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GUIHYUN PARK

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Guihyun Park

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ABSTRACT

EMERGENCE PROCESS OF TEAM GOAL ORIENTATION AND TEAM EFFECTIVENESS.

By

Guihyun Park

Although the team goal orientation literature has recognized the usefulness of team goal orientation in predicting team-level outcomes such as team performance and satisfaction, no study has investigated the emergence process of team goal orientation and its impact on team-level outcomes. This study posited that team goal orientation emerges through interactions among team members, in which members influence each other's goal orientation. Undergraduate students participated in a simulated airport security screening task as members of a three-person team where teams needed to identify potential weapons. This study had high versus low role discrepancy conditions. In the high role discrepancy condition, a team consisted of one leader and two informers, and only the leader was able to make final decisions; whereas, in the low role discrepancy condition, a team had no assigned leader. The results generally supported the hypotheses such that team goal orientation emerged based on the leaders' goal orientation.

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INTRODUCTION

Economic and technological trends are rapidly changing the structure of work in modern organizations (Devine, Clayton, Philps, Dunford, & Melner, 1999; Risher, & Fay, 1995). Dividing labor into several specialized tasks to increase the efficiency between input and output has lost its attractiveness as employees often need to pool their resources together to adapt to the ever-changing business environment. For instance, Total Quality Management (TQM) in which team members are trained together and learn how to adapt to each other's role has proven to be more beneficial than previously used individualized work systems because the TQM ensures high quality outcomes through teamwork processes (Ilgen, Major, and Hollenbeck, 1993). To survive in the business environment, therefore, organizations ought to pay careful attention to the team processes and be actively involved in managing their teams effectively. It is not too much to say that organizations' ability to manage their teams determines how much they utilize their human capital, and their successes in today's business environment.

The number of studies on teamwork has increased since the 1990's and this reflects the surge of attention on team management (Levine, & Moreland, 1990; Sanna & Parks, 1997). One of the main issues in the team studies is how to affect the motivation of teams so that teams attain greater effectiveness. Although many studies have approached this issue of team motivation from various perspectives, they all agree upon the basic assumption that individual members are embedded in teams (e.g., Kozlowski, Gully, Nason, & Smith, 1999; Lepine, 2002; Mathieu, Marks, & Zaccaro, 2002). In other words, to explain team motivation properly, you need to recognize the multi-level nature

of team motivation that team-level motivation originates from individual team members (Kozlowski & Klein, 2000). To examine a team's motivational process, therefore, we need to understand the process of an individual's motivation and investigate how the interaction processes among members lead to the emergence of a team-level motivation.

In this study, a team is defined as a collection of individuals who interact dynamically, interdependently, and adaptively toward a common goal, each having a specific set of functions to perform (Salas, Dickinson, Converse, & Tannebaum, 1992). Working in teams is quite different from working individually. First, individuals in teams have an additional layer of environment that is other members in the team. Lewin (1935) suggested that individuals' behaviors are directed by interaction between their personal characteristics and the environment around them. Furthermore, he argued that other members in a group become proximal environment to provide the context for individual's thoughts, feelings, attitudes, and actions influence group members such that the person is always, to some degree, thinking and acting as a member of a group (Lewin, 1943). Second, team members cooperate with other individuals in the team and work together to accomplish a common goal. Therefore, team members' efforts are entangled and must be coordinated to perform effectively as a team (Cannon-Bowers, Salas, Converse, 1993). The coordination process of a team is facilitated by having 'a shared situation' models on understanding of the external environmental factors, goals, strategies, and members (Orasanu, & Salas, 1993). This mutual mental model allows members to predict the behavior and needs of other members, which in turn, makes teams perform effectively (e.g., Bowers, Morgan, Salas, & Prince, 1993; Adelman, Zirk, Lehner, Moffett, & Hall, 1986).

Although team motivation is developed by interactions among individual members, most studies on team motivation have neglected the emergent process of team motivation. Most researchers assumed that collective motivation is mostly shaped by top-down processes. For example, they argued that external environments around individuals like organizational goals and policies influence individuals' cognition and behaviors, which in turn, lead them to share a similar perception on higher-level characteristics (e.g., Schneider & Reichers, 1983; Pensgaard & Roberts, 2003; Treasure, 1997). Team motivation is, however, more or less likely to emerge through dynamic interactions among team members (Kozlowski, Gully, Nason, & Smith, 1999). When individuals' cognition, affects, behaviors, or other characteristics are amplified by their interactions and manifests as a higher-level, it is defined as an emergent of a collective phenomenon (Katz & Kahn, 1966). As team members interact with each other and perform as a team, they gradually become to share their perceptions of the team and its external environment over time (Kozlowski & Klein, 2000; Kozlowski, Gully, Nason, Smith, 1999).

Because we have little understanding on the dynamic emergent process of team motivation, it has been difficult to make a prediction as to how team motivation affects team level outcomes such as team satisfaction and performance. For example, although we know a team's motivation level impacts the team's performance and satisfaction, we do not know how the team motivation emerges from the individual level and how the emergence process influences team effectiveness. To understand team motivation, it is important to look at the emergent process of team motivation through interactions among team members and investigate relationships between team motivation emergence and

team effectiveness. In the next section, I will review previous literature on team motivation and discuss its implication on this study.

Team Motivation

There are many studies that discuss how being a team member constitutes a unique situation for individuals working in teams, which in turn, yields motivational processes that are unique to the individuals who are working in teams. It has been suggested that being a member in a team can either facilitate or debilitate one's motivation to perform well (e.g., Williams, Karau, Bourgeois, & Martin, 1993; Zajonc, 1965). Studies on social loafing identified a number of psychological mechanisms underlying such effects. Specifically, it was suggested that individuals in teams are more likely to withdraw their efforts when there is low risk of evaluation, or when they have a low level of interests in the team task (Levine & Moreland, 1990; Miles & Greenberg, 1993; Kerr & Stanfel, 1993). Also, when team members feel their individual contributions are difficult to identify, they exert little effort on behalf of a team (Erez & Somech, 1996). Studies on group motivation gain, however, have illustrated that team members may exert greater effort than individual performers (e.g., Williams & Karau, 1991; Hart, Bridgett, & Karau, 2001; Hertel, Kerr, & Messe, 2000). For example, individuals often increase their efforts on collective tasks when they anticipate poor performance of other group members (Karau & Williams, 1997) or when their contribution is critical for team's success (Kohler 1926; Hertel, Kerr, & Messe, 2000; Messe, Hertel, Kerr, Lount, & Park, 2002). The social facilitation theory also suggested that working with other individuals can be a positive stimulus for performance especially when the task is easy (Zajonc, 1965). These studies suggest that individuals in a team do

not naturally come to behave on behalf of their teams' collective outcomes and instead maintain a distinction between their own individual goals and their perception of the team's goal. Depending on their perceived relationship between their individuals' goals and team goals individuals in a team can either facilitate or debilitate overall team outcomes. Specifically, individuals would be motivated when achieving team goals can also facilitate attainment of their individual goals. In addition, because there is more than one individual in a team, each member has his/her own needs and motivation levels and coordinating these different individual goals in a way that is consistent with overall team goal is important for the success of the team (Zander, 1979). Therefore, it is impossible to separate team motivation from individual motivation and to study team motivation we need to consider individual motivation and the coordination process of different individual motivation in teams.

Although it is important to investigate the process of team motivation emergence by the coordination of individual level goals, most studies have neglected the process that links individual level and team level motivation. Instead, previous research has assumed that team motivation is a separate entity than individual motivation and had applied individual level motivation theories to team motivation. -As a result, most of the team motivation studies have focused on the applications of the goal setting theory to teams. For example, it is widely known that a team goal has positive effect on team performance (Locke & Latham, 1990). Also, the level of the team goal is related to performance of teams such that teams with higher and more specific team goals perform better (e.g., Weingart & Weldon, 1991; Buller & Bell, 1986; Lawrence & Smith, 1955). It has been suggested that as a team's goal level increases, team members' quantity and quality of

planning increase and the amount of efforts each member putting into the task increases as well (e.g., Becker, 1978; Weldon, & Weingart, 1993; Weingart, & Weldon 1991). The increase in coordination efforts among team members leads to improved team performance (Weingart, 1992). Also it has been noted that members' commitments to team goals are related to the team's performance, so that team performance is enhanced when members increase commitment toward their team goal. (e.g., Mulvey,& Klein, 1998; Ronan, Latham, Kinne, 1973; Zander, 1979).

Team Goal Orientation

A popular approach to team motivation, that is the focus on this paper, is team goal orientation. Dweck and Leggett (1988) suggested that the goals that individuals have creates frameworks within which they interpret and react to events in an achievement setting. They identified two classes of goals: performance goals in which individuals are concerned with performing well in terms of gaining interpersonal superiority, and learning goals in which individuals are concerned with performing well in terms of self-developmental perspective (Elliott & Dweck, 1988). Although, most of previous literature on goal orientation mainly talked about two dimensions of goal orientations - mastery and performance orientations, lately, goal theorists proposed performance-avoid goal orientation (Elliott & Church, 1997; VandeWalle, 1997; Elliot & Sheldon, 1997). Base on their argument, performance goal orientation can have approach or avoidance dimensions in which individuals are more concerned with either positive (approach) or negative (avoidance) valence of their goal. Individuals with a high performance-approach orientation want to demonstrate their ability to others. Individuals with a high performance-avoidance orientation want to avoid demonstrating their incompetence to

others (Elliott, Sheldon, & Church, 1997). Goal orientation is treated both as a personal disposition and a contextual condition in which, an individual's goal orientation is based on interactions between individual differences and contextual cues such as evaluation standards or feedback from other individuals (e.g., Ames & Archer, 1988; Ames, 1992; Pensgaard & Roberts, 2003; Treasure, 1997)

A team goal orientation is defined as a shared understanding of the extent to which a team emphasizes learning or performance goals (Bunderson & Sutcliffee, 2003). A handful of studies have attempted to generalize individual-level goal orientation theory to team level processes. For example, teams with a high learning goal orientation tended to pursue a greater number of new ideas related to a wider range of team activities (Ames & Archer, 1988; Bunderson & Sutcliffe, 2003; Turner, Midgley, Meyer, Gheen, Anderson, Kang, & Patrick, 2002). Also, a team's learning goal orientation was associated with the team's adaptive performance (Bunderson & Sutcliffee, 2003). Team performance and learning goal orientation were found to positively related to team efficacy, which in turn, positively related to team performance (DeShon et al, 2004).

Previous studies in team goal orientation paid little attention to multilevel aspects of the dynamic emergent process of team goal orientation. For instance, although the multilevel theory argues that emergence processes of team-level construct are more likely to occur during early phases in team's life cycle (Kozlowski & Klein, 2000), researchers often measured team goal orientation one time in their study which made it difficult to examine the processes of team goal orientation over time (e,g., Bunderson & Sutcliffe, 2003; DeShon et al, 2004; Porter, 2005). For example, although they acknowledged the importance of studying the dynamic emergent processes of team goal orientation,

DeShon et al (2004) measured team goal orientation one time at the end of their team experiment and used the measure as a proxy value for trait team goal orientation. To adequately examine the processes of team goal orientation emergence, however, it is necessary to measure team goal orientation multiple times as a new team develops over time.

In addition, there is often lack of consistency between the theoretical argument and the operationalization of team goal orientation in studies. For example, Porter (2005) used an additive composition model for team goal orientation and he argued that adding individual goal orientations can adequately represent the team-level goal orientation. An additive composition model, however, is only appropriate when there was a minimal amount of interaction among team members (Chen, 1998). In the study, in fact, team members were working on a highly interdependent task and team members were involved in backing up behaviors for other members (Porter, 2005). Therefore, this lack of consistency between the nature of team members' interactions and the representation of team-level goal orientation may lead to a misspecified model of team-level goal orientation (Kozlowki & Klein, 2000).

Although many studies on avoid goal orientation have been conducted at individual-level, no study has looked at the team level of avoid goal orientation. At the individual-level of studies, individuals with a high level of avoid goal orientation feel stronger anxieties and negative emotions in achievement settings and they experience decreases in performance (e.g., Elliot & Church, 1997; Elliot & Sheldon, 1997; Elliot, Sheldon, & Church, 1997). Although teams that want to avoid being incompetent do exist, no studies on team goal orientation have looked at the team avoid goal orientation. This

lack of attention on team avoid goal orientation is disturbing because team avoid goal orientation can potentially explain many motivational problems that teams have, such as social loafing (Williams, Karau, & Bourgeois, 1993), or a loss in productivity in teams (Sheppard, 1993).

Finally, although it is important to consider the bottom-up, emergence processes of team members sharing similar understandings on the team's goal orientation by influencing each other's goal orientation, previous research on team goal orientation neglected the implication of the emergent process of team goal orientation. Most studies assumed team members share the team goal orientation mainly because they are placed in the similar environment (top-down processes). For example, it has been suggested that teams in an environment that values innovative ideas and behaviors have a high level of team learning goal orientation because each member perceives developing new ideas and strategies as being positively related to performance (Bunderson & Sutcliffe, 2003). Previous studies on team goal orientation did not pay enough attention to the emergent process of team goal orientation through interaction and coordination among individuals with different goal orientations. Instead, they tend to assume that the sum of the environmental impact on individuals' goal orientations was equal to team level goal orientation. The approach to team goal orientation may not be appropriate for higher level constructs that are dynamic because it does not account for differences that arise in team level goal orientation across teams within the same environment. In a similar vein, Schneider and Reichers (1983) argued that because members who compose a team are different from one another, and their patterns of interactions are different, different teams in the same organization generate different team goal orientation. For example, we often

observe different teams have different goal orientations in classes, even though they are all exposed to the same teacher, the same evaluation standards, and the same tasks. Some teams focus on their grades, whereas some teams focus on how to learn more from the experience. This difference in team goal orientation, therefore, cannot be explained unless we examine the dynamic process of team goal orientation that takes place within each team over time.

Dynamics of Team Goal Orientation Emergence

The present study suggests that team goal orientation emerges from two processes; a conscious sense making process and a non-conscious goal contagion process. People in organizations encounter numerous events and people need to perceive these events in coherent sets to react to them properly (e.g., Louis, 1980; Morrison, 1993; Chao, O'Leary-Kelly, Wolf, Klein, & Gardner, 1994). People need an appropriate frame of reference to properly interpret and react to their environmental cures such that they can direct their behaviors and successfully adapt to their environment (e.g., Berger & Luckmann, 1967; Blumer, 1969). Individuals' adaptation to their environment is often described as a process in which employees establish their goals that are consistent with the environments (e.g., Chao, O'Leary-Kelly, Wolf, Klein, & Gardner, 1994; Ostroff, & Kozlowski, 1992). While employees try to adapt to their work environment, they actively communicate with each other, respond to, define, and interpret elements of the situation (Schneider, 1981; Ashford & Cummings, 1983). In teams, the closest sources of information are teammates and team members influence each other's interpretation of events and behaviors. Since coordinating with other members is important for the teams' successes, members are particularly sensitive about other's goals and their behavioral

cues that imply their goals. Individuals intentionally seek and share their goals with other team members to adapt their environment, which leads them to have shared mental models (Kozlowski et al, 1996). Therefore, each member become mutual determiners to each other's changes in goals and through this process team goal orientation emerges.

In addition, team goal orientation is shared among member unconsciously. Although others do not directly communicate their goals, people perceive other's behavior as goal directed and readily understand the goals that are served by these behaviors (McClure, 2002). People infer other goals automatically without conscious intent and awareness, and the inferred goal causes individuals to automatically pursue goals and exhibit automatic goal contagion (e.g., Aarts, Gollwitzer, & Hassin 2004; Hassin, Aarts, & Ferguson, 2005). For example, participants who were exposed to behaviors that implied the goal of making money were more motivated to engage in a subsequent goal-relevant activity in which they can earn money (Aarts, Gollwizer, & Hassin, 2004).

Further evidence to support the goal contagion argument could be found in emotional contagion studies. Emotional contagion takes place when team members mimic and synchronize other members' emotional expression without conscious awareness, which in turn, serves to promote an emotional experience consistent with the emotions expressed (George, 2006). It was found that team leaders' affective states are contagious to the team members and the leader's positive mood influenced the team's affective tone by influencing team members' affects (Sy, Cote, & Saavedra, 2005). Also, it was suggested that the positive affect of a member is transferable to other members in the team, which in turn, lead to improved cooperation among team members (Barsade,

2002). Therefore, seen from the perspectives of the goal contagion, the mere perception of how other members behave can trigger individuals to infer the goals and behave in terms of the inferred goal unconsciously. Individuals in teams influence each other's motivation by actively perceiving others' goals or unconsciously inferring and following the other's goals.

Team members influence each other's goal unconsciously through interactions and unconscious attributions and the team's goal orientation emerges as the team members come to share the same goal. At first, individuals might have different perceptions of the environment and they do not have a common team level of shared motivational climate. However, as team members cooperate with other individuals in teams and work together to accomplish a common goal, their efforts often need to be entangled and coordinated in order to perform effectively (Kozlowski & Bell, 2003). Because of these characteristics of working in a team that are different from working individually, team members who were independent in the beginning gradually affect each other's motivation over time through both a conscious sense making process and unconscious goal contagion process. Members develop a shared perception of the team and its external environment as they work together and team goal orientation emerges.

Representation of Dynamics of Team Goal Orientation

Because previous studies on team goal orientation have not examined the process of team goal orientation emergence, previous measures of team goal orientation is not suitable to represent the dynamic development of team goal orientation. For example, team goal orientation has often been considered as a composite of individual members' goals, or an end state desired by a majority of those in the team. (e.g., Kristof-Brown, &

Stevens, 2002; Bunderson & Sutcliffe, 2003). In addition, team goal orientation was assumed to be stable over time and often measured at one time (e.g., DeShon et al, 2004, Kristof-Brown, & Stevens, 2002; Bunderson & Sutcliffe, 2003). Most studies used a combination of the direct consensus model and the reference shift model such that within-group agreement on team level goal orientation is checked before the average of individual perceptions on team goal orientation is calculated (e,g., DeShon et al, 2004; Bunderson & Sutcliffe, 2003).

This study proposes, however, team goal orientation is a dynamic process such that members who have different goal orientation in the beginning would gradually share the similar goal orientation as they working in a team. Given the dynamic model of team goal orientation presented above, it is likely that the ways in which team goal orientation was studied in the previous studies does not appropriately capture the process of team goal orientation emergence. In addition, Chan (1998) suggested that the direct consensus model , or reference shift model could only be used for those constructs that are simple and relatively stable such as organizational climate. However, for those constructs that are highly dynamic such as team motivation, he argued that it is not appropriate to use a simple algorithm to compose the lower level process to the higher level. Instead, Chan suggested a *process model of composition* for those constructs that are changing and in process of changing because the process model is concerned with the emergent process of the higher-level construct.

In the process model, individual-level processes are examined to investigate how each individual develops an individual level construct and to specify the process of the higher-level emergence. This study specifies team goal orientation emergence as an

integration process, moving from an initial state in which there is little agreement among individuals' goal orientation, through progress stages in which the level of agreement gradually increases, to the eventual stage in which a certain level of agreement among individuals' goal orientation is maintained. This integration process is composed to be the higher level to specify the process of team goal orientation emergence. This indicates that team members influence each other's goal orientation as they work together and as team goal orientation emerges. Accordingly, this study measured individual level goal orientation in multiple occasions throughout team's developmental processes.

In previous studies, to represent team goal orientation, studies examined within-team variance of individual goal orientation first. Once the within-team variance met the statistical criteria, team goal orientation was represented as the aggregation of individual level goal orientation or the aggregation (e.g., Bunderson & Sutcliffe, 2003; DeShon et al, 2004). Therefore, within-team variance was only used as a dichotomous criterion for the aggregation of individual goal orientation. In this study, however, I am interested in how team goal orientation develops over time, and changes in within-team variance is considered as a key variable that indicates the emergence of team goal orientation over time (Klein & Kozlowski, 2000). Studies on social emergent phenomenon suggested that interaction among social members not always create uniformity of opinion. Instead, researchers argued that the level of agreement that members reach could vary depending on a number of individual differences and contextual factors (e.g.,Moscovici, 1976; Isenberg, 1986; Nowak, Szamrej, & Latane, 1990). For example, the level of agreement that a team reaches is influenced by the persuasiveness of majority versus minority argument, members' self-presentational needs, or a desire to have a distinctive group

identity (e.g., Burnstein, & Vinokur, 1977; Hogg & Abrams, 1988). This study will also represent the team members' agreement on team goal orientation over time as an important variables that influence the process and outcomes of team goal orientation.

Emergence Processes of Team Goal Orientation

Role importance. The process of influencing team member motivation in teams is not symmetric. Some individuals have a greater influence than others and therefore contribute to the emergence of team goal orientation to a greater extent. According to Latane (1981), the extent to which any group member is influenced by pressure from others is determined by (a) the number of group members who exert pressure to change; (b) the strength (determined by the power) and immediacy (i.e., physical proximity) of those group members; and (c) the strength and number of other group members who are targeted for change. Therefore, how an individual will be subject to the influence of other individuals is determined by the power difference among those individuals. In other words, as one's power increases compared to other individuals, it is more likely that s/he influences other individuals, and it is less likely that s/he is influenced by other individuals (House, 1988; Mintzberg, 1983; Salancik & Pfeffer, 1977). The amount of power an individual has is determined by both individual and structural factors including his/her structural position, expert knowledge, or role criticality (French & Raven, 1959; Brass & Burkhardt, 1993; Mechanic, 1962). As individuals hold more important positions that often lead them to have unique and important knowledge that is associated with those positions, they will possess more power compared to individuals who hold lower positions. It was suggested that the difference in individual rates of interactions with other members is based on an individual's role importance in the team (Borgatta, &

Bales, 1953). Thus, if one has a more important role in the team, s/he will have more power to influence other individuals. One of the most salient roles in a team is the team leader. Team leaders are often in charge of directing and managing developmental processes of their teams and their leadership behaviors were construed to impact team members' motivational processes such as goal setting, monitoring, and feedback (Kozlowski, Gully, McHugh, Salas, Cannon-Bower, 1996). Leaders were suggested to exert a strong influence on the development of shared perceptions (Kozlowski & Doherty, 1989). For example, a leader's mood influenced the affective tone of the team in a way that a leader's positive mood led to a positive affective tone for the team (Sy, Cote, & Saavedra, 2005).

This study proposes that team goal orientation not only emerges from interactions among team members, but also that the emergence process will depend on the role structure within the team. Specifically, when teams have a relatively equal role structure in which everyone has a role with similar importance, they influence each other to a similar degree. In this case, the process of sharing common goal orientation will not be dependent on any particular member's goal orientation; therefore, team goal orientation would not be based on any particular member. Team goal orientation in this case reflects the average goal orientation of team members. Accordingly, as previous studies on team goal orientation have assumed, team goal orientation would be some form of aggregation of individual goal orientation when teams have an equal role structure. In teams with highly differentiated role structures, such as teams with leaders, there is an asymmetry in power among members and it is inappropriate to assume that members will influence each other to a similar degree. As I mentioned earlier, team leaders influence other

members to a greater degree. Therefore, when there is a leader in teams, team goal orientation will emerge mainly based on the goal orientation of team leaders. When there is a high discrepancy in role structure, team goal orientation can no longer be assumed to be the aggregation of individual goal orientation. Instead, the leader's goal orientation may become the team's goal orientation.

Also, leadership studies argued that one of the most important leadership traits is having a high level of achievement motivation such that leaders with a higher achievement motivation were more likely to successfully guide team activities toward challenging goals and positive outcomes (e.g., Judge, Bono, Ilies, & Gerhardt, 2002; Yukl & Van Fleet 1992). Moreover, achievement motivation was suggested to serve as a higher order motivation of goal orientation because individuals who have a high level of achievement motivation were more likely to have a higher level of learning and performance goal orientation (Elloit & Church, 1997). Therefore, this study argues that leaders with high achievement motivation are more likely to influence team members' learning and performance goal orientation and members with highly achievement oriented team leaders will have higher team learning and performance goal orientations.

Hypothesis 1a: Role structure will influence the process of team goal orientation emergence such that higher discrepancies in role importance result in team goal orientation emergence based on the team member who has higher role importance.

Hypothesis 1b: A leader's achievement motivation will positively influence team members' learning and performance goal orientation.

Homogeneity in individual trait goal orientation. As members with different goal orientations are working together, the members influence each other's goal orientation. Team goal orientation emerges through interaction among members, and team members come to share their understanding of the team's emphasis on learning, performance, or avoidgoal orientations. As previously discussed, immediacy to other members determines the extent to which any team member is influenced by pressure from others (Latane, Nowak, & Liu, 1994). In their study, Latane, Nowak, and Liu (1994) suggested that if an individual is surrounded by others with different attitudes than s/he has, the individual is more likely to change his/her attitude accordingly than when the individual is surrounded by others who have similar attitudes. Consequently, the total amount of change in attitudes is greater when an individual is surrounded by others with different attitudes. They called this phenomenon *dynamism*, and they suggest that dynamism is greater when individuals are surrounded by others with different attitudes (Latane, Nowak, & Liu, 1994). In a similar vein, where there is a high degree of homogeneity among members' trait goal orientations, members are less likely to change their goal orientation, and the total amount of change in individual goal orientation due to the influence from other members will be small because members have similar trait goal orientations in the first place. In this case, members will share team level goal orientation not because they are influenced by each other's goal orientation, but because they have similar trait goal orientations from the beginning. In contrast, when there is a low degree of homogeneity among members' trait goal orientation, members will be influenced by different goal orientations of other members, and the total amount of change in goal orientation due to influence from other members will be greater because members have a dissimilar trait

goal orientation in the beginning. In this case, to have a shared understanding on team level goal orientation, members should go though intensive interaction processes in which they influence each other's goal orientation.

Hypothesis 2: Heterogeneity of trait goal orientation among team members will be positively related to the amount of change in perceived state team goal orientation over time.

Emergence processes of team goal orientation and team effectiveness

When individuals are working with members who are similar to them, they generally feel more comfortable and satisfied. Studies have suggested that working in heterogeneous teams can instigate friction, poor coordination, anger, and mutual dissatisfaction. Many researchers have focused on demographic characteristics of individuals that are related to members' satisfaction and performance, such as gender, age, or race (e.g., LePine, Hollenbeck, Ilgen, Colquitt, & Ellis, 2002; Martins, Milliken, Wiesenfeld, & Salgado, 1996; O'Reilly, Williams, & Barsade, 1998), and only a handful of studies have investigated how the similarities of motivation among members will increase their satisfaction and performance that are derived from working as a team. For example, it has been found that "type A" individuals, who are generally competitive and have a high achievement motivation, had higher satisfaction and performance when they were working with other "type A" individuals (Keinan & Koren, 2002). In addition, it has been suggested that the congruence between an individual's goal orientation and his/her

perceived others' goal orientation elicited greater individual satisfaction and individual contributions in teams (Kristof-Brown & Stevens, 2002).

In a similar vein, when an individual's goal orientation and perceived others' goal orientations are compatible, attraction to the other's goal orientation increases, because pursuing other's goal orientation also satisfies his/her individual goal orientation (e.g., Deutsch, 1949; Katz & Block, 2000). In contrast, when individual goal orientation and other's goal orientation are incompatible, in which an individual perceives that others in the team have different goal orientations than s/her does, attraction to the other's goal orientation will decrease, and s/he will feel more pressure to change his/her existing goal orientation, and pursuing other's goal orientation interferes with individual goal orientation (Katz, & Block, 2000; Weingart &Weldon, 1991). Moreover, when there is a high degree of heterogeneity in individuals' goal orientation, one would perceive a conflict between his/her goal and others' goal orientation so that his/her effort toward one goal interferes with efforts toward the perceived team goal. Therefore, they may perceive that concentrating on one goal prevents concentration on another (Zander & Forward, 1968). Having different goals, as a result, may lead to incongruence, inconsistency, and inconsonance among efforts to attain the team goals, because all goals may not be satisfied simultaneously (Deutsch, 1949). For teams with members with different goal orientations, integration of different goal orientations will take place as team members working together. Team members will consciously and nonconscioulsy adapt their goal orientations based on perceived others' goal orientations. Subsequently, cognitive resources that are available for team performance will be decreased while team members are adjusting themselves to each other's goal orientation, and team performance will

suffer from the process of team goal orientation emergence. In other words, integration of different goal orientations requires the time and effort of team members, and team performance will suffer from the process of team goal orientation emergence. Once team goal orientation has emerged, however, these negative impacts of the emergence process on team performance will decrease. Therefore,

Hypothesis 3a: The perceived differences between individual and team goal orientations will be negatively related to satisfaction of individuals in the team.

Hypothesis 3b: The perceived differences between individual goal orientation and team goal orientations will be negatively related to the performance of the team in the beginning, but this negative relationship will decrease over time.

Tolerance for Ambiguity as Moderating Variables on Team Goal Orientation Process.

It was previously argued that heterogeneity of members' goal orientation will be negatively related to the satisfaction and performance of team members because the members go through more substantial changes in individual goal orientation during the emergence of the team level of goal orientation. In this section, however, I argue that the relationship will be moderated by individuals' levels of tolerance for ambiguity. The tolerance for ambiguity is defined as an individual's propensity to view ambiguous situations as either threatening or desirable. When individuals have a high tolerance for ambiguity, they are more likely to experience less anxiety when they are exposed to uncertain situations such as workplace diversity or organizational change, and show adaptive reactions in those situations (Judge, Thoresen, Pucik, & Welbourne, 1999; Chen

& Hooijberg, 2000). Therefore, as individuals have high tolerance for ambiguity, the more likely the individuals would experience satisfaction and increases in performance from experiences that involve changes.

When there is a high degree of heterogeneity in individual goal orientation in teams, a higher degree of uncertainty will be imposed on team members because each member needs to be sensitive about other members' goal orientation and adjust their own goal orientation accordingly to have the team goal orientation. A high degree of heterogeneity in individual goal orientation would pose ambiguities to the individuals; in the beginning it is not clear what the team goal orientation is; instead, each individual needs to be more sensitive to the role importance of each individual and other members' goal orientations to adjust their goal orientation accordingly. During this changing process, individuals with high tolerance for ambiguity would feel less anxious when they need to change their goal orientation and more satisfied with their goal orientation changing experience. Also, because individuals with a high tolerance for ambiguity perceive changing experiences as desirable events rather than a threat, they are more likely to react positively and adapt successfully. Therefore, although overall satisfaction and performance will be lower when there is a high degree of heterogeneity in individual goal orientation, individuals with high tolerance for ambiguity will experience less decreases in their satisfaction and performance. Therefore,

Hypothesis 4a: Tolerance for ambiguity will moderate the relationship between goal orientation heterogeneity and satisfaction.

Hypothesis 4b: Tolerance for ambiguity will moderate the relationship between goal orientation heterogeneity and performance.

Team goal orientation and team outcomes

The characteristics of team goal orientation are suggested to be similar to the characteristics of individual goal orientation. For example, teams with high learning goal orientation show better performance in adaptive learning tasks and novel tasks that require constant learning, which are consistent with the studies on individual level learning goal orientation (e.g., Bunderson, & Sutcliffe, 2003; Ford, Smith, Weissbein, Gully, & Salas, 1998; Kozlowski et al, 2001). In addition, individuals with a high learning goal orientation have performed better in more complex tasks that require constant learning processes; whereas individuals with a high performance goal orientation perform better in simpler tasks that require relatively less effort to perform well (Bar-Eli, Tenenbaum, Pie, & Kudar,1997; Steele-Johnson, Beauregard, Hoover, & Schmidt, 2000). Researchers explain that, for performing well in complex tasks, individuals normally go though a series of negative feedback experiences and modify their strategies accordingly. Unlike individuals with high performance or avoid goal orientation, who interpret negative feedback as a sign of failure, individuals with high learning goal orientation interpret negative feedback as information that helps them to develop their competence. Consequently, individuals with a high learning goal orientation show adaptive responses to the complex tasks and put forth more effort into the tasks, which in turn, is related to increases in satisfaction and performance.

In addition, it is suggested that learning and performance goal orientation are distinctly related to different outcomes such as satisfaction and performance at the individual level (Barron & Harackiewicz, 2001). Specifically, it was found that individuals with a high learning goal orientation felt more satisfaction in achievement settings than individuals with a high performance goal orientation, whereas, individuals with a high performance goal orientation performed better than individuals with a high learning goal orientation (Barron & Harackiewicz, 2001). In a similar vein, I argue that a different team goal orientation will be distinctly related to the performance and satisfaction of the team. Because teams with high learning goal orientation want to increase their competencies, every progress that they make on task is interpreted as success and negative feedback that they get is interpreted as information to learn. Therefore, teams with high learning goal orientation will be positively related to satisfaction. Because teams with high performance goal orientation want to perform well, they will actively find a way to improve their performance, which will lead to improved team performance. In contrast, teams with high avoid goal orientation want to avoid demonstrating their incompetence, which will lead to decrease in performance. Therefore,

Hypothesis 5a: Team learning goal orientation will be positively related to the satisfaction of the team.

Hypothesis 5b: Team performance goal orientation will be positively related to the performance of the team.

Hypothesis 5c: Team avoid goal orientation will be negatively related to the performance of the team.

Degree of Agreement on Team Goal Orientation

Although team members influence each other's goal orientation and they will share a common perception on the team's emphasis on learning, performance, and avoid goal orientation over time, it does not mean they will have an identical goal orientation at the end. In the social influence literature, various forms of end states through emergent social phenomena were suggested (Latane, Nowak, & Liu, 1994). The researchers suggested that not all emergence results are the same. Instead, there are different end states of social emergence phenomena. Particularly, they distinguished between unification versus stable equibria based on the degree of agreement among group members (Latane, Nowak, & Liu, 1994). *Unification* occurs when social members reache a complete consensus on a common attitude; whereas, *stable equibria* occurs when difference of individual attitudes persist and further interaction no longer leads to changes in individuals' attitudes. In a similar vein, it was suggested that different groups have different levels of agreement among members on the group's climate and such a difference has implications for higher-level processes. For example, when there is low variance (high agreement) among individual level scores such that team members share a similar perception, it indicates that higher level process produces a strong collective behavior in which individuals behave as a group, whereas when there is high variance (less agreement) among individuals' perceptions on group climate, each individual will respond differently and there is no collective cognition or action that is shared among the group of individuals (Mischel, 1973). In this paper, I argue that the extent to which team members agree on each dimension of goal orientation will moderate the relationship between team goal orientation and team effectiveness. For example, as team members

have higher agreement on performance goal orientation, the relationship between the team's performance goal orientation and team performance will be strengthened. As team members have a higher agreement on learning goal orientation, the relationship between the team's learning goal orientation and team satisfaction will be strengthened.

Hypothesis 6a: Team members' agreement on learning goal orientation will moderate the relationship between team learning goal orientation and team satisfaction.

Hypothesis 6b: Team members' agreement on performance goal orientation will moderate the relationship between team performance goal orientation and team performance.

Hypothesis 6c: Team members' agreement on avoid goal orientation will moderate the relationship between team avoid goal orientation and team performance.

Model Summary

Overall, the model proposed in this study provides an account of the processes by which the emergence of team-level goal orientation and its influence on team-level outcomes (Figure 1). First, this study proposes that the emergence process of team goal orientation is influenced by leader's goal orientation (H1). Also, it was proposed that heterogeneity in members' trait goal orientation will be related to changes in team goal orientation over time (H2). Second, in hypotheses 3 and 4, it was proposed that the perceived differences between individual and team goal orientation will influence team

satisfaction and performance. Finally, it was suggested that team goal orientation and team members' agreement on the team goal orientation will be related to team satisfaction and performance (H5 & H6).

Because individuals are embedded in teams, this study used both individual and team-level variables. Depending on the hypothesis, this study used additive (e.g., aggregating individual-level tolerance for ambiguity variable), reference-shift (e.g., aggregating perceived team goal orientation variable), or dispersion (e.g.,variance or standard deviation of individual trait goal orientation) model of composition (Chan, 1998). To help clarify which hypothesis used which level of variables and how each of the individual-level variable was composed to the team-level, the summary of the hypotheses and levels of dependent and independent variables are presented in the Table 1. For instance, in the hypothesis 1, this study proposed that leaders' perceived team goal orientation will influence other members' perceived team goal orientation. In this hypothesis, the independent variable was leaders' goal orientation and the leader's goal orientation was a team-level variable because two members were embedded within a leader of their team. The hypothesis 2 examined how the within-team standard deviation in team members' trait goal orientation (team-level) influenced the changes in individuals' perceived team goal orientation (individual-level). The within-team standard deviation on members' trait goal orientations is a team-level variable because a dispersion of individual trait goal orientation represents a characteristics of the team. In the hypothesis 3, it was proposed that team members' perceived differences will influence team performance and satisfaction. In this hypothesis, the team members' difference scores between individual and team state goal orientations were averaged to

represent the team-level of perceived differences, which in turn, influence the team-level of outcomes. In addition, team satisfaction was represented by averaging the team members' satisfaction. Team performance was the score that team has accumulated on the task. In the hypothesis 4, a team-level of the tolerance for ambiguity was suggested to influence team satisfaction as well as performance. In this hypothesis, team-level of tolerance for ambiguity was represented by averaging team members' tolerance for ambiguity score. In the hypothesis 5 and 6, team goal orientation was represented by aggregating individual members' perceived team goal orientation. Finally, the hypothesis 6 suggested the agreement on members' team goal orientation will influence team performance and satisfaction. In the hypothesis, the agreement on team goal orientation was represented by taking the standard deviation of team members' team goal orientation.

Figure1. Model of Team Goal Orientation Emergence Process

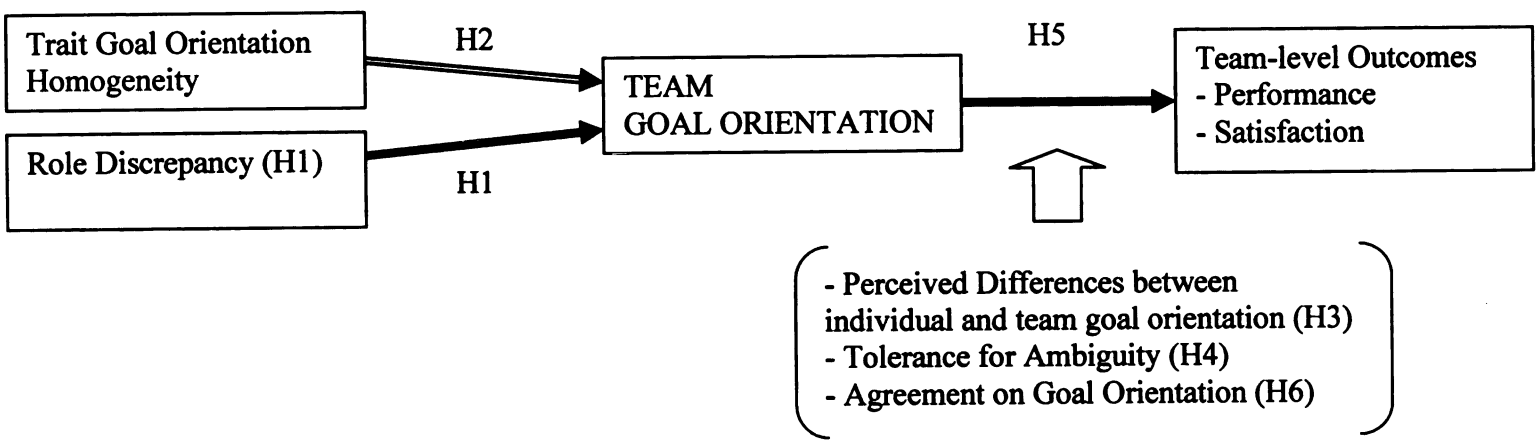


Table1. Hypothesized relationships between IV and DV and their levels and compositions.

Hypothesis	IV Level	DV Level	IV Composition	DV Composition
H1: Leaders' goal orientation influence team goal orientation emergence.	Team Level.	Individual Level	Leaders' perceived team goal orientations.	Individuals' perceived team goal orientations.
H2: Heterogeneity of trait goal orientation among team members will be positively related to the amount of change in individual goal orientation over time.	Team Level	Individual Level	Standard deviation of team members' trait goal orientations	Individual's perceived team goal orientations
H3a: Perceived differences between individual and team goal orientations in a team will be negatively related to the average satisfaction of individuals in the team.	Team Level	Team Level	Average difference scores of team members' individual goal orientation versus perceived team goal orientation.	Average satisfaction of team members.
H3b: Perceived differences between individual and team goal orientations in a team will be negatively related to the performance of the team in the beginning, but this negative relationship will decrease over time.	Team Level	Team Level	Average difference scores of team members' individual goal orientation versus perceived team goal orientation.	Team performance
H4a: Tolerance for ambiguity will moderate the relationship between goal orientation heterogeneity and average satisfaction.	Team Level	Team Level	- Average of team members' tolerance for ambiguity - Average difference scores of team members' individual goal orientation versus perceived team goal orientation.	Average satisfaction of team members.

Table1 continued

H4b: Tolerance for ambiguity will moderate the relationship between goal orientation heterogeneity and performance.	Team Level	Team Level	- Average of team members' tolerance for ambiguity - Average difference scores of team members' individual goal orientation versus perceived team goal orientation.	Team Performance.
H5a: Team learning goal orientation will be positively related to the average satisfaction of the team.	Team Level	Team Level	Average of team members' perceived team goal orientation	Average of team members' satisfaction
H5b: Team performance goal orientation will be positively related to the performance of the team.	Team Level	Team Level	Average of team members' perceived team goal orientation	Team Performance
H5c: Team avoid goal orientation will be negatively related to the performance of the team.	Team Level	Team Level	Average of team members' perceived team goal orientation	Team Performance

Table1. continued

H6a: Team members' agreement on learning goal orientation will moderate the relationship between team learning goal orientation and average team satisfaction.	Team Level	Team Level	- Standard deviation of team members' perceived team goal orientation - Average of team members' perceived team goal orientation	Average of team members' satisfaction
H6b: Team members' agreement on performance goal orientation will moderate the relationship between team performance goal orientation and team performance.	Team Level	Team Level	- Standard deviation of team members' perceived team performance goal orientation - Average of team members' perceived team performance goal orientation	Team Performance
H6c: Team members' agreement on avoid goal orientation will moderate the relationship between team avoid goal orientation and team performance.	Team Level	Team Level	- Standard deviation of team members' perceived team avoid goal orientation - Average of team members' perceived team avoid goal orientation	Team Performance

METHOD

Task Overview

In order to address the hypotheses, a task was used that was somewhat familiar to our participants and that would be seen as important – the task of inspecting luggage. A total of 26 x-ray images of suitcases were used in the experiment. Some of these images contained weapons; others did not. Example images of suitcases are displayed in Appendix A. Three participants formed a team and asked to inspect each image as accurately as possible. After inspecting each image, teams indicated whether they "search" the bag (if they were to believe it might contain a weapon) or "clear" the bag (they believe it contains no weapon). After every 5 images, participants completed a questionnaire and had an opportunity to study the manual. Based on Wood's (1986) model of complexity, this task was thought to have a relatively low complexity. There were a lot of information and x-ray examples regarding potential weapons in the manual, which participants were allowed to refer anytime they want during the experiment. Also, the task had little or no dynamic complexity as the information and standards for performance did not change.

Participants and Design

A total of 387 participants were recruited from psychology classes at a large mid-western university. Participants received extra-credit for their participation. Participation in this study was voluntary; therefore, they could decline participation at anytime during the experiment. The average age of the subject was 19.35 and 67% of the participants

were female. Fifteen participants (five teams) were not able to show a minimum level of interaction among team members during the experiment. Their data were not analyzed, thereby reducing the N to 372. In this study, to examine emergence of team-level goal orientation, I manipulated both role structure of teams (teams with leaders vs. teams without leaders) and achievement motivation of leaders (teams with leaders vs. teams with high achievement motive leaders). Achievement motivation is the higher-order motive that influences goal orientation of the individuals (Elliot & Church, 1997). Specifically, it was suggested that achievement motivation is positively related to both mastery and performance goal orientation. Therefore, manipulating the achievement motivation of team leaders was expected to be related to the goal orientation of the team members. As a result this study had three conditions; condition 1: No leader condition, condition 2: Leader condition, and condition 3: Leader with achievement motivation condition.

Procedure

Right after the participants signed up for the study online, they were asked to complete several questionnaires. These questionnaires measured trait goal orientation, trait achievement motivation, tolerance for ambiguity, general self-efficacy, personality, ability, and demographics.

Upon their arrival, participants were randomly assigned to a three-person team. Participants were told that they were to assume they were part of an airport security team and were going to process x-ray images of passenger luggage. Each individual in a team was assigned a letter based on his/her position. A person who sat on the left was assigned

the letter A. A person who sat in the middle was assigned the letter B. A person who sat on the right was assigned the letter C. For the leader condition and the leader with achievement motivation condition (condition 2 and condition 3), a person who sat in the middle (Person B) became the leader of the teams. After the brief introduction about the experiment, participants were given 3 minutes to get to know their team members and come up with a nickname for their teams. Also, a training manual was provided for each individual as a reference that they could use throughout the experiment. To increase participants' involvement, the experimenter told participants they would be tested on the manual as well as on the task at the end of the experiment. Right after the introduction period, team leaders in the leader with achievement motivation condition read an achievement-related story and were asked to reflect upon it (Appendix B).

For each trial, an x-ray image of luggage was projected on the screen. Team members first examined the image and then silently made individual decisions on their survey booklet about whether or not the luggage should be cleared or searched (Appendix B). After the individual decision, team members freely discussed the luggage to reach their final decision. For the teams without a leader condition, team members were encouraged to collectively make their team's final decision and enter their decision in the computer (Appendix D). For the conditions with leaders (condition 2 and condition 3), leaders (Person B) made the final team decision on the computer. Right after they input the decision (for all conditions), the computer gave "Correct!" or "Incorrect!" feedback (Appendix D). For each correct decision, teams were awarded 10 points; however no penalty was enforced for incorrect decisions. There were no points given for a practice

trial. After the practice trial, participants completed their first questionnaire. After every 5 trial, participants completed the same questionnaire. There were a total of 25 trials.

Experimental Manipulations

Role discrepancy. There were two conditions of role discrepancy. In the low role discrepancy condition, there was no assigned leader who made final decisions about whether to 'clear' or 'search' the bag. Each member was encouraged to cooperatively make the final decisions. In the high role discrepancy condition, team leaders had a more important role and they were authorized to make and submit their teams' final decisions.

Achievement Motivation of Leaders. For teams with leaders, there are two types of teams; teams with leaders and teams with a high achievement motive leader. For teams with high achievement motivation leaders, to increase leaders' achievement motivation, leaders read a story related to success and accomplishment (Appendix B).

Manipulation Check. To check the role discrepancy manipulation, members rated other team members on a perceived leadership scale at the end of team session. Because individuals B were assigned as leaders in the leader condition and leader with achievement motivation condition, it was expected that team members perceived individuals B as having more authority in teams in the leader and the leader with achievement motivation conditions. To check the achievement motivation manipulation, participants completed an achievement motivation questionnaire after each round (five pieces of luggage). It was expected that individual B in the leader with achievement

motivation would have higher achievement motivation than individual B in either the leader condition or non leader condition.

Measures

Cognitive Ability. Cognitive ability was measured right after participants signed up for the experiment. It was assessed for use as a control variable in all analyses. At the beginning of the study, subjects reported either their ACT or SAT scores. Both ACT and SAT scores were converted to *z* scores by means of their respective national normative data.

Trait Individual Goal Orientation. Trait goal orientation was measured online immediately after a participant signed up for experiment using the nine-item goal orientation scale developed by Elliot and McGregor (2001). See Appendix E for items.

Heterogeneity in Trait Goal Orientation. Heterogeneity of trait goal orientation was operationalized as the degree of within-unit difference in individual members' trait goal orientation. The standard deviation on trait goal orientation among team members was calculated to represent the heterogeneity in trait goal orientation (i.e., dispersion composition model; Chan, 1998)

State Individual Goal Orientation. State individual goal orientation was measured right after the practice round and at the end of every round using the nine-item goal orientation scale developed by Elliot and McGregor (2001). See Appendix E for items.

State Team Goal Orientation. State team goal orientation was measured with a modified version of goal orientation items developed by Elliot and McGregor (2001). The modification entailed changing the referent from individual to team . This measure was administrated right after the practice round and at the end of every round. See Appendix E for items. The average ICC(1) value for team performance goal orientation was .06 across the six waves. The average ICC(1) value for team mastery goal orientation was .14 across the six waves. The average ICC(1) value for team avoid goal orientation was .10 across the six waves. In addition to the ICC(1), the multiple item $R_{WG(J)}$ was computed for each scale by team. The average $R_{WG(J)}$ for team performance, mastery, and avoid goal orientations across 6 waves were ,.73,.83, and .70 respectively. These values were greater than .70 cutoff that are widely used in organizational psychology studies as an indicator of adequate agreement among members within teams (e.g., Zohar, 2000; George, 1990; Judge & Bono, 2000). Combining the results from both ICC(1) and $r_{WG(J)}$, there are sufficient supports for aggregating this measure to the team level of analysis by calculating the average value within teams.

Team Perceived Differences in Goal orientation. Perceived differences in goal orientations were calculated by subtracting state team goal orientation from state individual goal orientation for each individual by each wave. This gives the difference scores between individual and team goal orientation. Then, to represent the variable for team-level, the team perceived differences was calculated by averaging the perceived differences of individual team members. Thus, teams with higher perceived differences members possessed higher value for team perceived differences.

Agreement on Team Goal Orientation. Agreement on team goal orientation was operationalized as the degree of within-unit difference in individual members' state team goal orientation. The standard deviation on state team goal orientation among team members was calculated to represent the agreement in team goal orientation (i.e., dispersion composition model; Chan, 1998).

Tolerance for Ambiguity. Tolerance for ambiguity was measured right after participants signed up for the study using scales developed by McLain (1993). See Appendix F for items.

Team Tolerance for Ambiguity. Team tolerance for ambiguity was represented as the average of individual team members' tolerance for ambiguity (i.e., additive composition model; Chan, 1998).

Leadership Emergence. To check the role discrepancy manipulation, leadership emergence was measured at the end of the study to check the manipulation of role discrepancy. Individuals rated their fellow team members on the five-item questionnaire that was developed by Cronshaw and Lord (1987). See Appendix G for items.

Team Satisfaction. Satisfaction was assessed after the first, the third, and the fifth round. A 4 -item team satisfaction scale was adopted from Cook, Helworth, Wall, and Warr (1981). The scale is a seven-point Likert scale, which ranges from "extremely dissatisfied" to "extremely satisfied." See Appendix H for items. Team satisfaction was represented by calculating the average value within teams.

Team Performance. Team performance was assessed using the total number of points teams have acquired at the end of the each round. For each correct decision teams acquired 10 points. Each round was consisted of 5 images of the luggage and there was a total of 5 rounds.

RESULTS

Preliminary Analyses and Manipulation Check

Table 2 presents the overall means, standard deviations, reliabilities, and correlations for individual-level variables. Trait goal orientations were generally positively related to state individual and team goal orientations over time. Achievement motivation was generally positively related to state individual and team performance and mastery goal orientation. Also, for within each round, state individual goal orientations were positively related to state team goal orientation. Satisfactions were positively related to achievement motivation and performance and mastery goal orientations. Table 3 presents the overall means, standard deviations, and correlations for team-level variables. Team-level of trait goal orientation were generally positively related to the state team goal orientation over time. Also, the team-level of tolerance for ambiguity was generally related to the state team avoid goal orientation such that teams with members who were less tolerance for ambiguities were more likely to have a high level of team avoid goal orientation. Also, team mastery and performance goal orientation were generally positively related to team performance and satisfaction. In addition, team goal

orientations were generally negatively related to within-team standard deviation on the team goal orientations such that as the team goal orientations increased, the within-team agreement on the team goal orientations were also increased.

Table 2 . Means, Standard Deviations, Correlations, and Reliabilities of Individual-level variables.

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Condition	2.01	0.81	-											
2. Position	1.97	0.81	0.01	-										
3. Age	19.35	1.36	-0.08	0.10	-									
4. Gender	1.68	0.47	-0.04	0.01	-0.18**	-								
5. Ability	0.62	0.73	0.02	-0.01	-0.12	-0.02	-							
6. trait PGO*a*	3.52	0.80	-0.11*	0.03	0.00	-0.12	0.10	(.87)						
7. trait MGO*b*	4.08	0.59	-0.02	0.05	0.03	0.11	0.05	0.20**	(.77)					
8. Trait AGO*c*	3.66	0.73	-0.01	0.00	-0.19**	0.13	-0.04	0.29**	0.18**	(.67)				
9. Tol Amb*d*	3.98	0.71	-0.04	0.04	-0.08	0.12	-0.05	0.20**	0.24**	0.29**	(.67)			
10. Ach. C*e* (wave1)	3.03	0.65	0.09	0.03	0.01	-0.19**	0.09	0.06	0.21**	-0.02	-0.10	(.69)		
11. Ach. E*f*(wave1)	3.20	0.42	0.01	0.02	0.05	-0.01	-0.01	0.12	0.14**	0.08	0.07	0.15**	(.56)	
12. Ind. PGO*g* (wave1)	2.50	0.86	-0.08	0.00	0.06	-0.12	-0.15**	0.30**	0.09	0.17**	0.03	0.22**	0.13*	(.89)

*Note:N=372; ** p<.01; * p<.05, a*Trait performance goal orientation, *b*Trait mastery goal orientation, *c*Trait avoid goal orientation, *d*Tolerance for ambiguity, *e*Achivement motivation (Challenge), *f*Achievement motivation (effort), *g*Individual state performance goal orientation.

(Table 2 continued)

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12
13. Ind MGO*h* (wave1)	3.54	0.81	0.15**	-0.02	0.04	-0.07	-0.08	-0.01	0.28**	0.03	0.01	0.52**	0.22**	0.29**
14. Ind AGO*i* (wave1)	2.95	0.90	0.03	0.02	-0.10	0.13*	-0.18**	0.14**	0.02	0.34**	0.21**	-0.01	0.08	0.37**
15. Tm PGO*j* (wave1)	3.04	0.82	-0.05	0.01	0.00	-0.12*	-0.05	0.28**	0.09	0.17**	0.08	0.23**	0.28**	0.52**
16. Tm MGO*k* (wave1)	3.31	0.68	0.09	-0.01	0.02	0.03	-0.22**	-0.02	0.22**	0.03	0.01	0.41**	0.27**	0.19**
17. Tm AGO*l* (wave1)	2.98	0.77	0.05	0.06	-0.04	0.10	-0.09	0.10	0.11	0.26**	0.18**	0.03	0.02	0.33**
18. Perf.*m*(wave1)	26.87	11.03	0.12	-0.04	-0.05	0.07	-0.04	0.12	-0.02	0.07	0.05	-0.18*	-0.04	-0.04
19. Ach. C (wave2)	3.08	0.74	0.18**	0.02	-0.02	-0.18**	0.05	0.06	0.21**	0.02	-0.11*	0.75**	0.14**	0.16**
20. Ach. E (wave2)	3.23	0.41	0.13	0.03	0.02	0.07	-0.06	0.11	0.21**	0.09	0.12*	0.21**	0.56**	0.17**
21. Ind. PGO (wave2)	2.61	0.86	-0.10	0.07	0.09	-0.17**	-0.11*	0.37**	0.05	0.16**	0.02	0.19**	0.14**	0.77**
22. Ind MGO (wave2)	3.57	0.85	0.13*	-0.01	0.06	-0.01	-0.11	-0.03	0.29**	0.02	0.02	0.47**	0.18**	0.23**
23. Ind AGO (wave2)	3.03	0.96	0.00	0.00	-0.04	0.10	-0.17**	0.13*	0.13*	0.35**	0.28**	0.06	0.09	0.34**
24. Tm PGO(wave2)	3.01	0.90	-0.04	0.03	0.03	-0.12*	-0.06	0.32**	0.08	0.15**	0.13*	0.22**	0.20**	0.51**
25. Tm MGO (wave2)	3.43	0.74	0.10	0.01	0.05	0.02	-0.15**	0.00	0.20**	0.03	-0.01	0.45**	0.26**	0.15**

Note:N=372; ** *p<.01;* * *p<.05;* ***h*** Individual state mastery goal orientation, *i*Individual state avoid goal orientation, *j*Percieved state team performance goal orientation, *k*Percieved state team mastery goal orientation, *l*Percieved state team avoid goal orientation, *m*Team performance (N=136).

(Table 2 continued)

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12
26. Tm AGO2	3.13	0.83	0.07	0.03	-0.05	0.12*	-0.12*	0.09	0.14**	0.30**	0.27**	0.07	0.08	0.25**
27. Perf 2	50.76	14.12	0.15	-0.09	-0.16	0.00	-0.08	0.08	-0.04	0.13	0.01	-0.13	0.05	0.10
28. Sat 2	5.24	1.08	0.09	0.06	-0.03	0.06	-0.01	-0.02	0.03	0.02	-0.03	0.04	0.15**	-0.03
29. Ach. C3	3.09	0.82	0.15**	-0.02	0.03	-0.17**	0.06	0.06	0.18**	0.02	-0.14*	0.72**	0.19**	0.18**
30. Ach. E3	3.27	0.42	0.09	0.03	0.07	0.01	-0.08	0.13*	0.20**	0.03	0.07	0.21**	0.52**	0.21**
31. Ind. PGO3	2.63	0.93	-0.02	0.08	0.03	-0.14*	-0.14*	0.37**	0.04	0.21**	0.08	0.19**	0.11*	0.68**
32. Ind MGO3	3.56	0.88	0.12*	0.01	0.07	-0.01	-0.12*	-0.04	0.29**	0.02	-0.02	0.48**	0.19**	0.20**
33. Ind AGO3	3.03	0.97	0.02	0.02	-0.04	0.13*	-0.15**	0.18**	0.13*	0.35	0.31**	0.05	0.07	0.29**
34. Tm PGO3	2.97	0.92	-0.07	0.06	0.03	-0.08	-0.04	0.33**	0.07	0.11**	0.10	0.17**	0.15**	0.47**
35. Tm MGO3	3.43	0.77	0.12*	-0.05	0.01	0.05	-0.18**	-0.03	0.16**	0.07	-0.01	0.43**	0.25**	0.14**
36. Tm AGO3	3.15	0.85	0.02	0.02	-0.05	0.17**	-0.08	0.13*	0.19**	0.32	0.24**	0.07	0.09	0.26**
37. Perf 3	79.85	19.61	0.18*	-0.14	-0.15	-0.02	-0.14	0.00	-0.05	0.00	-0.04	-0.11	0.04	0.07
38. Ach. C4	3.07	0.89	0.16**	0.02	0.03	-0.17**	0.09	0.05	0.20**	0.00	-0.11*	0.68**	0.14*	0.16**

(Table 2 continued)

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12
39. Ach. E4	3.28	0.46	0.15**	0.01	0.02	0.05	-0.04	0.09	0.13*	0.05	0.05	0.11*	0.49**	0.18**
40. Ind PGO4	2.61	0.94	-0.01	0.05	0.01	-0.20**	-0.12*	0.34**	0.02	0.17	0.07	0.19**	0.14**	0.64**
41. Ind MGO4	3.51	0.93	0.16**	0.00	0.10	-0.03	-0.09	-0.08	0.28**	-0.03	-0.01	0.43**	0.22**	0.15**
42. Ind MGO4	3.05	1.00	0.01	0.00	-0.03	0.07	-0.12*	0.16**	0.12*	0.35	0.27**	0.09	0.09	0.25**
43. Tm PGO4	2.93	0.92	-0.02	0.00	0.00	-0.14**	-0.04	0.28**	0.00	0.06	0.01	0.24**	0.18**	0.43**
44. Tm MGO4	3.43	0.81	0.14**	-0.06	0.07	0.01	-0.15*	0.00	0.20**	-0.04	-0.05	0.39**	0.30**	0.15**
45. Tm AGO4	3.13	0.90	0.04	0.01	-0.05	0.10	-0.08	0.15**	0.12	0.27**	0.24**	0.05	0.11	0.18**
46. Perf 4	118.78	22.91	0.21*	-0.11	-0.14	-0.07	-0.09	0.00	0.01	-0.03	-0.02	-0.06	0.11	0.06
47. Sat 4	5.19	1.07	0.16**	0.02	0.06	0.00	-0.07	-0.06	0.02	-0.07	-0.08	0.03	0.17**	0.02
48. Ach. C5	3.13	0.91	0.18**	-0.01	0.00	-0.16**	0.08	0.05	0.18**	0.00	-0.11	0.70**	0.15**	0.13*
49. Ach. E5	3.31	0.48	0.14**	-0.01	-0.01	0.05	-0.05	0.09	0.13*	0.03	0.10	0.21**	0.49**	0.17**
50. Ind PGO5	2.69	0.96	0.02	0.06	0.02	-0.14**	-0.13*	0.25**	0.00	0.12*	0.09	0.19**	0.13*	0.55**
51. Ind MGO5	3.51	0.96	0.14**	0.02	0.07	0.05	-0.15**	-0.07	0.23**	-0.01	0.04	0.41**	0.26**	0.13*

(Table 2 continued)

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12
52. Ind AGO5	3.08	1.01	0.05	0.03	-0.03	0.07	-0.17**	0.15**	0.16**	0.35**	0.28**	0.08	0.09	0.28**
53. Tm PGO5	2.96	0.96	0.01	0.04	0.00	-0.12*	-0.01	0.23**	0.03	0.05	-0.03	0.24**	0.12*	0.38**
54. Tm MGO5	3.42	0.85	0.11*	-0.03	0.07	0.05	-0.19**	-0.06	0.22**	-0.02	-0.01	0.38**	0.28**	0.12*
55. Tm AGO5	3.10	0.91	0.05	0.03	-0.05	0.11*	-0.12*	0.12*	0.15**	0.30**	0.25**	0.05	0.09	0.20**
56. Perf 5	166.26	24.47	0.18*	-0.13	-0.14	-0.07	-0.06	0.00	0.02	-0.04	-0.02	-0.03	0.10	0.04
57. Ach. C6	3.18	0.94	0.17**	0.00	0.02	-0.15**	0.07	0.08	0.18**	0.01	-0.10	0.71**	0.14**	0.18**
58. Ach. E6	3.30	0.48	0.17**	0.05	0.05	0.02	-0.06	0.07	0.12*	0.03	0.06	0.24**	0.45**	0.25**
59. Ind PGO6	2.73	0.98	-0.01	0.05	0.03	-0.16**	-0.12*	0.27**	0.00	0.14*	0.05	0.23**	0.09	0.58**
60. Ind MGO6	3.52	0.97	0.13*	0.01	0.09	0.01	-0.13*	-0.10	0.22**	0.02	0.02	0.42**	0.19**	0.17**
61. Ind AGO6	3.02	1.02	0.00	0.02	-0.01	0.07	-0.12*	0.11	0.08	0.30**	0.21**	0.04	0.03	0.25**
62. Tm PGO6	2.97	0.96	-0.01	0.03	0.03	-0.10	-0.09	0.25**	0.01	0.04	-0.03	0.19**	0.12*	0.38**
63. Tm MGO6	3.48	0.86	0.15**	-0.03	0.09	0.06	-0.18**	-0.04	0.20**	-0.05	-0.03	0.38**	0.25**	0.13*
64. Tm AGO6	3.11	0.92	0.08	0.00	-0.04	0.12**	-0.14*	0.14*	0.10	0.30**	0.22**	0.03	0.10	0.20**
65. Sat 6	5.80	0.88	0.18**	0.01	0.05	0.05	0.04	-0.12*	0.01	-0.10	-0.07	0.08	0.16**	-0.03

(Table 2 continued)

	M	SD	13	14	15	16	17	18	19	20	21	22	23	24	25
13. Ind MGO1	3.54	0.81	(.87)												
14. Ind AGO1	2.95	0.90	0.19**	(.83)											
15. Tm PGO1	3.04	0.82	0.31**	0.33**	(.89)										
16. Tm MGO1	3.31	0.68	0.71**	0.19**	0.38**	(.87)									
17. Tm AGO1	2.98	0.77	0.20**	0.67**	0.41**	0.28**	(.81)								
18. Perf. 1	26.87	11.03	-0.06	0.04	-0.08	-0.09	0.02	(.87)							
19. Ach. C2	3.08	0.74	0.49**	0.01	0.19**	0.37**	0.04	0.01	(.83)						
20. Ach. E2	3.23	0.41	0.30**	0.16**	0.28**	0.34**	0.10	0.07	0.26**	(.67)					
21. Ind. PGO2	2.61	0.86	0.22**	0.37**	0.53**	0.18**	0.31**	0.01	0.21**	0.17**	(.90)				
22. Ind MGO2	3.57	0.85	0.82**	0.18**	0.29**	0.67**	0.21**	-0.08	0.49**	0.29**	0.23**	(.89)			
23. Ind AGO2	3.03	0.96	0.24**	0.74**	0.36**	0.27**	0.66**	-0.13	0.02	0.19**	0.37**	0.27**	(.86)		
24. Tm PGO2	3.01	0.90	0.28**	0.33**	0.74**	0.32**	0.35**	-0.02	0.23**	0.35**	0.58**	0.31**	0.39 **	(.92)	
25. Tm MGO2	3.43	0.74	0.67**	0.16**	0.36**	0.76**	0.23**	-0.09	0.45**	0.35**	0.18**	0.77**	0.26**	0.38**	(.87)

(Table 2 continued)

	M	SD	13	14	15	16	17	18	19	20	21	22	23	24
26. Tm AGO2	3.13	0.83	0.21**	0.57**	0.38**	0.24**	0.65**	-0.13	0.06	0.17**	0.30**	0.22**	0.75**	0.39**
27. Perf 2	50.76	14.12	-0.03	0.04	0.03	-0.07	0.03	0.76**	0.09	0.08	0.14	-0.03	-0.08	0.09
28. Sat 2	5.24	1.08	0.10	0.01	0.03	0.13*	0.06	0.53**	0.25**	0.21**	0.01	0.13*	-0.10	0.07
29. Ach. C3	3.09	0.82	0.46**	-0.04	0.23	0.38**	0.04	-0.04	0.85**	0.27**	0.24**	0.48**	-0.01	0.24**
30. Ach. E3	3.27	0.42	0.33**	0.20**	0.33**	0.37**	0.16**	0.08	0.25**	0.73**	0.22**	0.33**	0.22**	0.35**
31. Ind. PGO3	2.63	0.93	0.21**	0.37**	0.52**	0.20**	0.32**	-0.02	0.17**	0.14**	0.81**	0.20**	0.36**	0.59**
32. Ind MGO3	3.56	0.88	0.78**	0.19**	0.28**	0.66**	0.19**	-0.09	0.49**	0.30**	0.19**	0.86**	0.26**	0.26**
33. Ind AGO3	3.03	0.97	0.23**	0.72**	0.34**	0.26**	0.61**	-0.12	0.01	0.17**	0.31**	0.25**	0.84**	0.37**
34. Tm PGO3	2.97	0.92	0.23**	0.27**	0.68**	0.28**	0.32**	0.01	0.18**	0.25**	0.58**	0.25**	0.34**	0.81**
35. Tm MGO3	3.43	0.77	0.62**	0.13*	0.34**	0.68**	0.18**	-0.11	0.39**	0.29**	0.14**	0.72**	0.23**	0.29**
36. Tm AGO3	3.15	0.85	0.19**	0.56**	0.40**	0.24**	0.59**	-0.08	0.09	0.19**	0.27**	0.24**	0.69**	0.41**
37. Perf 3	79.85	19.61	0.00	0.02	0.00	-0.04	-0.03	0.61**	0.01	0.06	0.12	-0.03	-0.05	0.06
38. Ach. C4	3.07	0.89	0.43**	-0.05	0.20**	0.34**	0.03	-0.03	0.80**	0.24**	0.20**	0.45**	-0.04	0.21**

(Table 2 continued)

	M	SD	25	26	27	28	29	30	31	32	33	34	35	36	37	38
26. Tm AGO2	3.13	0.83	0.28**	(.84)												
27. Perf 2	50.76	14.12	-0.06	-0.08	-											
28. Sat 2	5.24	1.08	0.19**	-0.06	0.47**	(.87)										
29. Ach. C3	3.09	0.82	0.47**	0.06	0.10	0.20**	(.89)									
30. Ach. E3	3.27	0.42	0.40**	0.20**	0.14	0.19**	0.29**	(.68)								
31. Ind. PGO3	2.63	0.93	0.19**	0.33**	0.14	0.04	0.21**	0.21**	(.92)							
32. Ind MGO3	3.56	0.88	0.76**	0.26**	-0.04	0.12*	0.52**	0.40**	0.17**	(.89)						
33. Ind AGO3	3.03	0.97	0.25**	0.73**	-0.11	-0.10	-0.01	0.23**	0.41**	0.26**	(.85)					
34. Tm PGO3	2.97	0.92	0.30**	0.38**	0.14	0.04	0.21**	0.33**	0.62**	0.24**	0.33**	(.94)				
35. Tm MGO3	3.43	0.77	0.80**	0.26**	-0.03	0.12*	0.46**	0.39**	0.15**	0.78**	0.25**	0.32**	(.86)			
36. Tm AGO3	3.15	0.85	0.29**	0.75**	-0.08	0.03	0.05	0.25**	0.37**	0.26**	0.77**	0.41**	0.29**	(.85)		
37. Perf 3	79.85	19.61	-0.06	-0.09	0.82**	0.36**	0.02	0.12	0.12	-0.03	-0.07	0.07	-0.06	-0.12	-	
38. Ach. C4	3.07	0.89	0.42**	0.01	0.11	0.20**	0.87**	0.25**	0.18**	0.46**	-0.03	0.19**	0.42**	0.05	0.11	(.91)

(Table 2 continued)

	M	SD	13	14	15	16	17	18	19	20	21	22	23	24
39. Ach. E4	3.28	0.46	0.26**	0.14**	0.32**	0.31**	0.11*	0.14	0.18**	0.61**	0.17**	0.32**	0.18**	0.32**
40. Ind PGO4	2.61	0.94	0.20**	0.35**	0.53**	0.19**	0.27**	0.03	0.19**	0.17**	0.75**	0.20**	0.38**	0.59**
41. Ind MGO4	3.51	0.93	0.70**	0.13**	0.22**	0.62**	0.15**	-0.11	0.44**	0.29**	0.14**	0.80**	0.22**	0.19**
42. Ind MGO4	3.05	1.00	0.20**	0.64**	0.36**	0.27**	0.57**	-0.07	0.03	0.19**	0.29**	0.23**	0.79**	0.42**
43. Tm PGO4	2.93	0.92	0.22**	0.23**	0.67**	0.27**	0.27**	-0.02	0.23**	0.20**	0.53**	0.20**	0.30**	0.76**
44. Tm MGO4	3.43	0.81	0.61**	0.12*	0.34**	0.64**	0.13*	-0.11	0.37**	0.29**	0.16**	0.68**	0.20**	0.28**
45. Tm AGO4	3.13	0.90	0.14**	0.53**	0.35**	0.21**	0.51**	-0.06	0.03	0.15**	0.22**	0.16**	0.66**	0.38**
46. Perf 4	118.78	22.91	0.07	-0.04	0.01	-0.01	-0.03	0.52**	0.06	0.09	0.11	0.02	-0.08	0.08
47. Sat 4	5.19	1.07	0.08	-0.08	0.06	0.14*	-0.05	0.22*	0.14*	0.19**	0.08	0.12*	-0.10	0.09
48. Ach. C5	3.13	0.91	0.43**	-0.01	0.19**	0.37**	0.02	-0.05	0.79**	0.27**	0.18**	0.46**	0.00	0.21**
49. Ach. E5	3.31	0.48	0.34**	0.19**	0.34**	0.38**	0.16**	0.15	0.27**	0.67**	0.17**	0.39**	0.23**	0.39**
50. Ind PGO5	2.69	0.96	0.21**	0.36**	0.48**	0.20**	0.28**	0.00	0.19**	0.13*	0.66**	0.22**	0.41**	0.56**
51. Ind MGO5	3.51	0.96	0.69**	0.21**	0.25**	0.60**	0.20**	-0.13	0.40**	0.30**	0.12*	0.79**	0.27**	0.22**

	M	SD	25	26	27	28	29	30	31	32	33	34	35	36	37
39. Ach. E4	3.28	0.46	0.37**	0.15**	0.17	0.14**	0.20**	0.74**	0.17**	0.33**	0.18**	0.28**	0.37**	0.22**	0.16
40. Ind PGO4	2.61	0.94	0.20**	0.32**	0.13	0.06	0.20**	0.23**	0.87**	0.16**	0.40**	0.61**	0.17**	0.36**	0.15
41. Ind MGO4	3.51	0.93	0.72**	0.23**	-0.07	0.16**	0.50**	0.35**	0.13*	0.86**	0.21**	0.19**	0.74**	0.24**	-0.04
42. Ind MGO4	3.05	1.00	0.27**	0.69**	-0.08	-0.09	0.00	0.25**	0.37**	0.25**	0.87**	0.37**	0.26**	0.74**	-0.06
43. Tm PGO4	2.93	0.92	0.27**	0.34**	0.11	0.03	0.25**	0.29**	0.59**	0.21**	0.31**	0.80**	0.28**	0.36**	0.14
44. Tm MGO4	3.43	0.81	0.75**	0.24**	-0.06	0.11*	0.46**	0.38**	0.17**	0.77**	0.21**	0.27**	0.84**	0.22**	-0.07
45. Tm AGO4	3.13	0.90	0.24**	0.69**	-0.08	-0.04	0.00	0.22**	0.32**	0.19**	0.74**	0.37**	0.27**	0.78**	-0.07
46. Perf 4	118.78	22.91	0.01	-0.10	0.74**	0.36**	0.06	0.14	0.11	-0.01	-0.12	0.08**	-0.02	-0.14	0.93**
47. Sat 4	5.19	1.07	0.19**	-0.05	0.31**	0.57**	0.20**	0.21**	0.08	0.14*	-0.14*	0.10	0.19**	-0.08	0.47**
48. Ach. C5	3.13	0.91	0.45**	0.05	0.10	0.17**	0.87**	0.27**	0.18**	0.49**	0.00	0.18**	0.45**	0.08	0.09
49. Ach. E5	3.31	0.48	0.41**	0.20**	0.18*	0.16**	0.29**	0.73**	0.17**	0.37**	0.25**	0.31**	0.39**	0.27**	0.20*
50. Ind PGO5	2.69	0.96	0.21**	0.35**	0.11	0.04	0.20**	0.19**	0.79**	0.18**	0.43**	0.59**	0.18**	0.38**	0.16
51. Ind MGO5	3.51	0.96	0.70**	0.27**	-0.05	0.11	0.46**	0.37**	0.15**	0.84**	0.27**	0.20**	0.74**	0.25**	-0.03

(Table 2 continued)

	M	SD	38	39	40	41	42	43	44	45	46	47	48	49	50	51
39. Ach. E4	3.28	0.46	0.21**	(.64)												
40. Ind PGO4	2.61	0.94	0.21**	0.26**	(.92)											
41. Ind MGO4	3.51	0.93	0.52**	0.36**	0.16**	(.92)										
42. Ind AGO4	3.05	1.00	0.00	0.23**	0.42**	0.24**	(.88)									
43. Tm PGO4	2.93	0.92	0.25**	0.24**	0.67**	0.15**	0.39**	(.92)								
44. Tm MGO4	3.43	0.81	0.43**	0.38**	0.18**	0.77**	0.22**	0.27**	(.88)							
45. Tm AGO4	3.13	0.90	-0.01	0.18**	0.35**	0.17**	0.78**	0.38**	0.27**	(.86)						
46. Perf 4	118.78	22.91	0.14	0.16	0.13	-0.02	-0.09	0.16	-0.03	-0.11	-					
47. Sat 4	5.19	1.07	0.23**	0.22**	0.10	0.25**	-0.12	0.09	0.22**	-0.11*	0.45**	(.88)				
48. Ach. C5	3.13	0.91	0.90**	0.22**	0.19**	0.54**	0.04	0.25**	0.46**	0.03	0.14	0.20**	(.92)			
49. Ach. E5	3.31	0.48	0.27**	0.75**	0.23**	0.39**	0.26**	0.30**	0.40**	0.25**	0.22*	0.18**	0.32**	(.74)		
50. Ind PGO5	2.69	0.96	0.19**	0.19**	0.82**	0.19**	0.43**	0.66**	0.18**	0.36**	0.14	0.07	0.19**	0.23**	(.93)	
51. Ind MGO5	3.51	0.96	0.42**	0.33**	0.14**	0.86**	0.28**	0.17**	0.79**	0.21**	-0.01	0.15**	0.51**	0.41**	0.21**	(.92)

(Table 2 continued)

	M	SD	13	14	15	16	17	18	19	20	21	22	23	24
52. Ind AGO5	3.08	1.01	0.18**	0.65**	0.33**	0.23**	0.58**	-0.07	0.06	0.21**	0.30**	0.20**	0.76**	0.38**
53. Tm PGO5	2.96	0.96	0.23**	0.22**	0.62**	0.23**	0.26**	0.05	0.25**	0.20**	0.50**	0.28**	0.28**	0.71**
54. Tm MGO5	3.42	0.85	0.60**	0.14**	0.29**	0.65**	0.17**	-0.12	0.38**	0.34**	0.12*	0.71**	0.24**	0.27**
55. Tm AGO5	3.10	0.91	0.13*	0.55**	0.35**	0.22**	0.54**	0.00	0.04	0.17**	0.25**	0.17**	0.63**	0.33**
56. Perf 5	166.26	24.47	0.09	-0.05	0.01	0.00	-0.04	0.51**	0.07	0.10	0.10	0.03	-0.07	0.08
57. Ach. C6	3.18	0.94	0.48**	0.02	0.21**	0.40**	0.07	0.03	0.80**	0.26**	0.21**	0.49**	0.04	0.24**
58. Ach. E6	3.30	0.48	0.40**	0.23**	0.35**	0.40**	0.19**	0.18*	0.24**	0.61**	0.22**	0.41**	0.24**	0.39**
59. Ind PGO6	2.73	0.98	0.22**	0.38**	0.46**	0.20**	0.27**	0.01	0.23**	0.15**	0.66**	0.23**	0.40**	0.56**
60. Ind MGO6	3.52	0.97	0.69**	0.21**	0.17**	0.56**	0.17**	-0.11	0.44**	0.28**	0.12*	0.76**	0.24**	0.18**
61. Ind AGO6	3.02	1.02	0.14**	0.64**	0.27**	0.20**	0.56**	-0.15	0.00	0.12*	0.27**	0.16**	0.72**	0.32**
62. Tm PGO6	2.97	0.96	0.16**	0.22**	0.59**	0.24**	0.24**	-0.02	0.22**	0.19**	0.51**	0.17**	0.27**	0.66**
63. Tm MGO6	3.48	0.86	0.61**	0.17**	0.23**	0.60**	0.16**	-0.10	0.38**	0.30**	0.11*	0.69**	0.21**	0.22**
64. Tm AGO6	3.11	0.92	0.10	0.54**	0.32**	0.18**	0.54**	-0.02	0.03	0.17**	0.23**	0.14*	0.59**	0.32**
65. Sat 6	5.80	0.88	0.14**	-0.03	0.08	0.11*	-0.01	0.17	0.16**	0.22**	0.01	0.16**	-0.04	0.06

(Table 2 continued)

	M	SD	25	26	27	28	29	30	31	32	33	34	35	36	37
52. Ind AGO5	3.08	1.01	0.24**	0.68**	-0.03	-0.06	0.02	0.28**	0.41**	0.26**	0.84**	0.36**	0.23**	0.75**	-0.01
53. Tm PGO5	2.96	0.96	0.29**	0.32**	0.17*	0.07	0.25**	0.25**	0.59**	0.25**	0.29**	0.78**	0.31**	0.37**	0.16
54. Tm MGO5	3.42	0.85	0.74**	0.26**	-0.02	0.18**	0.43**	0.41**	0.15**	0.76**	0.24**	0.26**	0.80**	0.26**	0.00
55. Tm AGO5	3.10	0.91	0.23**	0.67**	0.03	0.01	0.00	0.23**	0.35**	0.19**	0.74**	0.33**	0.24**	0.78**	0.04
56. Perf 5	166.26	24.47	0.01	-0.10	0.73**	0.36**	0.08	0.14	0.10	0.01	-0.11	0.09	-0.01	-0.14	0.91**
57. Ach. C6	3.18	0.94	0.47**	0.08	0.10	0.17**	0.86**	0.26**	0.20**	0.52**	0.04	0.20**	0.46**	0.13*	0.06
58. Ach. E6	3.30	0.48	0.43**	0.21**	0.18*	0.15**	0.26**	0.68**	0.22**	0.41**	0.28**	0.30**	0.40**	0.29**	0.16
59. Ind PGO6	2.73	0.98	0.23**	0.33**	0.13	0.08	0.23**	0.22**	0.79**	0.19**	0.40**	0.56**	0.18**	0.38**	0.17**
60. Ind MGO6	3.52	0.97	0.67**	0.25**	-0.03	0.18**	0.46**	0.34**	0.16**	0.80**	0.25**	0.15**	0.69**	0.25**	-0.04
61. Ind AGO6	3.02	1.02	0.19**	0.67**	-0.15	-0.08	-0.03	0.19**	0.39**	0.20**	0.81**	0.30**	0.18**	0.72**	-0.13
62. Tm PGO6	2.97	0.96	0.23**	0.29**	0.15	0.04	0.23**	0.25**	0.62**	0.18**	0.28**	0.74**	0.23**	0.35**	0.18**
63. Tm MGO6	3.48	0.86	0.72**	0.25**	0.01	0.16**	0.42**	0.40**	0.17**	0.76**	0.24**	0.22**	0.77**	0.26**	0.01
64. Tm AGO6	3.11	0.92	0.19**	0.64**	-0.02	0.01	0.01	0.21**	0.37**	0.16**	0.71**	0.31**	0.24**	0.74**	-0.04
65. Sat 6	5.80	0.88	0.22**	0.03	0.20**	0.51**	0.18**	0.22**	0.01	0.18**	-0.06	0.10	0.19**	0.02	0.25**

(Table 2 continued)

	M	SD	38	39	40	41	42	43	44	45	46	47	48	49	50
52. Ind AGO5	3.08	1.01	0.03	0.22**	0.42**	0.26**	0.85**	0.35**	0.19**	0.74**	-0.08	-0.11*	0.09	0.26**	0.46**
53. Tm PGO5	2.96	0.96	0.27**	0.22**	0.62**	0.21**	0.32**	0.82**	0.27**	0.33**	0.17	0.09	0.25**	0.30**	0.68**
54. Tm MGO5	3.42	0.85	0.42**	0.35**	0.15**	0.78**	0.23**	0.24**	0.83**	0.24**	0.04	0.25**	0.48**	0.46**	0.21**
55. Tm AGO5	3.10	0.91	0.03	0.20**	0.35**	0.20**	0.73**	0.33**	0.24**	0.85**	-0.01	-0.11*	0.08	0.28**	0.39**
56. Perf 5	166.26	24.47	0.16**	0.16	0.13	0.00	-0.08	0.16	-0.02	-0.10	0.98**	0.46**	0.16	0.23**	0.13
57. Ach. C6	3.18	0.94	0.87**	0.18**	0.20**	0.54**	0.05	0.25**	0.46**	0.06	0.12	0.15**	0.92**	0.30**	0.21**
58. Ach. E6	3.30	0.48	0.23**	0.72**	0.29**	0.44**	0.31**	0.30**	0.42**	0.25**	0.20*	0.21**	0.31**	0.81**	0.28**
59. Ind PGO6	2.73	0.98	0.24**	0.19**	0.78**	0.19**	0.40**	0.62**	0.18**	0.34**	0.15	0.08	0.24**	0.24**	0.87**
60. Ind MGO6	3.52	0.97	0.43**	0.29**	0.12*	0.84**	0.24**	0.11*	0.71**	0.19**	-0.02	0.17**	0.49**	0.40**	0.20**
61. Ind AGO6	3.02	1.02	0.00	0.14**	0.38**	0.19**	0.80**	0.29**	0.17**	0.74**	-0.19*	-0.11*	0.02	0.19**	0.42**
62. Tm PGO6	2.97	0.96	0.24**	0.20**	0.62**	0.16**	0.30**	0.79**	0.20**	0.32**	0.17	0.11*	0.22	0.27**	0.68**
63. Tm MGO6	3.48	0.86	0.40**	0.34**	0.14**	0.77**	0.22**	0.19**	0.81**	0.26**	0.02	0.20**	0.46**	0.43**	0.20**
64. Tm AGO6	3.11	0.92	0.05	0.19**	0.36**	0.19**	0.73**	0.32**	0.24**	0.82**	-0.10	-0.08	0.08	0.24**	0.38**
65. Sat 6	5.80	0.88	0.19**	0.20**	0.02	0.27**	-0.03	0.09	0.23**	-0.02	0.32**	0.64**	0.20**	0.22**	0.09

(Table 2 continued)

	M	SD	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65
52. Ind AGO5	3.08	1.01	0.30**	(.88)													
53. Tm PGO5	2.96	0.96	0.23**	0.32**	(.94)												
54. Tm MGO5	3.42	0.85	0.81**	0.26**	0.32**	(.90)											
55. Tm AGO5	3.10	0.91	0.24**	0.79**	0.35**	0.29**	(.88)										
56. Perf 5	166.26	24.47	0.02	-0.07	0.17	0.06	-0.01	-									
57. Ach. C6	3.18	0.94	0.50**	0.09	0.28**	0.47**	0.10	0.15	(.93)								
58. Ach. E6	3.30	0.48	0.44**	0.31**	0.25**	0.45**	0.27**	0.21*	0.31**	(.73)							
59. Ind PGO6	2.73	0.98	0.21**	0.45**	0.67**	0.21**	0.40**	0.15	0.27**	0.32**	(.94)						
60. Ind MGO6	3.52	0.97	0.87**	0.28**	0.19**	0.78**	0.25**	0.00	0.52**	0.47**	0.26**	(.93)					
61. Ind AGO6	3.02	1.02	0.24**	0.85**	0.27**	0.20**	0.79**	-0.19*	0.05	0.28**	0.46**	0.30**	(.89)				
62. Tm PGO6	2.97	0.96	0.17**	0.35**	0.84**	0.26**	0.34**	0.18*	0.25**	0.25**	0.71**	0.15**	0.33**	(.94)			
63. Tm MGO6	3.48	0.86	0.80**	0.26**	0.25**	0.89**	0.30**	0.04	0.49**	0.46**	0.24**	0.84**	0.25**	0.25**	(.91)		
64. Tm AGO6	3.11	0.92	0.23**	0.78**	0.33**	0.25**	0.87**	-0.09	0.09	0.26**	0.41**	0.24**	0.82**	0.36**	0.30**	(.87)	
65. Sat 6	5.80	0.88	0.23**	0.01	0.13*	0.32**	0.00	0.33**	0.17**	0.26**	0.04	0.27**	-0.05	0.11*	0.28**	-0.01	(.89)

*Note:N=372; ** p<.01; * p<.05*

Table 3 . Means, Standard Deviations and Correlations of Team-level variables

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Condition	1.99	0.83												
2. Age	19.31	0.83	-.14											
3. Ability	0.64	0.53	.12	-.05										
4. Tol. Ambiguity*a*	3.98	0.47	-.05	-.12	-.13									
5. Trait PGO*b*	3.52	0.53	-.13	-.06	.15	.15								
6. Trait MGO*c*	4.10	0.40	-.04	-.02	.05	.13	.21(*)							
7. Trait AGO*d*	3.66	0.50	.00	-.24**	-.09	.34(**)	.22**	.21(*)						
8. Trait PGO SD*e*	0.67	0.44	-.05	.21*	.06	-.04	-.23**	.21*	-.02					
9. Trait MGO SD*f*	0.48	0.29	-.12	.09	.01	-.24**	-.10	-.23**	-.07	.15				
10. Trait AGO SD*g*	0.59	0.39	1.00	.03	.03	.04	.01	.02	-.13	.22(*)	.11			
11. Tm PGO (wave1)*h*	3.06	0.53	-.11	-.02	-.08	-.01	.27**	.12	.08	-.03	.06	-.04		
12. Tm MGO (wave1)*i*	3.33	0.47	.13	-.03	-.12	-.03	.00	.30**	.05	.13	-.03	.13	.50**	
13. Tm AGO (wave1)*j*	2.99	0.48	.03	-.07	-.31**	.12	.13	.20(*)	.21(*)	-.04	-.13	-.24**	.36**	.34**
14. Tm PGO SD (w1)*k*	0.72	0.37	.08	.01	.25**	.02	.07	.11	.01	.11	.03	.02	.10	.08
15. Tm MGO SD (w1)*l*	0.53	0.34	.09	-.08	.15	-.06	.06	.01	.01	.06	.06	-.07	-.01	-.14
16. Tm AGO SD (w1)*m*	0.65	0.40	.12	.07	.21(*)	.07	.11	-.17	-.02	.01	.13	.16	-.02	-.12
17. Diff. PGO (w1)*n*	-0.52	0.52	-.06	.01	-.14	-.04	.04	.04	.11	.00	-.10	-.05	-.40**	-.21(*)
18. Diff. MGO (wave1)*o*	0.22	0.36	.18(*)	-.06	.15	.02	.01	-.06	.08	-.09	-.12	-.01	-.06	-.23(*)
19. Diff. AGO (wave1)*p*	-0.02	0.39	-.02	-.02	-.18(*)	.13	.07	-.01	.28**	-.07	.02	.18	.01	.01
20. Performance (wave1)	27.20	11.16	.08	-.06	-.12	.06	.00	.02	.11	.04	-.05	-.10	.00	-.02
21. Tm PGO (wave2)	3.01	0.58	-.08	.00	-.09	.04	.32**	.05	.03	-.14	.01	.04	.74**	.32**
22. Tm MGO (wave2)	3.43	0.51	.16	-.01	-.08	.01	.04	.18(*)	.08	.02	.00	.12	.48**	.81**
23. Tm AGO (wave2)	3.14	0.53	.08	-.10	-.33**	.26(**)	.05	.14	.21(*)	.00	-.16	.01	.33**	.27**
24. Tm PGO SD (wave2)	0.76	0.43	.09	.07	.19(*)	.07	.04	.17	-.02	.20(*)	.12	.13	.06	.18(*)
25. Tm MGO SD (w2)	0.59	0.35	.17	-.07	.23(*)	-.05	.02	.04	-.07	.10	.14	.08	-.19(*)	-.19(*)
26. Tm AGO SD (w2)	0.71	0.38	.02	-.04	.04	-.07	.02	-.16	-.12	.12	.23(*)	.22(*)	.03	-.02
27. Diff. PGO (wave2)	-0.38	0.52	-.10	.04	-.02	-.10	.05	.02	.09	.16	-.01	-.01	-.17	-.13
28. Diff. MGO (wave2)	0.13	0.33	.12	-.03	.03	.05	-.08	.11	.04	.03	-.17	.06	-.11	-.07
29. Diff. AGO (wave2)	-0.10	0.39	-.12	.05	-.02	.03	.23(*)	.11	.18(*)	.01	-.04	.01	.02	.10
30. Performance (wave2)	50.68	14.13	.13	-.11	-.04	-.01	-.02	.02	.15	.03	-.08	-.06	.17	.04

(Table 3 continued)

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12
31. Satisfaction (wave2)	5.20	0.83	.14	-.05	-.02	-.06	-.06	.03	.05	.08	.10	.03	.04	.17
32. Tm PGO (wave3)	2.98	0.61	-.12	-.03	-.09	.08	.28(**)	.03	.00	-.02	-.03	.08	.73(**)	.35(**)
33. Tm MGO (wave3)	3.44	0.53	.18(*)	-.05	-.07	-.01	-.04	.18(*)	.10	.00	-.05	.14	.46(**)	.72(**)
34. Tm AGO (wave3)	3.15	0.57	.00	-.14	-.29**	.31(**)	.06	.18(*)	.25(**)	.10	-.11	-.02	.32(**)	.31(**)
35. Tm PGO SD (w3)	0.76	0.45	.19(*)	.11	.21(*)	-.05	-.07	.11	-.05	.20(*)	.03	.11	-.01	.04
36. Tm MGO SD (w3)	0.62	0.37	.08	.01	.24(**)	.01	.15	.12	-.10	.06	-.06	.09	-.01	-.11
37. Tm AGO SD (w3)	0.71	0.37	.08	-.06	.16	.02	.07	-.16	-.05	-.03	.13	.17	-.05	-.05
38. Diff. PGO (wave3)	-0.32	0.50	.07	-.08	-.11	-.04	.16	.02	.18(*)	-.08	-.02	-.06	-.13	-.20(*)
39. Diff. MGO (wave3)	0.13	0.30	.06	.09	.00	-.07	-.04	.18(*)	.00	.14	-.11	.03	-.02	.11
40. Diff. AGO (wave3)	-0.11	0.36	.00	.06	.00	.14	.30(**)	.11	.14	-.17	-.11	-.01	.00	.01
41. Performance (w3)	79.66	19.30	.18(*)	-.07	-.05	-.09	-.03	-.01	.00	.01	-.14	.00	.11	-.01
42. Tm PGO (wave4)	2.95	0.62	-.06	.01	-.13	-.05	.23(**)	-.05	-.06	-.08	.05	.11	.68(**)	.25(**)
43. Tm MGO (wave4)	3.44	0.56	.20(*)	.00	-.02	-.09	.01	.19(*)	.00	.03	-.05	.18	.44(**)	.63(**)
44. Tm AGO (wave4)	3.13	0.61	.02	-.13	-.26**	.26(**)	.10	.10	.21(*)	-.03	-.08	.03	.27(**)	.27(**)
45. Tm PGO SD (w4)	0.78	0.37	.07	.01	.25(**)	-.04	.06	.01	-.01	.16	.16	.06	.13	.02
46. Tm MGO SD (w4)	0.62	0.37	.03	.10	.22(*)	.05	.11	.05	-.05	.12	.03	.06	-.05	-.18
47. Tm AGO SD (w4)	0.76	0.38	.07	-.04	.19(*)	.07	.00	.03	-.01	.09	.12	.13	.01	.08
48. Diff. PGO (wave4)	-0.31	0.49	.02	-.02	-.09	.08	.17	.16	.17	-.01	-.12	-.06	-.09	-.05
49. Diff. MGO (wave4)	0.08	0.36	.13	.01	-.06	.08	-.21(*)	.11	.11	.13	-.09	-.01	-.14	.15
50. Diff. AGO (wave4)	-0.07	0.38	-.04	.16	-.01	.03	.13	.01	.17	.11	.03	-.13	.09	-.02
51. Performance (w4)	118.22	22.44	.22(*)	-.07	.01	-.09	-.01	-.01	-.04	.00	-.15	.05	.13	.04
52. Satisfaction (wave4)	5.17	0.82	.27(**)	.07	.04	-.26**	-.16	-.01	-.12	.11	.02	.15	.01	.11
53. Tm PGO (wave5)	2.98	0.60	-.01	.00	-.04	-.06	.21(*)	.04	-.09	-.06	-.02	.11	.60(**)	.20(*)
54. Tm MGO (wave5)	3.42	0.58	.17	-.03	-.07	.03	-.06	.24(**)	.04	.09	-.13	.25(**)	.37(**)	.67(**)
55. Tm AGO (wave5)	3.11	0.61	.03	-.13	-.26**	.31(**)	.09	.18(*)	.28(**)	.04	-.08	.00	.31(**)	.24(**)
56. Tm PGO SD (w5)	0.83	0.45	.17	-.07	.28(**)	-.06	.02	.00	.01	.10	.07	.03	-.06	-.05
57. Tm MGO SD (w5)	0.64	0.43	.02	.12	.38(**)	.05	.16	.07	.03	.07	.04	.07	-.11	-.23(*)
58. Tm AGO SD (w5)	0.77	0.37	-.05	-.01	.15	-.05	.08	-.10	-.08	-.05	.12	.19(*)	.02	.13
59. Diff. PGO (wave5)	-0.27	0.45	.02	.05	-.11	.15	.07	.03	.15	.02	-.05	.00	-.05	-.03
60. Diff. MGO (wave5)	0.09	0.33	.12	.02	.04	-.02	.00	-.07	.03	-.09	.09	-.07	.02	-.04

(Table 3 continued)

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12
61. Diff. AGO (wave5)	-0.02	0.33	.02	.09	-.07	.04	.10	.03	.14	-.07	-.10	-.05	.04	.06
62. Performance (wave5)	165.42	24.13	.20(*)	-.05	.04	-.12	-.04	-.03	-.08	.03	-.11	.08	.13	.04
63. Tm PGO (wave6)	2.99	0.63	-.04	-.02	-.15	-.04	.18(*)	.01	-.10	-.05	.03	.21(*)	.63(**)	.26(**)
64. Tm MGO (wave6)	3.49	0.59	.21(*)	-.02	-.06	.03	-.05	.22(*)	.01	.00	-.13	.24(**)	.33(**)	.62(**)
65. Tm AGO (wave6)	3.12	0.62	.07	-.12	-.29**	.29(**)	.10	.14	.30(**)	-.04	-.05	.03	.31(**)	.21(*)
66. Tm PGO SD (w6)	0.80	0.45	.21(*)	-.10	.15	-.04	-.06	-.06	.05	.17	.15	.16	-.08	-.02
67. Tm MGO SD (w6)	0.65	0.42	.03	-.01	.27(**)	.08	.20(*)	.04	.09	-.02	.13	.06	-.07	-.25**
68. Tm AGO SD (w6)	0.75	0.41	-.01	-.04	.31(**)	-.08	.06	.05	-.13	.08	.17	.23(*)	.05	.05
69. Diff. PGO (wave6)	-0.24	0.48	.00	.05	-.01	.08	.13	.07	.22(*)	-.01	.00	-.01	-.15	-.10
70. Diff. MGO (wave6)	0.04	0.32	.03	-.06	-.02	-.02	-.10	-.12	.25(**)	.09	.17	-.05	-.08	.04
71. Diff. AGO (wave6)	-0.09	0.38	-.20(*)	.17	.05	-.05	.06	-.05	.01	.09	.07	-.05	-.07	-.01
72. Satisfaction (wave6)	5.78	0.63	.27(**)	.05	.14	-.15	-.19(*)	-.03	-.16	.15	.02	.21(*)	.04	.17

Note:N=126; ** *p<.01;* * *p<.05, a*Average tolerance for ambiguity for teams, *b*Average trait individual performance goal orientation, *c*Average trait individual mastery goal orientation; *d*Average trait individual avoid goal orientation, *e*Standard deviation of trait performance goal orientation among team members, *f*Standard deviation of trait mastery goal orientation among team members, *g*Standard deviation of trait avoid goal orientation among team members, *h*Average state team performance goal orientation, *i*Average state team mastery goal orientation, *j*Average state team avoid goal orientation, *k*Standard deviation of state team performance goal orientation among team members; *l*Standard deviation of state team mastery goal orientation among team members, *m*Standard deviation of state team avoid goal orientation among team members, *n*Average difference score between state individual and team performance goal orientation for teams, *o*Average difference score between state individual and team performance goal orientation for teams, *p*Average difference score between state individual and team performance goal orientation for teams

(Table 3 continued)

	M	SD	13	14	15	16	17	18	19	20	21	22	23	24
14. Tm PGO SD (w1)	0.72	0.37	-.11											
15. Tm MGO SD (w1)	0.53	0.34	-.12	.29(**)										
16. Tm AGO SD (w1)	0.65	0.40	-.23(*)	.26(**)	.18(*)									
17. Diff. PGO (wave1)	-0.52	0.52	-.02	-.19(*)	-.01	-.11								
18. Diff. MGO (w1)	0.22	0.36	-.09	-.04	-.01	.02	.23(**)							
19. Diff. AGO (w1)	-0.02	0.39	-.17	-.06	-.14	-.06	.19(*)	.06						
20. Performance (w1)	27.20	11.16	.15	-.15	-.11	.16	.07	-.02	-.03					
21. Tm PGO (w2)	3.01	0.58	.28(**)	.14	-.11	.05	-.19(*)	-.02	.05	.13				
22. Tm MGO (w2)	3.43	0.51	.31(**)	.13	-.11	.00	-.28**	.04	-.03	.03	.40(**)			
23. Tm AGO (w2)	3.14	0.53	.66(**)	-.05	-.20(*)	-.11	-.12	-.02	.10	.02	.35(**)	.39(**)		
24. Tm PGO SD (w2)	0.76	0.43	.01	.57(**)	.33(**)	.29(**)	-.2(**	-.11	-.06	-.12	.01	.16	.02	
25. Tm MGO SD (w2)	0.59	0.35	-.18(*)	.14	.56(**)	.21(*)	.05	.05	-.06	-.11	-.22(*)	-.23(*)	-.21(*)	.40(**)
26. Tm AGO SD (w2)	0.71	0.38	-.27**	.23(*)	.14	.47(**)	-.07	-.04	-.08	-.09	.02	.00	-.23**	.28(**)
27. Diff. PGO (w2)	-0.38	0.52	-.02	-.18	.04	-.07	.54(**)	.09	.14	-.03	-.45**	-.22(*)	-.13	-.16
28. Diff. MGO (w2)	0.13	0.33	.00	.06	-.01	-.11	.32(**)	.49(**)	.06	-.02	-.05	-.18(*)	-.15	.00
29. Diff. AGO (w2)	-0.10	0.39	.13	-.02	.15	-.03	.30(**)	.00	.24(**)	-.03	-.01	-.01	-.25**	.06
30. Performance (w2)	50.68	14.13	.13	-.06	.03	.08	.00	.01	-.01	.75(**)	.25(**)	.11	.04	-.06
31. Satisfaction (w2)	5.20	0.83	.05	-.05	-.10	.16	-.08	-.09	.04	.66(**)	.13	.22(*)	.01	-.01
32. Tm PGO (w3)	2.98	0.61	.22(*)	.13	-.10	.04	-.21(*)	-.11	.09	.06	.85(**)	.40(**)	.31(**)	.01
33. Tm MGO (w3)	3.44	0.53	.22(*)	.15	-.01	.00	-.26**	.09	.03	-.03	.28(**)	.86(**)	.27(**)	.13
34. Tm AGO (w3)	3.15	0.57	.63(**)	.00	-.10	-.07	-.15	-.11	.09	.07	.33(**)	.38(**)	.79(**)	.05
35. Tm PGO SD (w3)	0.76	0.45	.00	.50(**)	.19(*)	.33(**)	-.23**	.11	-.14	-.06	-.06	.13	-.03	.64(**)
36. Tm MGO SD (w3)	0.62	0.37	-.05	.17	.36(**)	.19(*)	.04	.04	.01	-.08	-.04	-.15	-.12	.28(**)
37. Tm AGO SD (w3)	0.71	0.37	-.16	.25(**)	.06	.40(**)	-.02	.03	.05	-.10	.04	-.05	-.06	.19(*)
38. Diff. PGO (w3)	-0.32	0.50	.06	-.17	.15	-.02	.45(**)	.13	.08	-.03	-.24**	-.24**	-.04	-.14
39. Diff. MGO (w3)	0.13	0.30	.13	-.04	-.25**	-.16	.25(**)	.41(**)	.01	.03	-.01	.08	.07	-.08
40. Diff. AGO (w3)	-0.11	0.36	.10	-.05	-.01	-.10	.20(*)	.09	.36(**)	-.20(*)	-.01	-.02	.07	-.04
41. Performance (w3)	79.66	19.30	.05	.02	.08	.15	-.03	-.03	.00	.61(**)	.16	.07	.00	.08
42. Tm PGO (w4)	2.95	0.62	.19(*)	.13	-.03	.13	-.17	-.03	.10	.08	.78(**)	.31(**)	.30(**)	.02
43. Tm MGO (w4)	3.44	0.56	.18(*)	.11	-.03	.02	-.22(*)	.17	.07	-.01	.28(**)	.79(**)	.25(**)	.10

(Table 3 continued)

	M	SD	13	14	15	16	17	18	19	20	21	22	23	24
44.Tm AGO (w4)	3.13	0.61	.54(**)	.00	-.11	-.03	-.08	-.09	.23(**)	.09	.31(**)	.35(**)	.72(**)	.00
45.Tm PGO SD (w4)	0.78	0.37	.05	.56(**)	.28(**)	.31(**)	-.25**	.06	-.17	-.01	.02	.10	-.09	.60(**)
46.Tm MGO SD(w4)	0.62	0.37	-.18(*)	.30(**)	.47(**)	.20(*)	-.08	.05	-.07	-.03	-.10	-.14	-.24**	.35(**)
47.Tm AGO SD (w4)	0.76	0.38	-.27**	.31(**)	.11	.35(**)	-.18(*)	-.08	-.07	-.13	-.05	.09	-.16	.24(**)
48. Diff. PGO (w4)	-0.31	0.49	.07	-.25**	-.05	-.12	.46(**)	.07	.12	.03	-.16	-.12	-.08	-.20(*)
49. Diff. MGO (w4)	0.08	0.36	.11	.03	-.17	-.13	.17	.19(*)	-.10	.05	-.11	.16	.08	.06
50. Diff. AGO (w4)	-0.07	0.38	.10	-.01	.02	-.11	.11	.07	.09	-.19(*)	.06	-.04	-.04	.05
51.Performance(w4)	118.22	22.44	.06	.06	.08	.15	-.08	.07	-.11	.51(**)	.19(*)	.15	-.01	.14
52. Satisfaction (w4)	5.17	0.82	-.13	.01	.01	.19(*)	-.02	-.06	.05	.27(**)	.02	.17	-.07	.14
53. Tm PGO (wave5)	2.98	0.60	.16	.16	.04	.10	-.22(*)	-.05	.01	.09	.72(**)	.29(**)	.23(**)	.08
54. Tm MGO (w5)	3.42	0.58	.21(*)	.16	-.09	-.01	-.27**	.10	.01	.01	.27(**)	.81(**)	.28(**)	.20(*)
55. Tm AGO (w5)	3.11	0.61	.61(**)	-.01	-.08	-.04	-.13	-.13	.19(*)	.13	.29(**)	.32(**)	.73(**)	.02
56. Tm PGO SD (w5)	0.83	0.45	-.13	.45(**)	.24(**)	.36(**)	-.17	.08	-.03	.04	-.10	.01	-.12	.60(**)
57.Tm MGO SD (w5)	0.64	0.43	-.16	.18	.41(**)	.25(**)	-.01	.07	-.03	-.07	-.14	-.22(*)	-.20(*)	.27(**)
58. Tm AGO SD(w5)	0.77	0.37	-.16	.26(**)	.04	.31(**)	-.09	-.11	.03	-.11	.05	.12	-.13	.29(**)
59. Diff. PGO (w5)	-0.27	0.45	.07	-.21(*)	-.09	.07	.36(**)	.13	.16	.00	-.17	-.04	.06	-.20(*)
60. Diff. MGO (w5)	0.09	0.33	.02	.02	-.06	-.09	.10	.35(**)	.13	-.11	-.04	.06	.06	-.03
61. Diff. AGO (w5)	-0.02	0.33	.07	-.06	-.12	-.15	.25(**)	.17	.13	-.12	.10	.04	-.03	.03
62. Performance (w5)	165.42	24.13	.05	.04	.05	.15	-.08	.06	-.12	.50(**)	.18	.15	-.02	.14
63. Tm PGO (w6)	2.99	0.63	.20(*)	.14	-.08	.08	-.18(*)	-.15	.07	.04	.67(**)	.26(**)	.25(**)	.08
64. Tm MGO (w6)	3.49	0.59	.19(*)	.14	-.09	-.03	-.22(*)	.15	.13	.01	.20(*)	.78(**)	.29(**)	.15
65. Tm AGO (w6)	3.12	0.62	.57(**)	-.01	-.07	-.07	-.13	-.13	.21(*)	.08	.28(**)	.27(**)	.66(**)	.05
66. Tm PGO SD (w6)	0.80	0.45	-.05	.34(**)	.17	.31(**)	-.13	.00	-.03	.06	-.06	.04	-.01	.45(**)
67.Tm MGO SD (w6)	0.65	0.42	-.18(*)	.14	.42(**)	.29(**)	.03	.09	.05	-.09	-.12	-.23**	-.21(*)	.27(**)
68.Tm AGO SD (w6)	0.75	0.41	-.15	.33(**)	.14	.32(**)	-.06	-.06	-.08	-.06	.04	.07	-.10	.40(**)
69.Diff. PGO (w6)	-0.24	0.48	.03	-.14	.06	-.04	.43(**)	.26(**)	.19(*)	.11	-.12	-.01	.01	-.20(*)
70. Diff. MGO (w6)	0.04	0.32	.05	-.05	-.02	.00	.27(**)	.28(**)	.09	.03	-.07	.08	.03	-.01
71. Diff. AGO (w6)	-0.09	0.38	.05	.00	-.05	-.12	.25(**)	.09	.12	-.19(*)	-.02	-.03	.06	.01
72.Satisfaction (w6)	5.78	0.63	-.12	.05	.07	.18(*)	-.14	.08	-.03	.17	-.01	.30(**)	.00	.19(*)

(Table 3 continued)

	M	SD	26	27	28	29	30	31	32	33	34	35	36	37
26. Tm AGO SD (w2)	0.71	0.38	.00											
27. Diff. PGO (wave2)	-0.38	0.52	-.08	.18(*)										
28. Diff. MGO (w2)	0.13	0.33	-.04	.23(**)	.22(*)									
29. Diff. AGO (wave2)	-0.10	0.39	-.11	-.05	-.02	.06								
30. Performance (w2)	50.68	14.13	-.03	-.10	.00	-.05	.56(**)							
31. Satisfaction (w2)	5.20	0.83	.08	-.26**	-.12	-.01	.22(*)	.09						
32. Tm PGO (wave3)	2.98	0.61	-.04	-.16	-.06	.06	.11	.12	.33(**)					
33. Tm MGO (wave3)	3.44	0.53	-.13	-.21(*)	-.10	-.01	.02	.07	.32(**)	.29(**)				
34. Tm AGO (wave3)	3.15	0.57	.22(*)	-.19(*)	-.01	.02	-.02	-.08	-.12	.13	.02			
35. Tm PGO SD (w3)	0.76	0.45	.08	.05	.02	.14	-.07	-.06	-.09	-.16	-.12	.34(**)		
36. Tm MGO SD (w3)	0.62	0.37	.50(**)	-.06	.04	.00	.02	-.13	.00	-.06	-.05	.23(*)	.21(*)	
37. Tm AGO SD (w3)	0.71	0.37	.00	.57(**)	.14	.17	-.03	-.05	-.39**	-.23**	-.05	-.11	.12	.02
38. Diff. PGO (wave3)	-0.32	0.50	-.11	.14	.50(**)	-.01	-.04	.05	-.11	-.07	-.01	.02	.07	-.07
39. Diff. MGO (w3)	0.13	0.30	-.25**	.19(*)	.05	.43(**)	-.09	-.20(*)	-.07	.04	-.16	-.10	-.01	.01
40. Diff. AGO (wave3)	-0.11	0.36	-.03	-.02	-.08	.05	.83(**)	.41(**)	.15	.08	-.05	.11	-.01	.00
41. Performance (w3)	79.66	19.30	.16	-.25**	-.13	-.03	.23(*)	.07	.84(**)	.27(**)	.29(**)	-.02	-.07	.09
42. Tm PGO (wave4)	2.95	0.62	-.04	-.12	.01	.06	.13	.15	.31(**)	.88(**)	.22(*)	.16	-.08	-.04
43. Tm MGO (wave4)	3.44	0.56	-.22(*)	-.15	-.09	.12	.04	.04	.30(**)	.30(**)	.82(**)	-.05	-.14	.02
44. Tm AGO (wave4)	3.13	0.61	.22(*)	-.06	.09	.12	.10	-.02	.00	.13	.00	.70(**)	.22(*)	.30(**)
45. Tm PGO SD (w4)	0.78	0.37	.21(*)	.01	-.01	.14	-.03	-.06	-.11	-.09	-.16	.31(**)	.63(**)	.15
46. Tm MGO SD (w4)	0.62	0.37	.54(**)	-.08	-.01	-.17	-.09	.03	-.02	.05	-.05	.21(*)	.12	.57(**)
47. Tm AGO SD (w4)	0.76	0.38	-.14	.55(**)	.24(**)	.30(**)	.02	-.01	-.19(*)	-.13	-.06	-.21(*)	.02	-.12
48. Diff. PGO (wave4)	-0.31	0.49	-.06	.09	.36(**)	-.06	-.02	.07	-.14	.08	.08	.07	-.10	.04
49. Diff. MGO (w4)	0.08	0.36	-.11	.10	.14	.21(*)	-.13	-.16	-.01	-.09	-.05	.07	-.02	-.02
50. Diff. AGO (wave4)	-0.07	0.38	.00	-.08	-.06	-.03	.73(**)	.36(**)	.19(*)	.14	-.09	.16	-.02	-.02
51. Performance (w4)	118.22	22.44	.08	.05	-.06	-.09	.39(**)	.55(**)	.08	.15	-.16	.13	.02	-.10
52. Satisfaction (w4)	5.17	0.82	.13	-.25**	-.05	-.08	.23(*)	.09	.75(**)	.24(**)	.24(**)	.02	.01	.08
53. Tm PGO (wave5)	2.98	0.60	-.01	-.23(*)	.03	.03	.13	.22(*)	.31(**)	.86(**)	.27(**)	.20(*)	-.08	-.01
54. Tm MGO (wave5)	3.42	0.58	-.22(*)	-.13	-.07	.06	.07	.09	.30(**)	.29(**)	.84(**)	-.01	-.13	-.04
55. Tm AGO (wave5)	3.11	0.61	.19(*)	-.16	.00	-.02	.12	.07	-.14	.05	-.04	.72(**)	.27(**)	.24(**)

(Table 3 continued)

	M	SD	26	27	28	29	30	31	32	33	34	35	36	37
57. Tm MGO SD (w5)	0.64	0.43	.16	.04	-.04	.06	-.11	-.14	-.22(*)	-.17	-.16	.25(**)	.63(**)	.16
58. Tm AGO SD (w5)	0.77	0.37	.38(**)	-.08	-.05	.02	-.03	-.03	.02	.09	-.05	.15	.10	.50(**)
59. Diff. PGO (wave5)	-0.27	0.45	-.05	.52(**)	.13	.28(**)	-.06	.06	-.13	-.06	.08	-.17	-.05	-.07
60. Diff. MGO (w5)	0.09	0.33	-.16	.14	.31(**)	-.02	-.09	-.08	-.13	.05	.03	.10	.01	.05
61. Diff. AGO (w5)	-0.02	0.33	-.10	.11	.04	.40(**)	-.02	-.15	.04	.00	-.14	-.03	.02	-.07
62. Performance (w5)	165.42	24.13	.02	-.09	-.07	-.04	.72(**)	.38(**)	.19(*)	.15	-.10	.16	-.02	.01
63. Tm PGO (w6)	2.99	0.63	.20(*)	-.15	-.10	.01	.16	.05	.75(**)	.22(*)	.27(**)	.03	.05	.12
64. Tm MGO (w6)	3.49	0.59	-.08	-.12	.02	.03	.10	.21(*)	.25(**)	.82(**)	.28(**)	.16	-.07	-.03
65. Tm AGO (w6)	3.12	0.62	-.25**	-.13	-.04	.05	.03	.05	.26(**)	.26(**)	.76(**)	-.01	-.15	-.05
66. Tm PGO SD (w6)	0.80	0.45	.23(*)	-.13	-.14	-.04	.11	.08	-.08	.02	.07	.66(**)	.25(**)	.26(**)
67. Tm MGO SD (w6)	0.65	0.42	.22(*)	.03	-.04	.14	-.05	-.11	-.22(*)	-.21(*)	-.14	.26(**)	.63(**)	.21(*)
68. Tm AGO SD (w6)	0.75	0.41	.43(**)	.03	.02	.03	.12	.08	.02	.06	-.03	.33(**)	.24(**)	.52(**)
69. Diff. PGO (w6)	-0.24	0.48	-.18(*)	.40(**)	.23(**)	.23(*)	.08	.12	-.23**	-.03	.02	-.17	-.04	-.15
70. Diff. MGO (w6)	0.04	0.32	.00	.18(*)	.32(**)	.06	.04	.04	-.16	.07	-.04	.04	-.09	.14
71. Diff. AGO (w6)	-0.09	0.38	.00	.23(**)	.03	.25(**)	-.17	-.23**	-.03	-.13	-.03	.00	-.01	.00
72. Satisfaction (w6)	5.78	0.63	.10	-.07	-.09	-.15	.24(**)	.52(**)	.10	.25(**)	-.06	.20(*)	.05	-.04

*Note:N=126; ** p<.01; * p<.05,*

(Table 3 continued)

	M	SD	38	39	40	41	42	43	44	45	46	47	48	49
39. Diff. MGO (w3)	0.13	0.30	.12											
40. Diff. AGO (w3)	-0.11	0.36	.23(**)	.04										
41. Performance (w3)	79.66	19.30	.00	-.08	-.01									
42. Tm PGO (wave4)	2.95	0.62	-.24**	-.14	-.06	.20(*)								
43. Tm MGO (wave4)	3.44	0.56	-.18(*)	.08	.06	.10	.29(**)							
44. Tm AGO (wave4)	3.13	0.61	-.02	-.10	.08	.00	.32(**)	.32(**)						
45. Tm PGO SD (w4)	0.78	0.37	-.10	-.01	-.17	.15	-.02	.16	-.01					
46. Tm MGO SD (w4)	0.62	0.37	.01	-.03	-.12	-.01	-.07	-.13	-.24**	.31(**)				
47. Tm AGO SD (w4)	0.76	0.38	.05	.01	-.19(*)	-.09	-.02	.02	-.17	.25(**)	.15			
48. Diff. PGO (w4)	-0.31	0.49	.68(**)	.16	.27(**)	.00	-.36**	-.09	-.03	-.10	-.13	-.07		
49. Diff. MGO (w4)	0.08	0.36	.04	.40(**)	-.11	-.02	-.21(*)	-.12	-.09	.04	-.01	.13	.18(*)	
50. Diff. AGO (w4)	-0.07	0.38	.10	.14	.34(**)	-.10	-.04	-.18(*)	-.28**	.07	.00	-.04	.21(*)	.33(**)
51. Performance (w4)	118.22	22.44	-.08	-.06	-.06	.93(**)	.21(*)	.15	-.07	.21(*)	-.01	-.07	-.08	-.01
52.Satisfaction (w4)	5.17	0.82	-.04	-.03	-.09	.59(**)	.11	.23(**)	-.16	.10	-.03	.02	-.04	.03
53. Tm PGO (wave5)	2.98	0.60	-.18(*)	-.09	-.12	.19(*)	.83(**)	.28(**)	.21(*)	.04	-.01	.03	-.21(*)	-.11
54. Tm MGO (wave5)	3.42	0.58	-.25**	.10	.00	.12	.23(**)	.87(**)	.28(**)	.15	-.09	.11	-.15	.11
55. Tm AGO (wave5)	3.11	0.61	.02	-.10	.08	.02	.29(**)	.30(**)	.88(**)	.02	-.26**	-.14	.02	-.01
56. Tm PGO SD (w5)	0.83	0.45	-.04	-.03	-.13	.22(*)	-.06	.07	-.05	.71(**)	.32(**)	.24(**)	-.16	-.01
57. Tm MGO SD (w5)	0.64	0.43	.11	-.15	-.03	-.08	-.20(*)	-.17	-.21(*)	.22(*)	.73(**)	.19(*)	-.03	-.17
58. Tm AGO SD (w5)	0.77	0.37	.00	-.04	-.07	.06	.02	.07	-.07	.30(**)	.09	.63(**)	-.06	.00
59. Diff. PGO (wave5)	-0.27	0.45	.54(**)	.07	.22(*)	-.03	-.13	-.05	.10	-.14	-.13	.03	.57(**)	.16
60. Diff. MGO (w5)	0.09	0.33	.21(*)	.28(**)	.09	-.16	-.06	.09	.07	.12	-.06	-.02	.15	.31(**)
61. Diff. AGO (w5)	-0.02	0.33	.12	.17	.46(**)	.02	.03	-.09	-.16	-.12	.01	-.15	.20(*)	.21(*)
62. Performance (w5)	165.42	24.13	-.09	-.06	-.08	.91(**)	.21(*)	.15	-.07	.19(*)	-.02	-.04	-.07	-.01
63. Tm PGO (wave6)	2.99	0.63	-.13	-.14	-.06	.19(*)	.81(**)	.22(*)	.24(**)	.03	-.10	.05	-.17	-.09
64. Tm MGO (wave6)	3.49	0.59	-.15	.14	.05	.11	.18(*)	.86(**)	.34(**)	.11	-.14	.07	-.07	.09
65. Tm AGO (wave6)	3.12	0.62	.11	-.13	.11	-.02	.28(**)	.25(**)	.82(**)	-.01	-.27**	-.13	.07	-.02
66. Tm PGO SD (w6)	0.80	0.45	-.08	-.07	-.25**	.20(*)	-.05	.02	.02	.65(**)	.27(**)	.23(**)	-.18(*)	.00
67. Tm MGO SD (w6)	0.65	0.42	.21(*)	-.15	-.03	-.06	-.17	-.20(*)	-.16	.26(**)	.68(**)	.19(*)	.07	-.15
68. Tm AGO SD (w6)	0.75	0.41	.03	.04	-.09	.13	.05	.07	-.12	.41(**)	.24(**)	.60(**)	-.05	.06

(Table 3 continued)

	M	SD	38	39	40	41	42	43	44	45	46	47	48	49
69. Diff. PGO (wave6)	-0.24	0.48	.17	.23(**)	.02	-.17	.03	.08	-.10	-.01	-.11	.54(**)	.11	.18(*)
70. Diff. MGO (wave6)	0.04	0.32	.24(**)	.12	-.09	-.12	-.02	-.09	.08	-.05	.01	.17	.51(**)	.27(**)
71. Diff. AGO (wave6)	-0.09	0.38	.24(**)	.35(**)	-.17	-.04	-.15	-.08	-.03	-.01	-.15	.07	.20(*)	.39(**)
72. Satisfaction (w6)	5.78	0.63	-.01	-.20*	.33(**)	.11	.34(**)	-.03	.14	-.01	.12	-.18*	.06	-.23*

(Table 3 continued)

	M	SD	50	51	52	53	54	55	56	57	58	59	60	61
51. Performance (w4)	118.22	22.44	-.11											
52. Satisfaction (w4)	5.17	0.82	-.06	.58(**)										
53. Tm PGO (wave5)	2.98	0.60	-.02	.20(*)	.06									
54. Tm MGO (wave5)	3.42	0.58	-.10	.18	.25(**)	.29(**)								
55. Tm AGO (wave5)	3.11	0.61	-.10	-.08	-.14	.27(**)	.32(**)							
56. Tm PGO SD (w5)	0.83	0.45	.00	.25(**)	.19(*)	-.06	.10	-.05						
57. Tm MGO SD (w5)	0.64	0.43	-.04	-.06	-.11	-.15	-.21(*)	-.21(*)	.31(**)					
58. Tm AGO SD (w5)	0.77	0.37	-.07	.09	.00	.03	.15	-.12	.35(**)	.25(**)				
59. Diff. PGO (wave5)	-0.27	0.45	.16	-.10	.04	-.33**	-.10	.11	-.21(*)	-.06	-.10			
60. Diff. MGO (w5)	0.09	0.33	.12	-.16	-.13	-.08	-.11	-.02	.04	-.04	-.07	.16		
61. Diff. AGO (w5)	-0.02	0.33	.51(**)	.03	-.02	-.04	-.06	-.26**	-.11	-.06	-.03	.24(**)	.21(*)	
62. Performance (w5)	165.42	24.13	-.13	.98(**)	.58(**)	.20(*)	.20(*)	-.07	.26(**)	-.06	.11	-.10	-.16	.01
63. Tm PGO (wave6)	2.99	0.63	-.03	.19(*)	.11	.82(**)	.23(**)	.30(**)	-.10	-.19(*)	.12	-.14	-.08	.05
64. Tm MGO (wave6)	3.49	0.59	-.14	.17	.20(*)	.23(**)	.92(**)	.35(**)	.08	-.23(*)	.12	-.03	.06	-.04
65. Tm AGO (wave6)	3.12	0.62	-.06	-.11	-.14	.27(**)	.25(**)	.90(**)	-.01	-.22(*)	-.06	.07	.11	-.16
66. Tm PGO SD (w6)	0.80	0.45	-.02	.22(*)	.20(*)	-.09	.09	.03	.75(**)	.26(**)	.23(*)	-.05	.00	-.11
67. Tm MGO SD (w6)	0.65	0.42	-.08	-.08	-.09	-.09	-.24**	-.16	.30(**)	.83(**)	.18(*)	-.02	.01	-.05
68. Tm AGO SD (w6)	0.75	0.41	-.04	.12	.18(*)	.11	.14	-.10	.37(**)	.21(*)	.58(**)	-.02	-.06	-.09
69. Diff. PGO (wave6)	-0.24	0.48	.18(*)	-.04	-.01	-.14	-.02	.07	-.08	-.02	-.21(*)	.56(**)	.19(*)	.13
70. Diff. MGO (w6)	0.04	0.32	.27(**)	-.10	-.07	-.08	-.01	-.05	.03	-.13	-.07	.16	.45(**)	.18(*)
71. Diff. AGO (wave6)	-0.09	0.38	.39(**)	-.17	-.12	-.13	-.16	-.09	-.16	-.06	-.14	.22(*)	.11	.43(**)
72. Satisfaction (w6)	5.78	0.63	-.23(*)	.40(**)	.65(**)	.10	.42(**)	-.02	.22(*)	-.07	.13	.02	-.07	-.11

(Table 3 continued)

	M	SD	62	63	64	65	66	67	68	69	70	71
63. Tm PGO (wave6)	2.99	0.63	.20(*)									
64. Tm MGO (wave6)	3.49	0.59	.19(*)	.23(*)								
65. Tm AGO (wave6)	3.12	0.62	-.11	.34(**)	.33(**)							
66. Tm PGO SD (wave6)	0.80	0.45	.22(*)	-.07	.05	.00						
67. Tm MGO SD (wave6)	0.65	0.42	-.07	-.13	-.25**	-.14	.28(**)					
68. Tm AGO SD (wave6)	0.75	0.41	.14	.13	.09	-.16	.28(**)	.24(**)				
69. Diff. PGO (wave6)	-0.24	0.48	-.05	-.38**	.02	.03	-.04	.02	-.07			
70. Diff. MGO (wave6)	0.04	0.32	-.11	-.15	-.08	-.05	.01	-.06	.05	.35(**)		
71. Diff. AGO (wave6)	-0.09	0.38	-.21(*)	-.07	-.14	-.27**	-.04	-.10	.09	.16	.33(**)	
72. Satisfaction (wave6)	5.78	0.63	.44(**)	.11	.43(**)	-.06	.21(*)	-.02	.18(*)	-.11	-.12	-.21(*)

*Note:N=126; ** p<.01; * p<.05*

Scale Evaluation

Prior to calculating the reliabilities, factor analyses for all of the scales were conducted. All of trait and state goal orientation measures indicated a three-dimensional model of goal orientation measure such that each item loaded on an appropriate factor. Achievement motivation scale indicated two clear factors with eigenvalues greater than 1 and the two factors explained 44% of the total variance. Item 1 to 6 were loaded on the first factor with the eigenvalue equals to 2.86 and item 7 to 10 were loaded on the second factor with the eigenvalue equals to 1.6. The first factor was about an individual's preference for challenging tasks (e.g., "I would rather work on a task that is difficult rather than easy."). The second factor was about the extent to which an individual was putting efforts and stayed task-focused (e.g., "I am trying to do my best."). Based on the results, I made two separate scales out of the 10-item achievement motivation measure and named the first factor achievement-challenge and the second factor achievement-efforts.

Also, inter-item correlation of the 5-item measure of tolerance for ambiguity indicated a low level of item-inter correlations among item 1, 2, and 3, which decreased the reliability of the scale significantly (alpha = .49 with all 5 items). Accordingly, I dropped item 1, 2, and 3 and was able to attain the reliability of .67 with item 4 and 5 only. For the Table 1 and subsequent data analyses, the tolerance for ambiguity scale was calculated out of the item 4 and 5.

The important issue of this paper is the emergence processes of team-level goal orientation over time and one way to investigate the emergence processes of team goal orientation is examining the team members' agreements on team goal orientation over

time. Therefore, this study examined the changes in the within-team standard deviations on team goal orientation. Figure 2-4 represent the average within-team standard deviations for team mastery, performance and avoid goal orientation over time for each of the three conditions. As we can see from the graphs, there is no strong indication of difference in the changes in within-team standard deviations across the three conditions. In other words, all three conditions show similar patterns of emergence over time and all three conditions tend to have slight positive changes in the within-team standard deviations. Because each line represents the average value across teams for each condition, it is difficult to illustrate the different patterns of emergence that exist within each individual team. Therefore, to help understanding the emergence processes of team goal orientation, we might need to investigate changes in within-team standard deviations for every single team. This issue will be further discussed in the exploratory analysis in the results section.

Figure 2. Within-team standard deviation of team performance goal orientation over time

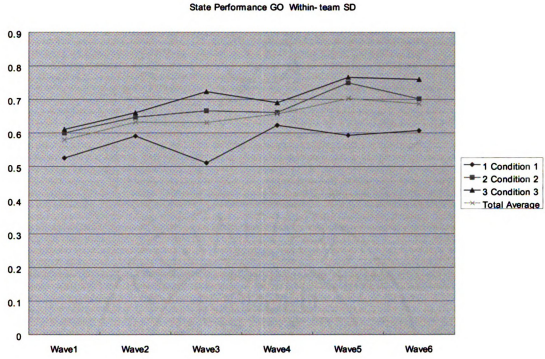


Figure 3. Within-team standard deviation of team learning goal orientation over time

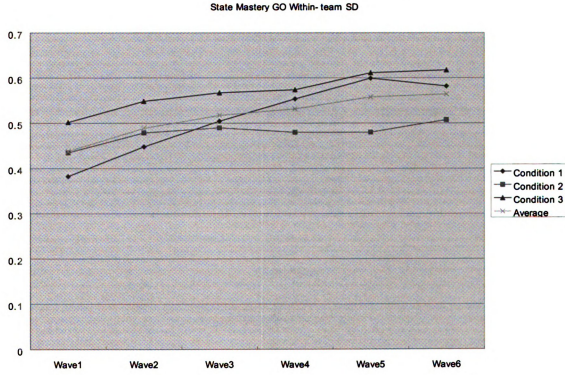
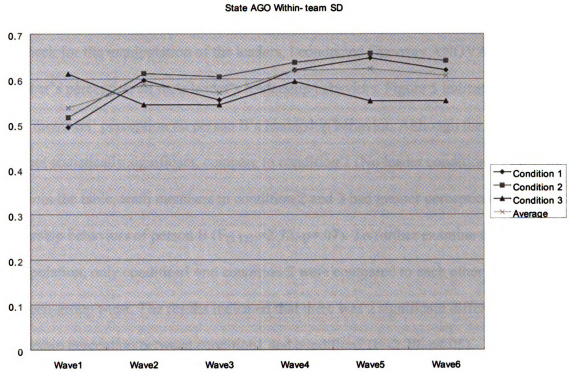
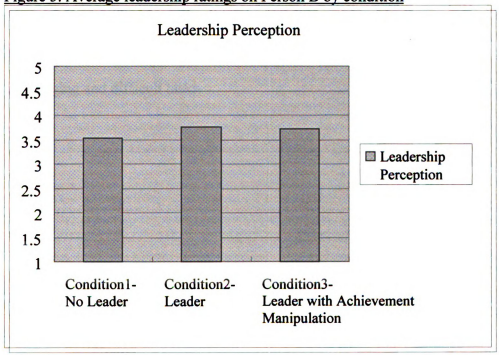


Figure 4. Within-team standard deviation of team avoid goal orientation over time



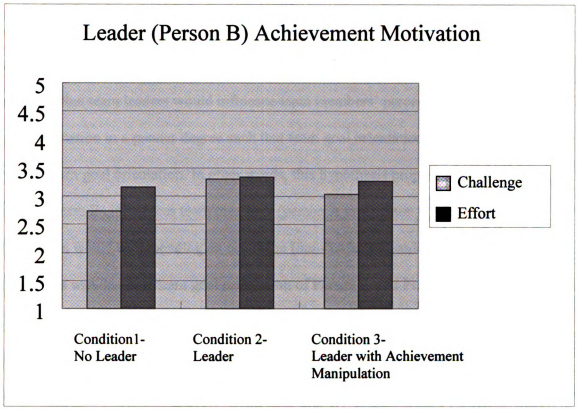
In this study, the role discrepancies of teams was manipulated by having teams with leaders (high role discrepancy) versus teams without leaders (low role discrepancy). To check for the manipulation of the leaders, I conducted One-way ANOVA for team member's perception on their leader's leadership behaviors. Figure 5 indicates average team members' perception on person B's leadership behavior. Although the difference was not statistically significant, compare to condition 1 (No leader condition), as we can see from the table, team members in condition 2 and 3 had greater perception on leadership behaviors of person B ($F_{(2,125)}$=2.72, p=.07). To further examine the effects of manipulation, only condition1 and condition 2 were compared to each other using between-group t-test. The results indicated that there was a significant differences in leadership perception between condition1 and condition2 (t=-2.20, p<.05).

Figure 5. Average leadership ratings on Person B by condition



Also, the achievement motivation of leaders was manipulated by having leaders read inspiring message versus having leaders read no message. To check for the manipulation of the leaders, I conducted One-way ANOVA for leaders' achievement motivation for all three conditions. Figure 6 indicates achievement motivation of Person B across the three conditions. For the condition 2 and 3, Person B who sits in the middle was the leader of the teams. In addition, Person Bs in the condition 3 read the inspiring message to about achievement event and they were expected to have greater achievement motivation than Person Bs in condition 1, or 2. As we can see, however, person Bs' achievement motivation was not greater in condition 3. It indicates that reading the inspiring message did not make a difference in their level of achievement motivation. Instead, it indicates that person B's achievement motivation was greater when they were in condition 2 or 3 as compare to condition 1 ($F_{challenge}$=5.31, d.f=2,115, p<.01; $F_{efforts}$=2.53, d.f.=2,115 p=.08). It suggests that becoming a leader increased their achievement motives such that they became ambitious and more likely to seek challenging and difficult tasks.

Figure 6. Person Bs' achievement motives by condition



Analysis Overview

The data in this study were tested with Hierarchical Linear Modeling (HLM: Bryk & Raudenbush, 1992), implemented via the mixed procedure in SPSS (See Singer 1998 for details). HLM allows for examination of predictors at the team-, person-, and wave-levels of analysis. In this study, each individual was nested within team. In addition, both team- and individual-level variables were assessed on multiple occasions and they could vary over the course of the study. To accommodate the multilevel structure of the data, I put time-level as the level 1 variable (e.g., multiple assessment of goal orientation), individual-level as the level-2 variable (e.g., trait measure of individual goal orientation), and team-level variables as the level-3 variable (e.g., team performance on task).

Hypothesis Testing

Hypothesis1. Hypothesis 1 is the main hypothesis of this study that examines the emergent process of team goal orientation. Specifically, based on the hypothesis, I expected that team leaders would influence team members' perceptions on their team's goal orientation in a greater degree such that team goal orientation will emerge based on his/her team goal orientation. In other words, this hypothesis proposed that the degree to which person Bs influences team members (person A and person C)' team goal orientation would be depending on condition (non-leader vs. leader conditions). In the conditions with leaders, team goal orientation of Person A and Person C are subject to Person B (leader)'s team goal orientation. Thus, this hypothesis suggests an interaction between condition and Person B's team goal orientation on Person As' and Person Cs' team goal orientation.

To test the interaction effect of condition and influence of Person B on members, a three-level HLM was conducted with time as the level-1 variables (within-individual level), Person A and Person C's team goal orientation as the level-2 (individual-level) dependant variables, Person B's team goal orientation and condition as the level-3 (team-level) predictor variables. In the step 1 of the analysis, the main effects were entered into the regression such that perceived team goal orientation of Person A and Person C were regressed onto two continuous variables (time and Person B's goal orientation) and one dummy-coded variable (condition). In the step 2, the interaction effects were entered into the regression equation. The results of this analysis are summarized in Table 4-6. For team performance goal orientation, there was a marginally significant interaction effect

between Person B's team performance goal orientation and condition ($F_{(1, 852)} = 2.48, p = .08$). Particularly, when person B was a leader (condition=2- Leader condition), Person B's team performance goal orientation marginally influenced Person A and Bs' team performance goal orientation when Person B was leader ($\gamma = .9$). However, when Person B was not a leader (Condition 1- Non-leader condition), Person Bs' team performance goal orientation was not significantly influenced by Person A and C's team performance goal orientation ($\gamma = -0.03$). In addition to the two-way interaction effects that are presented in Table 4-6, I also ran three-way interaction model of condition, Person B, and time for each of the goal orientation. The results of the three-way interaction model indicated no significant three-way interaction effect.

Table 4 Interaction effects of leader's team performance goal orientation and condition on members' team mastery goal orientation.

	γ	Num DF	Den DF	*F*-value	*p*-value
Step1					
Time (Level 1)	1.11	1	81	3.45	.07.
Person B's Team Goal Orientation (Level 3)	-.05	1	878	3.2	.07.
Condition (Level 3)		2	99	4.06	.02.
Condition = 1	.15				
Condition = 2	.36				
Step2					
Person B's team goal orientation X		2	852	2.48	.08
Condition = 1	-.02				
Condition = 2	.12				
Time X		2	75	1.42	.27
Condition = 1	-.02				
Condition = 2	-.05				
Time X Person B's team goal orientation	.011	1	178	.99	.32

Notes: *Num df* = numerator degrees of freedom; *Den df* = denominator degrees of freedom; γ = average regression weight

For team mastery goal orientation, there was a significant interaction effect between Person B's team performance goal orientation and condition ($F_{(2, 956)} = 3.11, p < .05$) (Table 5). Specifically, when person B was a leader (condition 2 and condition 3), Person B's team performance goal orientation significantly influenced Person A and Bs' team performance goal orientation when Person B was leader ($\gamma = .14$; $\gamma = .12$). However, when Person B was not a leader (Condition 1- Non-leader condition), Person Bs' team performance goal orientation was not significantly influenced Person A and B's team performance goal orientation ($\gamma = 0.02$).

Table 5. Interaction effects of leader's team mastery goal orientation and condition on members' team mastery goal orientation.

	γ	Num DF	Den DF	*F*-value	*p*-value
Step1					
Time (Level 1)	.04	1	245	.194	.660.
Person B's Team Goal Orientation (Level 3)	.12	1	463	3.012	.083.
Condition (Level 3)		2	696	1.022	.360.
Condition = 1	.27				
Condition = 2	-.13				
Step 2					
Person B's team goal orientation X		2	956	3.11	*P*<.05
Condition = 1	-.15				
Condition = 2	.03				
Time X		2	111	1.47	.235.
Condition = 1	-.05				
Condition = 2	-.02				
Time X Person B's team goal orientation	.004	1	258	.083	.774.

Notes: *Num df* = numerator degrees of freedom; *Den df* = denominator degrees of freedom; γ = average regression weight

For team avoid goal orientation, although the interaction effect between Person B's team avoid goal orientation and condition was marginally significant ($F_{(2, 1036)}$ = 2.6, p =.08) (Table 6), there was no specific interaction coefficient with a t-value that is close to reaching significance.

Table 6. Interaction effects of leader's team avoid goal orientation and condition on members' team avoid goal orientation.

	γ	Num DF	Den DF	*F*-value	*p*-value
Step 1					
Time (Level 1)	.08	1	282	1.29	.256.
Person B's Team Goal Orientation (Level 3)	.13	1	367	5.28	.022
Condition (Level 3)		2	653	3.19	.042
Condition = 1	.03				
Condition = 2	-.66				
Step 2					
Person B's team goal orientation X		2	1036	2.60	*.075*
Condition = 1	.04				
Condition = 2	-.14				
Time X		2	174	1.84	.161
Condition = 1	-.05				
Condition = 2	-.02				
Time X Person B's team goal orientation	.004	1	281	.56	.454

Notes: *Num df* = numerator degrees of freedom; *Den df* = denominator degrees of freedom; γ = average regression weight

Thus, hypothesis 1 was partially supported. As predicted, when Person B was the leader of the team, team members' (Person A and Person C) team mastery goal orientations was significantly influenced by team mastery goal orientation of Person B. The emergent process of team goal orientation, therefore, depends on role importance of the team such that leaders influence others members' team goal orientation in a greater degree.

Hypothesis 2. Hypothesis 2 proposed that changes in individuals' goal orientation will depend on heterogeneity of their trait goal orientation. To test this hypothesis, I first calculated the heterogeneity team members' trait goal orientations by getting standard deviation for team members' trait goal orientation. Then, using the HLM analysis, I

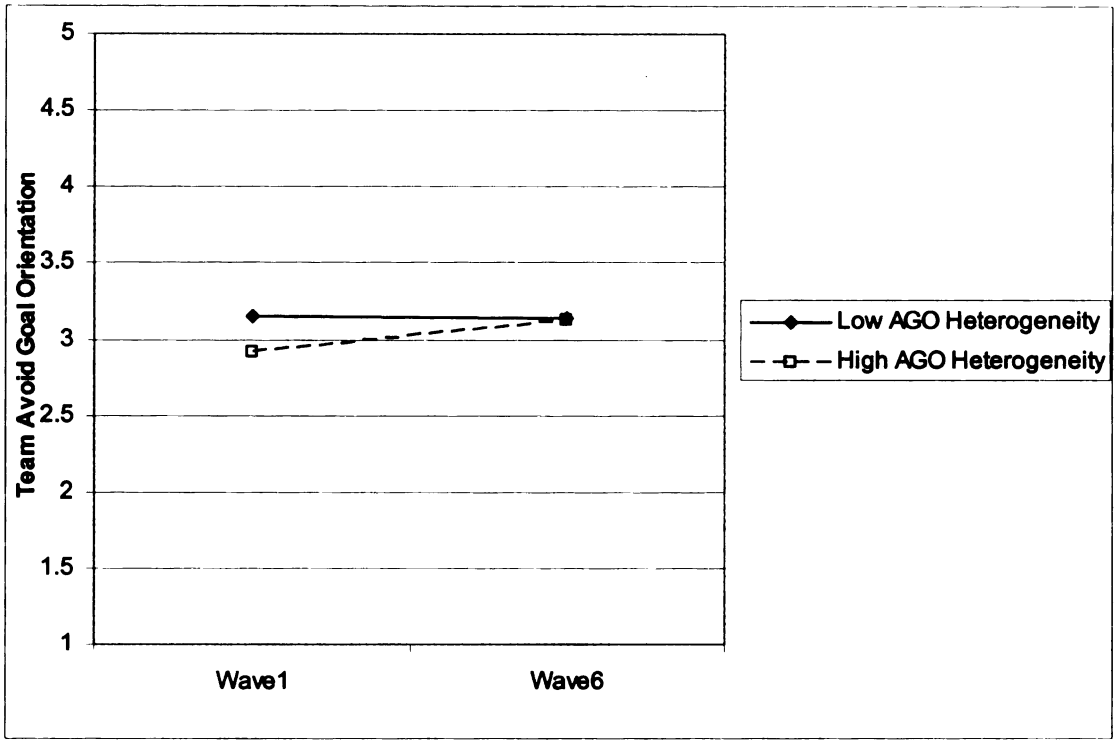
predicted individual goal orientation from time, heterogeneity, and the interaction between the time and the heterogeneity. I expected a significant interaction effect between time and heterogeneity on individuals' goal orientation such that it indicates the rate of changes for individual goal orientations depend on the heterogeneities of team members' goal orientations. I ran three sets of HLM analyses each predicting individual's perception toward team's mastery, performance, and avoid goal orientation. Only one model predicting team avoid goal orientation had an significant interaction effect (Table 7). As indicated by the graph, as I predicted, individuals in teams with high heterogeneity in trait avoid goal orientation experienced greater degree of change over time (Figure 7) Therefore, hypothesis 2 was partially supported.

Table 7. Effects of time and within-team standard deviation in members' trait goal orientation on their perceived team goal orientation.

	γ	*Num df*	*Den df*	*F*-value	*p*-value
Team performance goal orientation					
Step 1					
Time	.01	1	122	1.95	.17
SD in Trait PGO	-.08	1	118	.67	.42
Step 2					
Time X SD in Trait PGO	.00	1	125	.07	.79
Team mastery goal orientation					
Step 1					
Time	.03	1	124	8.80	.00
SD in Trait MGO	-.04	1	116	.10	.75
Step 2					
Time X SD in Trait MGO	-.05	1	124	2.93	.09
Team avoid goal orientation					
Step 1					
Time	.02	1	112	3.92	.05
SD in Trait AGO	-.22	1	126	4.39	.04
Step 2					
Time X SD in Trait AGO	.05	1	111	4.99	.03

Notes: *Num df* = numerator degrees of freedom; *Den df* = denominator degrees of freedom; γ = average regression weight

Figure 7. Interaction effect of time and trait avoid goal orientation heterogeneity on individuals' perception on team avoid goal orientation.



Hypothesis 3. Hypothesis 3a proposed the perceived differences in team members' goal orientation will be related to their satisfactions. To represent the perceived differences of goal orientation, I calculated the difference scores between team members' individual goal orientation and their team goal orientation across six waves. Using HLM analysis, individuals' satisfactions were predicted from their perceived heterogeneity of goal orientation. Also, I put a main effect and an interaction effect of time to examine if the relationship between satisfaction and heterogeneity differs by time. There was no significant effect found in this analysis, therefore, the hypothesis 3a was not supported (Table 8).

Table 8. Perceived heterogeneity between individual and team goal orientation as predictors of satisfaction

	Γ	*Num df*	*Den df*	*F*-value	*p*-value
Satisfaction					
Step1					
Time	.30	1	147	83.52	.00
Difference in PGO	-.18	1	374	3.84	.05
Step2					
Time X Difference in PGO	.05	1	116	.32	.57
Satisfaction					
Step1					
Time	.28	1	143	71.20	.00
Difference in MGO	-.13	1	386	.95	.33
Step2					
Time X Difference in MGO	-.11	1	198	.78	.38
Satisfaction					
Step1					
Time	.28	1	134	79.23	.00
Difference in AGO	.09	1	360	.51	.48
Step2					
Time X Difference in AGO	-.11	1	208	.95	.33

Notes: Difference in MGO= average differnece between individual and team mastery goal orientation for teams; *Num df* = numerator degrees of freedom; *Den df* = denominator degrees of freedom;
γ = average regression weight

For hypothesis 3b, I proposed that the perceived differences in goal orientations (difference score between team members' goal orientation and team goal orientation) influence performance of the team. To represent team level of differences that members' perceive, I averaged team members' heterogeneities of goal orientations per team and examined its relationship with team performance. For all of the goal orientations, I found significant main effects or interaction effect of difference in goal orientation on performance (Table 9). This indicates that there is a relationship between individual's goal orientation and individual's perceived team goal orientation with team performance. To help to understand the relationship, I ran additional analyses using Edward's approach to different scores in which time, individual's goal orientation, and team goal orientation were put first and then put interaction among the those main effects.

Table 9. Perceived difference between individual and team goal orientation as predictors of performance

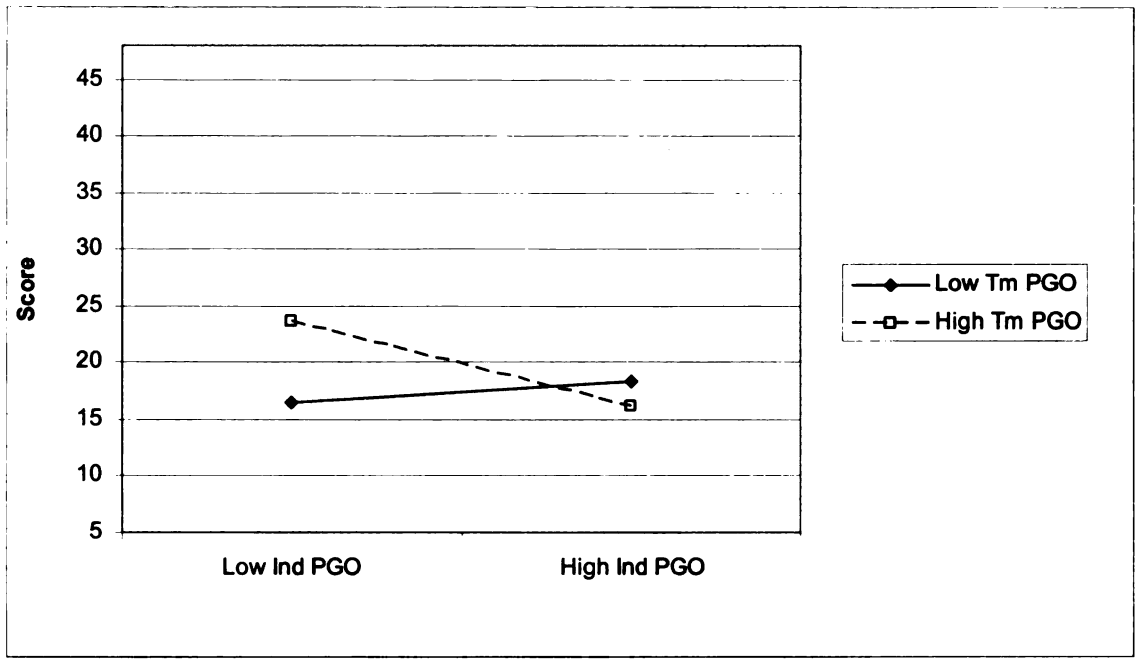
	γ	*Num df*	*Den df*	*F*-value	*p*-value
Performance					
Step1					
Time	34.54	1	56	3519	00
Difference in PGO	-1.09	1	515	.86	.36
Step2					
Time X Difference in PGO	1.31	1	363	3.2	.07
Performance					
Step1					
Time	34.52	1	54	3506	00
Difference in MGO	1.42	1	483	.87	.35
Step2					
Time X Difference in MGO	-1.97	1	336	4.45	.03
Performance					
Step1					
Time	34.45	1	51	3550	.00
Difference in AGO	3.86	1	437	8.15	.00
Step2					
Time X Difference in AGO	.10	1	334	.97	.32

Notes: Difference in MGO= average differnece between individual and team mastery goal orientation for teams; *Num df* = numerator degrees of freedom; *Den df* = denominator degrees of freedom;
γ = average regression weight

The results indicated mastery performance goal orientation, mastery goal orientation, and avoid goal orientation had a significant or marginally significant 3-way interaction effects such that members' individual goal orientation and members' perceived team goal orientation interacted and affected performance across time (γ =1.80; $F_{(1,292)}$=3.20; p=.07; γ =3.06; $F_{(1,212)}$=10.98; p=.001; γ =3.23; $F_{(1,121)}$=12; p=.001).

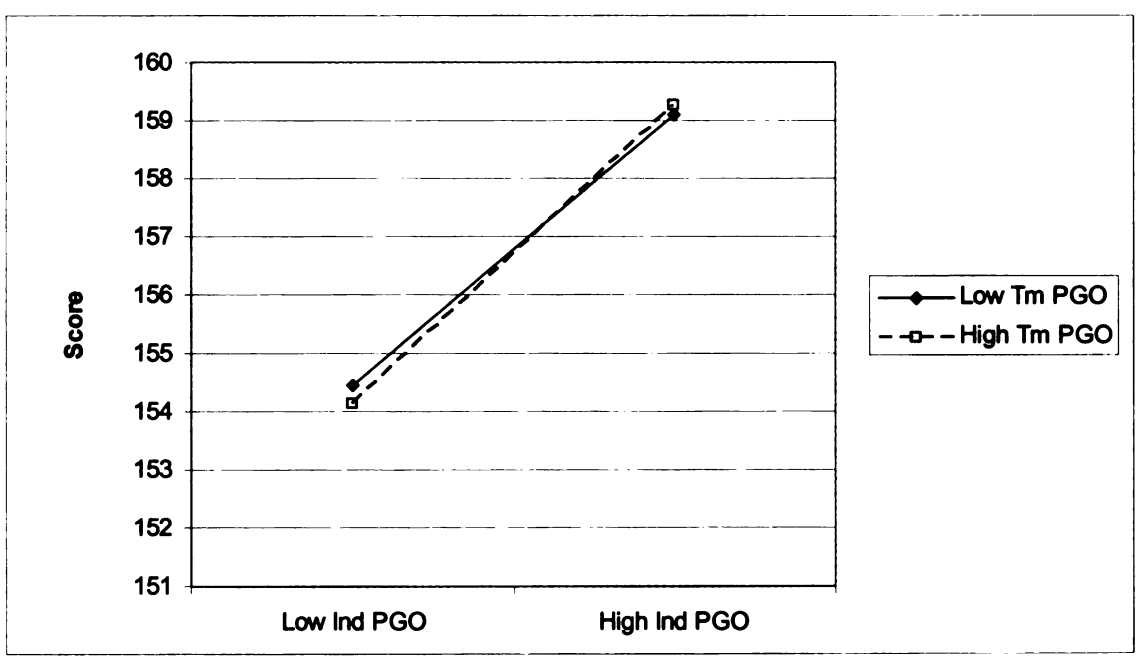
As we can see from the Figure 8, in the beginning, team members who perceived their teams have higher mastery goal orientation than themselves performed the best. As time goes, however, the slope of the dotted line changed such that teams members who perceived both a high level of individual and team performance goal orientation performed the best. This indicates the perceived heterogeneity in performance goal orientation becomes important as team develops such that team members who successfully converged their individual and team performance goal orientation performed better as time goes.

Figure 8a. Three-way interaction between members' individual performance goal orientation and perceived team performance goal orientation on performance over time (wave 1)



Note. The range of the score on the graph is the grand mean ±2 standard deviation.

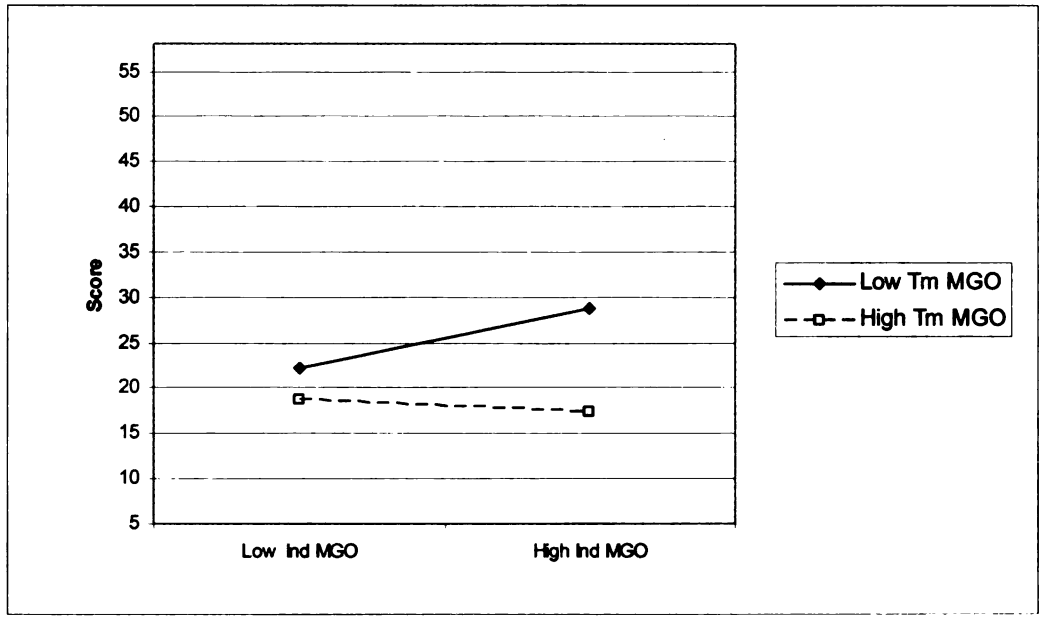
Figure 8b. Three-way interaction between members' individual goal orientation and perceived team performance goal orientation on performance over time (wave 5)



Note. The range of the score on the graph is the grand mean ±2 standard deviation.

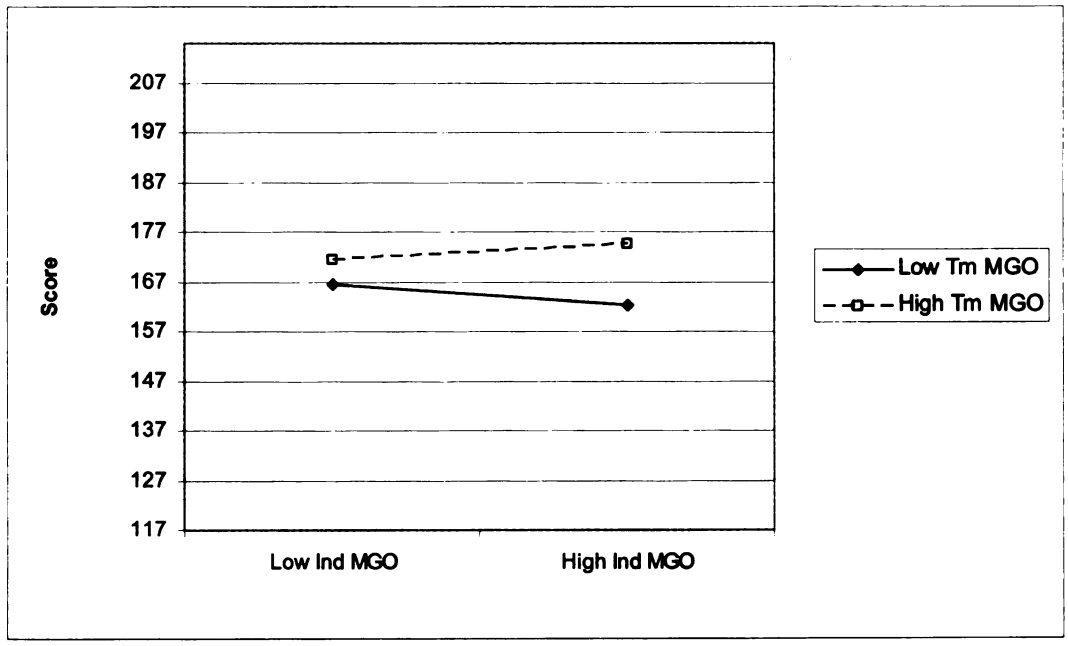
As we can see from the Figure 9, in the beginning, team members who perceived they had higher mastery goal orientation than their team performed the best. As time goes, however, teams with members who perceived both a high level of individual and team mastery goal orientation performed the best. This indicates perceived differences in mastery goal orientation becomes important as team develops, such that teams that successfully converged their members' individual and team mastery goal orientation performed better as the time goes. Also, as we can see, in the beginning, teams with a high team mastery goal orientation performed worse than teams with a low mastery goal orientation. In the end, however, teams with a high team mastery goal orientation performed better than teams with a low mastery goal orientation. This also indicates the relationship between team mastery goal orientation and performance became positive over time.

Figure 9a. Three-way interaction between members' individual mastery goal orientation and perceived team mastery goal orientation on performance over time (wave 1)



Note. The range of the score on the graph is the grand mean ±2 standard deviation.

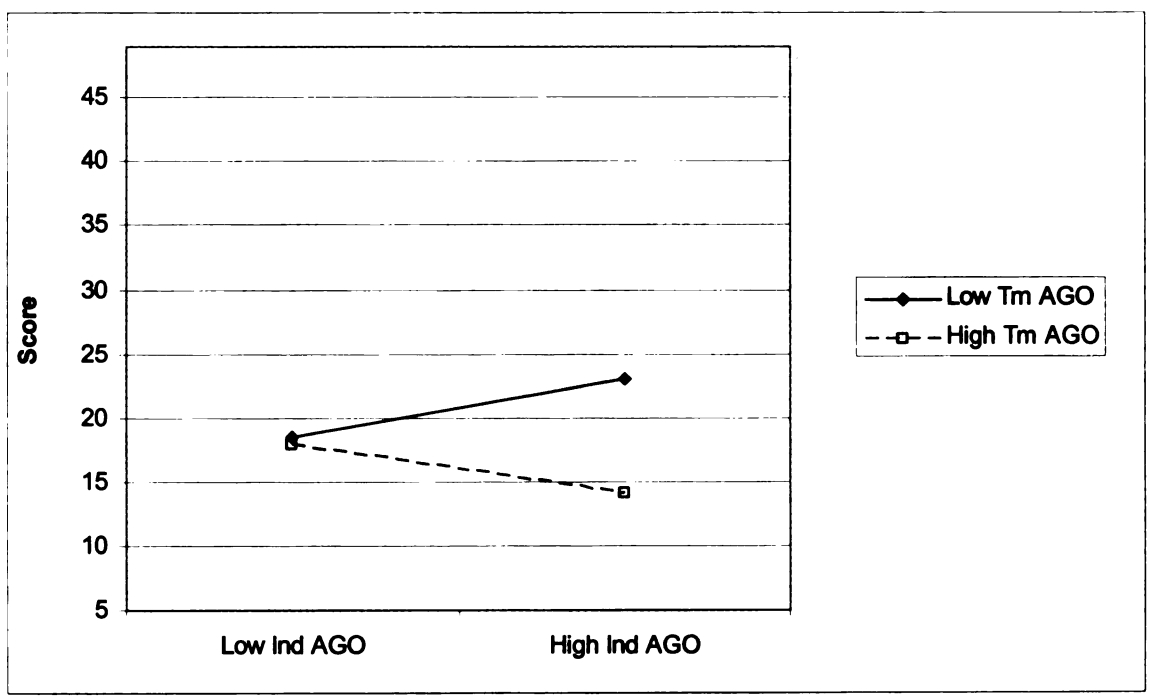
Figure 9b. Three-way interaction between members' individual goal orientation and perceived team mastery goal orientation on performance over time (wave 5)



Note. The range of the score on the graph is the grand mean ±2 standard deviation.

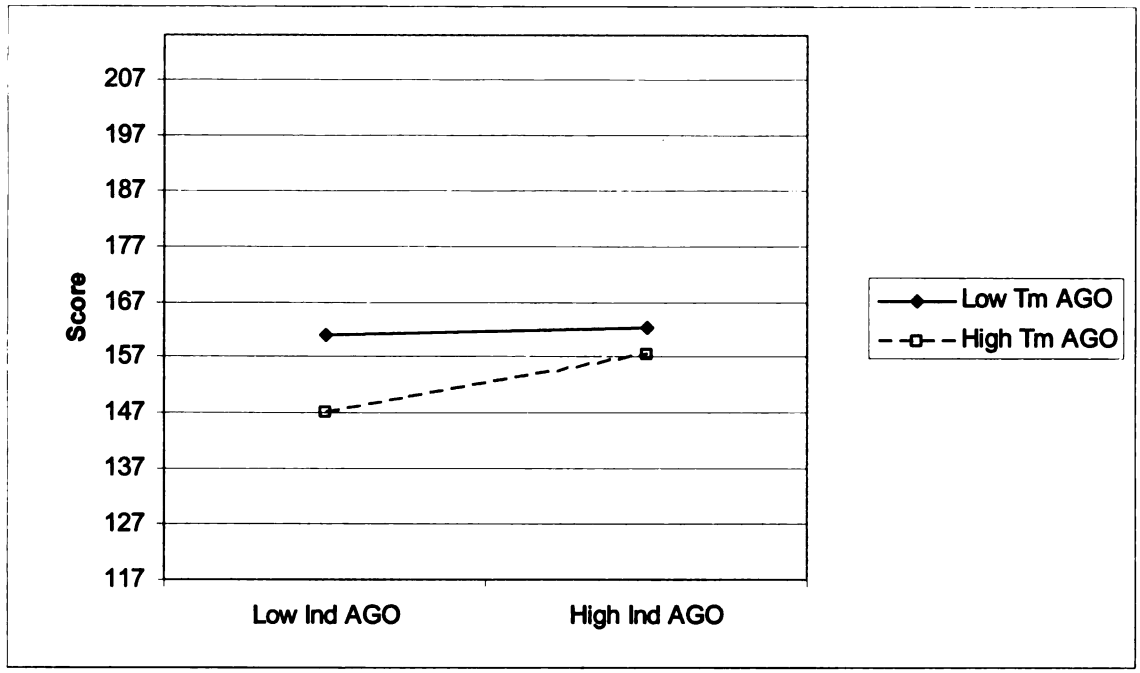
Figure 10 indicates across time, teams with low avoid goal orientation performed better than teams with high avoid goal orientation. This makes sense because team avoid goal orientation are negatively related to performance in the hypothesis 5. When teams have high avoid goal orientation (dotted line), however, teams with members who had low individual goal orientation performed better than teams with high individual avoid goal orientation at first (the slope of dotted line is negative at time 0). As time goes and in the end, teams with members who think their team and individuals have both high avoid goal orientation performed better. This indicates that as time goes, the homogeneity of perceived avoid goal orientations matter for teams' performance. In conclusion, hypothesis 3b was supported such that team members' perceived differences of goal orientation are related to performance as the teams develop.

Figure 10a. Three-way interaction between members' individual avoid goal orientation and perceived team avoid goal orientation on performance over time (wave 1)



Note. The range of the score on the graph is the grand mean ±2 standard deviation.

Figure 10b. Three-way interaction between members' individual avoid goal orientation and perceived team avoid goal orientation on performance over time (wave 5)



Note. The range of the score on the graph is the grand mean ±2 standard deviation.

Hypothesis 4. Hypothesis 4 proposed the relationships between team level of tolerance for ambiguity, standard deviation in team members' team goal orientation, and team level of outcomes: satisfaction and performance. To represent the team-level of tolerance for ambiguity, I calculated the average tolerance for ambiguity score for each team. Please note here that I did not go through statistical analysis (e.g., ICC or Rwg) before I aggregate the team score of tolerance for ambiguity. This is because unlike goal orientations which are suggested to have both trait and state characteristics such that an individual can develop multiple goal orientations depending on situations (DeShon & Gillespie, 2005), tolerance for ambiguity is a relatively stable individual characteristic, such as ability or personality, which are not influenced by contexts (Judge, Thoresen, Pucik, & Welbourne, 1999; McLain, 1993). When an individual-level of a construct is regarded as relatively stable over time, the team-level of a construct can be made by

aggregating the individual-level of the constructs (Chan, 1998). In the previous studies, unless there is a specific model for composition of an individual-level variable such as using a disjunctive model (adopting the highest score) or conjunctive model (adopting the lowest score), individual-level characteristics is usually represented at a team-level by taking the average of the team members' characteristics (LePine, 2003; Barrick, 1998)

In hypothesis 4a, I proposed that the tolerance for ambiguity will moderate the relationship between perceived goal orientation conflict and satisfaction. To examine the hypothesis 4a, in the Step 1 of HLM analysis, satisfaction was regressed on the tolerance for ambiguity and the standard deviation between individual and team goal orientation of the team members. In the step 2, the interaction effects between tolerance for ambiguity and the difference in goal orientations was entered. The results indicated no significant interaction effects on team satisfaction. Therefore, H4a was not supported.

In hypothesis 4b, I proposed that the tolerance for ambiguity will moderate the relationship between the perceived goal orientation conflict and the team performance. In other words, when team members have high levels of the tolerance for ambiguity, disagreement in their perceived individual and team goal orientation will not influence their performance; whereas, when team members have low levels of the tolerance for ambiguity, the conflict in their individual and team goal orientation will hamper their team's performance. The results indicated no significant interaction effects on team satisfaction. Therefore, H4b was not supported.

Hypothesis 5. Hypothesis 5 proposed that team-level of goal orientations will be related to team performance and satisfaction. Specifically, I expected team-level of mastery goal orientation will be positively related to team satisfaction (5a). Also, team-level of performance and avoid goal orientation will be positively and negatively related to team performance (5b). For hypothesis 5a, I regressed team satisfaction on team mastery, performance, and avoid goal orientation (Table 10). As expected, team mastery goal orientation was positively related to team members' satisfaction. Also, although they were not expected, team performance goal orientation was positively related to team members' satisfaction. Finally, team avoidance goal orientation was negatively related to team satisfaction. Hypothesis 5a was supported.

Table 10. Effect of team-level goal orientations on members' satisfaction.

	γ	*Num df*	*Den df*	*F*-value	*p*-value
Satisfaction					
Step 1					
Time	.28	1	133	81.11	.00
Team Mastery GO	.49	1	205	32.63	.00
Team Performance GO	.18	1	224	2.25	.02
Team Avoid GO	-.35	1	215	19.19	.00

Notes: *Num df* = numerator degrees of freedom; *Den df* = denominator degrees of freedom; γ = average regression weight

In hypothesis 5b, I proposed that performance and avoid goal orientation of teams will be positively and negatively related to the teams' performance. I regressed team performance on team mastery, performance, and avoid goal orientation (Table 11). As expected, team performance goal orientation was positively related to performance. Also, as expected team avoid goal orientation was negatively related to performance. In addition, I found that although team mastery goal orientation did not have a significant

main effect on performance, there was an interaction effect between mastery goal orientation and time on team performance. Therefore, teams with high mastery goal orientation did perform significantly better over time. Hypothesis 5b was supported.

Table 11. Effects of team goal orientation on team performance

	γ	*Num df*	*Den df*	*F*-value	*p*-value
Performance					
Step 1					
Time	34.68	1	108	4709	.00
Team Mastery GO	-1.49	1	506	.76	.38
Team Performance GO	3.40	1	481	6.01	.01
Team Avoid GO	-4.36	1	518	9.64	.00
Step 2					
Time X Team MGO	2.02	1	121	5.38	.02
Time X Team PGO	.28	1	152	.12	.73
Time X Team AGO	-1.38	1	124	2.87	.93
Team MGO X Team PGO	.33	1	560	.02	.88
Team MGO X Team AGO	-1.08	1	530	.28	.60
Team PGO X Team AGO	-2.91	1	508	1.79	.18

Notes: *Num df* = numerator degrees of freedom; *Den df* = denominator degrees of freedom; γ = average regression weight

Hypothesis 6. Hypothesis 6a proposed interaction effects between team-level goal orientations and team members' agreement on the goal orientation on team performance and satisfaction. For hypothesis 6a, at first, I regressed the average team members' satisfaction onto team goal orientation and agreement on the team mastery goal orientation. Second, I entered interaction effects to see if mean and standard deviation on goal orientation interact with each other and influence team satisfaction. The results indicated no significant interaction effect and hypothesis 6a was not supported. Although hypothesis 6a was not supported, I found agreement on that team avoid goal orientation

had significant main effects on team satisfaction (Table 12). It suggests that as there is a high level of disagreement on team-level of avoid goal orientation, lower the team-level of satisfaction.

Table 12. Effects of team-level goal orientation and agreements on team-level satisfaction.

	γ	*Num df*	*Den df*	*F*-value	*p*-value
Satisfaction					
Time	.24	1	127	41.18	.00
Team PGO	.20	1	257	4.96	.03
Team MGO	.40	1	197	19.54	.00
Team AGO	-.34	1	225	14.85	.00
SD on TPGO	.19	1	257	3.68	.06
SD on TMGO	.03	1	274	.08	.79
SD on TAGO	-.22	1	273	4.43	.04

Notes: Team PGO = Average team performance goal orientation; SD on TPGO = Standard deviation of team performance goal orientation among team members; *Num df* = numerator degrees of freedom; *Den df* = denominator degrees of freedom;
γ = average regression weight

In a similar vein, for hypothesis 6b and 6c, I regressed team performance onto the average team goal orientation and agreement on the goal orientation among team members. In step 2, I put the interaction effects. There was no significant interaction effects between mean and standard deviation of team-level goal orientation. Therefore, hypothesis 6b and 6c were not supported.

Exploratory Analyses

Given how little theoretical and empirical work currently exists on the topic of the dynamic process of team goal orientation emergence, an exploratory analysis is done to explore aspects of this process and provide valuable insights into this important and

complex topic. This process can help to stimulate and inform future theory development and testing. The focus of this exploratory analysis was about investigating how team goal orientation emerges over time. Therefore, I examined how team members came to develop the similar perception on team goal orientation.

To examine the dynamic emergence process of team goal orientation, an average standard deviation between Person A and Person C from the Person B were calculated for each of the team goal orientations by wave. When there is a large standard deviation value, it means person A and person C's perception toward their team's goal orientation is not similar to person B's perception toward his/her team's goal orientation. When there is a small standard deviation value, it means that person A and person C have similar perceptions toward team's goal orientation with person B. Therefore, I expected that teams with a leader should have lower standard deviation over time which indicates a sharing of similar perceptions over time (Kozlowski & Klein, 2000).

Figure 11a presents a regression line for each team in terms of their standard deviation values in team mastery goal orientation over time in condition1. Figure 11b represents a regression line for each team in terms of their standard deviation values in team mastery goal orientation over time in condition 2. Negative slopes indicate team members (person A and person C) came to share the similar perception with person B; whereas positive slopes indicate team members came to have different perceptions from person B.

Figure 11a. Regression line of standard deviations in team mastery goal orientation for each team (teams without leader)

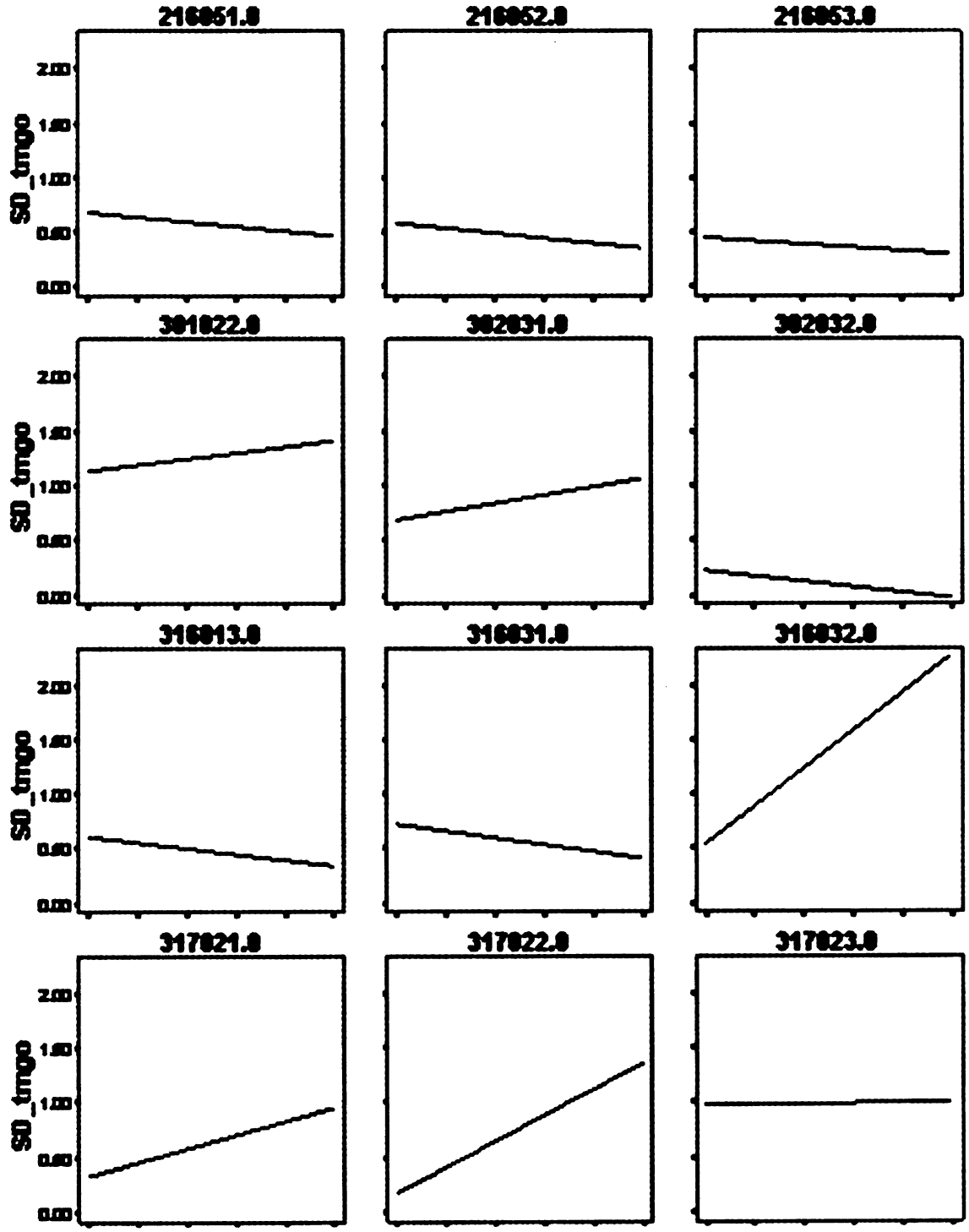


Figure 11a Continued.

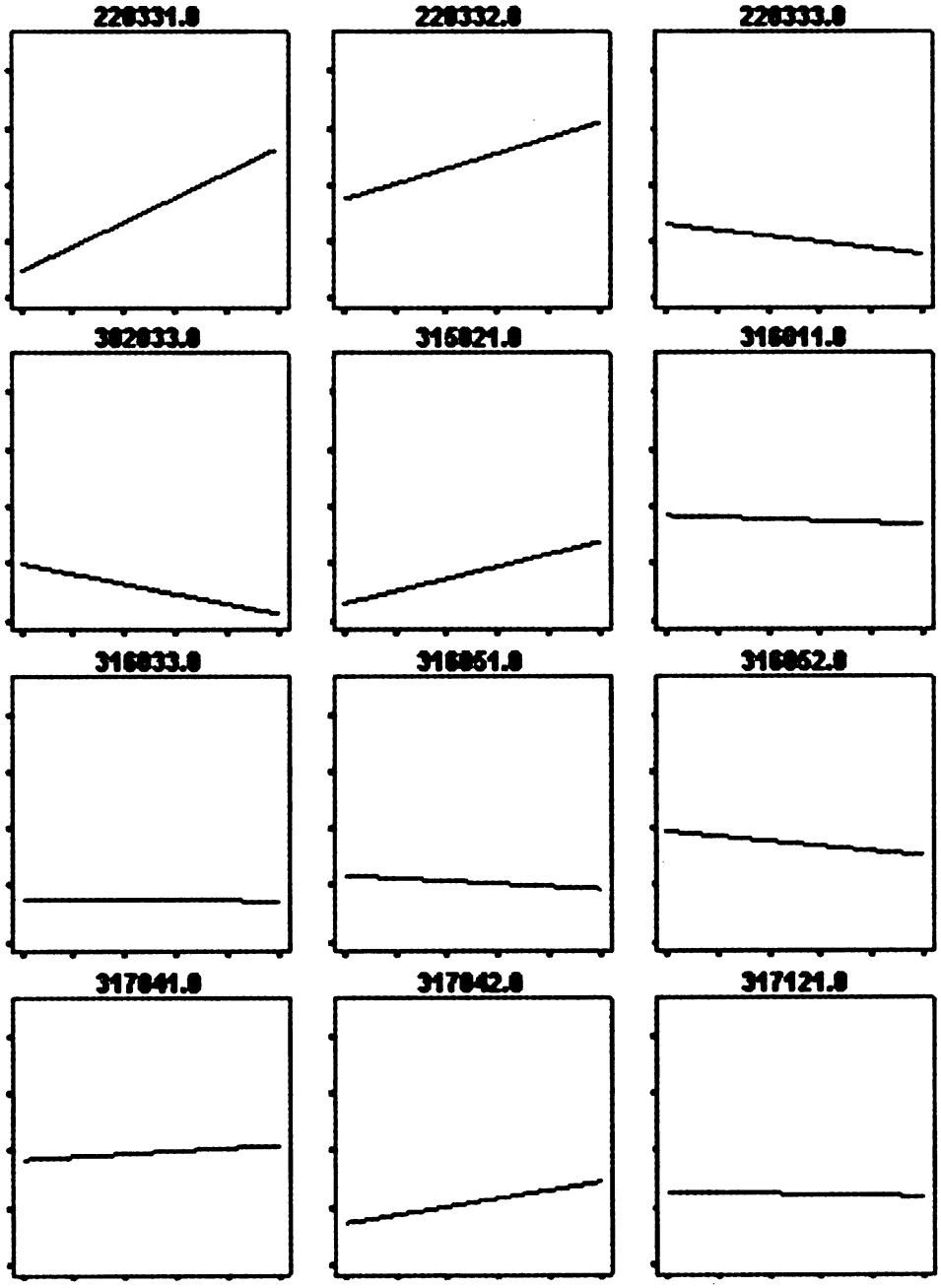


Figure 11a Continued.

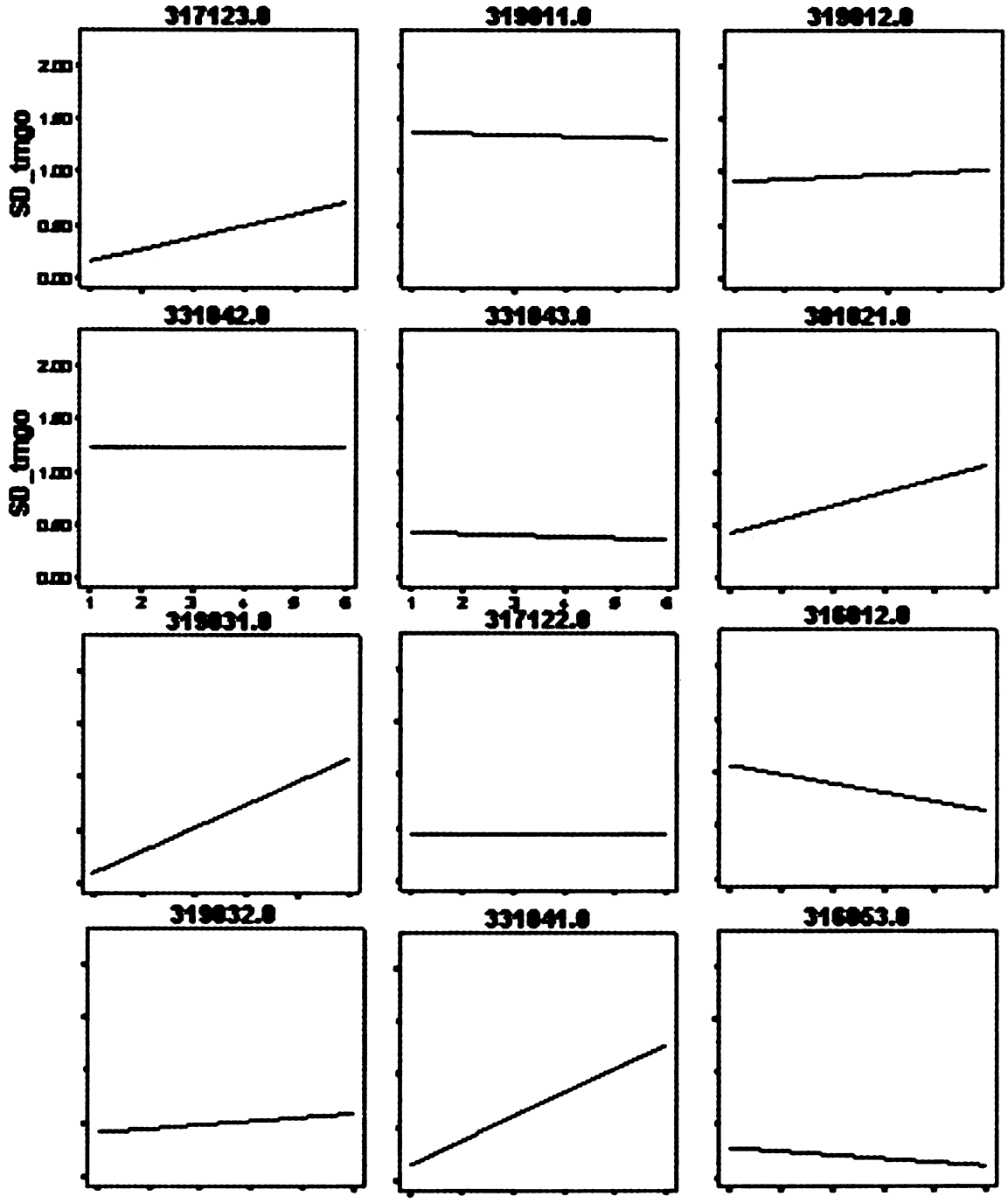


Figure 11b. Regression line of standard deviations in team mastery goal orientation for each team (teams with a leader)

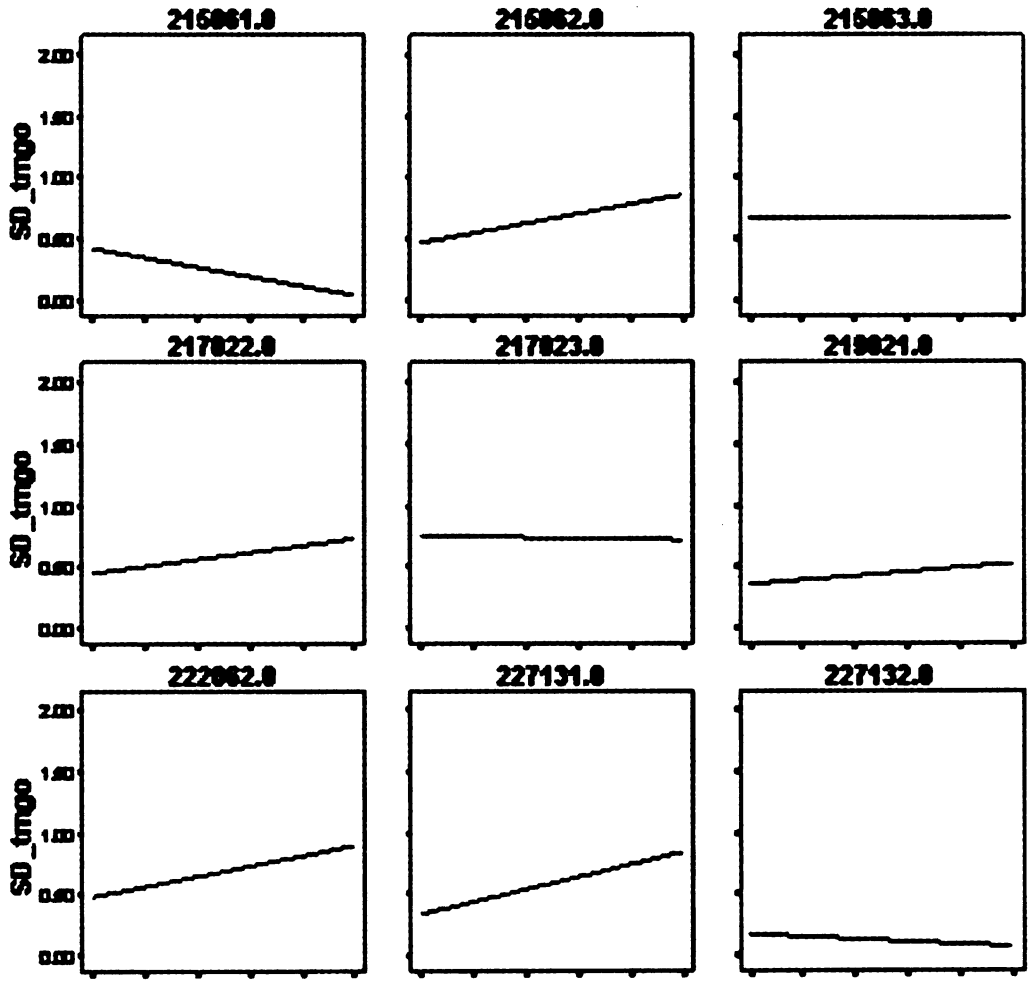


Figure 11b. Continued

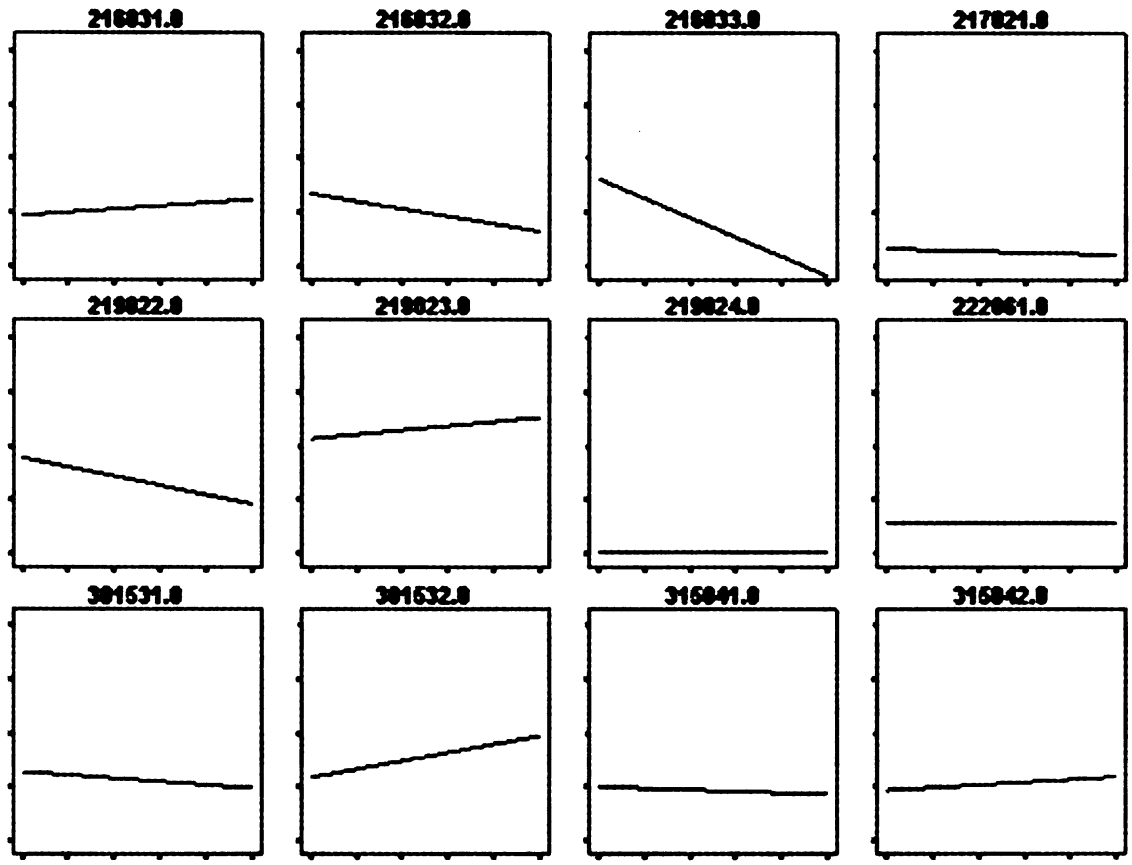


Figure 11b. Continued

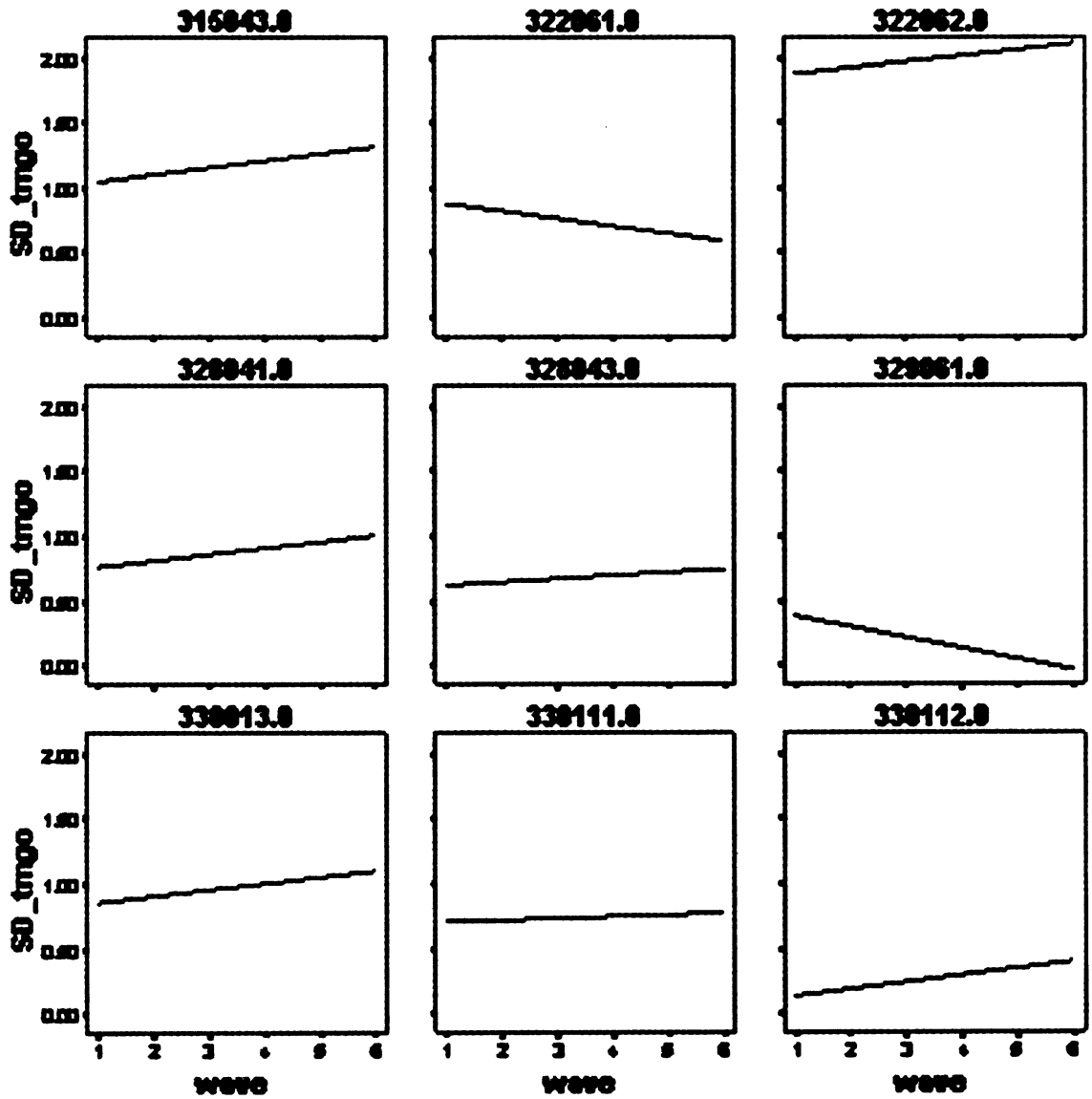
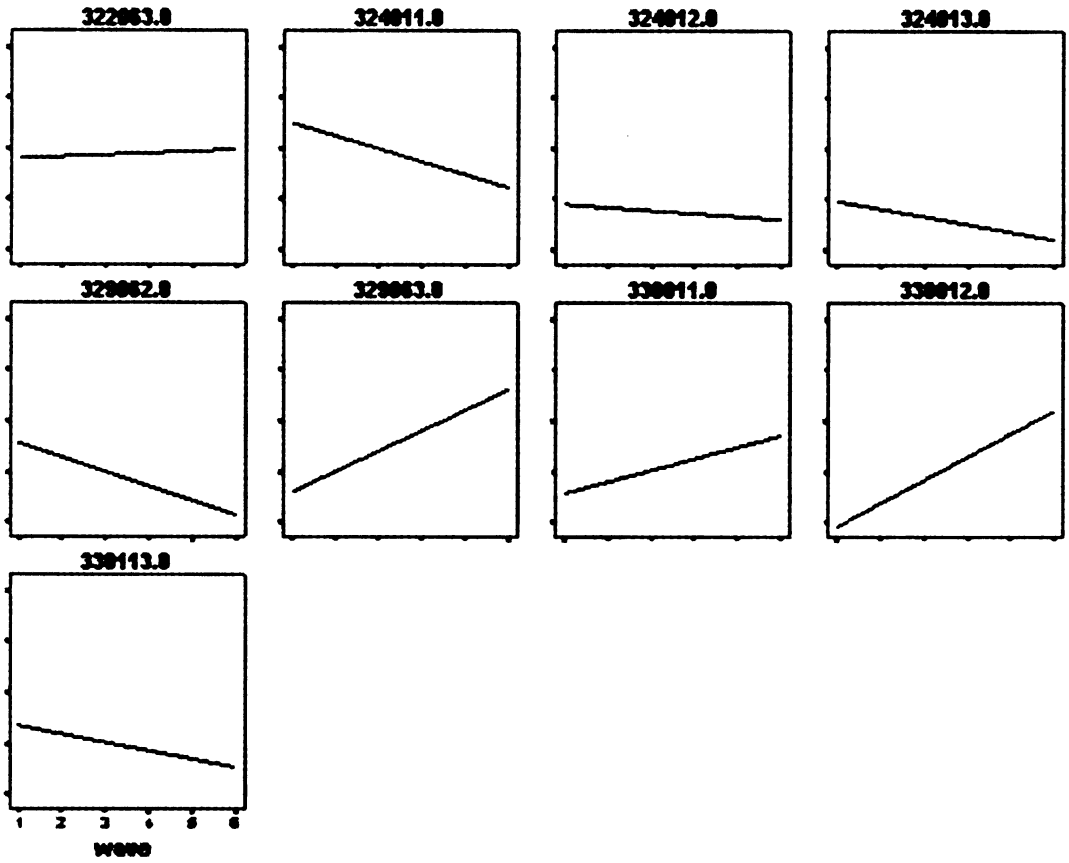


Figure 11b. Continued



As we can see from the graphs, patterns of team goal orientation emergence were not uniform. In both conditions, some teams diverged (positive slope) in their team goal orientation; whereas other teams converged (negative slope) in their team goal orientation. This is not surprising especially when we consider the fact that emergence processes were not assumed to be uniform. Instead, researchers suggested an emergence pattern can show *unification* when members reach a complete consensus or an emergence pattern can show *stable equibria* when members do not change their attitudes over time (Latané, Nowak, & Liu, 1994). Also studies of attitude *polarization* have suggested that team

members can increase the extremity of their position over time (Baron & Kerr, 2002). Although the pattern of emergence was not uniform, teams in condition 2 appears to have steeper negative slopes than teams in condition 1. Therefore, this potentially suggest that team members with leaders tend to converge their team goal orientation perceptions compared to team members without a leader (average negative slope =-.04 and -.07 in condition 1 and 2 respectively). Also, the positive slopes of condition 2 appears to be flatter than the positive slopes of condition 1, which may indicates that team members without leaders are more likely to diverge in their team goal orientation than the team members with leaders (average positive slope =.12 and .07 in condition 1 and 2 respectively). Similar findings were also discovered in the emergence patterns of team performance goal orientation.

DISCUSSION

Despite the ubiquitous nature of teams within the workplace, very little theoretical or empirical research has been directed toward emergence process of team motivation. The purpose of this study was to address this gap by examining the emergence process of team goal orientation. In particular, this study examined how team leader's perceptions on team goal orientation influence team members' perceptions on their team's goal orientation. Also, this study examined how the different types of goal orientation in teams influence the process of the team goal orientation emergence and team-level outcomes. For example, this study examined how the standard deviation in the trait goal orientations among team members is related to the changes in their goal orientation over time. Also, this study investigated how the average perceived conflict between individual and team

goal orientation, and team members' agreement on team goal orientation are related to team level outcomes such as team satisfaction and team performance. Finally, this study was the first study examine the team-level avoid goal orientation and its relationships to performance and satisfaction. Support was found for many of the key hypotheses.

Emergence process and outcomes of team goal orientation

This study argued that other members in a team become proximal environment to provide the context for individuals' motivation. Specifically, role importance was proposed as a factor that influences the process of team goal orientation emergence such that individuals with a more important role are more likely to influence other members' goal orientations in teams. Consistent with this argument, it was found that the leaders' mastery goal orientation influenced team members' mastery goal orientation. Specifically, compared to members in the teams without a leader, members in the teams with a leader were influenced to a greater extent by their leader's mastery goal orientation.

This result suggests that goal orientation is transferrable such that one member's goal orientation can be transferred to the other member in a team. Team-level of goal orientation (team members' perception on team's goal orientation), therefore, emerged through this transfer process such that team members implicitly and explicitly perceive how other members think of their team and become similar to each other. Also, this study found that the team goal orientation does not emerge uniformly. Instead, team-level of goal orientation emerges based on the role importance of members, such that team leaders are more likely to shape how others perceived their teams' goal orientation.

Not only did this study examine the emergent process of team goal orientation, this study found significant relationships between the team goal orientation and team's satisfaction and performance. In particular, it was found that team performance and mastery goal orientation were positively related to team satisfaction and performance. These results are consistent with previous team goal orientation literature such that team performance and mastery goal orientation were generally positively related to team performance. In addition, unlike existing literature in team goal orientation that has focused on performance as a main outcome of team goal orientation, this study extended our understandings on the outcomes of team goal orientation by linking the team goal orientation to team satisfaction. This attitudinal outcome can be critical for team management. Team members' satisfaction with their team is the key factor for team processes, such that higher satisfaction can facilitate information sharing or can decrease social loafing behaviors among team members. The satisfaction of team members can also dictate how long the team itself would last.

Moreover, unlike the previous studies on team goal orientation, which mainly focused on team mastery goal orientation, this study examined all three types of team goal orientations and their relationships with team-level outcomes. Particularly, the topic of team avoid goal orientation was never studied before and this study makes a major contribution to team goal orientation research by suggesting and finding relationships between team avoid goal orientation and team outcomes. In this study, it was found that teams with a higher avoid goal orientation had lower satisfaction and performance. This suggests unlike team performance and mastery goal orientations, which are generally

related to positive outcomes, team avoid goal orientation has negative impacts on team's performance and satisfaction.

Heterogeneities of goal orientation

This study examined how the different forms of goal orientation heterogeneities are related to the dynamics of team goal orientation and team-level outcomes. By measuring state goal orientation multiple times throughout a team's development, this study was able to extend our understanding on how the differences in team members' goal orientations influence the team goal orientation and team outcomes. This study suggests that there are different types of goal orientation heterogeneity exist in teams that influence the team processes and outcomes. For example, the results suggested that the differences in team members' trait goal orientation could predict how much of the changes will occur in members' state team goal orientation over time. Specifically, it was found that when there is a high degree of trait avoid goal orientation differences among team members, the team members are more likely to go though a greater degree of changes in their state team avoid goal orientation.

In addition, although it is important to understand the differences that individuals perceive between their goal orientation and team goal orientation and its impact on team outcomes (Deutsch, 1949), the issue of perceived difference and team performance has been relatively neglected in previous studies. This study argues that when there are high perceived differences between individual and team goal orientation, individuals will reduce their efforts toward the team goal because they think pursuing the team goal may interfere with attaining their individual goal. When there is a low perceived conflict,

however, team members can fully commit to the team goal, which in turn will increase team performance. This study found that team members' perceived difference between individual and team goal orientation influenced the team's performance. Specifically, across all three goal orientations, as teams developed over time, team members' perceived conflict in their individual and team goal orientations negatively influenced team performance. In other words, teams with members that perceived less conflict between their individual and team goal orientations performed better over time. This suggests that the perceived conflict between individuals and team goal orientation matters more as the team develops than in the beginning. So, in the beginning, the perceived differences do not strongly influence team performance, however, as time goes, teams with less perceived differences perform better than teams with greater perceived differences. This implies that as teams develop over time, teams who successfully coordinate each others' goal orientation are more likely to perform better.

Finally, this study suggests team members' agreement on team goal orientation influence their satisfaction and performance. Specifically, it was found that team members' agreement on their team's avoid goal orientation influenced satisfaction of the members. In other words, when there was a higher agreement on members' team avoid goal orientation, team members felt greater satisfaction. In the previous studies, researchers identified homogeneity in terms of members' demographic or personality characteristics positively influence satisfaction. This study adds onto those previous studies and suggests that homogeneity in terms of goal orientation can also influence team members' satisfaction.

Limitations

Although this study proposed that individuals' tolerance for ambiguity will interact with perceived differences between individual and team goal orientation, which in turn, will influence team satisfaction and performance, the hypotheses were not supported in this experiment. The tolerance for ambiguity was proposed to be related to the perceived differences in goal orientations and outcome variables because being a member of a team imposes a number of ambiguities to the individual (e.g, finding out how others' think of the task, coordinate their behaviors to other team members), and how the person successfully deals with such ambiguities was construed to be dependent on their level of tolerance for ambiguities. However, it could be the case that being able to tolerate the ambiguities may not strongly relate to how successfully they deal with those ambiguities. Therefore, tolerance for ambiguity may not strongly relate to performance or satisfaction. Accordingly it could be the case that behavioral characteristics rather than psychological characteristics such as personality could be a better alternative for the tolerance for ambiguity because personality predicts about how a person would behave in general, individuals who are high in openness and extraversion and low in neuroticism could be successful at dealing with those ambiguities that are imposed in team situations, which in turn, lead to higher satisfaction and performance. Also, another reason for this could be the low reliability of the tolerance for ambiguity scale. As previously discussed, the 5 items from the tolerance for ambiguity scale had very low intercorrelations among the items so that 3 out of the 5 items were discarded to achieve the reliability equal to .67. The low reliability on the tolerance for ambiguity

scale could have influenced the hypothesis testing such that it became difficult to find a support for the hypothesis.

In addition, although this study tried to manipulate leaders' achievement motivations to examine how the leaders with a high achievement motivation influence other members' goal orientation, the manipulation was not successful. Although participants were asked to think as if they were in the situation as described in the story, they were given only 2-3 minutes to read and reflect on the study. Perhaps, just reading the story and reflecting on it was not strong enough to increase individuals' achievement motivation.

Also, the failure of the manipulation could be due to a function of the task itself. The task that was used in the study was about national security and screening luggage effectively to prevent terrorists attacks. The task has stronger avoidance characteristics, in which avoiding a bad outcome is regarded more important than achieving a positive outcome. Because achievement motivation is generally related to approach types of motivation, such as approaching positive outcomes and rewards, there was a lack of coherence between the types of task and the types of motivation that this study wanted to facilitate.

Moreover, the story that leaders read was about how a security personnel successfully dealt with critical situations and prevented another terrorist attack that could have led to loss of thousands of lives. Although the story was written in a way to dramatize the success by emphasizing possible losses that the person avoided, this could have also triggered apprehension about the possible failure for individuals; especially those with a high level of fear of failure. Therefore, although it was not intended, the

story could have hampered individuals' achievement motivation instead of facilitating their achievement motivation.

Finally, although the results from the traditional HLM analyses largely supported the main hypothesis of this study in which team leaders are more likely to influence team members' perception toward their team's goal orientation; it is important to recognize the limitation of the current finding. That is, the results only illustrate between-team comparison between teams with a leader versus teams without a leader. Therefore, the results do not mean that all teams with a leader converged their team goal orientation; whereas, all teams without a leader diverged in their team goal orientation. Instead, when we took a look at within-team processes of emergence patterns in the exploratory analysis, the results suggested that within-team patterns of team goal orientation emergence were not homogeneous across conditions. Therefore, there was a variety in the patterns of emergence processes that occurred within-team and some team members converged in their perception toward team goal orientation; whereas, other team members diverged in their perception toward team goal orientation.

There can be many different factors that could have influenced some teams to diverge versus other teams to converge. For example, it was suggested that when individuals perceive a person as being similar to them, they are more likely to be influenced by the person's opinion (Goethals & Nelson, 1973). Therefore, it could be the case that when team members have similar demographic characteristics, they are more likely to converge in their perception of team goal orientation. Also, because the amount of interaction was suggested to be an important factor in changing one's opinion, it could

be the case that teams with a convergent pattern had greater amount of interaction among team members than the teams with a divergent pattern (Nowak, Szamerj, & Latane, 1990).

Implications and Future Directions

The previous studies on goal orientation have tended to maintain a limited view of the emergence process of team goal orientation, and have not explained how team members influence each other's goal orientation, which in turn, yields team-level goal orientation. To address those issues, this study used a manipulation where teams without a leader and teams with a leader were compared. The results suggest that team members' perception on team learning goal orientation were influenced by the leader's perception on team's learning goal orientation. This means that a leader of the team is a critical motivational factor in a team and s/he determines team's goal orientation by influencing how other members perceive their team.

The current findings suggest that a more efficient technique for managing team motivation be employed. Since we know leaders have greater impact on other members' goal orientations, instead of encouraging every team member to have a certain goal orientation, we can encourage team leaders to have a particular goal orientation. This can save time and money for both employees and organizations, which is especially good when we want a quick and easy way of managing teams' goal orientations. Also, in the previous study, team mastery goal orientation was found to be helpful for innovative tasks versus performance goal orientation was found to be helpful for simple and easy tasks. Therefore, depending on the types of the team task, we can manage the goal orientation of team leaders, which will be further transferred to their team members.

In addition, this study suggests that properly managing the team members' perceived conflict on their individual and team goal orientation is critical for the success of the team. The perceived conflict becomes a strong predictor of a team's performance as the teams develop over time. This implies that organizations should be more proactive about solving conflict between individual versus team goal orientation. For example, we may want to consider having an ongoing coaching system for teams with high perceived differences such that it can help team members coordinate their goal orientations and successfully perform as a team.

This study also argues about the importance of considering team avoid goal orientation. It was found that the trait difference in avoid goal orientation was related to changes in team members' avoid goal orientation over time. Also, the heterogeneity of members' team avoid goal orientation was negatively related to the satisfaction of the team. These findings imply that there is something about heterogeneity of avoid goal orientation that makes people uncomfortable and changes their goal orientation accordingly. As we can imagine, if there is a person who is very conscious about how others look down on him/ her and how other teams are better than his/ her teams, it makes the person's team members feel uncomfortable and causes them to either change their avoid goal orientation or try to change that person's avoid goal orientation. Because we now recognize the fact that the teams with heterogeneity in high avoid goal orientations go through a lot of motivational change over their course of team development and that they are more likely to have lower satisfaction, we need to further study how to accommodate such teams successfully.

In this study, a team leader's goal orientation was identified as an important factor that influences the team goal orientation emergence. Future research should identify other factors that might influence the process of team goal orientation emergence other than the role importance of the member. For example, for teams that consist of members with different expertise, team members with higher credibility are more likely to influence other's goal orientation than team members with lower credibility. Also, it is important to recognize how much each member influences other members' goal orientation across time. For example, when the teamwork process is dynamic, in which members' roles vary from time to time depending on the characteristics of the types of team task, the criticality of the roles will vary as well as their power to influence other members' goal orientation.

In addition, it is important to further examine the perceived conflict between individual and team goal orientation and its impact on team process as well as individual outcomes. From this study, we know how important it is to resolve the differences between individual goal orientation and team goal orientation, as they negatively influence team performance over time. It is also important to study factors that influence the conflict resolution. For example, when leaders ask about members' opinions before making his/ her final decision, members would perceive less conflict in their motivation. Therefore, linking patterns of team members' behaviors to perceived differences of the members has important implications for improving team processes and performance.

This study provides an important glimpse into the issues involved in emergence process of team-level goal orientation and heterogeneities of goal orientations. Making the connection between individual and team-level goal orientation by applying the contagion ideas of motivation is a significant contribution of this study. Much work

remains to be done to understand this complex issue, and I hope this study will help to inform and stimulate additional studies in this area.

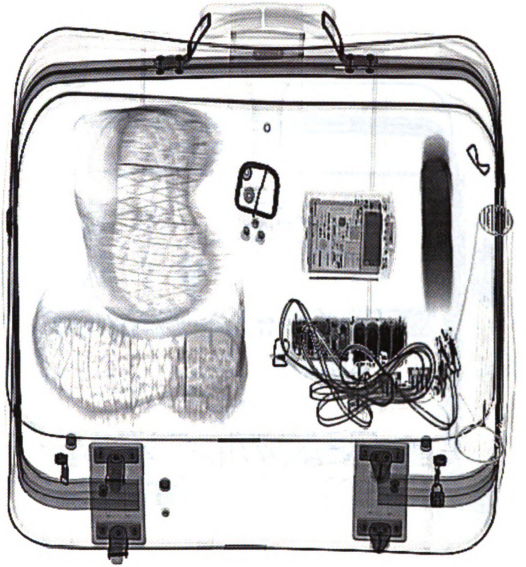
APPENDICES

Appendix A

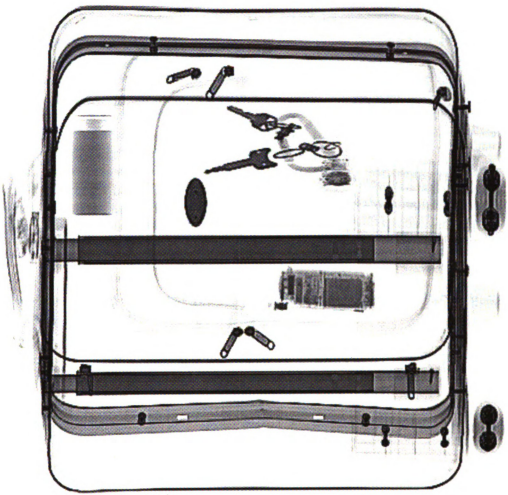
Examples of X-ray Slides

Example X-ray Slide #1

Example X-ray Slide #2



Example X-ray Slide #3



Appendix B

Manipulation of Achievement Motivation

Please imagine the following story as if you were in the actual situation, and respond to the following question.

You are a member of an airport security team at the Detroit Metro Airport. It is around the holiday season and people are visiting their families using major forms of transportation. Since terrorists attacked on 9/11 in London, the international tension is very high and another terrorist attack on the U.S. is highly possible. Based on information received by the U.S. government terrorists could be planning attacks on terminals in major U.S. airports, as they will be targeting places where many people will be gathered in small places. As a member of the airport security team, you view x-ray images of luggage to search for any suspicious objects that can be used as potential weapons. During the screening process, you find an object that looks suspiciously wrapped and concealed in the back of a piece of luggage. You searched the luggage extensively and the suspicious object turned out to be a massive bomb that could potentially takes lives of thousands of passengers at the Metro Airport. The person that was carrying the bomb was found to be on America's Most Wanted List, and was reportedly involved in previous terror attacks.

You have successfully done your job by finding the bomb. Briefly list <u>three results</u> of your finding the bomb that would be important to you.

1._____

2._____

3. _____

Appendix C

Individual Decision Making Sheet

Luggage #1

Individual Decision

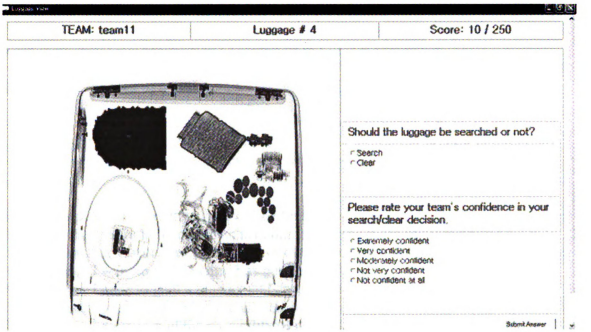
Should this luggage be searched or not? Search/Clear

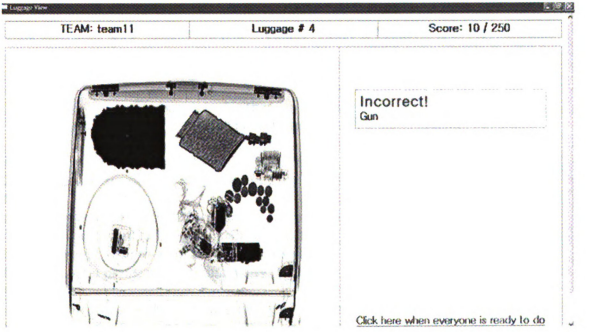
Please rate your confidence in your search/clear decision

Extremely confident	
Very confident	
Moderately confident	
Not very confident	
Not confident at all	

Appendix D

First Look at the Luggage Task





Appendix E

Individual Goal Orientation

Trait Individual Goal Orientation (Adapted from Elliot & McGregor, 2001)

Instructions: This set of questions asks you to describe your general work orientation.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

1. In general, it is important to me to do better than other people.
2. In general, I strive to demonstrate my abilities exceed those of other people.
3. In general, I am motivated by the idea of outperforming other people.
4. In general, I want to learn as much as possible.
5. In general, I hope to gain a broader and deeper knowledge.
6. In general, I prefer material that really challenges me so I can learn new things.
7. In general, I worry about the possibility of performing poorly.
8. In general, my fear of performing poorly is what motivates me.
9. In general, I just want to avoid performing poorly.

State Individual Goal Orientation (Adapted from Elliot & McGregor, 2001)

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

1. Right now, it is important for me to do better than other people on this task.
2. Right now, I am striving to demonstrate my abilities exceed those of other people on this task.
3. Right now, I am motivated by the idea of outperforming other people on this task.
4. Right now, I want to learn as much as possible on this task.
5. Right now, I want to learn as much as possible on this task.
6. Right now, I prefer material that really challenges me so I can learn new things on this task.
7. Right now, I worry about the possibility of performing poorly on this task.
8. Right now, my fear of performing poorly is what motivates me on this task.
9. Right now, I just want to avoid performing poorly on this task.

Appendix F

Team Goal Orientation

State Team Goal Orientation (Adapted from Elliot & McGregor, 2001)

1	2	3	4	5
Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree

1. Right now, it is important to my team to do better than the other teams on this task.
2. Right now, my team is striving to demonstrate our abilities exceed those of other teams on this task.
3. Right now, my team is motivated by the idea of outperforming other teams on this task.
4. Right now, my team wants to learn as much as possible on this task.
5. Right now, my team hopes to gain a broader and deeper knowledge on this task.
6. Right now, my team prefers material that really challenges us so we can learn new things on this task.
7. Right now, my team worries about the possibility of performing poorly on this task.
8. Right now, my team's fear of performing poorly is what motivates us on this task.
9. Right now, my team just wants to avoid performing poorly on this task.

Appendix G

Tolerance for Ambiguity

Tolerance for Ambiguity (McLain, 1993)

1. I am uncomfortable when I'm not sure what is expected of me.

2. Tasks with a lot of uncertainty are more desirable than tasks with little uncertainty

3. It is impossible to do a good job when the requirements keep changing.

4. I think it's important to know exactly what my assignments are and when they are due.

5. I prefer assignments with specific directions to those with vague directions that require my own interpretation.

Appendix H

General Leadership Impression

General Leadership Impression (GLI) (Adapted from Cronshaw & Lord, 1987)

1. *Person A* exhibited leadership during team session.
2. I am willing to choose *Person A* as formal leader.
3. *Person A* was a typical of a leader.
4. *Person A* engaged in leader behavior.
5. *Person A* fits my image of a leader.

Appendix I

Team Satisfaction

Team Satisfaction (Adapted from Gladstein 1984)

1. All in all, how satisfied are you with your members in your team?

2. All in all, how satisfied are you with your team's performance on the task?

3. How satisfied are you the progress you made in the task?

4. Considering the effort you put into the task, how satisfied are you with your teams' performance?

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