .2973
ITrust     -.0632      .0721     -.2647      .0352
CTrust     -.3193      .1422     -.6799     -.1026

******************** INDEX OF MODERATED MEDIATION ************************

Mediator
            Index   SE(Boot)   BootLLCI   BootULCI
OTrust     -.1113      .0797     -.3252     -.0037
BTrust      .1058      .0746      .0048      .2973
ITrust     -.0632      .0721     -.2647      .0352
CTrust     -.3193      .1422     -.6799     -.1026

******************** ANALYSIS NOTES AND WARNINGS *************************

Number of bootstrap samples for bias corrected bootstrap confidence
intervals:
    10000

Level of confidence for all confidence intervals in output:
    95.00

------ END MATRIX -----
```

### *(2) Propensity to Trust Competence*

```
Run MATRIX procedure:

************* PROCESS Procedure for SPSS Release 2.16.3 *****************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2013). www.guilford.com/p/hayes3

**************************************************************************
Model = 8
    Y = PSat
    X = Cond
   M1 = OTrust
   M2 = BTrust
   M3 = ITrust
```

```
   M4 = CTrust
    W = PCTrust

Sample size
         68

**************************************************************************
Outcome: OTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .5408      .2925      .1538     8.8178     3.0000    64.0000      .0001

Model
              coeff         se          t          p       LLCI       ULCI
constant       .8620     1.3586      .6345      .5280    -1.8520     3.5760
Cond          2.5418      .9221     2.7566      .0076      .6998     4.3838
PCTrust       1.0041      .2542     3.9504      .0002      .4963     1.5119
int_1         -.4623      .1728    -2.6757      .0095     -.8075     -.1171

Product terms key:

 int_1    Cond        X     PCTrust

**************************************************************************
Outcome: BTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .4687      .2197      .2010     6.0061     3.0000    64.0000      .0011

Model
              coeff         se          t          p       LLCI       ULCI
constant      1.3508     1.5531      .8697      .3877    -1.7520     4.4536
Cond          2.2728     1.0541     2.1561      .0348      .1670     4.3787
PCTrust        .8518      .2906     2.9311      .0047      .2712     1.4323
int_1         -.3885      .1975    -1.9669      .0535     -.7832      .0061

Product terms key:

 int_1    Cond        X     PCTrust

**************************************************************************
Outcome: ITrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .4564      .2083      .2181     5.6141     3.0000    64.0000      .0018
```

```
Model
              coeff         se          t          p       LLCI       ULCI
constant     1.6808     1.6177     1.0390      .3027    -1.5510     4.9126
Cond         1.9447     1.0980     1.7712      .0813     -.2487     4.1382
PCTrust       .7812      .3027     2.5809      .0122      .1765     1.3858
int_1        -.3255      .2058    -1.5818      .1186     -.7365      .0856

Product terms key:

 int_1    Cond        X     PCTrust

**************************************************************************
Outcome: CTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .4059      .1647      .2431     4.2078     3.0000    64.0000      .0088

Model
              coeff         se          t          p       LLCI       ULCI
constant      .9938     1.7082      .5818      .5628    -2.4187     4.4063
Cond         2.7244     1.1594     2.3499      .0219      .4083     5.0405
PCTrust       .9245      .3196     2.8927      .0052      .2860     1.5630
int_1        -.4819      .2173    -2.2179      .0301     -.9159     -.0478

Product terms key:

 int_1    Cond        X     PCTrust

**************************************************************************
Outcome: PSat

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .8677      .7529      .0563    26.1119     7.0000    60.0000      .0000

Model
              coeff         se          t          p       LLCI       ULCI
constant      .2095      .8290      .2528      .8013    -1.4488     1.8678
OTrust        .3728      .1491     2.5004      .0152      .0746      .6710
BTrust       -.2652      .1273    -2.0830      .0415     -.5200     -.0105
ITrust        .1560      .1221     1.2773      .2064     -.0883      .4003
CTrust        .4959      .1073     4.6222      .0000      .2813      .7106
Cond         1.2693      .5924     2.1429      .0362      .0844     2.4542
PCTrust       .3149      .1725     1.8258      .0729     -.0301      .6599
int_2        -.2736      .1108    -2.4698      .0164     -.4951     -.0520

Product terms key:
```

```
 int_2    Cond        X     PCTrust

****************** DIRECT AND INDIRECT EFFECTS *************************

Conditional direct effect(s) of X on Y at values of the moderator(s):
    PCTrust     Effect         SE          t          p       LLCI       ULCI
     4.5556      .0230      .1038      .2219      .8251     -.1846      .2306
     4.8889     -.0682      .0767     -.8888      .3776     -.2216      .0852
     5.3333     -.1898      .0600    -3.1623      .0025     -.3098     -.0697
     5.6667     -.2809      .0712    -3.9451      .0002     -.4234     -.1385
     5.9167     -.3493      .0892    -3.9146      .0002     -.5278     -.1708

Conditional indirect effect(s) of X on Y at values of the moderator(s):

Mediator
          PCTrust     Effect    Boot SE   BootLLCI   BootULCI
OTrust     4.5556      .1624      .1041      .0214      .4369
OTrust     4.8889      .1049      .0720      .0076      .2950
OTrust     5.3333      .0283      .0419     -.0351      .1365
OTrust     5.6667     -.0291      .0475     -.1507      .0468
OTrust     5.9167     -.0722      .0661     -.2494      .0194

Mediator
          PCTrust     Effect    Boot SE   BootLLCI   BootULCI
BTrust     4.5556     -.1334      .0864     -.3408     -.0167
BTrust     4.8889     -.0990      .0637     -.2558     -.0122
BTrust     5.3333     -.0532      .0417     -.1596      .0028
BTrust     5.6667     -.0189      .0408     -.1207      .0493
BTrust     5.9167      .0069      .0505     -.0945      .1187

Mediator
          PCTrust     Effect    Boot SE   BootLLCI   BootULCI
ITrust     4.5556      .0721      .0688     -.0216      .2561
ITrust     4.8889      .0552      .0505     -.0179      .1834
ITrust     5.3333      .0326      .0311     -.0088      .1190
ITrust     5.6667      .0157      .0278     -.0209      .0997
ITrust     5.9167      .0030      .0344     -.0586      .0860

Mediator
          PCTrust     Effect    Boot SE   BootLLCI   BootULCI
CTrust     4.5556      .2625      .1309      .0728      .5845
CTrust     4.8889      .1828      .0902      .0487      .4112
CTrust     5.3333      .0766      .0597     -.0347      .2056
CTrust     5.6667     -.0031      .0756     -.1779      .1265
CTrust     5.9167     -.0628      .1023     -.3057      .1009

Values for quantitative moderators are 10th, 25th, 50th, 75th, and 90th
percentiles
Values for dichotomous moderators are the two values of the moderator.
```

```
-----
Indirect effect of highest order product:

Mediator
           Effect   SE(Boot)   BootLLCI   BootULCI
OTrust     -.1724      .1089     -.4596     -.0253
BTrust      .1031      .0801     -.0017      .3081
ITrust     -.0508      .0618     -.2390      .0146
CTrust     -.2390      .1467     -.5891     -.0242

******************** INDEX OF MODERATED MEDIATION ************************

Mediator
            Index   SE(Boot)   BootLLCI   BootULCI
OTrust     -.1724      .1089     -.4596     -.0253
BTrust      .1031      .0801     -.0017      .3081
ITrust     -.0508      .0618     -.2390      .0146
CTrust     -.2390      .1467     -.5891     -.0242

******************** ANALYSIS NOTES AND WARNINGS *************************

Number of bootstrap samples for bias corrected bootstrap confidence
intervals:
    10000

Level of confidence for all confidence intervals in output:
    95.00

------ END MATRIX -----
```

*b) Attitude Toward Diversity*

*i) Objective Performance*

*(1) Benevolence Trust*

```
Run MATRIX procedure:

************* PROCESS Procedure for SPSS Release 2.16.3 *****************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2013). www.guilford.com/p/hayes3

**************************************************************************
Model = 8
    Y = PERF
```

```
    X = Cond
   M1 = OTrust
   M2 = BTrust
   M3 = ITrust
   M4 = CTrust
    W = ADivT2

Sample size
         68

**************************************************************************
Outcome: OTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .3170      .1005      .1955     2.3824     3.0000    64.0000      .0776

Model
              coeff         se          t          p       LLCI       ULCI
constant     8.6261     1.6591     5.1992      .0000     5.3116    11.9406
Cond        -2.0093     1.0288    -1.9531      .0552    -4.0646      .0460
ADivT2       -.4514      .3141    -1.4373      .1555    -1.0788      .1760
int_1         .3876      .1925     2.0137      .0483      .0031      .7721

Product terms key:

 int_1    Cond        X     ADivT2

**************************************************************************
Outcome: BTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .4456      .1985      .2065     5.2841     3.0000    64.0000      .0026

Model
              coeff         se          t          p       LLCI       ULCI
constant    10.1192     1.7049     5.9355      .0000     6.7134    13.5251
Cond        -3.0952     1.0572    -2.9278      .0047    -5.2072     -.9832
ADivT2       -.7945      .3227    -2.4619      .0165    -1.4392     -.1498
int_1         .6147      .1978     3.1079      .0028      .2196     1.0098

Product terms key:

 int_1    Cond        X     ADivT2

**************************************************************************
Outcome: ITrust
```

```
Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .4421      .1954      .2216     5.1820     3.0000    64.0000      .0029

Model
              coeff         se          t          p       LLCI       ULCI
constant     9.6642     1.7664     5.4712      .0000     6.1354    13.1929
Cond        -2.9554     1.0953    -2.6982      .0089    -5.1435     -.7672
ADivT2       -.7147      .3344    -2.1376      .0364    -1.3827     -.0468
int_1         .5881      .2049     2.8697      .0056      .1787      .9975

Product terms key:

 int_1    Cond        X     ADivT2

**************************************************************************
Outcome: CTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .3951      .1561      .2457     3.9453     3.0000    64.0000      .0120

Model
              coeff         se          t          p       LLCI       ULCI
constant    10.4856     1.8597     5.6383      .0000     6.7704    14.2008
Cond        -3.2324     1.1532    -2.8030      .0067    -5.5362     -.9286
ADivT2       -.8604      .3520    -2.4441      .0173    -1.5637     -.1572
int_1         .6339      .2158     2.9380      .0046      .2029     1.0649

Product terms key:

 int_1    Cond        X     ADivT2

**************************************************************************
Outcome: PERF

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .6452      .4162     1.3671     6.1115     7.0000    60.0000      .0000

Model
              coeff         se          t          p       LLCI       ULCI
constant    -7.3076     5.5823    -1.3091      .1955   -18.4739     3.8586
OTrust        .5503      .6955      .7913      .4319     -.8409     1.9415
BTrust       1.9326      .6317     3.0594      .0033      .6690     3.1962
ITrust       -.6764      .6057    -1.1166      .2686    -1.8880      .5352
CTrust      -1.1658      .5282    -2.2072      .0311    -2.2223     -.1093
Cond         5.0290     2.9660     1.6956      .0952     -.9039    10.9619
ADivT2        .9025      .8932     1.0104      .3164     -.8841     2.6891
```

```
int_2        -.6786      .5612    -1.2091      .2314    -1.8012      .4441

Product terms key:

 int_2    Cond        X     ADivT2

******************** DIRECT AND INDIRECT EFFECTS *************************

Conditional direct effect(s) of X on Y at values of the moderator(s):
     ADivT2     Effect         SE          t          p       LLCI       ULCI
     4.4667     1.9981      .5352     3.7335      .0004      .9275     3.0686
     5.0000     1.6362      .3320     4.9285      .0000      .9721     2.3002
     5.4000     1.3647      .3093     4.4127      .0000      .7461     1.9834
     5.6667     1.1838      .3768     3.1420      .0026      .4301     1.9374
     6.0000      .9576      .5127     1.8679      .0667     -.0679     1.9830

Conditional indirect effect(s) of X on Y at values of the moderator(s):

Mediator
           ADivT2     Effect    Boot SE   BootLLCI   BootULCI
OTrust     4.4667     -.1530      .2700    -1.0854      .1386
OTrust     5.0000     -.0393      .1277     -.5287      .0813
OTrust     5.4000      .0460      .1116     -.0637      .5021
OTrust     5.6667      .1029      .1681     -.0774      .7166
OTrust     6.0000      .1740      .2621     -.1368     1.0303

Mediator
           ADivT2     Effect    Boot SE   BootLLCI   BootULCI
BTrust     4.4667     -.6754      .4433    -1.9373     -.0763
BTrust     5.0000     -.0418      .2308     -.5607      .3694
BTrust     5.4000      .4334      .2671      .0192     1.0947
BTrust     5.6667      .7502      .3783      .1416     1.6637
BTrust     6.0000     1.1462      .5478      .2607     2.4508

Mediator
           ADivT2     Effect    Boot SE   BootLLCI   BootULCI
ITrust     4.4667      .2223      .3326     -.1460     1.3258
ITrust     5.0000      .0102      .1329     -.1861      .3931
ITrust     5.4000     -.1489      .1636     -.5938      .0767
ITrust     5.6667     -.2550      .2653     -.8878      .1784
ITrust     6.0000     -.3876      .4088    -1.3618      .2969

Mediator
           ADivT2     Effect    Boot SE   BootLLCI   BootULCI
CTrust     4.4667      .4675      .2737      .0845     1.2231
CTrust     5.0000      .0734      .1559     -.1966      .4477
CTrust     5.4000     -.2222      .2023     -.7887      .0239
CTrust     5.6667     -.4193      .2793    -1.1572     -.0307
CTrust     6.0000     -.6656      .3920    -1.6370     -.0754
```

```
Values for quantitative moderators are 10th, 25th, 50th, 75th, and 90th
percentiles
Values for dichotomous moderators are the two values of the moderator.

-----
Indirect effect of highest order product:

Mediator
           Effect   SE(Boot)   BootLLCI   BootULCI
OTrust      .2133      .3215     -.1979     1.2187
BTrust     1.1880      .5797      .3008     2.6738
ITrust     -.3977      .4595    -1.6409      .3046
CTrust     -.7390      .3825    -1.6592     -.1282

******************** INDEX OF MODERATED MEDIATION ************************

Mediator
            Index   SE(Boot)   BootLLCI   BootULCI
OTrust      .2133      .3215     -.1979     1.2187
BTrust     1.1880      .5797      .3008     2.6738
ITrust     -.3977      .4595    -1.6409      .3046
CTrust     -.7390      .3825    -1.6592     -.1282

******************** ANALYSIS NOTES AND WARNINGS *************************

Number of bootstrap samples for bias corrected bootstrap confidence
intervals:
    10000

Level of confidence for all confidence intervals in output:
    95.00

------ END MATRIX -----
```

*(2) Competence Trust*

```
Run MATRIX procedure:

************* PROCESS Procedure for SPSS Release 2.16.3 *****************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2013). www.guilford.com/p/hayes3

**************************************************************************
Model = 8
    Y = PERF
```

```
    X = Cond
   M1 = OTrust
   M2 = BTrust
   M3 = ITrust
   M4 = CTrust
    W = ADivT2

Sample size
         68

**************************************************************************
Outcome: OTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .3170      .1005      .1955     2.3824     3.0000    64.0000      .0776

Model
              coeff         se          t          p       LLCI       ULCI
constant     8.6261     1.6591     5.1992      .0000     5.3116    11.9406
Cond        -2.0093     1.0288    -1.9531      .0552    -4.0646      .0460
ADivT2       -.4514      .3141    -1.4373      .1555    -1.0788      .1760
int_1         .3876      .1925     2.0137      .0483      .0031      .7721

Product terms key:

 int_1    Cond        X     ADivT2

**************************************************************************
Outcome: BTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .4456      .1985      .2065     5.2841     3.0000    64.0000      .0026

Model
              coeff         se          t          p       LLCI       ULCI
constant    10.1192     1.7049     5.9355      .0000     6.7134    13.5251
Cond        -3.0952     1.0572    -2.9278      .0047    -5.2072     -.9832
ADivT2       -.7945      .3227    -2.4619      .0165    -1.4392     -.1498
int_1         .6147      .1978     3.1079      .0028      .2196     1.0098

Product terms key:

 int_1    Cond        X     ADivT2

**************************************************************************
Outcome: ITrust
```

```
Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .4421      .1954      .2216     5.1820     3.0000    64.0000      .0029

Model
              coeff         se          t          p       LLCI       ULCI
constant     9.6642     1.7664     5.4712      .0000     6.1354    13.1929
Cond        -2.9554     1.0953    -2.6982      .0089    -5.1435     -.7672
ADivT2       -.7147      .3344    -2.1376      .0364    -1.3827     -.0468
int_1         .5881      .2049     2.8697      .0056      .1787      .9975

Product terms key:

 int_1    Cond        X     ADivT2

**************************************************************************
Outcome: CTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .3951      .1561      .2457     3.9453     3.0000    64.0000      .0120

Model
              coeff         se          t          p       LLCI       ULCI
constant    10.4856     1.8597     5.6383      .0000     6.7704    14.2008
Cond        -3.2324     1.1532    -2.8030      .0067    -5.5362     -.9286
ADivT2       -.8604      .3520    -2.4441      .0173    -1.5637     -.1572
int_1         .6339      .2158     2.9380      .0046      .2029     1.0649

Product terms key:

 int_1    Cond        X     ADivT2

**************************************************************************
Outcome: PERF

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .6452      .4162     1.3671     6.1115     7.0000    60.0000      .0000

Model
              coeff         se          t          p       LLCI       ULCI
constant    -7.3076     5.5823    -1.3091      .1955   -18.4739     3.8586
OTrust        .5503      .6955      .7913      .4319     -.8409     1.9415
BTrust       1.9326      .6317     3.0594      .0033      .6690     3.1962
ITrust       -.6764      .6057    -1.1166      .2686    -1.8880      .5352
CTrust      -1.1658      .5282    -2.2072      .0311    -2.2223     -.1093
Cond         5.0290     2.9660     1.6956      .0952     -.9039    10.9619
ADivT2        .9025      .8932     1.0104      .3164     -.8841     2.6891
```

```
int_2        -.6786      .5612    -1.2091      .2314    -1.8012      .4441

Product terms key:

 int_2    Cond        X     ADivT2

******************** DIRECT AND INDIRECT EFFECTS *************************

Conditional direct effect(s) of X on Y at values of the moderator(s):
     ADivT2     Effect         SE          t          p       LLCI       ULCI
     4.4667     1.9981      .5352     3.7335      .0004      .9275     3.0686
     5.0000     1.6362      .3320     4.9285      .0000      .9721     2.3002
     5.4000     1.3647      .3093     4.4127      .0000      .7461     1.9834
     5.6667     1.1838      .3768     3.1420      .0026      .4301     1.9374
     6.0000      .9576      .5127     1.8679      .0667     -.0679     1.9830

Conditional indirect effect(s) of X on Y at values of the moderator(s):

Mediator
           ADivT2     Effect    Boot SE   BootLLCI   BootULCI
OTrust     4.4667     -.1530      .2700    -1.0854      .1386
OTrust     5.0000     -.0393      .1277     -.5287      .0813
OTrust     5.4000      .0460      .1116     -.0637      .5021
OTrust     5.6667      .1029      .1681     -.0774      .7166
OTrust     6.0000      .1740      .2621     -.1368     1.0303

Mediator
           ADivT2     Effect    Boot SE   BootLLCI   BootULCI
BTrust     4.4667     -.6754      .4433    -1.9373     -.0763
BTrust     5.0000     -.0418      .2308     -.5607      .3694
BTrust     5.4000      .4334      .2671      .0192     1.0947
BTrust     5.6667      .7502      .3783      .1416     1.6637
BTrust     6.0000     1.1462      .5478      .2607     2.4508

Mediator
           ADivT2     Effect    Boot SE   BootLLCI   BootULCI
ITrust     4.4667      .2223      .3326     -.1460     1.3258
ITrust     5.0000      .0102      .1329     -.1861      .3931
ITrust     5.4000     -.1489      .1636     -.5938      .0767
ITrust     5.6667     -.2550      .2653     -.8878      .1784
ITrust     6.0000     -.3876      .4088    -1.3618      .2969

Mediator
           ADivT2     Effect    Boot SE   BootLLCI   BootULCI
CTrust     4.4667      .4675      .2737      .0845     1.2231
CTrust     5.0000      .0734      .1559     -.1966      .4477
CTrust     5.4000     -.2222      .2023     -.7887      .0239
CTrust     5.6667     -.4193      .2793    -1.1572     -.0307
CTrust     6.0000     -.6656      .3920    -1.6370     -.0754
```

```
Values for quantitative moderators are 10th, 25th, 50th, 75th, and 90th
percentiles
Values for dichotomous moderators are the two values of the moderator.

-----
Indirect effect of highest order product:

Mediator
           Effect   SE(Boot)   BootLLCI   BootULCI
OTrust      .2133      .3215     -.1979     1.2187
BTrust     1.1880      .5797      .3008     2.6738
ITrust     -.3977      .4595    -1.6409      .3046
CTrust     -.7390      .3825    -1.6592     -.1282

******************** INDEX OF MODERATED MEDIATION ************************

Mediator
            Index   SE(Boot)   BootLLCI   BootULCI
OTrust      .2133      .3215     -.1979     1.2187
BTrust     1.1880      .5797      .3008     2.6738
ITrust     -.3977      .4595    -1.6409      .3046
CTrust     -.7390      .3825    -1.6592     -.1282

******************** ANALYSIS NOTES AND WARNINGS *************************

Number of bootstrap samples for bias corrected bootstrap confidence
intervals:
    10000

Level of confidence for all confidence intervals in output:
    95.00

------ END MATRIX -----
```

### *ii) Perceived Performance*

#### *(1) Benevolence Trust*

```
Run MATRIX procedure:

************* PROCESS Procedure for SPSS Release 2.16.3 ******************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2013). www.guilford.com/p/hayes3
```

```
**************************************************************************
Model = 8
    Y = PSat
    X = Cond
   M1 = OTrust
   M2 = BTrust
   M3 = ITrust
   M4 = CTrust
    W = ADivT2

Sample size
         68

**************************************************************************
Outcome: OTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .3170      .1005      .1955     2.3824     3.0000    64.0000      .0776

Model
              coeff         se          t          p       LLCI       ULCI
constant     8.6261     1.6591     5.1992      .0000     5.3116    11.9406
Cond        -2.0093     1.0288    -1.9531      .0552    -4.0646      .0460
ADivT2       -.4514      .3141    -1.4373      .1555    -1.0788      .1760
int_1         .3876      .1925     2.0137      .0483      .0031      .7721

Product terms key:

 int_1    Cond        X     ADivT2

**************************************************************************
Outcome: BTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .4456      .1985      .2065     5.2841     3.0000    64.0000      .0026

Model
              coeff         se          t          p       LLCI       ULCI
constant    10.1192     1.7049     5.9355      .0000     6.7134    13.5251
Cond        -3.0952     1.0572    -2.9278      .0047    -5.2072     -.9832
ADivT2       -.7945      .3227    -2.4619      .0165    -1.4392     -.1498
int_1         .6147      .1978     3.1079      .0028      .2196     1.0098

Product terms key:

 int_1    Cond        X     ADivT2
```

```
**************************************************************************
Outcome: ITrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .4421      .1954      .2216     5.1820     3.0000    64.0000      .0029

Model
              coeff         se          t          p       LLCI       ULCI
constant     9.6642     1.7664     5.4712      .0000     6.1354    13.1929
Cond        -2.9554     1.0953    -2.6982      .0089    -5.1435     -.7672
ADivT2       -.7147      .3344    -2.1376      .0364    -1.3827     -.0468
int_1         .5881      .2049     2.8697      .0056      .1787      .9975

Product terms key:

 int_1    Cond        X     ADivT2

**************************************************************************
Outcome: CTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .3951      .1561      .2457     3.9453     3.0000    64.0000      .0120

Model
              coeff         se          t          p       LLCI       ULCI
constant    10.4856     1.8597     5.6383      .0000     6.7704    14.2008
Cond        -3.2324     1.1532    -2.8030      .0067    -5.5362     -.9286
ADivT2       -.8604      .3520    -2.4441      .0173    -1.5637     -.1572
int_1         .6339      .2158     2.9380      .0046      .2029     1.0649

Product terms key:

 int_1    Cond        X     ADivT2

**************************************************************************
Outcome: PSat

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .8526      .7269      .0622    22.8119     7.0000    60.0000      .0000

Model
              coeff         se          t          p       LLCI       ULCI
constant      .7421     1.1904      .6234      .5354    -1.6391     3.1232
OTrust        .3410      .1483     2.2992      .0250      .0443      .6376
BTrust       -.2448      .1347    -1.8173      .0742     -.5143      .0246
ITrust        .1196      .1292      .9261      .3581     -.1387      .3780
```

| | | | | | | |
|---|---|---|---|---|---|---|
| CTrust | .5571 | .1126 | 4.9462 | .0000 | .3318 | .7824 |
| Cond | .3131 | .6325 | .4950 | .6224 | -.9521 | 1.5782 |
| ADivT2 | .2049 | .1905 | 1.0759 | .2863 | -.1761 | .5859 |
| int_2 | -.0961 | .1197 | -.8032 | .4250 | -.3355 | .1433 |

Product terms key:

| | | | |
|---|---|---|---|
| int_2 | Cond | X | ADivT2 |

********** DIRECT AND INDIRECT EFFECTS **********

Conditional direct effect(s) of X on Y at values of the moderator(s):

| ADivT2 | Effect | SE | t | p | LLCI | ULCI |
|---|---|---|---|---|---|---|
| 4.4667 | -.1163 | .1141 | -1.0192 | .3122 | -.3446 | .1120 |
| 5.0000 | -.1676 | .0708 | -2.3673 | .0212 | -.3092 | -.0260 |
| 5.4000 | -.2060 | .0660 | -3.1241 | .0027 | -.3380 | -.0741 |
| 5.6667 | -.2317 | .0803 | -2.8836 | .0055 | -.3924 | -.0710 |
| 6.0000 | -.2637 | .1093 | -2.4123 | .0189 | -.4824 | -.0450 |

Conditional indirect effect(s) of X on Y at values of the moderator(s):

Mediator

| | ADivT2 | Effect | Boot SE | BootLLCI | BootULCI |
|---|---|---|---|---|---|
| OTrust | 4.4667 | -.0948 | .0968 | -.3799 | .0124 |
| OTrust | 5.0000 | -.0243 | .0515 | -.1681 | .0451 |
| OTrust | 5.4000 | .0285 | .0452 | -.0410 | .1492 |
| OTrust | 5.6667 | .0638 | .0612 | -.0160 | .2348 |
| OTrust | 6.0000 | .1078 | .0908 | -.0063 | .3701 |

Mediator

| | ADivT2 | Effect | Boot SE | BootLLCI | BootULCI |
|---|---|---|---|---|---|
| BTrust | 4.4667 | .0856 | .0674 | -.0010 | .2689 |
| BTrust | 5.0000 | .0053 | .0355 | -.0577 | .0908 |
| BTrust | 5.4000 | -.0549 | .0411 | -.1679 | .0024 |
| BTrust | 5.6667 | -.0950 | .0580 | -.2425 | -.0088 |
| BTrust | 6.0000 | -.1452 | .0837 | -.3507 | -.0165 |

Mediator

| | ADivT2 | Effect | Boot SE | BootLLCI | BootULCI |
|---|---|---|---|---|---|
| ITrust | 4.4667 | -.0393 | .0667 | -.2588 | .0259 |
| ITrust | 5.0000 | -.0018 | .0261 | -.0735 | .0352 |
| ITrust | 5.4000 | .0263 | .0328 | -.0182 | .1227 |
| ITrust | 5.6667 | .0451 | .0536 | -.0386 | .1878 |
| ITrust | 6.0000 | .0686 | .0827 | -.0626 | .2794 |

Mediator

| | ADivT2 | Effect | Boot SE | BootLLCI | BootULCI |
|---|---|---|---|---|---|
| CTrust | 4.4667 | -.2234 | .1232 | -.5415 | -.0426 |
| CTrust | 5.0000 | -.0351 | .0761 | -.2284 | .0823 |

```
CTrust     5.4000      .1062      .0728     -.0192      .2734
CTrust     5.6667      .2004      .0899      .0579      .4133
CTrust     6.0000      .3181      .1227      .1239      .6139

Values for quantitative moderators are 10th, 25th, 50th, 75th, and 90th
percentiles
Values for dichotomous moderators are the two values of the moderator.

-----
Indirect effect of highest order product:

Mediator
           Effect   SE(Boot)   BootLLCI   BootULCI
OTrust      .1322      .1089      .0002      .4356
BTrust     -.1505      .0881     -.3611     -.0150
ITrust      .0703      .0928     -.0611      .3165
CTrust      .3531      .1323      .1371      .6646

****************** INDEX OF MODERATED MEDIATION ************************

Mediator
            Index   SE(Boot)   BootLLCI   BootULCI
OTrust      .1322      .1089      .0002      .4356
BTrust     -.1505      .0881     -.3611     -.0150
ITrust      .0703      .0928     -.0611      .3165
CTrust      .3531      .1323      .1371      .6646

******************** ANALYSIS NOTES AND WARNINGS *************************

Number of bootstrap samples for bias corrected bootstrap confidence
intervals:
    10000

Level of confidence for all confidence intervals in output:
    95.00

------ END MATRIX -----
```

*(2) Competence Trust*

```
Run MATRIX procedure:

************* PROCESS Procedure for SPSS Release 2.16.3 *****************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2013). www.guilford.com/p/hayes3

**************************************************************************
```

```
Model = 8
    Y = PSat
    X = Cond
   M1 = OTrust
   M2 = BTrust
   M3 = ITrust
   M4 = CTrust
    W = ADivT2

Sample size
         68

**************************************************************************
Outcome: OTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .3170      .1005      .1955     2.3824     3.0000    64.0000      .0776

Model
              coeff         se          t          p       LLCI       ULCI
constant     8.6261     1.6591     5.1992      .0000     5.3116    11.9406
Cond        -2.0093     1.0288    -1.9531      .0552    -4.0646      .0460
ADivT2       -.4514      .3141    -1.4373      .1555    -1.0788      .1760
int_1         .3876      .1925     2.0137      .0483      .0031      .7721

Product terms key:

 int_1    Cond        X     ADivT2

**************************************************************************
Outcome: BTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .4456      .1985      .2065     5.2841     3.0000    64.0000      .0026

Model
              coeff         se          t          p       LLCI       ULCI
constant    10.1192     1.7049     5.9355      .0000     6.7134    13.5251
Cond        -3.0952     1.0572    -2.9278      .0047    -5.2072     -.9832
ADivT2       -.7945      .3227    -2.4619      .0165    -1.4392     -.1498
int_1         .6147      .1978     3.1079      .0028      .2196     1.0098

Product terms key:

 int_1    Cond        X     ADivT2

**************************************************************************
```

```
Outcome: ITrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .4421      .1954      .2216     5.1820     3.0000    64.0000      .0029

Model
              coeff         se          t          p       LLCI       ULCI
constant     9.6642     1.7664     5.4712      .0000     6.1354    13.1929
Cond        -2.9554     1.0953    -2.6982      .0089    -5.1435     -.7672
ADivT2       -.7147      .3344    -2.1376      .0364    -1.3827     -.0468
int_1         .5881      .2049     2.8697      .0056      .1787      .9975

Product terms key:

 int_1    Cond        X     ADivT2

*************************************************************************
Outcome: CTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .3951      .1561      .2457     3.9453     3.0000    64.0000      .0120

Model
              coeff         se          t          p       LLCI       ULCI
constant    10.4856     1.8597     5.6383      .0000     6.7704    14.2008
Cond        -3.2324     1.1532    -2.8030      .0067    -5.5362     -.9286
ADivT2       -.8604      .3520    -2.4441      .0173    -1.5637     -.1572
int_1         .6339      .2158     2.9380      .0046      .2029     1.0649

Product terms key:

 int_1    Cond        X     ADivT2

*************************************************************************
Outcome: PSat

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .8526      .7269      .0622    22.8119     7.0000    60.0000      .0000

Model
              coeff         se          t          p       LLCI       ULCI
constant      .7421     1.1904      .6234      .5354    -1.6391     3.1232
OTrust        .3410      .1483     2.2992      .0250      .0443      .6376
BTrust       -.2448      .1347    -1.8173      .0742     -.5143      .0246
ITrust        .1196      .1292      .9261      .3581     -.1387      .3780
CTrust        .5571      .1126     4.9462      .0000      .3318      .7824
```

| | | | | | | |
|---|---|---|---|---|---|---|
| Cond | .3131 | .6325 | .4950 | .6224 | -.9521 | 1.5782 |
| ADivT2 | .2049 | .1905 | 1.0759 | .2863 | -.1761 | .5859 |
| int_2 | -.0961 | .1197 | -.8032 | .4250 | -.3355 | .1433 |

Product terms key:

| int_2 | Cond | X | ADivT2 |
|---|---|---|---|

********** DIRECT AND INDIRECT EFFECTS **********

Conditional direct effect(s) of X on Y at values of the moderator(s):

| ADivT2 | Effect | SE | t | p | LLCI | ULCI |
|---|---|---|---|---|---|---|
| 4.4667 | -.1163 | .1141 | -1.0192 | .3122 | -.3446 | .1120 |
| 5.0000 | -.1676 | .0708 | -2.3673 | .0212 | -.3092 | -.0260 |
| 5.4000 | -.2060 | .0660 | -3.1241 | .0027 | -.3380 | -.0741 |
| 5.6667 | -.2317 | .0803 | -2.8836 | .0055 | -.3924 | -.0710 |
| 6.0000 | -.2637 | .1093 | -2.4123 | .0189 | -.4824 | -.0450 |

Conditional indirect effect(s) of X on Y at values of the moderator(s):

Mediator

| | ADivT2 | Effect | Boot SE | BootLLCI | BootULCI |
|---|---|---|---|---|---|
| OTrust | 4.4667 | -.0948 | .0968 | -.3799 | .0124 |
| OTrust | 5.0000 | -.0243 | .0515 | -.1681 | .0451 |
| OTrust | 5.4000 | .0285 | .0452 | -.0410 | .1492 |
| OTrust | 5.6667 | .0638 | .0612 | -.0160 | .2348 |
| OTrust | 6.0000 | .1078 | .0908 | -.0063 | .3701 |

Mediator

| | ADivT2 | Effect | Boot SE | BootLLCI | BootULCI |
|---|---|---|---|---|---|
| BTrust | 4.4667 | .0856 | .0674 | -.0010 | .2689 |
| BTrust | 5.0000 | .0053 | .0355 | -.0577 | .0908 |
| BTrust | 5.4000 | -.0549 | .0411 | -.1679 | .0024 |
| BTrust | 5.6667 | -.0950 | .0580 | -.2425 | -.0088 |
| BTrust | 6.0000 | -.1452 | .0837 | -.3507 | -.0165 |

Mediator

| | ADivT2 | Effect | Boot SE | BootLLCI | BootULCI |
|---|---|---|---|---|---|
| ITrust | 4.4667 | -.0393 | .0667 | -.2588 | .0259 |
| ITrust | 5.0000 | -.0018 | .0261 | -.0735 | .0352 |
| ITrust | 5.4000 | .0263 | .0328 | -.0182 | .1227 |
| ITrust | 5.6667 | .0451 | .0536 | -.0386 | .1878 |
| ITrust | 6.0000 | .0686 | .0827 | -.0626 | .2794 |

Mediator

| | ADivT2 | Effect | Boot SE | BootLLCI | BootULCI |
|---|---|---|---|---|---|
| CTrust | 4.4667 | -.2234 | .1232 | -.5415 | -.0426 |
| CTrust | 5.0000 | -.0351 | .0761 | -.2284 | .0823 |
| CTrust | 5.4000 | .1062 | .0728 | -.0192 | .2734 |

```
CTrust     5.6667      .2004      .0899      .0579      .4133
CTrust     6.0000      .3181      .1227      .1239      .6139

Values for quantitative moderators are 10th, 25th, 50th, 75th, and 90th
percentiles
Values for dichotomous moderators are the two values of the moderator.

-----
Indirect effect of highest order product:

Mediator
           Effect   SE(Boot)   BootLLCI   BootULCI
OTrust      .1322      .1089      .0002      .4356
BTrust     -.1505      .0881     -.3611     -.0150
ITrust      .0703      .0928     -.0611      .3165
CTrust      .3531      .1323      .1371      .6646

******************** INDEX OF MODERATED MEDIATION ************************

Mediator
            Index   SE(Boot)   BootLLCI   BootULCI
OTrust      .1322      .1089      .0002      .4356
BTrust     -.1505      .0881     -.3611     -.0150
ITrust      .0703      .0928     -.0611      .3165
CTrust      .3531      .1323      .1371      .6646

******************** ANALYSIS NOTES AND WARNINGS *************************

Number of bootstrap samples for bias corrected bootstrap confidence
intervals:
    10000

Level of confidence for all confidence intervals in output:
    95.00

------ END MATRIX -----
```

### c) *Perceived Diversity*

#### *(1) Objective Performance*

##### *(a) Perceived Conversational Dominance Diversity*

##### *(i) Benevolence Trust*

```
Run MATRIX procedure:

************* PROCESS Procedure for SPSS Release 2.16.3 *****************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2013). www.guilford.com/p/hayes3

**************************************************************************
Model = 8
    Y = PERF
    X = Cond
   M1 = OTrust
   M2 = BTrust
   M3 = ITrust
   M4 = CTrust
    W = PDivDom

Sample size
         68

**************************************************************************
Outcome: OTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .1837      .0337      .2100      .7451     3.0000    64.0000      .5292

Model
              coeff         se          t          p       LLCI       ULCI
constant     7.1452      .9029     7.9138      .0000     5.3415     8.9489
Cond         -.5574      .5325    -1.0469      .2991    -1.6212      .5063
PDivDom      -.2193      .2083    -1.0527      .2965     -.6355      .1969
int_1         .1473      .1208     1.2189      .2274     -.0941      .3887

Product terms key:

 int_1    Cond        X     PDivDom

**************************************************************************
Outcome: BTrust
```

```
Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .3540      .1253      .2253     3.0566     3.0000    64.0000      .0346

Model
              coeff         se          t          p       LLCI       ULCI
constant     8.0584      .9352     8.6171      .0000     6.1902     9.9266
Cond        -1.1061      .5515    -2.0056      .0491    -2.2079     -.0043
PDivDom      -.5103      .2158    -2.3649      .0211     -.9414     -.0792
int_1         .3050      .1252     2.4372      .0176      .0550      .5550

Product terms key:

 int_1    Cond        X     PDivDom

*************************************************************************
Outcome: ITrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .3758      .1412      .2366     3.5078     3.0000    64.0000      .0202

Model
              coeff         se          t          p       LLCI       ULCI
constant     8.3482      .9582     8.7123      .0000     6.4339    10.2625
Cond        -1.2544      .5651    -2.2198      .0300    -2.3833     -.1255
PDivDom      -.5899      .2211    -2.6678      .0097    -1.0316     -.1482
int_1         .3420      .1282     2.6673      .0097      .0859      .5982

Product terms key:

 int_1    Cond        X     PDivDom

*************************************************************************
Outcome: CTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .2843      .0808      .2676     1.8756     3.0000    64.0000      .1426

Model
              coeff         se          t          p       LLCI       ULCI
constant     7.1789     1.0191     7.0444      .0000     5.1431     9.2148
Cond         -.8067      .6010    -1.3422      .1843    -2.0073      .3940
PDivDom      -.2922      .2352    -1.2427      .2185     -.7620      .1776
int_1         .2209      .1364     1.6194      .1103     -.0516      .4933

Product terms key:
```

```
 int_1    Cond        X     PDivDom

*************************************************************************
Outcome: PERF

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .6333      .4011     1.4027     5.7395     7.0000    60.0000      .0000

Model
              coeff         se          t          p       LLCI       ULCI
constant     -.6175     3.5237     -.1752      .8615    -7.6661     6.4311
OTrust        .7468      .7060     1.0579      .2944     -.6653     2.1589
BTrust       1.8038      .6387     2.8243      .0064      .5263     3.0813
ITrust       -.8424      .6261    -1.3456      .1835    -2.0947      .4099
CTrust      -1.2539      .5356    -2.3409      .0226    -2.3254     -.1824
Cond         1.0409     1.4535      .7162      .4767    -1.8664     3.9483
PDivDom      -.2028      .5865     -.3457      .7308    -1.3760      .9704
int_2         .0973      .3383      .2878      .7745     -.5793      .7740

Product terms key:

 int_2    Cond        X     PDivDom

****************** DIRECT AND INDIRECT EFFECTS ************************

Conditional direct effect(s) of X on Y at values of the moderator(s):
    PDivDom     Effect         SE          t          p       LLCI       ULCI
     3.0000     1.3330      .5069     2.6297      .0108      .3190     2.3469
     3.6667     1.3978      .3525     3.9650      .0002      .6926     2.1031
     4.3333     1.4627      .3056     4.7872      .0000      .8515     2.0739
     5.0000     1.5276      .4052     3.7705      .0004      .7172     2.3381
     5.6667     1.5925      .5802     2.7447      .0080      .4319     2.7531

Conditional indirect effect(s) of X on Y at values of the moderator(s):

Mediator
          PDivDom     Effect    Boot SE   BootLLCI   BootULCI
OTrust     3.0000     -.0863      .2498    -1.0429      .1634
OTrust     3.6667     -.0130      .1559     -.5059      .2177
OTrust     4.3333      .0603      .1264     -.0602      .5638
OTrust     5.0000      .1336      .1933     -.0531      .8818
OTrust     5.6667      .2070      .2975     -.0872     1.3719

Mediator
          PDivDom     Effect    Boot SE   BootLLCI   BootULCI
BTrust     3.0000     -.3446      .3929    -1.4364      .2151
BTrust     3.6667      .0222      .2547     -.4791      .5787
```

```
BTrust     4.3333      .3890      .2679      .0232     1.2116
BTrust     5.0000      .7558      .4185      .1869     2.0362
BTrust     5.6667     1.1226      .6122      .2961     3.0162

Mediator
          PDivDom     Effect    Boot SE   BootLLCI   BootULCI
ITrust     3.0000      .1923      .2603     -.1213     1.0465
ITrust     3.6667      .0002      .1528     -.3104      .3384
ITrust     4.3333     -.1919      .1647     -.6630      .0219
ITrust     5.0000     -.3840      .2813    -1.0620      .0724
ITrust     5.6667     -.5761      .4234    -1.5848      .1163

Mediator
          PDivDom     Effect    Boot SE   BootLLCI   BootULCI
CTrust     3.0000      .1807      .3042     -.3056      .9559
CTrust     3.6667     -.0040      .2134     -.4898      .3818
CTrust     4.3333     -.1886      .1993     -.7984      .0503
CTrust     5.0000     -.3732      .2740    -1.2092     -.0235
CTrust     5.6667     -.5578      .3894    -1.7249     -.0439

Values for quantitative moderators are 10th, 25th, 50th, 75th, and 90th
percentiles
Values for dichotomous moderators are the two values of the moderator.

-----
Indirect effect of highest order product:

Mediator
           Effect   SE(Boot)   BootLLCI   BootULCI
OTrust      .1100      .1829     -.0679      .8289
BTrust      .5502      .3293      .1090     1.5170
ITrust     -.2881      .2329     -.8974      .0489
CTrust     -.2769      .2153     -.8913      .0094

******************** INDEX OF MODERATED MEDIATION ************************

Mediator
            Index   SE(Boot)   BootLLCI   BootULCI
OTrust      .1100      .1829     -.0679      .8289
BTrust      .5502      .3293      .1090     1.5170
ITrust     -.2881      .2329     -.8974      .0489
CTrust     -.2769      .2153     -.8913      .0094

******************** ANALYSIS NOTES AND WARNINGS *************************

Number of bootstrap samples for bias corrected bootstrap confidence
intervals:
    10000
```

```
Level of confidence for all confidence intervals in output:
    95.00

------ END MATRIX -----
```

### *(b) Perceived Argumentativeness Diversity*

#### *(i) Benevolence Trust*

```
Run MATRIX procedure:

************* PROCESS Procedure for SPSS Release 2.16.3 *****************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2013). www.guilford.com/p/hayes3

**************************************************************************
Model = 8
    Y = PERF
    X = Cond
   M1 = OTrust
   M2 = BTrust
   M3 = ITrust
   M4 = CTrust
    W = PDivArg

Sample size
         68

**************************************************************************
Outcome: OTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .2638      .0696      .2022     1.5953     3.0000    64.0000      .1992

Model
              coeff         se          t          p       LLCI       ULCI
constant     7.7712      .9048     8.5885      .0000     5.9635     9.5788
Cond         -.9953      .5506    -1.8075      .0754    -2.0953      .1048
PDivArg      -.3414      .1938    -1.7618      .0829     -.7285      .0457
int_1         .2337      .1172     1.9944      .0504     -.0004      .4679

Product terms key:

 int_1    Cond        X     PDivArg
```

```
**************************************************************************
Outcome: BTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .3865      .1494      .2191     3.7472     3.0000    64.0000      .0152

Model
              coeff         se          t          p       LLCI       ULCI
constant     8.1374      .9418     8.6402      .0000     6.2559    10.0189
Cond        -1.3386      .5731    -2.3356      .0227    -2.4836     -.1936
PDivArg      -.4909      .2017    -2.4337      .0177     -.8938     -.0879
int_1         .3349      .1220     2.7454      .0078      .0912      .5786

Product terms key:

 int_1    Cond        X     PDivArg

**************************************************************************
Outcome: ITrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .4044      .1636      .2304     4.1717     3.0000    64.0000      .0092

Model
              coeff         se          t          p       LLCI       ULCI
constant     8.6037      .9658     8.9086      .0000     6.6743    10.5331
Cond        -1.5289      .5877    -2.6014      .0115    -2.7031     -.3548
PDivArg      -.6031      .2068    -2.9157      .0049    -1.0163     -.1899
int_1         .3784      .1251     3.0251      .0036      .1285      .6283

Product terms key:

 int_1    Cond        X     PDivArg

**************************************************************************
Outcome: CTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .3589      .1288      .2536     3.1533     3.0000    64.0000      .0308

Model
              coeff         se          t          p       LLCI       ULCI
constant     7.9828     1.0133     7.8784      .0000     5.9586    10.0070
Cond        -1.3700      .6166    -2.2218      .0298    -2.6019     -.1381
PDivArg      -.4502      .2170    -2.0748      .0420     -.8838     -.0167
int_1         .3317      .1312     2.5277      .0140      .0695      .5939
```

```
Product terms key:

 int_1    Cond        X     PDivArg

************************************************************************
Outcome: PERF

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .6400      .4096     1.3827     5.9460     7.0000    60.0000      .0000

Model
              coeff         se          t          p       LLCI       ULCI
constant    -3.5473     3.6422     -.9740      .3340   -10.8327     3.7382
OTrust        .6656      .6937      .9595      .3412     -.7220     2.0531
BTrust       1.7957      .6330     2.8365      .0062      .5294     3.0619
ITrust       -.6443      .6202    -1.0388      .3031    -1.8850      .5964
CTrust      -1.3102      .5302    -2.4711      .0163    -2.3708     -.2496
Cond         2.1748     1.5282     1.4231      .1599     -.8821     5.2316
PDivArg       .3958      .5448      .7266      .4703     -.6940     1.4857
int_2        -.1652      .3325     -.4967      .6212     -.8302      .4999

Product terms key:

 int_2    Cond        X     PDivArg

******************** DIRECT AND INDIRECT EFFECTS *************************

Conditional direct effect(s) of X on Y at values of the moderator(s):
    PDivArg     Effect         SE          t          p       LLCI       ULCI
     3.0000     1.6793      .5830     2.8804      .0055      .5131     2.8455
     4.0000     1.5141      .3420     4.4277      .0000      .8301     2.1982
     4.6667     1.4040      .3019     4.6506      .0000      .8001     2.0079
     5.3333     1.2939      .4045     3.1989      .0022      .4848     2.1030
     5.6667     1.2389      .4865     2.5464      .0135      .2657     2.2121

Conditional indirect effect(s) of X on Y at values of the moderator(s):

Mediator
          PDivArg     Effect    Boot SE   BootLLCI   BootULCI
OTrust     3.0000     -.1957      .3403    -1.4070      .1326
OTrust     4.0000     -.0402      .1571     -.5862      .1304
OTrust     4.6667      .0635      .1206     -.0557      .5350
OTrust     5.3333      .1673      .2119     -.0776      .8679
OTrust     5.6667      .2191      .2743     -.1045     1.1042

Mediator
          PDivArg     Effect    Boot SE   BootLLCI   BootULCI
```

```
BTrust     3.0000     -.5996      .5259    -1.9844      .1391
BTrust     4.0000      .0017      .2648     -.5097      .5766
BTrust     4.6667      .4027      .2568      .0299     1.1441
BTrust     5.3333      .8036      .4105      .1574     1.8695
BTrust     5.6667     1.0040      .5098      .2023     2.3102

Mediator
          PDivArg     Effect    Boot SE   BootLLCI   BootULCI
ITrust     3.0000      .2537      .3370     -.1630     1.2423
ITrust     4.0000      .0099      .1298     -.2018      .3611
ITrust     4.6667     -.1527      .1594     -.5992      .0705
ITrust     5.3333     -.3152      .3039    -1.0019      .2273
ITrust     5.6667     -.3965      .3844    -1.2425      .2944

Mediator
          PDivArg     Effect    Boot SE   BootLLCI   BootULCI
CTrust     3.0000      .4911      .3806     -.1201     1.4089
CTrust     4.0000      .0565      .2147     -.4280      .4347
CTrust     4.6667     -.2333      .2105     -.8463      .0241
CTrust     5.3333     -.5231      .3062    -1.3970     -.1017
CTrust     5.6667     -.6679      .3711    -1.7270     -.1490

Values for quantitative moderators are 10th, 25th, 50th, 75th, and 90th
percentiles
Values for dichotomous moderators are the two values of the moderator.

-----
Indirect effect of highest order product:

Mediator
           Effect   SE(Boot)   BootLLCI   BootULCI
OTrust      .1556      .2134     -.0778      .8587
BTrust      .6014      .3466      .0909     1.5301
ITrust     -.2438      .2564     -.8496      .1841
CTrust     -.4346      .2402    -1.0755     -.0793

******************** INDEX OF MODERATED MEDIATION ************************

Mediator
            Index   SE(Boot)   BootLLCI   BootULCI
OTrust      .1556      .2134     -.0778      .8587
BTrust      .6014      .3466      .0909     1.5301
ITrust     -.2438      .2564     -.8496      .1841
CTrust     -.4346      .2402    -1.0755     -.0793

******************** ANALYSIS NOTES AND WARNINGS *************************

Number of bootstrap samples for bias corrected bootstrap confidence
intervals:
```

```
    10000

Level of confidence for all confidence intervals in output:
    95.00

------ END MATRIX -----
```

*(ii) Competence Trust*

```
Run MATRIX procedure:

************* PROCESS Procedure for SPSS Release 2.16.3 *****************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2013). www.guilford.com/p/hayes3

**************************************************************************
Model = 8
    Y = PERF
    X = Cond
   M1 = OTrust
   M2 = BTrust
   M3 = ITrust
   M4 = CTrust
    W = PDivArg

Sample size
         68

**************************************************************************
Outcome: OTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .2638      .0696      .2022     1.5953     3.0000    64.0000      .1992

Model
              coeff         se          t          p       LLCI       ULCI
constant     7.7712      .9048     8.5885      .0000     5.9635     9.5788
Cond         -.9953      .5506    -1.8075      .0754    -2.0953      .1048
PDivArg      -.3414      .1938    -1.7618      .0829     -.7285      .0457
int_1         .2337      .1172     1.9944      .0504     -.0004      .4679

Product terms key:

 int_1    Cond        X     PDivArg
```

```
**************************************************************************
Outcome: BTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .3865      .1494      .2191     3.7472     3.0000    64.0000      .0152

Model
              coeff         se          t          p       LLCI       ULCI
constant     8.1374      .9418     8.6402      .0000     6.2559    10.0189
Cond        -1.3386      .5731    -2.3356      .0227    -2.4836     -.1936
PDivArg      -.4909      .2017    -2.4337      .0177     -.8938     -.0879
int_1         .3349      .1220     2.7454      .0078      .0912      .5786

Product terms key:

 int_1    Cond        X     PDivArg

**************************************************************************
Outcome: ITrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .4044      .1636      .2304     4.1717     3.0000    64.0000      .0092

Model
              coeff         se          t          p       LLCI       ULCI
constant     8.6037      .9658     8.9086      .0000     6.6743    10.5331
Cond        -1.5289      .5877    -2.6014      .0115    -2.7031     -.3548
PDivArg      -.6031      .2068    -2.9157      .0049    -1.0163     -.1899
int_1         .3784      .1251     3.0251      .0036      .1285      .6283

Product terms key:

 int_1    Cond        X     PDivArg

**************************************************************************
Outcome: CTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .3589      .1288      .2536     3.1533     3.0000    64.0000      .0308

Model
              coeff         se          t          p       LLCI       ULCI
constant     7.9828     1.0133     7.8784      .0000     5.9586    10.0070
Cond        -1.3700      .6166    -2.2218      .0298    -2.6019     -.1381
PDivArg      -.4502      .2170    -2.0748      .0420     -.8838     -.0167
int_1         .3317      .1312     2.5277      .0140      .0695      .5939
```

```
Product terms key:

 int_1    Cond        X     PDivArg

**************************************************************************
Outcome: PERF

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .6400      .4096     1.3827     5.9460     7.0000    60.0000      .0000

Model
              coeff         se          t          p       LLCI       ULCI
constant    -3.5473     3.6422     -.9740      .3340   -10.8327     3.7382
OTrust        .6656      .6937      .9595      .3412     -.7220     2.0531
BTrust       1.7957      .6330     2.8365      .0062      .5294     3.0619
ITrust       -.6443      .6202    -1.0388      .3031    -1.8850      .5964
CTrust      -1.3102      .5302    -2.4711      .0163    -2.3708     -.2496
Cond         2.1748     1.5282     1.4231      .1599     -.8821     5.2316
PDivArg       .3958      .5448      .7266      .4703     -.6940     1.4857
int_2        -.1652      .3325     -.4967      .6212     -.8302      .4999

Product terms key:

 int_2    Cond        X     PDivArg

******************** DIRECT AND INDIRECT EFFECTS *************************

Conditional direct effect(s) of X on Y at values of the moderator(s):
    PDivArg     Effect         SE          t          p       LLCI       ULCI
     3.0000     1.6793      .5830     2.8804      .0055      .5131     2.8455
     4.0000     1.5141      .3420     4.4277      .0000      .8301     2.1982
     4.6667     1.4040      .3019     4.6506      .0000      .8001     2.0079
     5.3333     1.2939      .4045     3.1989      .0022      .4848     2.1030
     5.6667     1.2389      .4865     2.5464      .0135      .2657     2.2121

Conditional indirect effect(s) of X on Y at values of the moderator(s):

Mediator
          PDivArg     Effect    Boot SE   BootLLCI   BootULCI
OTrust     3.0000     -.1957      .3403    -1.4070      .1326
OTrust     4.0000     -.0402      .1571     -.5862      .1304
OTrust     4.6667      .0635      .1206     -.0557      .5350
OTrust     5.3333      .1673      .2119     -.0776      .8679
OTrust     5.6667      .2191      .2743     -.1045     1.1042

Mediator
          PDivArg     Effect    Boot SE   BootLLCI   BootULCI
```

```
BTrust     3.0000     -.5996      .5259    -1.9844      .1391
BTrust     4.0000      .0017      .2648     -.5097      .5766
BTrust     4.6667      .4027      .2568      .0299     1.1441
BTrust     5.3333      .8036      .4105      .1574     1.8695
BTrust     5.6667     1.0040      .5098      .2023     2.3102

Mediator
          PDivArg     Effect    Boot SE   BootLLCI   BootULCI
ITrust     3.0000      .2537      .3370     -.1630     1.2423
ITrust     4.0000      .0099      .1298     -.2018      .3611
ITrust     4.6667     -.1527      .1594     -.5992      .0705
ITrust     5.3333     -.3152      .3039    -1.0019      .2273
ITrust     5.6667     -.3965      .3844    -1.2425      .2944

Mediator
          PDivArg     Effect    Boot SE   BootLLCI   BootULCI
CTrust     3.0000      .4911      .3806     -.1201     1.4089
CTrust     4.0000      .0565      .2147     -.4280      .4347
CTrust     4.6667     -.2333      .2105     -.8463      .0241
CTrust     5.3333     -.5231      .3062    -1.3970     -.1017
CTrust     5.6667     -.6679      .3711    -1.7270     -.1490

Values for quantitative moderators are 10th, 25th, 50th, 75th, and 90th
percentiles
Values for dichotomous moderators are the two values of the moderator.

-----
Indirect effect of highest order product:

Mediator
           Effect   SE(Boot)   BootLLCI   BootULCI
OTrust      .1556      .2134     -.0778      .8587
BTrust      .6014      .3466      .0909     1.5301
ITrust     -.2438      .2564     -.8496      .1841
CTrust     -.4346      .2402    -1.0755     -.0793

******************** INDEX OF MODERATED MEDIATION ************************

Mediator
            Index   SE(Boot)   BootLLCI   BootULCI
OTrust      .1556      .2134     -.0778      .8587
BTrust      .6014      .3466      .0909     1.5301
ITrust     -.2438      .2564     -.8496      .1841
CTrust     -.4346      .2402    -1.0755     -.0793

******************** ANALYSIS NOTES AND WARNINGS *************************

Number of bootstrap samples for bias corrected bootstrap confidence
intervals:
```

```
    10000

Level of confidence for all confidence intervals in output:
    95.00

------ END MATRIX -----
```

### *(c) Perceived Inquisitiveness Diversity*

#### *(i) Benevolence Trust*

```
Run MATRIX procedure:

************* PROCESS Procedure for SPSS Release 2.16.3 *****************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2013). www.guilford.com/p/hayes3

**************************************************************************
Model = 8
    Y = PERF
    X = Cond
   M1 = OTrust
   M2 = BTrust
   M3 = ITrust
   M4 = CTrust
    W = PDivInq

Sample size
         68

**************************************************************************
Outcome: OTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .2721      .0740      .2013     1.7053     3.0000    64.0000      .1748

Model
              coeff         se          t          p       LLCI       ULCI
constant     7.4653      .8892     8.3954      .0000     5.6889     9.2417
Cond         -.9728      .5738    -1.6953      .0949    -2.1192      .1736
PDivInq      -.2610      .1879    -1.3889      .1697     -.6365      .1144
int_1         .2152      .1179     1.8246      .0727     -.0204      .4508

Product terms key:
```

```
 int_1    Cond        X     PDivInq

**************************************************************************
Outcome: BTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .3827      .1465      .2199     3.6609     3.0000    64.0000      .0168

Model
              coeff         se          t          p       LLCI       ULCI
constant     7.8225      .9294     8.4168      .0000     5.9658     9.6791
Cond        -1.3175      .5998    -2.1967      .0317    -2.5156     -.1193
PDivInq      -.4050      .1964    -2.0616      .0433     -.7974     -.0126
int_1         .3129      .1233     2.5384      .0136      .0666      .5591

Product terms key:

 int_1    Cond        X     PDivInq

**************************************************************************
Outcome: ITrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .3606      .1300      .2396     3.1885     3.0000    64.0000      .0295

Model
              coeff         se          t          p       LLCI       ULCI
constant     7.9676      .9703     8.2118      .0000     6.0293     9.9060
Cond        -1.3184      .6261    -2.1055      .0392    -2.5692     -.0675
PDivInq      -.4501      .2051    -2.1950      .0318     -.8598     -.0404
int_1         .3180      .1287     2.4711      .0161      .0609      .5751

Product terms key:

 int_1    Cond        X     PDivInq

**************************************************************************
Outcome: CTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .3152      .0994      .2622     2.3536     3.0000    64.0000      .0803

Model
              coeff         se          t          p       LLCI       ULCI
constant     7.4173     1.0149     7.3086      .0000     5.3898     9.4447
Cond        -1.1198      .6549    -1.7099      .0921    -2.4282      .1885
```

```
PDivInq      -.3107      .2145    -1.4483      .1524     -.7392      .1179
int_1         .2609      .1346     1.9387      .0570     -.0079      .5298

Product terms key:

 int_1    Cond        X     PDivInq

**************************************************************************
Outcome: PERF

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .6652      .4425     1.3057     6.8020     7.0000    60.0000      .0000

Model
              coeff         se          t          p       LLCI       ULCI
constant    -7.3157     3.3990    -2.1523      .0354   -14.1147     -.5166
OTrust        .5744      .6682      .8596      .3934     -.7622     1.9109
BTrust       1.9153      .6184     3.0973      .0030      .6783     3.1522
ITrust       -.6070      .5935    -1.0227      .3106    -1.7942      .5802
CTrust      -1.2662      .5066    -2.4996      .0152    -2.2795     -.2529
Cond         4.3538     1.5193     2.8657      .0057     1.3148     7.3928
PDivInq      1.0699      .4993     2.1431      .0362      .0713     2.0686
int_2        -.6313      .3169    -1.9921      .0509    -1.2653      .0026

Product terms key:

 int_2    Cond        X     PDivInq

******************** DIRECT AND INDIRECT EFFECTS ************************

Conditional direct effect(s) of X on Y at values of the moderator(s):
    PDivInq     Effect         SE          t          p       LLCI       ULCI
     3.6667     2.0389      .4420     4.6124      .0000     1.1546     2.9231
     4.0000     1.8284      .3705     4.9353      .0000     1.0873     2.5695
     4.6667     1.4075      .2965     4.7473      .0000      .8144     2.0006
     5.3333      .9866      .3575     2.7594      .0077      .2714     1.7018
     6.0000      .5657      .5070     1.1158      .2690     -.4484     1.5799

Conditional indirect effect(s) of X on Y at values of the moderator(s):

Mediator
          PDivInq     Effect    Boot SE   BootLLCI   BootULCI
OTrust     3.6667     -.1056      .2030     -.8923      .0792
OTrust     4.0000     -.0644      .1533     -.6916      .0688
OTrust     4.6667      .0180      .1000     -.1200      .3152
OTrust     5.3333      .1004      .1604     -.0598      .6479
OTrust     6.0000      .1828      .2658     -.1081     1.0134
```

```
Mediator
          PDivInq     Effect    Boot SE   BootLLCI   BootULCI
BTrust     3.6667     -.3261      .3658    -1.2735      .2322
BTrust     4.0000     -.1263      .2972     -.8540      .3619
BTrust     4.6667      .2732      .2477     -.1012      .8948
BTrust     5.3333      .6727      .3458      .1524     1.5919
BTrust     6.0000     1.0722      .5129      .2852     2.3922

Mediator
          PDivInq     Effect    Boot SE   BootLLCI   BootULCI
ITrust     3.6667      .0925      .1785     -.0971      .7434
ITrust     4.0000      .0282      .1331     -.1375      .4916
ITrust     4.6667     -.1005      .1359     -.5042      .0708
ITrust     5.3333     -.2292      .2406     -.8354      .1635
ITrust     6.0000     -.3579      .3688    -1.2313      .2744

Mediator
          PDivInq     Effect    Boot SE   BootLLCI   BootULCI
CTrust     3.6667      .2065      .2702     -.2330      .8788
CTrust     4.0000      .0963      .2258     -.3029      .6096
CTrust     4.6667     -.1240      .1895     -.6470      .1207
CTrust     5.3333     -.3442      .2437    -1.0952     -.0277
CTrust     6.0000     -.5645      .3485    -1.6121     -.0886

Values for quantitative moderators are 10th, 25th, 50th, 75th, and 90th
percentiles
Values for dichotomous moderators are the two values of the moderator.

-----
Indirect effect of highest order product:

Mediator
           Effect   SE(Boot)   BootLLCI   BootULCI
OTrust      .1236      .1813     -.0779      .6923
BTrust      .5992      .3096      .1110     1.3720
ITrust     -.1930      .2086     -.7220      .1287
CTrust     -.3304      .2083     -.9122     -.0238

****************** INDEX OF MODERATED MEDIATION ************************

Mediator
            Index   SE(Boot)   BootLLCI   BootULCI
OTrust      .1236      .1813     -.0779      .6923
BTrust      .5992      .3096      .1110     1.3720
ITrust     -.1930      .2086     -.7220      .1287
CTrust     -.3304      .2083     -.9122     -.0238

****************** ANALYSIS NOTES AND WARNINGS *************************
```

```
Number of bootstrap samples for bias corrected bootstrap confidence
intervals:
    10000

Level of confidence for all confidence intervals in output:
    95.00

------ END MATRIX -----
```

*(ii) Competence Trust*

```
Run MATRIX procedure:

************* PROCESS Procedure for SPSS Release 2.16.3 *****************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2013). www.guilford.com/p/hayes3

**************************************************************************
Model = 8
    Y = PERF
    X = Cond
   M1 = OTrust
   M2 = BTrust
   M3 = ITrust
   M4 = CTrust
    W = PDivInq

Sample size
         68

**************************************************************************
Outcome: OTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .2721      .0740      .2013     1.7053     3.0000    64.0000      .1748

Model
              coeff         se          t          p       LLCI       ULCI
constant     7.4653      .8892     8.3954      .0000     5.6889     9.2417
Cond         -.9728      .5738    -1.6953      .0949    -2.1192      .1736
PDivInq      -.2610      .1879    -1.3889      .1697     -.6365      .1144
int_1         .2152      .1179     1.8246      .0727     -.0204      .4508

Product terms key:
```

```
 int_1    Cond        X     PDivInq

**************************************************************************
Outcome: BTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .3827      .1465      .2199     3.6609     3.0000    64.0000      .0168

Model
              coeff         se          t          p       LLCI       ULCI
constant     7.8225      .9294     8.4168      .0000     5.9658     9.6791
Cond        -1.3175      .5998    -2.1967      .0317    -2.5156     -.1193
PDivInq      -.4050      .1964    -2.0616      .0433     -.7974     -.0126
int_1         .3129      .1233     2.5384      .0136      .0666      .5591

Product terms key:

 int_1    Cond        X     PDivInq

**************************************************************************
Outcome: ITrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .3606      .1300      .2396     3.1885     3.0000    64.0000      .0295

Model
              coeff         se          t          p       LLCI       ULCI
constant     7.9676      .9703     8.2118      .0000     6.0293     9.9060
Cond        -1.3184      .6261    -2.1055      .0392    -2.5692     -.0675
PDivInq      -.4501      .2051    -2.1950      .0318     -.8598     -.0404
int_1         .3180      .1287     2.4711      .0161      .0609      .5751

Product terms key:

 int_1    Cond        X     PDivInq

**************************************************************************
Outcome: CTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .3152      .0994      .2622     2.3536     3.0000    64.0000      .0803

Model
              coeff         se          t          p       LLCI       ULCI
constant     7.4173     1.0149     7.3086      .0000     5.3898     9.4447
Cond        -1.1198      .6549    -1.7099      .0921    -2.4282      .1885
```

```
PDivInq      -.3107      .2145    -1.4483      .1524     -.7392      .1179
int_1         .2609      .1346     1.9387      .0570     -.0079      .5298

Product terms key:

 int_1    Cond        X     PDivInq

**************************************************************************
Outcome: PERF

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .6652      .4425     1.3057     6.8020     7.0000    60.0000      .0000

Model
              coeff         se          t          p       LLCI       ULCI
constant    -7.3157     3.3990    -2.1523      .0354   -14.1147     -.5166
OTrust        .5744      .6682      .8596      .3934     -.7622     1.9109
BTrust       1.9153      .6184     3.0973      .0030      .6783     3.1522
ITrust       -.6070      .5935    -1.0227      .3106    -1.7942      .5802
CTrust      -1.2662      .5066    -2.4996      .0152    -2.2795     -.2529
Cond         4.3538     1.5193     2.8657      .0057     1.3148     7.3928
PDivInq      1.0699      .4993     2.1431      .0362      .0713     2.0686
int_2        -.6313      .3169    -1.9921      .0509    -1.2653      .0026

Product terms key:

 int_2    Cond        X     PDivInq

******************** DIRECT AND INDIRECT EFFECTS ************************

Conditional direct effect(s) of X on Y at values of the moderator(s):
    PDivInq     Effect         SE          t          p       LLCI       ULCI
     3.6667     2.0389      .4420     4.6124      .0000     1.1546     2.9231
     4.0000     1.8284      .3705     4.9353      .0000     1.0873     2.5695
     4.6667     1.4075      .2965     4.7473      .0000      .8144     2.0006
     5.3333      .9866      .3575     2.7594      .0077      .2714     1.7018
     6.0000      .5657      .5070     1.1158      .2690     -.4484     1.5799

Conditional indirect effect(s) of X on Y at values of the moderator(s):

Mediator
          PDivInq     Effect    Boot SE   BootLLCI   BootULCI
OTrust     3.6667     -.1056      .2030     -.8923      .0792
OTrust     4.0000     -.0644      .1533     -.6916      .0688
OTrust     4.6667      .0180      .1000     -.1200      .3152
OTrust     5.3333      .1004      .1604     -.0598      .6479
OTrust     6.0000      .1828      .2658     -.1081     1.0134
```

```
Mediator
          PDivInq     Effect    Boot SE   BootLLCI   BootULCI
BTrust     3.6667     -.3261      .3658    -1.2735      .2322
BTrust     4.0000     -.1263      .2972     -.8540      .3619
BTrust     4.6667      .2732      .2477     -.1012      .8948
BTrust     5.3333      .6727      .3458      .1524     1.5919
BTrust     6.0000     1.0722      .5129      .2852     2.3922

Mediator
          PDivInq     Effect    Boot SE   BootLLCI   BootULCI
ITrust     3.6667      .0925      .1785     -.0971      .7434
ITrust     4.0000      .0282      .1331     -.1375      .4916
ITrust     4.6667     -.1005      .1359     -.5042      .0708
ITrust     5.3333     -.2292      .2406     -.8354      .1635
ITrust     6.0000     -.3579      .3688    -1.2313      .2744

Mediator
          PDivInq     Effect    Boot SE   BootLLCI   BootULCI
CTrust     3.6667      .2065      .2702     -.2330      .8788
CTrust     4.0000      .0963      .2258     -.3029      .6096
CTrust     4.6667     -.1240      .1895     -.6470      .1207
CTrust     5.3333     -.3442      .2437    -1.0952     -.0277
CTrust     6.0000     -.5645      .3485    -1.6121     -.0886

Values for quantitative moderators are 10th, 25th, 50th, 75th, and 90th
percentiles
Values for dichotomous moderators are the two values of the moderator.

-----
Indirect effect of highest order product:

Mediator
           Effect   SE(Boot)   BootLLCI   BootULCI
OTrust      .1236      .1813     -.0779      .6923
BTrust      .5992      .3096      .1110     1.3720
ITrust     -.1930      .2086     -.7220      .1287
CTrust     -.3304      .2083     -.9122     -.0238

****************** INDEX OF MODERATED MEDIATION ************************

Mediator
            Index   SE(Boot)   BootLLCI   BootULCI
OTrust      .1236      .1813     -.0779      .6923
BTrust      .5992      .3096      .1110     1.3720
ITrust     -.1930      .2086     -.7220      .1287
CTrust     -.3304      .2083     -.9122     -.0238

****************** ANALYSIS NOTES AND WARNINGS *************************
```

```
Number of bootstrap samples for bias corrected bootstrap confidence
intervals:
    10000

Level of confidence for all confidence intervals in output:
    95.00

------ END MATRIX -----
```

### *(d) Perceived Dependence Decision-Making Style Diversity*

#### *(i) Benevolence Trust*

```
Run MATRIX procedure:

************* PROCESS Procedure for SPSS Release 2.16.3 *****************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2013). www.guilford.com/p/hayes3

**************************************************************************
Model = 8
    Y = PERF
    X = Cond
   M1 = OTrust
   M2 = BTrust
   M3 = ITrust
   M4 = CTrust
    W = PDivDep

Sample size
         68

**************************************************************************
Outcome: OTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .2018      .0407      .2085      .9055     3.0000    64.0000      .4435

Model
              coeff         se          t          p       LLCI       ULCI
constant     7.3552      .9974     7.3740      .0000     5.3626     9.3479
Cond         -.8104      .6495    -1.2478      .2166    -2.1079      .4871
PDivDep      -.2560      .2233    -1.1464      .2559     -.7021      .1901
int_1         .1956      .1420     1.3776      .1731     -.0880      .4792
```

```
Product terms key:

 int_1    Cond        X     PDivDep

**************************************************************************
Outcome: BTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .3010      .0906      .2343     2.1255     3.0000    64.0000      .1057

Model
              coeff         se          t          p       LLCI       ULCI
constant     7.3960     1.0572     6.9956      .0000     5.2839     9.5081
Cond         -.9646      .6884    -1.4012      .1660    -2.3399      .4107
PDivDep      -.3363      .2367    -1.4211      .1601     -.8092      .1365
int_1         .2564      .1505     1.7037      .0933     -.0442      .5570

Product terms key:

 int_1    Cond        X     PDivDep

**************************************************************************
Outcome: ITrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .3488      .1217      .2419     2.9559     3.0000    64.0000      .0390

Model
              coeff         se          t          p       LLCI       ULCI
constant     8.1230     1.0744     7.5604      .0000     5.9766    10.2694
Cond        -1.4203      .6996    -2.0301      .0465    -2.8179     -.0226
PDivDep      -.5122      .2405    -2.1294      .0371     -.9927     -.0317
int_1         .3606      .1529     2.3581      .0214      .0551      .6661

Product terms key:

 int_1    Cond        X     PDivDep

**************************************************************************
Outcome: CTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .2132      .0454      .2779     1.0156     3.0000    64.0000      .3917

Model
              coeff         se          t          p       LLCI       ULCI
```

| | | | | | | |
|---|---|---|---|---|---|---|
| constant | 6.6291 | 1.1515 | 5.7572 | .0000 | 4.3288 | 8.9294 |
| Cond | -.5214 | .7498 | -.6954 | .4893 | -2.0192 | .9765 |
| PDivDep | -.1555 | .2578 | -.6031 | .5486 | -.6704 | .3595 |
| int_1 | .1470 | .1639 | .8968 | .3732 | -.1804 | .4744 |

Product terms key:

| | | | |
|---|---|---|---|
| int_1 | Cond | X | PDivDep |

**********

Outcome: PERF

Model Summary

| R | R-sq | MSE | F | df1 | df2 | p |
|---|---|---|---|---|---|---|
| .6391 | .4084 | 1.3854 | 5.9179 | 7.0000 | 60.0000 | .0000 |

Model

| | coeff | se | t | p | LLCI | ULCI |
|---|---|---|---|---|---|---|
| constant | -3.8467 | 3.6321 | -1.0591 | .2938 | -11.1120 | 3.4187 |
| OTrust | .7017 | .6857 | 1.0233 | .3103 | -.6700 | 2.0734 |
| BTrust | 1.8079 | .6310 | 2.8652 | .0057 | .5457 | 3.0701 |
| ITrust | -.6751 | .6194 | -1.0900 | .2801 | -1.9141 | .5638 |
| CTrust | -1.3338 | .5242 | -2.5444 | .0135 | -2.3824 | -.2852 |
| Cond | 2.4750 | 1.7443 | 1.4189 | .1611 | -1.0142 | 5.9641 |
| PDivDep | .4927 | .6042 | .8155 | .4180 | -.7159 | 1.7013 |
| int_2 | -.2425 | .3856 | -.6289 | .5318 | -1.0137 | .5288 |

Product terms key:

| | | | |
|---|---|---|---|
| int_2 | Cond | X | PDivDep |

********** DIRECT AND INDIRECT EFFECTS **********

Conditional direct effect(s) of X on Y at values of the moderator(s):

| PDivDep | Effect | SE | t | p | LLCI | ULCI |
|---|---|---|---|---|---|---|
| 3.3333 | 1.6667 | .5285 | 3.1539 | .0025 | .6096 | 2.7238 |
| 4.0000 | 1.5051 | .3508 | 4.2906 | .0001 | .8034 | 2.2067 |
| 4.5000 | 1.3838 | .3043 | 4.5475 | .0000 | .7751 | 1.9925 |
| 5.0000 | 1.2626 | .3694 | 3.4176 | .0011 | .5236 | 2.0016 |
| 5.5000 | 1.1413 | .5047 | 2.2615 | .0274 | .1318 | 2.1508 |

Conditional indirect effect(s) of X on Y at values of the moderator(s):

Mediator

| | PDivDep | Effect | Boot SE | BootLLCI | BootULCI |
|---|---|---|---|---|---|
| OTrust | 3.3333 | -.1112 | .2051 | -.9348 | .0779 |
| OTrust | 4.0000 | -.0198 | .1234 | -.4715 | .1344 |
| OTrust | 4.5000 | .0489 | .1221 | -.0739 | .5085 |
| OTrust | 5.0000 | .1175 | .1776 | -.0510 | .7826 |

```
OTrust     5.5000      .1861      .2552     -.0695     1.0862

Mediator
          PDivDep     Effect    Boot SE   BootLLCI   BootULCI
BTrust     3.3333     -.1990      .3493    -1.0496      .3798
BTrust     4.0000      .1100      .2458     -.3110      .6918
BTrust     4.5000      .3417      .2498     -.0151     1.0396
BTrust     5.0000      .5735      .3253      .0995     1.4953
BTrust     5.5000      .8052      .4365      .1559     2.0118

Mediator
          PDivDep     Effect    Boot SE   BootLLCI   BootULCI
ITrust     3.3333      .1474      .2086     -.0743      .8864
ITrust     4.0000     -.0150      .1131     -.3246      .1737
ITrust     4.5000     -.1367      .1534     -.6275      .0512
ITrust     5.0000     -.2584      .2514    -1.0029      .0918
ITrust     5.5000     -.3801      .3631    -1.3832      .1495

Mediator
          PDivDep     Effect    Boot SE   BootLLCI   BootULCI
CTrust     3.3333      .0420      .2734     -.4725      .6451
CTrust     4.0000     -.0887      .2011     -.5975      .2244
CTrust     4.5000     -.1867      .2105     -.7678      .0877
CTrust     5.0000     -.2847      .2713    -1.1033      .0504
CTrust     5.5000     -.3828      .3581    -1.4964      .0577

Values for quantitative moderators are 10th, 25th, 50th, 75th, and 90th
percentiles
Values for dichotomous moderators are the two values of the moderator.

-----
Indirect effect of highest order product:

Mediator
           Effect   SE(Boot)   BootLLCI   BootULCI
OTrust      .1372      .1842     -.0532      .7761
BTrust      .4635      .2876      .0356     1.2403
ITrust     -.2435      .2406     -.9224      .0935
CTrust     -.1960      .2253     -.8545      .1139

******************** INDEX OF MODERATED MEDIATION ************************

Mediator
            Index   SE(Boot)   BootLLCI   BootULCI
OTrust      .1372      .1842     -.0532      .7761
BTrust      .4635      .2876      .0356     1.2403
ITrust     -.2435      .2406     -.9224      .0935
CTrust     -.1960      .2253     -.8545      .1139
```

```
******************** ANALYSIS NOTES AND WARNINGS ************************

Number of bootstrap samples for bias corrected bootstrap confidence
intervals:
    10000

Level of confidence for all confidence intervals in output:
    95.00

------ END MATRIX -----
```

### *(2) Perceived Performance*

#### *(a) Perceived Conversational Dominance Diversity*

##### *(i) Benevolence Trust*

```
Run MATRIX procedure:

************* PROCESS Procedure for SPSS Release 2.16.3 *****************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2013). www.guilford.com/p/hayes3

**************************************************************************
Model = 8
    Y = PSat
    X = Cond
   M1 = OTrust
   M2 = BTrust
   M3 = ITrust
   M4 = CTrust
    W = PDivDom

Sample size
         68

**************************************************************************
Outcome: OTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .1837      .0337      .2100      .7451     3.0000    64.0000      .5292

Model
              coeff         se          t          p       LLCI       ULCI
constant     7.1452      .9029     7.9138      .0000     5.3415     8.9489
```

```
Cond         -.5574      .5325    -1.0469      .2991    -1.6212      .5063
PDivDom      -.2193      .2083    -1.0527      .2965     -.6355      .1969
int_1         .1473      .1208     1.2189      .2274     -.0941      .3887

Product terms key:

 int_1    Cond        X     PDivDom

**************************************************************************
Outcome: BTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .3540      .1253      .2253     3.0566     3.0000    64.0000      .0346

Model
              coeff         se          t          p       LLCI       ULCI
constant     8.0584      .9352     8.6171      .0000     6.1902     9.9266
Cond        -1.1061      .5515    -2.0056      .0491    -2.2079     -.0043
PDivDom      -.5103      .2158    -2.3649      .0211     -.9414     -.0792
int_1         .3050      .1252     2.4372      .0176      .0550      .5550

Product terms key:

 int_1    Cond        X     PDivDom

**************************************************************************
Outcome: ITrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .3758      .1412      .2366     3.5078     3.0000    64.0000      .0202

Model
              coeff         se          t          p       LLCI       ULCI
constant     8.3482      .9582     8.7123      .0000     6.4339    10.2625
Cond        -1.2544      .5651    -2.2198      .0300    -2.3833     -.1255
PDivDom      -.5899      .2211    -2.6678      .0097    -1.0316     -.1482
int_1         .3420      .1282     2.6673      .0097      .0859      .5982

Product terms key:

 int_1    Cond        X     PDivDom

**************************************************************************
Outcome: CTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
```

```
      .2843      .0808      .2676     1.8756     3.0000    64.0000      .1426

Model
              coeff         se          t          p       LLCI       ULCI
constant     7.1789     1.0191     7.0444      .0000     5.1431     9.2148
Cond         -.8067      .6010    -1.3422      .1843    -2.0073      .3940
PDivDom      -.2922      .2352    -1.2427      .2185     -.7620      .1776
int_1         .2209      .1364     1.6194      .1103     -.0516      .4933

Product terms key:

 int_1    Cond        X     PDivDom

**************************************************************************
Outcome: PSat

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .8546      .7303      .0614    23.2075     7.0000    60.0000      .0000

Model
              coeff         se          t          p       LLCI       ULCI
constant     2.7711      .7372     3.7589      .0004     1.2965     4.2457
OTrust        .4217      .1477     2.8551      .0059      .1263      .7171
BTrust       -.2822      .1336    -2.1120      .0389     -.5495     -.0149
ITrust        .0773      .1310      .5898      .5575     -.1847      .3392
CTrust        .5269      .1121     4.7021      .0000      .3028      .7511
Cond         -.6541      .3041    -2.1511      .0355    -1.2624     -.0459
PDivDom      -.1918      .1227    -1.5628      .1234     -.4372      .0537
int_2         .1125      .0708     1.5896      .1172     -.0291      .2541

Product terms key:

 int_2    Cond        X     PDivDom

******************** DIRECT AND INDIRECT EFFECTS *************************

Conditional direct effect(s) of X on Y at values of the moderator(s):
    PDivDom     Effect         SE          t          p       LLCI       ULCI
     3.0000     -.3166      .1060    -2.9857      .0041     -.5287     -.1045
     3.6667     -.2416      .0738    -3.2760      .0018     -.3892     -.0941
     4.3333     -.1666      .0639    -2.6066      .0115     -.2945     -.0388
     5.0000     -.0916      .0848    -1.0810      .2840     -.2612      .0779
     5.6667     -.0166      .1214     -.1370      .8915     -.2594      .2262

Conditional indirect effect(s) of X on Y at values of the moderator(s):

Mediator
          PDivDom     Effect    Boot SE   BootLLCI   BootULCI
```

```
OTrust     3.0000     -.0488      .1044     -.2978      .1324
OTrust     3.6667     -.0073      .0682     -.1476      .1340
OTrust     4.3333      .0341      .0532     -.0459      .1771
OTrust     5.0000      .0755      .0737     -.0258      .2788
OTrust     5.6667      .1169      .1116     -.0365      .4203

Mediator
          PDivDom     Effect    Boot SE   BootLLCI   BootULCI
BTrust     3.0000      .0539      .0647     -.0495      .2212
BTrust     3.6667     -.0035      .0444     -.1057      .0796
BTrust     4.3333     -.0609      .0436     -.1783      .0007
BTrust     5.0000     -.1182      .0630     -.2824     -.0222
BTrust     5.6667     -.1756      .0905     -.4043     -.0337

Mediator
          PDivDom     Effect    Boot SE   BootLLCI   BootULCI
ITrust     3.0000     -.0176      .0501     -.2027      .0327
ITrust     3.6667      .0000      .0257     -.0532      .0524
ITrust     4.3333      .0176      .0322     -.0338      .1013
ITrust     5.0000      .0352      .0603     -.0826      .1648
ITrust     5.6667      .0528      .0920     -.1293      .2525

Mediator
          PDivDom     Effect    Boot SE   BootLLCI   BootULCI
CTrust     3.0000     -.0759      .1355     -.3787      .1642
CTrust     3.6667      .0017      .0916     -.1910      .1727
CTrust     4.3333      .0792      .0665     -.0380      .2275
CTrust     5.0000      .1568      .0803      .0360      .3859
CTrust     5.6667      .2344      .1203      .0548      .5611

Values for quantitative moderators are 10th, 25th, 50th, 75th, and 90th
percentiles
Values for dichotomous moderators are the two values of the moderator.

-----
Indirect effect of highest order product:

Mediator
           Effect   SE(Boot)   BootLLCI   BootULCI
OTrust      .0621      .0705     -.0438      .2497
BTrust     -.0861      .0491     -.2108     -.0097
ITrust      .0264      .0500     -.0565      .1564
CTrust      .1164      .0821     -.0164      .3121

********************* INDEX OF MODERATED MEDIATION ************************

Mediator
            Index   SE(Boot)   BootLLCI   BootULCI
OTrust      .0621      .0705     -.0438      .2497
```

```
BTrust     -.0861      .0491     -.2108     -.0097
ITrust      .0264      .0500     -.0565      .1564
CTrust      .1164      .0821     -.0164      .3121

****************** ANALYSIS NOTES AND WARNINGS ************************

Number of bootstrap samples for bias corrected bootstrap confidence
intervals:
    10000

Level of confidence for all confidence intervals in output:
    95.00

------ END MATRIX -----
```

### *(b) Perceived Argumentativeness Diversity*

#### *(i) Benevolence Trust*

```
Run MATRIX procedure:

************* PROCESS Procedure for SPSS Release 2.16.3 *****************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2013). www.guilford.com/p/hayes3

**************************************************************************
Model = 8
    Y = PSat
    X = Cond
   M1 = OTrust
   M2 = BTrust
   M3 = ITrust
   M4 = CTrust
    W = PDivArg

Sample size
         68

**************************************************************************
Outcome: OTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .2638      .0696      .2022     1.5953     3.0000    64.0000      .1992

Model
```

```
              coeff         se          t          p       LLCI       ULCI
constant     7.7712      .9048     8.5885      .0000     5.9635     9.5788
Cond         -.9953      .5506    -1.8075      .0754    -2.0953      .1048
PDivArg      -.3414      .1938    -1.7618      .0829     -.7285      .0457
int_1         .2337      .1172     1.9944      .0504     -.0004      .4679

Product terms key:

 int_1    Cond        X     PDivArg

**************************************************************************
Outcome: BTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .3865      .1494      .2191     3.7472     3.0000    64.0000      .0152

Model
              coeff         se          t          p       LLCI       ULCI
constant     8.1374      .9418     8.6402      .0000     6.2559    10.0189
Cond        -1.3386      .5731    -2.3356      .0227    -2.4836     -.1936
PDivArg      -.4909      .2017    -2.4337      .0177     -.8938     -.0879
int_1         .3349      .1220     2.7454      .0078      .0912      .5786

Product terms key:

 int_1    Cond        X     PDivArg

**************************************************************************
Outcome: ITrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .4044      .1636      .2304     4.1717     3.0000    64.0000      .0092

Model
              coeff         se          t          p       LLCI       ULCI
constant     8.6037      .9658     8.9086      .0000     6.6743    10.5331
Cond        -1.5289      .5877    -2.6014      .0115    -2.7031     -.3548
PDivArg      -.6031      .2068    -2.9157      .0049    -1.0163     -.1899
int_1         .3784      .1251     3.0251      .0036      .1285      .6283

Product terms key:

 int_1    Cond        X     PDivArg

**************************************************************************
Outcome: CTrust
```

```
Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .3589      .1288      .2536     3.1533     3.0000    64.0000      .0308

Model
              coeff         se          t          p       LLCI       ULCI
constant     7.9828     1.0133     7.8784      .0000     5.9586    10.0070
Cond        -1.3700      .6166    -2.2218      .0298    -2.6019     -.1381
PDivArg      -.4502      .2170    -2.0748      .0420     -.8838     -.0167
int_1         .3317      .1312     2.5277      .0140      .0695      .5939

Product terms key:

 int_1    Cond        X     PDivArg

**************************************************************************
Outcome: PSat

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .8482      .7195      .0639    21.9809     7.0000    60.0000      .0000

Model
              coeff         se          t          p       LLCI       ULCI
constant     2.0485      .7827     2.6172      .0112      .4828     3.6142
OTrust        .3798      .1491     2.5475      .0134      .0816      .6780
BTrust       -.2611      .1360    -1.9194      .0597     -.5333      .0110
ITrust        .1152      .1333      .8641      .3910     -.1514      .3818
CTrust        .5273      .1139     4.6277      .0000      .2994      .7552
Cond         -.2960      .3284     -.9014      .3710     -.9530      .3609
PDivArg      -.0398      .1171     -.3398      .7352     -.2740      .1944
int_2         .0252      .0715      .3531      .7253     -.1177      .1682

Product terms key:

 int_2    Cond        X     PDivArg

******************** DIRECT AND INDIRECT EFFECTS *************************

Conditional direct effect(s) of X on Y at values of the moderator(s):
    PDivArg     Effect         SE          t          p       LLCI       ULCI
     3.0000     -.2204      .1253    -1.7587      .0837     -.4710      .0303
     4.0000     -.1951      .0735    -2.6551      .0101     -.3421     -.0481
     4.6667     -.1783      .0649    -2.7482      .0079     -.3081     -.0485
     5.3333     -.1615      .0869    -1.8577      .0681     -.3354      .0124
     5.6667     -.1531      .1046    -1.4641      .1484     -.3622      .0561

Conditional indirect effect(s) of X on Y at values of the moderator(s):
```

```
Mediator
          PDivArg     Effect    Boot SE   BootLLCI   BootULCI
OTrust     3.0000     -.1117      .1278     -.4409      .0714
OTrust     4.0000     -.0229      .0672     -.1855      .0895
OTrust     4.6667      .0363      .0496     -.0356      .1656
OTrust     5.3333      .0954      .0713      .0011      .2856
OTrust     5.6667      .1250      .0902      .0044      .3637

Mediator
          PDivArg     Effect    Boot SE   BootLLCI   BootULCI
BTrust     3.0000      .0872      .0931     -.0375      .3259
BTrust     4.0000     -.0003      .0463     -.0994      .0903
BTrust     4.6667     -.0586      .0430     -.1788     -.0009
BTrust     5.3333     -.1169      .0692     -.2871     -.0132
BTrust     5.6667     -.1460      .0864     -.3531     -.0151

Mediator
          PDivArg     Effect    Boot SE   BootLLCI   BootULCI
ITrust     3.0000     -.0453      .0785     -.2803      .0449
ITrust     4.0000     -.0018      .0297     -.0812      .0433
ITrust     4.6667      .0273      .0338     -.0228      .1180
ITrust     5.3333      .0564      .0667     -.0719      .2022
ITrust     5.6667      .0709      .0850     -.0932      .2540

Mediator
          PDivArg     Effect    Boot SE   BootLLCI   BootULCI
CTrust     3.0000     -.1976      .1614     -.5625      .0780
CTrust     4.0000     -.0227      .0906     -.2165      .1478
CTrust     4.6667      .0939      .0635     -.0099      .2463
CTrust     5.3333      .2105      .0777      .0905      .4159
CTrust     5.6667      .2688      .0967      .1173      .5166

Values for quantitative moderators are 10th, 25th, 50th, 75th, and 90th
percentiles
Values for dichotomous moderators are the two values of the moderator.

-----
Indirect effect of highest order product:

Mediator
           Effect   SE(Boot)   BootLLCI   BootULCI
OTrust      .0888      .0724     -.0061      .2727
BTrust     -.0875      .0603     -.2380     -.0032
ITrust      .0436      .0584     -.0517      .1838
CTrust      .1749      .0833      .0392      .3703

******************** INDEX OF MODERATED MEDIATION ************************

Mediator
```

```
            Index    SE(Boot)    BootLLCI    BootULCI
OTrust      .0888       .0724      -.0061       .2727
BTrust     -.0875       .0603      -.2380      -.0032
ITrust      .0436       .0584      -.0517       .1838
CTrust      .1749       .0833       .0392       .3703

******************** ANALYSIS NOTES AND WARNINGS ************************

Number of bootstrap samples for bias corrected bootstrap confidence
intervals:
    10000

Level of confidence for all confidence intervals in output:
    95.00

------ END MATRIX -----
```

*(ii) Competence Trust*

```
Run MATRIX procedure:

************* PROCESS Procedure for SPSS Release 2.16.3 *****************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2013). www.guilford.com/p/hayes3

**************************************************************************
Model = 8
    Y = PSat
    X = Cond
   M1 = OTrust
   M2 = BTrust
   M3 = ITrust
   M4 = CTrust
    W = PDivArg

Sample size
         68

**************************************************************************
Outcome: OTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .2638      .0696      .2022     1.5953     3.0000    64.0000      .1992

Model
```

```
              coeff         se          t          p       LLCI       ULCI
constant     7.7712      .9048     8.5885      .0000     5.9635     9.5788
Cond         -.9953      .5506    -1.8075      .0754    -2.0953      .1048
PDivArg      -.3414      .1938    -1.7618      .0829     -.7285      .0457
int_1         .2337      .1172     1.9944      .0504     -.0004      .4679

Product terms key:

 int_1    Cond        X     PDivArg

**************************************************************************
Outcome: BTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .3865      .1494      .2191     3.7472     3.0000    64.0000      .0152

Model
              coeff         se          t          p       LLCI       ULCI
constant     8.1374      .9418     8.6402      .0000     6.2559    10.0189
Cond        -1.3386      .5731    -2.3356      .0227    -2.4836     -.1936
PDivArg      -.4909      .2017    -2.4337      .0177     -.8938     -.0879
int_1         .3349      .1220     2.7454      .0078      .0912      .5786

Product terms key:

 int_1    Cond        X     PDivArg

**************************************************************************
Outcome: ITrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .4044      .1636      .2304     4.1717     3.0000    64.0000      .0092

Model
              coeff         se          t          p       LLCI       ULCI
constant     8.6037      .9658     8.9086      .0000     6.6743    10.5331
Cond        -1.5289      .5877    -2.6014      .0115    -2.7031     -.3548
PDivArg      -.6031      .2068    -2.9157      .0049    -1.0163     -.1899
int_1         .3784      .1251     3.0251      .0036      .1285      .6283

Product terms key:

 int_1    Cond        X     PDivArg

**************************************************************************
Outcome: CTrust
```

```
Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .3589      .1288      .2536     3.1533     3.0000    64.0000      .0308

Model
              coeff         se          t          p       LLCI       ULCI
constant     7.9828     1.0133     7.8784      .0000     5.9586    10.0070
Cond        -1.3700      .6166    -2.2218      .0298    -2.6019     -.1381
PDivArg      -.4502      .2170    -2.0748      .0420     -.8838     -.0167
int_1         .3317      .1312     2.5277      .0140      .0695      .5939

Product terms key:

 int_1    Cond        X     PDivArg

**************************************************************************
Outcome: PSat

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .8482      .7195      .0639    21.9809     7.0000    60.0000      .0000

Model
              coeff         se          t          p       LLCI       ULCI
constant     2.0485      .7827     2.6172      .0112      .4828     3.6142
OTrust        .3798      .1491     2.5475      .0134      .0816      .6780
BTrust       -.2611      .1360    -1.9194      .0597     -.5333      .0110
ITrust        .1152      .1333      .8641      .3910     -.1514      .3818
CTrust        .5273      .1139     4.6277      .0000      .2994      .7552
Cond         -.2960      .3284     -.9014      .3710     -.9530      .3609
PDivArg      -.0398      .1171     -.3398      .7352     -.2740      .1944
int_2         .0252      .0715      .3531      .7253     -.1177      .1682

Product terms key:

 int_2    Cond        X     PDivArg

******************** DIRECT AND INDIRECT EFFECTS *************************

Conditional direct effect(s) of X on Y at values of the moderator(s):
    PDivArg     Effect         SE          t          p       LLCI       ULCI
     3.0000     -.2204      .1253    -1.7587      .0837     -.4710      .0303
     4.0000     -.1951      .0735    -2.6551      .0101     -.3421     -.0481
     4.6667     -.1783      .0649    -2.7482      .0079     -.3081     -.0485
     5.3333     -.1615      .0869    -1.8577      .0681     -.3354      .0124
     5.6667     -.1531      .1046    -1.4641      .1484     -.3622      .0561

Conditional indirect effect(s) of X on Y at values of the moderator(s):
```

```
Mediator
          PDivArg     Effect    Boot SE   BootLLCI   BootULCI
OTrust     3.0000     -.1117      .1278     -.4409      .0714
OTrust     4.0000     -.0229      .0672     -.1855      .0895
OTrust     4.6667      .0363      .0496     -.0356      .1656
OTrust     5.3333      .0954      .0713      .0011      .2856
OTrust     5.6667      .1250      .0902      .0044      .3637

Mediator
          PDivArg     Effect    Boot SE   BootLLCI   BootULCI
BTrust     3.0000      .0872      .0931     -.0375      .3259
BTrust     4.0000     -.0003      .0463     -.0994      .0903
BTrust     4.6667     -.0586      .0430     -.1788     -.0009
BTrust     5.3333     -.1169      .0692     -.2871     -.0132
BTrust     5.6667     -.1460      .0864     -.3531     -.0151

Mediator
          PDivArg     Effect    Boot SE   BootLLCI   BootULCI
ITrust     3.0000     -.0453      .0785     -.2803      .0449
ITrust     4.0000     -.0018      .0297     -.0812      .0433
ITrust     4.6667      .0273      .0338     -.0228      .1180
ITrust     5.3333      .0564      .0667     -.0719      .2022
ITrust     5.6667      .0709      .0850     -.0932      .2540

Mediator
          PDivArg     Effect    Boot SE   BootLLCI   BootULCI
CTrust     3.0000     -.1976      .1614     -.5625      .0780
CTrust     4.0000     -.0227      .0906     -.2165      .1478
CTrust     4.6667      .0939      .0635     -.0099      .2463
CTrust     5.3333      .2105      .0777      .0905      .4159
CTrust     5.6667      .2688      .0967      .1173      .5166

Values for quantitative moderators are 10th, 25th, 50th, 75th, and 90th
percentiles
Values for dichotomous moderators are the two values of the moderator.

-----
Indirect effect of highest order product:

Mediator
           Effect   SE(Boot)   BootLLCI   BootULCI
OTrust      .0888      .0724     -.0061      .2727
BTrust     -.0875      .0603     -.2380     -.0032
ITrust      .0436      .0584     -.0517      .1838
CTrust      .1749      .0833      .0392      .3703

******************** INDEX OF MODERATED MEDIATION ************************

Mediator
```

```
            Index   SE(Boot)   BootLLCI   BootULCI
OTrust      .0888      .0724     -.0061      .2727
BTrust     -.0875      .0603     -.2380     -.0032
ITrust      .0436      .0584     -.0517      .1838
CTrust      .1749      .0833      .0392      .3703

******************** ANALYSIS NOTES AND WARNINGS ************************

Number of bootstrap samples for bias corrected bootstrap confidence
intervals:
    10000

Level of confidence for all confidence intervals in output:
    95.00

------ END MATRIX -----
```

### *(c) Perceived Inquisitiveness Diversity*

#### *(i) Benevolence Trust*

```
Run MATRIX procedure:

************* PROCESS Procedure for SPSS Release 2.16.3 *****************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2013). www.guilford.com/p/hayes3

**************************************************************************
Model = 8
    Y = PSat
    X = Cond
   M1 = OTrust
   M2 = BTrust
   M3 = ITrust
   M4 = CTrust
    W = PDivInq

Sample size
         68

**************************************************************************
Outcome: OTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .2721      .0740      .2013     1.7053     3.0000    64.0000      .1748
```

```
Model
              coeff         se          t          p       LLCI       ULCI
constant     7.4653      .8892     8.3954      .0000     5.6889     9.2417
Cond         -.9728      .5738    -1.6953      .0949    -2.1192      .1736
PDivInq      -.2610      .1879    -1.3889      .1697     -.6365      .1144
int_1         .2152      .1179     1.8246      .0727     -.0204      .4508

Product terms key:

 int_1    Cond        X     PDivInq

**************************************************************************
Outcome: BTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .3827      .1465      .2199     3.6609     3.0000    64.0000      .0168

Model
              coeff         se          t          p       LLCI       ULCI
constant     7.8225      .9294     8.4168      .0000     5.9658     9.6791
Cond        -1.3175      .5998    -2.1967      .0317    -2.5156     -.1193
PDivInq      -.4050      .1964    -2.0616      .0433     -.7974     -.0126
int_1         .3129      .1233     2.5384      .0136      .0666      .5591

Product terms key:

 int_1    Cond        X     PDivInq

**************************************************************************
Outcome: ITrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .3606      .1300      .2396     3.1885     3.0000    64.0000      .0295

Model
              coeff         se          t          p       LLCI       ULCI
constant     7.9676      .9703     8.2118      .0000     6.0293     9.9060
Cond        -1.3184      .6261    -2.1055      .0392    -2.5692     -.0675
PDivInq      -.4501      .2051    -2.1950      .0318     -.8598     -.0404
int_1         .3180      .1287     2.4711      .0161      .0609      .5751

Product terms key:

 int_1    Cond        X     PDivInq

**************************************************************************
Outcome: CTrust
```

```
Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .3152      .0994      .2622     2.3536     3.0000    64.0000      .0803

Model
              coeff         se          t          p       LLCI       ULCI
constant     7.4173     1.0149     7.3086      .0000     5.3898     9.4447
Cond        -1.1198      .6549    -1.7099      .0921    -2.4282      .1885
PDivInq      -.3107      .2145    -1.4483      .1524     -.7392      .1179
int_1         .2609      .1346     1.9387      .0570     -.0079      .5298

Product terms key:

 int_1    Cond        X     PDivInq

**************************************************************************
Outcome: PSat

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .8514      .7249      .0626    22.5820     7.0000    60.0000      .0000

Model
              coeff         se          t          p       LLCI       ULCI
constant     2.4815      .7444     3.3335      .0015      .9925     3.9705
OTrust        .3865      .1463     2.6413      .0105      .0938      .6792
BTrust       -.2675      .1354    -1.9751      .0529     -.5384      .0034
ITrust        .1025      .1300      .7883      .4336     -.1575      .3625
CTrust        .5319      .1109     4.7942      .0000      .3100      .7538
Cond         -.5122      .3327    -1.5394      .1290    -1.1778      .1534
PDivInq      -.1240      .1093    -1.1336      .2615     -.3427      .0948
int_2         .0717      .0694     1.0328      .3058     -.0672      .2105

Product terms key:

 int_2    Cond        X     PDivInq

******************** DIRECT AND INDIRECT EFFECTS ************************

Conditional direct effect(s) of X on Y at values of the moderator(s):
    PDivInq     Effect         SE          t          p       LLCI       ULCI
     3.6667     -.2494      .0968    -2.5758      .0125     -.4430     -.0557
     4.0000     -.2255      .0811    -2.7789      .0073     -.3878     -.0632
     4.6667     -.1777      .0649    -2.7364      .0082     -.3076     -.0478
     5.3333     -.1299      .0783    -1.6588      .1024     -.2865      .0267
     6.0000     -.0821      .1110     -.7394      .4625     -.3042      .1400

Conditional indirect effect(s) of X on Y at values of the moderator(s):
```

```
Mediator
          PDivInq     Effect    Boot SE   BootLLCI   BootULCI
OTrust     3.6667     -.0711      .0801     -.3144      .0352
OTrust     4.0000     -.0433      .0649     -.2379      .0468
OTrust     4.6667      .0121      .0470     -.0802      .1138
OTrust     5.3333      .0676      .0585     -.0131      .2229
OTrust     6.0000      .1230      .0887      .0008      .3617

Mediator
          PDivInq     Effect    Boot SE   BootLLCI   BootULCI
BTrust     3.6667      .0455      .0610     -.0382      .2257
BTrust     4.0000      .0176      .0486     -.0569      .1536
BTrust     4.6667     -.0382      .0388     -.1406      .0172
BTrust     5.3333     -.0939      .0559     -.2409     -.0149
BTrust     6.0000     -.1497      .0850     -.3714     -.0259

Mediator
          PDivInq     Effect    Boot SE   BootLLCI   BootULCI
ITrust     3.6667     -.0156      .0374     -.1611      .0208
ITrust     4.0000     -.0048      .0276     -.0982      .0287
ITrust     4.6667      .0170      .0273     -.0168      .1062
ITrust     5.3333      .0387      .0491     -.0424      .1622
ITrust     6.0000      .0604      .0759     -.0663      .2538

Mediator
          PDivInq     Effect    Boot SE   BootLLCI   BootULCI
CTrust     3.6667     -.0867      .1241     -.4019      .1107
CTrust     4.0000     -.0405      .1013     -.2951      .1230
CTrust     4.6667      .0521      .0690     -.0871      .1899
CTrust     5.3333      .1446      .0749      .0339      .3493
CTrust     6.0000      .2371      .1131      .0668      .5467

Values for quantitative moderators are 10th, 25th, 50th, 75th, and 90th
percentiles
Values for dichotomous moderators are the two values of the moderator.

-----
Indirect effect of highest order product:

Mediator
           Effect   SE(Boot)   BootLLCI   BootULCI
OTrust      .0832      .0602      .0005      .2488
BTrust     -.0837      .0528     -.2246     -.0088
ITrust      .0326      .0435     -.0309      .1547
CTrust      .1388      .0845      .0053      .3470

******************** INDEX OF MODERATED MEDIATION ************************
```

```
Mediator
            Index   SE(Boot)   BootLLCI   BootULCI
OTrust      .0832      .0602      .0005      .2488
BTrust     -.0837      .0528     -.2246     -.0088
ITrust      .0326      .0435     -.0309      .1547
CTrust      .1388      .0845      .0053      .3470

******************** ANALYSIS NOTES AND WARNINGS *************************

Number of bootstrap samples for bias corrected bootstrap confidence
intervals:
    10000

Level of confidence for all confidence intervals in output:
    95.00

------ END MATRIX -----
```

*(ii) Competence Trust*

```
Run MATRIX procedure:

************* PROCESS Procedure for SPSS Release 2.16.3 ******************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2013). www.guilford.com/p/hayes3

**************************************************************************
Model = 8
    Y = PSat
    X = Cond
   M1 = OTrust
   M2 = BTrust
   M3 = ITrust
   M4 = CTrust
    W = PDivInq

Sample size
         68

**************************************************************************
Outcome: OTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .2721      .0740      .2013     1.7053     3.0000    64.0000      .1748
```

```
Model
              coeff         se          t          p       LLCI       ULCI
constant     7.4653      .8892     8.3954      .0000     5.6889     9.2417
Cond         -.9728      .5738    -1.6953      .0949    -2.1192      .1736
PDivInq      -.2610      .1879    -1.3889      .1697     -.6365      .1144
int_1         .2152      .1179     1.8246      .0727     -.0204      .4508

Product terms key:

 int_1    Cond        X     PDivInq

**************************************************************************
Outcome: BTrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .3827      .1465      .2199     3.6609     3.0000    64.0000      .0168

Model
              coeff         se          t          p       LLCI       ULCI
constant     7.8225      .9294     8.4168      .0000     5.9658     9.6791
Cond        -1.3175      .5998    -2.1967      .0317    -2.5156     -.1193
PDivInq      -.4050      .1964    -2.0616      .0433     -.7974     -.0126
int_1         .3129      .1233     2.5384      .0136      .0666      .5591

Product terms key:

 int_1    Cond        X     PDivInq

**************************************************************************
Outcome: ITrust

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .3606      .1300      .2396     3.1885     3.0000    64.0000      .0295

Model
              coeff         se          t          p       LLCI       ULCI
constant     7.9676      .9703     8.2118      .0000     6.0293     9.9060
Cond        -1.3184      .6261    -2.1055      .0392    -2.5692     -.0675
PDivInq      -.4501      .2051    -2.1950      .0318     -.8598     -.0404
int_1         .3180      .1287     2.4711      .0161      .0609      .5751

Product terms key:

 int_1    Cond        X     PDivInq

**************************************************************************
Outcome: CTrust
```

```
Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .3152      .0994      .2622     2.3536     3.0000    64.0000      .0803

Model
              coeff         se          t          p       LLCI       ULCI
constant     7.4173     1.0149     7.3086      .0000     5.3898     9.4447
Cond        -1.1198      .6549    -1.7099      .0921    -2.4282      .1885
PDivInq      -.3107      .2145    -1.4483      .1524     -.7392      .1179
int_1         .2609      .1346     1.9387      .0570     -.0079      .5298

Product terms key:

 int_1    Cond        X     PDivInq

**************************************************************************
Outcome: PSat

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .8514      .7249      .0626    22.5820     7.0000    60.0000      .0000

Model
              coeff         se          t          p       LLCI       ULCI
constant     2.4815      .7444     3.3335      .0015      .9925     3.9705
OTrust        .3865      .1463     2.6413      .0105      .0938      .6792
BTrust       -.2675      .1354    -1.9751      .0529     -.5384      .0034
ITrust        .1025      .1300      .7883      .4336     -.1575      .3625
CTrust        .5319      .1109     4.7942      .0000      .3100      .7538
Cond         -.5122      .3327    -1.5394      .1290    -1.1778      .1534
PDivInq      -.1240      .1093    -1.1336      .2615     -.3427      .0948
int_2         .0717      .0694     1.0328      .3058     -.0672      .2105

Product terms key:

 int_2    Cond        X     PDivInq

******************** DIRECT AND INDIRECT EFFECTS ************************

Conditional direct effect(s) of X on Y at values of the moderator(s):
    PDivInq     Effect         SE          t          p       LLCI       ULCI
     3.6667     -.2494      .0968    -2.5758      .0125     -.4430     -.0557
     4.0000     -.2255      .0811    -2.7789      .0073     -.3878     -.0632
     4.6667     -.1777      .0649    -2.7364      .0082     -.3076     -.0478
     5.3333     -.1299      .0783    -1.6588      .1024     -.2865      .0267
     6.0000     -.0821      .1110     -.7394      .4625     -.3042      .1400

Conditional indirect effect(s) of X on Y at values of the moderator(s):
```

```
Mediator
          PDivInq     Effect    Boot SE   BootLLCI   BootULCI
OTrust     3.6667     -.0711      .0801     -.3144      .0352
OTrust     4.0000     -.0433      .0649     -.2379      .0468
OTrust     4.6667      .0121      .0470     -.0802      .1138
OTrust     5.3333      .0676      .0585     -.0131      .2229
OTrust     6.0000      .1230      .0887      .0008      .3617

Mediator
          PDivInq     Effect    Boot SE   BootLLCI   BootULCI
BTrust     3.6667      .0455      .0610     -.0382      .2257
BTrust     4.0000      .0176      .0486     -.0569      .1536
BTrust     4.6667     -.0382      .0388     -.1406      .0172
BTrust     5.3333     -.0939      .0559     -.2409     -.0149
BTrust     6.0000     -.1497      .0850     -.3714     -.0259

Mediator
          PDivInq     Effect    Boot SE   BootLLCI   BootULCI
ITrust     3.6667     -.0156      .0374     -.1611      .0208
ITrust     4.0000     -.0048      .0276     -.0982      .0287
ITrust     4.6667      .0170      .0273     -.0168      .1062
ITrust     5.3333      .0387      .0491     -.0424      .1622
ITrust     6.0000      .0604      .0759     -.0663      .2538

Mediator
          PDivInq     Effect    Boot SE   BootLLCI   BootULCI
CTrust     3.6667     -.0867      .1241     -.4019      .1107
CTrust     4.0000     -.0405      .1013     -.2951      .1230
CTrust     4.6667      .0521      .0690     -.0871      .1899
CTrust     5.3333      .1446      .0749      .0339      .3493
CTrust     6.0000      .2371      .1131      .0668      .5467

Values for quantitative moderators are 10th, 25th, 50th, 75th, and 90th
percentiles
Values for dichotomous moderators are the two values of the moderator.

-----
Indirect effect of highest order product:

Mediator
           Effect   SE(Boot)   BootLLCI   BootULCI
OTrust      .0832      .0602      .0005      .2488
BTrust     -.0837      .0528     -.2246     -.0088
ITrust      .0326      .0435     -.0309      .1547
CTrust      .1388      .0845      .0053      .3470

******************** INDEX OF MODERATED MEDIATION ************************
```

```
Mediator
            Index   SE(Boot)   BootLLCI   BootULCI
OTrust      .0832      .0602      .0005      .2488
BTrust     -.0837      .0528     -.2246     -.0088
ITrust      .0326      .0435     -.0309      .1547
CTrust      .1388      .0845      .0053      .3470

******************** ANALYSIS NOTES AND WARNINGS *************************

Number of bootstrap samples for bias corrected bootstrap confidence
intervals:
    10000

Level of confidence for all confidence intervals in output:
    95.00

------ END MATRIX -----
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## Appendix I. Complete Qualitative Findings

### Qualitative Findings

The qualitative findings offer a richer insight into the quantitative results. Forty-three (43) students volunteered to go through the interview process which lasted around 15 to 30 minutes. Twenty-three (23) were part of the treatment condition while twenty (20) were part of the control condition. Due to the agreement with the professors of the engineering classes that all students should experience the team building activity, all of the students in the control condition also went through the team building activity after data for the control condition were collected. As a result, all of the students were able to assess the team building activity. 72% of the students indicated that the team building increased the team trust level that lead to increased decision making performance. 7% indicated that the team building activity led to higher decision making team performance although it did not necessarily affect the trust level of the team. This supports the quantitative results where part of the impact of the team building activity was not mediated by trust. The qualitative finding also indicates that the team building activity does not work for all students (21%) that may also explain why some of the mediation quantitative results were not significant.

1. **Benevolence Trust**

Several students explained how the team building activity led to higher benevolence trust that some of them refer to as the level of comfort in the team. Many of them find the term “trust” very abstract. They could relate more to the word “comfort” in the team

*I would say that during the activity, I think everybody was nervous at first when we were first going at it but I think we were very comfortable towards the end so I think our teambuilding exercise really help towards the end. I think talking it through until the end really helps out. We understood each other's communication style. One team member was a little bit more reserved so we were able to ask each other questions for the second time around because we knew what kind of personality he has and how to deal with it. To get over that barrier. I became more open during the activity because I felt a little bit more comfortable and also to try to make the other teammates feel comfortable as well. That was important to get over that difference. (Paw 3)*

*(After the team building activity), the second (decision-making) task was different in the way where, I think everyone else was a little bit more comfortable bringing up ideas. (Lion 1)*

*The trust level definitely increased once we were more comfortable. (ODU 56)*

*The level of trust was a little bit different between the first and second (decision-making) activity because during the second one, everyone was much more open. After kind of "vibing" with each other in a way, it just seem much more easier to bring out everything. (ODU 7)*

*It started off a little awkward, (the facilitator) started asking some questions. I would just sit there wait for someone to answer. But we started getting a little bit more*

*comfortable with each other. The team building activity helped me trust my teammates more because I got to understand them better than from the beginning so I got a little bit more comfortable. (ODU 43)*

*I think there was more trust in the second task. We kind of understand each other a little bit more from the first process. The reflection and the getting to know you helped a little bit with increasing trust. I see how this person is thinking. (Majesty 6)*

*I was comfortable with the team in the second task so it encouraged me to speak up more (Lion 2)*

*I think the level of trust in the team was a little higher in the second task because they didn't tell me in the first one, oh, I didn't have them on my sheet or maybe I just couldn't see it. (ODU 30)*

*The teambuilding activity made us more confident that we could all honestly give her answer without judgment. Because sometimes in teams, somebody's afraid to say what they think the answer is because they're afraid of ridicule, to be made fun of but we were pretty open with whatever we thought the answers were. (ODU 37)*

*Knowing how each other worked probably helped build trust more than anything. (Majesty 18)*

*The first one we didn't really know how each other were going to react to the group setting because this was our first time. And the second time, even though it was a short activity, I think there was more comfort built up for the second than there was for the first one. (Majesty 18)*

*I think it did increase the level of trust. I think it increased the trust because there is more of an honesty. Like you're almost, you have to answer it honestly so being that you know that, it helps to gain trust in somebody else I guess you would say. (Paw 6)*

*I think the trust level may have increased just because the first decision-making task was our first real task as a group then once we had figured it out, we were all excited and so then that confidence going in with the evaluations of our personalities and what we do. I think even moving forward from that, there was greater trust. (ODU 22)*

**2. Self-awareness, Other-Awareness & Self-Regulation**

Some students expressed that the team building activity made them more aware of their own deep-level traits.

*I think I learned a lot about myself. The questions and the graphs in between activities were really helpful for me. I learned a lot about how I communicate with others. I learned about things that I kinda need to work on like I tend to talk out loud*

*when I'm working through stuff. I think that might actually be a weakness in some situations. Because I was talking about being in a leadership role and when I think of the leader, it's somebody who makes decisive decisions. If you're just talking out loud, it kind of like influences, but not so sure, you know what I mean. I learned a lot about myself and how I work with people. (Big Blue 1)*

The self-awareness led to self-regulation where the students intended to change their behavior in the team.

*First, it allowed me to recognize who I am as far as personality wise. Those results were very informative. It gave me an idea that I may be defensive here. Maybe I need to work more on this and that. It was for me. (SELF-AWARENESS) And then as far as recognizing what my team was like, so if we have a meeting, perhaps, I can adjust the way I communicate with each one of them to a specific level so we have an understanding of what's going on. (SELF-REGULATION) (Majesty 7)*

*I think the overall feedback especially the feedback from you (facilitator) really helped a lot with that because you were able to point out some things. Even when we were critiquing ourselves and critiquing each other, we were able to find out things that we didn't realize that we were doing. (SELF AWARENESS) to help kind of correct that a little bit (SELF-REGULATION). (Majesty 18)*

*What I did in the first experiment was kind of be more reserved (SELF-AWARENESS) but then a second one I know after seeing the presentation of how decision dependence and independence, I was more likely to open up in the second one to compensate for that and not let it be a hindrance. (SELF-REGULATION) (ODU 10)*

Awareness of other team members' traits also led to self-regulation that led to increased trust.

*One team member, she's not always the one to contribute any ideas, but we learned during the activity that she would listen more and then contribute when she feels really certain about it (OTHER-AWARENESS) so now I am going to be more careful to solicit ideas from her (SELF-REGULATION) and I think that it will increase trust. (Lion 6)*

*In the second set, I kind of spoke up more. (SELF-REGULATION) The deeper insight about the personalities of my team members (OTHER-AWARENESS) also helped increase trust. (Lion 9)*

*Teambuilding activity helped us to understand the differences in communication styles. One team member led the conversation in the first task. After we had more understanding of the differences in the second (OTHER-AWARENESS), the other team members talked more (SELF-REGULATION). (Lion 2)*

Self-awareness and others awareness combined also lead to self-regulation.

*I noticed that the first time, the first activity, I kind of like verbally took charge, not like physically took charged but verbally took charged (SELF-AWARENESS) and so the second activity, I was like, I like the questions that he's bringing up. I was like let's see what kind of ideas he comes up with (SELF-REGULATION) but I'm still thinking whether his ideas were good or not. He had already in my mind proven that he is a critical thinker. And brings up critical questions that can completely change your perception so before I go and say what I'm thinking. I know him a little better (OTHER-AWARENESS), let me let him make his first call and then we'll go from there. (Big Blue 1)*

*The fact that one team member may be a little bit more soft-spoken and maybe withdrawn a little and I'm really not (SELF & OTHER-AWARENESS). In the second activity, after we had gone over stuff that I was more willing to not immediately set forth and take charge. Even when we were answering questions over the course of the intermediate stage, I started off and I generally spoke first for almost all of them. Towards the end, I was like I don't need to be always the first. (SELF-REGULATION) (Lion 14)*

*I can't remember the term he used but what was in there, you showed graphs. The characteristics and personality (SELF & OTHER-AWARENESS). It made me want to be less aggressive (SELF-REGULATION). (Dominion 21)*

Below are other quotes showing self-regulation.

*I think that the reflection part actually might have hindered our interaction because we were thinking to meta rather than focusing on the problem, we were thinking, hey, I need to act like this (SELF-REGULATION). I was thinking very meta. I wasn't thinking about the task. I was thinking things about the task. (Big Blue 7)*

*Our communication styles in the second activity was very similar aside from the fact that I tried to not talk as much during the second one and allow for my group members to lead more (SELF-REGULATION). But I still think that the communication styles was the same during the second. (Majesty 6)*

*I think the whole group in the beginning was very quiet. In the second task, I think I spoke up a little more than I normally would have (SELF-REGULATION). (Paw 1)*

### 3. Collaborative Planning

The collaborative reflection and planning that stemmed from self-awareness, other-awareness and self-regulation led to better collaboration in the team.

*The first time I felt a little uneasy about the conclusion we came to but the second time I felt like we leveraged each other's strengths a little bit better than the first time. (Lion 6)*

*One of my teammates, we realized he was more the laid-back type of decision-making. The other was more aggressive approach leader. We all knew our position at the end of the day. (Majesty 11)*

*The team kind of after the first one, we really came together. know like, okay, what is right to say what is not, what are we thinking. We want to make sure we get all our ideas out here at the once and then how do we go about that tactfully without shutting somebody out. But I think we definitely responded well. Some of the things I was kind of like, I think one of them for one of the guys was, he wasn't engaged on the other end. It was kind of, well maybe he was just quiet and he was just really thinking about it. Then the guy was like yeah I am more of a thinker – speaker at first. I was like, yeah, you know, okay. (Big Blue 20)*

*One of the team members talked a lot while another was not talking too much. I know that definitely affected the team. It was kinda nice that everybody kind of*

*established their own little roles. I can't really speak for them but it kind of felt like okay, we know you're going to talk. We know you're gonna listen. And then we'll come together at the end. We knew this team member was gonna take charge and once he was done I would step in and then may be the other person will give his part. And then we would kind of do that circle again. (Majesty 4)*

*In our first decision-making, was kind of, none of us even said anything yet and then we're trying to figure something out. Then that's when you get to know a little bit about each other and you can actually see that the way the people come to decisions. When the second task comes around, you just kinda hop right in to it. You know what to look for and everything. You know what to ask each other for basically. (Paw 6)*

*You don't get the physical and social cues that you usually do so it's nerve wracking at first then as you go through, like we went through the whole experience, it got easier then with the second task, it felt much easier to collaborate with everybody versus the first time where we were still trying to read each other and do the project. (ODU 7)*

**4. Most Effective Team Building Component**

One student explained how each component of the team building activity helped.

*All of the components helped increase level of trust. The first activity is kind of the ice breaker. You get to actually talk to each other because that was the first time we talked to each other. So that was nerve wracking at first. During the reflection,*

*everyone got to put their opinion out there and even if it was a little different, we still understood that that is the person's opinion. Okay, cool, that's what they're thinking too. The second one (where we learned about the decision-making and communication styles), we were able to gel more together, be more cohesive as a team. (ODU 7)*

Most of the students referred to the part of the team activity where they learned about their own and others' decision-making and communication styles as the most beneficial to them and their team.

*I think I was able to gain a better understanding of why people in my team behave the way they would. For instance, one of my teammates is always, even in class a little bit quick to, if you have suggestions or ideas that may differ a little bit from his, he's quick to maybe dismiss those and really be one-sided towards his ideas then during the activity, he shared that he has a fear of being wrong so that kind of explain, hey, he's not trying to dismiss other people's ideas but it's just how he thinks. (Lion 6)*

*The slides were kind of the breakdown of the team analytics to know what would be better and what role kind of thing and who communicates in what way. It was also kind of helpful to see how your teams would communicate with each other. (ODU 10)*

*I think it really helped as far as getting to know the other team members. It was really good, honestly, because the presentation that you did showed the personality compared to everyone else. That kind of gave you a little insight as to who they are as*

*a person and kind of discussing it too. So I liked it. That one was a very good window to as far as how everyone thinks. (Lion 9)*

*Just spending time in getting to know each other for me is a good way to build relationship and understanding. What kind of person they are. It would probably be best so that you could link to why they make certain decisions. It's really good to just get to know one another may be outside of school, outside of class. (ODU 50)*

*Aside from maybe labeling some of the, I probably didn't think too much on how each category really fit in with each person until you actually put it in front of me. Aside from being really really cool, you could visually see how everyone compared. (Majesty 6)*

*The reflection and a getting to know you also helped. I have class with one of the kid and the other kid I've never talked to him before so it was cool to talk to him and he gave us feedback on how he thought he was as a decision-maker, how he likes to hold back and get all information before he answers. (ODU 37)*

*Definitely, the reflection into getting to know you part let me know how to team members worked. To answer the question of the reflection help me understand or thought process more than the actual first activity. (Majesty 24)*

*It's almost like judging the book by its cover so when you first meet somebody, you kind of think of how they're going to answer certain questions and then once you actually learn the way that they're coming to you, the way that they explained themselves and you learn in the reflection. Some people are way different than the way that you can instantly judge them. I think it was nice to have the diversity and learning about people. (Paw 6)*

Furthermore, some of the students cited descriptions related to conversation dominance that supports the quantitative findings.

*Myself and other teammates were different because I like to talk. I like to bring up things. (My other teammates) prefer to wait and let all the ideas get on the table before making a decision. I just like to bring it to the table first. It's little bit different in that way. (Lion 1)*

*I think it's really helped us because we came to know what other person was like. We had some statistical proof, chart proof, that show how the other person will react or what's his ability to go in the situation and to be active. Because at first, we didn't know what was the capability or the temperament of the other person and how he wants to tackle a problem. But after the assessment, we came to know that this person will talk more, he has more observant. He likes to talk already the conversation then we don't interrupt or listen to him. Like this person keeps quiet but it's important to keep him in the conversation as well. It made me understand them. (Majesty 8)*

*A little bit from looking at the graphs, I guess it kind of help me think about how other people are different from me. I think one member was quiet and then we went through his, we went through the graphs and said, oh, he actually rated higher on the more thoughtful quiet side. I guess that helped. (ODU 38)*

*I know for me it was interesting. It kinda showed where people played out with the stereotypes that you are ready had in your head. It changed the perception of my teammates a little bit. Like this guy, he doesn't really want to talk. And then you're like, oh he likes to talk. And then you're like, oh, okay. (Majesty 4)*

**5. Team Performance**

The students below explain how the team building activity led to decision-making performance of the team.

*It changed a lot in the second decision-making task. We were all familiar with each other and we were involved. I think we just started asking each other questions, bouncing ideas off of each other. I think the level of trust increased in the second decision making task. I think also the information that we had that was given to us once we talked amongst ourselves, I think we were more expressive about what we need individually about the problem and then we were able to complete a conclusion after that. (Paw 3)*

*I think the team building activity helped with decision-making performance. I think the team building activity brought it out more. With the second activity, everyone had their own set of data about the murder mystery so that made it more of an incentive to bring out what do I know. That definitely helped bring it out. Because we are not so afraid to be so gung-ho. It's not as intimidating. (ODU 7)*

*Yeah, definitely. Team building activity led to higher team performance. Because we understood each other's thinking so we kind of bounced off that. (Big Blue 1)*

*I think it (team building activity) helped with next decision-making activity. It made us talk a bit more because the first one, we all try to get it over with as quickly as possible but the second one we thought it all out. We used all the time to try to finish it and figure it out. (ODU 43)*

*I think the teambuilding activity helped with the decision-making performance in the second activity. There was definitely more talk and information swap. Being a longer activity and having a lot more to read about. It was, hey, this is what I read at first and then, oh, that's what you read. Oh, I missed that. I think that's definitely a good part about the team is I can read it all but I may not process the information the same. So hey, I've got this. Oh, I completely skipped over that not thinking that this would be important. (Big Blue 20)*

*I think in the second task, we had a grasp of how each of their worked and reacted and were able to work it out a little bit better. (Majesty 18)*

*I perceived difference in the communication styles a little bit. I think me and the other team member were in the same page most of the time. Another team member was a little bit more reserved in the beginning I would say and wasn't really saying much but that team member opened up at the end. I think we did a better job (Paw 3)*

*Yes, it improved the decision-making performance of the team because you have a conscience to how you're being looked at almost so you kind of think, if you are being looked at a certain way, it makes you almost conscious in a way that you're going to answer something when you know how your being looked at by my teammates. I was pressured to do well because my team is counting on me. It made the decision-making performance better. (Paw 6)*

**6. Competence Trust**

There is another type of trust that emerged in the qualitative analysis – competence trust. This finding supports the quantitative results. The team members who did not trust that their team members would share information or do well during the decision-making task spoke up more and asked more questions that probably explains why low competence trust led to high performance in the quantitative results.

*Before that it was, hey, can you give me any additional information, like, not really. But the scenario kind of helped us and helped me realized that I have to ask them more to get the information. Not just like, hey, anything else? It (team building activity) helped. (Lion 1)*

*The level of trust affected how much I contributed to that in some way. If I don't trust them I would normally talk more often. In the second task, I wasn't completely agreeing with the answer there so there was less trust in the second task in terms of the answer so I talked more. I shared my information with them. (Lion 2)*

*I think the reflection part and the getting to know you part helped with the decision-making performance of the team. The first activity help because it showed who was willing to present their information. After you gave us insight on who will withhold information, it gave me an idea that there was one member who withheld more in certain cases, not all. I think that it helps to know that information so then I could work towards bringing out important information especially since there are differences in our information in the second part. I think it helped us solve the riddle or the murder case. (ODU 22)*

*The perception of similarity help the level of trust a little bit just because we didn't do a good job the first time so I didn't fully trust that we would do a good job the second time or people would catch on to what we could've done better because I*

*perceived my team members are similar to me, I did not offer as much information as I could have. (Majesty 14)*

*If I don't trust the people I'm in my team with, I am more likely to do more work because I don't want to get screwed over. (Lion 14)*

*In the second decision-making task, I can tailor my decision-making style to incorporate theirs rather than to overpower. Definitely, I had more comfort. There was comfort in the first experiment but my confidence level didn't really change. (Majesty 24)*

*In the first one when you are talking about information, I said okay I had this, this and this. And then the other team member said I had this, this, and this. And then we were kind of talking a little bit. And then the third team member, he was kind of like, oh, mine has the car with the alcohol. I was like oh, okay, I thought he had already shared all his stuff when we were going through it but he didn't. I noticed he just kind of sat there for a while. I kind of figured the second task, if I was looking for information, now I would ask him the second time because I knew he wouldn't necessarily throw it out there. (Majesty 4)*

*I would have probably not contributed more than I would have if I have trusted them. I would have let them, instead of trying to steer and keep us on this path, I*

*would've let it drift more if I trusted them because of lack of trust I had to lead the team. (ODU 1)*

*The reason I started domineering was because I didn't trust that we were actually getting an answer. I'm normally a passive person but I didn't trust that we were actually getting anywhere just looking at the time I thought I would step up. (Paw 2)*

Other team members who had high competence trust decided to speak less about their thoughts during the second decision-making task that may explain why high competence trust led to low decision-making performance in the quantitative results.

*It definitely increased my trust because I trust people a lot more when, in the teamwork setting, I understand people a lot more when I understand how they make these decisions. He had already in my mind proven that he is a critical thinker. And brings up critical questions that can completely change your perception so before I go and say what I'm thinking. I know him a little better, let me let him make his first call and then we'll go from there. I definitely trusted him more because they understood his thought process. (Big Blue 1)*

*With the second task, aside from trying to allow other people to speak more, I probably felt more inclined to believe and trust information that has been presented to me versus me presenting all the information. (Majesty 6)*

*The challenges that we had from the first one is not having all of the information because we were very confident but we were wrong. The good thing that I saw from us is that even though we were wrong, we were very confident in our decision at the conclusion we came to as a team that's pretty critical because it's not like well, I'm going to tell you this, you better believe it. We all believed and trusted each other, the information they had. We all went blindly in the same direction with confidence (Big Blue 20)*

**7. Other Trust Factors**

Several of the students who said that the team building activity did not help build trust in the team experienced an instant evaluation of the team at the start of the activity based on how team members interacted with them. When they instantly perceived that the team as trustworthy, they easily trusted the team leading to perception that the team building activity was not necessary to build trust.

*The trust level was the same in the first and second activity because when we were talking and discussing and giving our points, they were the type of people who would interact and who would actually help with their project. It feels like if one person didn't really say much, that means that you can't really trust him because he's not really interacting with the group so you know that if you contact him outside the school especially when we need to work on a project. The fact that they interacted with me made it easier to trust them. (Majesty 9)*

*I don't think their reflection and the getting to know you part had that much impact because I think pretty much we all got along. We did pretty good there at the start compared to the other teams I've been. (Majesty 4)*

*Something about the way that the team member communicated, I immediately trusted him. I don't know what it was it was just, and then after talking with him when we were walking out. I guess it's the way he presents and carries himself. He just seemed like he had the right or like mindset with me. (ODU 1)*

*I could already tell from the first activity that I can trust them because we did it so swiftly and we had our information so I don't think the getting to know you part was necessary I would say. (Majesty 3)*

*Right up front nobody had a negative experience of someone talking over somebody, nobody said somebody was wrong, there was no negativity so I think if there had been that would've changed it. I think it's just everybody's attitude which kinda happenned by chance. (Big Blue 12)*

*Nobody really gave anybody else a reason not to. Nobody seemed to be making up stuff or overly talking about going on tangents or anything like that. (Big Blue 14)*

Other team members said that they normally trust people first until they have a reason not to.

*I think the reflection and getting to know you part of the activity didn't have any impact (on trust) from my perception. I don't know that I trust them anymore or less than I would normally. I'm generally pretty trusting of unless I catch something. (Big Blue 14)*

*For me, I personally tend to trust first to they give me a reason not to. So I trusted in them. (Majesty 4)*

*I would normally trust other people. (ODU 14)*

On the contrary, one student who benefitted from the team building activity had low propensity to trust. This supports the quantitative findings that show that teams who had low propensity to trust benefitted from the team building more.

*Well, I don't easily trust people. But I've learned that in engineering, you have to have a level of trust so I'm trying. I'm working on that. In my personal life, it's hard for me to trust people but I learned after being in the field for five years that you have to trust other people. It was hard to trust my team especially since it's the first time seeing each other during the first exercise but then after spending an hour together talking to each other, it was very easy to trust them during the second. (ODU 47)*

Others attributed their level of trust on their perceptions of similarity in the team.

*I would say no. The teambuilding activity did not change the result of the team. I think that we all, just a group with the similarity of personality, I think we kinda would've performed the same way if we haven't seen that. I think it was just interesting to see but I don't think it really changed what we did. (Big Blue 12)*

*I think we have a high level of trust because we were pretty similar, we were all pretty open in our styles. (Big Blue 14)*

*The perception of similarity may have affected the trust a little bit. (ODU 14)*

**8. After the experiment**

Some teams claim that they have established a better relationship after participating in the team experiment.

*After the experiment, it was easier to schedule meetings and talk to each other. Hey, can we meet at this time. Can we do this. It's not as intimidating. (ODU 7)*

*It goes further than you know because we discussed a little bit after you left and it turns out he is part of this organization and he invited me to join. So when you said that it's a shame that you're never going to work together again, it was kind of ironic because now we have that connection. (Big Blue 7)*

*I would say that process particularly help me better understand myself and better understand how people out of me perceive me on what I'm doing. I want to say however that the activity over all helped actually both of us being open to talking and communicate a little bit more. For example, I was able to understand that my teammates didn't like the fact that the drive that I was suggesting in the cloud was Outlook and he would prefer that the drive be Google but he never said anything. There was no way for me to know that and so when I found out, one time I saw him, he was putting some stuff into drive on Google drive. He didn't want to work for my drive. I kinda joked about it. Yeah, I preferred to use Google drive. But I told them that I have a Google drive too. So you could've told me that, we could change. We could create a shared folder. So he created a shared folder. I mean what I want to say, it has opened up a little bit of communication. (Lion 20)*

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Magpili, N. C. & Pazos, P. (2017). Self-managing team performance: A systematic review of multilevel input factors. *Small Group Research (online first).* DOI: 10.1177/1046496417710500.

## CONFERENCE PROCEEDING PAPERS (Refereed)

Magpili, N. C. & Pazos, P. (2016). A qualitative inquiry into the role of web-based collaboration tools and instructional scaffolds in the facilitation of team processes. *Proceedings of the 2016 American Society for Engineering Education, New Orleans, LA 2016*

## GRANTS EXPERIENCE

*Graduate Research Assistant,* Research Initiation Grant: Using modular scaffolding in virtual team projects to develop critical skills in Engineering students. NSF 11-507. PI: Pazos, Pilar, Co-PI: Adcock, A., Daniels, C. Period: Jan 2014-December 2016. Amount Awarded: $149,875.

## TEACHING EXPERIENCE

ENMA 302, Engineering Economics, Spring 2017

## CO-CURRICULAR ACTIVITIES

**American Society for Engineering Management - *ODU Student Chapter,*** PR Chair, Spring 2015; Vice President, Fall 2015