Western Graduate&PostdoctoralStudies

Western University
Scholarship@Western

Electronic Thesis and Dissertation Repository

7-4-2014 12:00 AM

Goal Orientation Heterogeneity in Teams: Investigating Implications for Individual Satisfaction with the Team and Team Conflict

Kyle A. Cameron
The University of Western Ontario

Supervisor
Natalie Allen
The University of Western Ontario

Follow this and additional works at: https://ir.lib.uwo.ca/etd

Part of the Industrial and Organizational Psychology Commons

Recommended Citation

GOAL ORIENTATION HETEROGENEITY IN TEAMS: INVESTIGATING IMPLICATIONS FOR

INDIVIDUAL SATISFACTION WITH THE TEAM AND TEAM CONFLICT

(Thesis format: Monograph)

by

Kyle A. <u>Cameron</u>

Graduate Program
In
Psychology

A thesis submitted in partial fulfilment
of the requirements for the degree of
Master of Science

School of Graduate and Postdoctoral Studies
The University of Western Ontario
London, Ontario, Canada

Abstract

The primary purpose of this research was to examine how goal orientation heterogeneity in teams relates to both individual satisfaction with the team and team conflict. Based on current research on team member heterogeneity and goal orientation, I hypothesized, at the individual level of analysis, that goal orientation dissimilarity would be negatively related to individual satisfaction with the team and, at the team level of analysis, that goal orientation diversity would be positively related to relationship and task conflict. Data were collected from a sample of 420 engineering students working on complex design projects in 101 project teams. Results indicate that goal orientation dissimilarity is negatively, albeit modestly, related to individual satisfaction with the team for the learning-avoid, performance-approach, and performance-avoid dimensions. For no dimension of goal orientation was diversity related to relationship or task conflict at the team level of analysis.

KEYWORDS: teams, work groups, team composition, heterogeneity, diversity, dissimilarity, goal orientation, satisfaction with the team, team member satisfaction, conflict

Table of Contents

List of Tables

List of Figures

List of Appendices

Introduction

The pervasive use of teams is a well-documented feature of the modern workplace (e.g., Devine, Clayton, Phillips, Dunford, & Melner, 1999; Ilgen, 1999). Though we often think about teams as a single unit, anyone who has experienced life in a team can attest to the reality that individual team members can differ in countless ways. Naturally, researchers have developed a keen interest in *team composition* or the combination of team members' individual attributes (Mohammed, Hamilton, & Lim, 2009) and regard it as an important influence for both team processes and outcomes (Bell, 2007).

A significant portion of team composition research is dedicated specifically to team member differences (e.g., Harrison, Price, & Bell, 1998; Jackson et al., 1991; Mannix & Neale, 2005). While some differences, such as team member expertise, can be beneficial (e.g., Bell, Villado, Lukasik, Belau, & Briggs, 2011), others lead to undesirable processes such as conflict (e.g., Klein, Knight, Ziegert, Lim, & Saltz, 2011). In order to compose teams more effectively, it is important that we seek further knowledge about which team member differences lead to desirable outcomes and which do not.

One way in which team members may differ is their *goal orientation*. Goal orientation refers to the dispositional or situational goal preferences one holds in achievement contexts and has been established as a useful predictor of a variety of work behaviours and outcomes (see Payne, Youngcourt, & Beaubien, 2007). Because behaviour in work teams is largely goal directed, a team's goal orientation composition may be a useful consideration.

Though team members are often linked by a common a purpose, they may simultaneously hold differing, and perhaps competing, individual goals (Brett & VandeWalle, 1999). These goal differences have the potential to affect individuals' interactions with their team members, ultimately shaping their experiences and influencing team processes. The

primary purpose of the research presented herein was to examine how a team's goal orientation composition influences both the experiences of individual team members and team processes. Specifically, I investigate how team member heterogeneity, in regard to goal orientation, relates to both individual satisfaction with the team and team conflict.

Theory and Research

Goal orientation. Goals are considered to be foundational to human behaviour, influencing the information to which we attend, the actions we take in response, and the persistence with which we engage in those actions (Latham, 2006). While specific goals sometimes change, research suggests that individuals also hold superordinate goals that are relatively stable across time and situations (Payne et al., 2007). *Goal orientation* refers to these superordinate goals that are activated in achievement settings (VandeWalle, 1997).

Origins and lineage. The construct of goal orientation has received substantial attention in organizational research over the last two decades. That being said, goal orientation has its origins in developmental psychology. Based on their work with adolescents, Dweck (1975, 1986) and her colleagues (Dweck & Elliott, 1983; Dweck & Legget, 1988) observed that individuals do not all approach achievement situations with the same fundamental goals. These researchers originally distinguished individuals who demonstrated a preference for *developing* ability from those with a preference for *demonstrating* ability, eventually labelling the two *learning goal orientation* and *performance goal orientation* respectively.[1] While individuals with a learning orientation tend to approach tasks with a desire for personal growth and mastery,

---

[1] The dimensions of goal orientation have been described using various terminology within the literature. For example, *learning* and *mastery orientation* are used synonymously. For clarity's sake, I remain consistent throughout this manuscript using the terms *learning goal orientation* and *performance goal orientation.*

those with a performance orientation strive to demonstrate competence relative to others in order to gain favourable, or avoid negative, judgements.

Farr, Hofmann, and Ringenbach (1993) first introduced goal orientation into organizational research as a theoretical framework for describing how individuals interpret and respond to performance situations at work. They examined how goal orientation influenced a number of work relevant variables including: task interest, goal setting, feedback seeking, and trainee motivation. These investigators found that, generally, learning goal orientation was positively related to these desirable work attitudes and behaviours while performance goal orientation was negatively related. Subsequent research has generally supported their conclusion that learning goals are correlated with positive behaviours and outcomes, but evidence regarding performance goals has been less conclusive (see Payne et al., 2007).

Dimensionality. In the midst of inconclusive and contrasting findings for the role of performance goal orientation, some researchers were prompted to revisit the dimensionality of the goal orientation construct. Elliot and his colleagues (Elliot & Church, 1997; Elliot & Harackiewicz, 1996) pointed to a distinction, initially made by Dweck, that performance orientations could be described as either trying to *approach* favourable judgements by demonstrating competence or as trying to *avoid* negative judgements caused by displays of incompetence. This observation led many researchers to adopt a triarchic view of the goal orientation construct, distinguishing between *performance-approach goal orientation* and *performance-avoid goal orientation.*[2] This conceptualization received repeated empirical support (Elliot & Church, 1997, VandeWalle, 1997; Zweig & Webster, 2004).

---

[2] The approach and avoid elements of goal orientation have been referred to using a variety of terms, but are used consistently throughout this manuscript to describe the valence characteristic of each orientation.

In more recent work, scholars have considered goal orientation in terms of two characteristics of competence – *definition* and *valence* (e.g., Baranik, Barron, & Finney, 2007; Elliot & McGregor, 2001). Definition refers to the idea that competence can be *defined* against different standards including: *intrapersonal standards* (i.e. one's past attainment or maximum potential attainment) and *normative standards* (i.e. the performance of others or some other external benchmark; Elliot & McGregor, 2001). It is largely from this distinction that the *learning* and *performance* goal orientations were initially drawn – one's standard for achievement can be linked to personal growth and mastery or to the performance of others.

Competence can also be described by its valence, depending on whether achievement situations are construed positively (i.e. as an opportunity to succeed) or negatively (i.e. as an opportunity to fail). Considering competence in light of these characteristics yields a tidy 2 x 2 framework for considering goal orientation (see *Figure 1)*. The primary contribution of this framework is the introduction of the *learning-avoid goal orientation*. Individuals that hold learning avoidance goals are mainly concerned with failing to learn all that they have the opportunity to learn. Such individuals hold absolute or intrapersonal standards of competence and are primarily concerned with not living up to these standards. Empirical investigations that have considered this 2 conceptualization of goal orientation have consistently uncovered a four-factor solution that demonstrated superior fit compared to the previously discussed two- and three-factor solutions (e.g., Elliot & McGregor, 2001; Baranik et al., 2007). Additionally, in one study that asked participants to report their dominant goal orientation, nearly 30 per cent of individuals reported that learning-avoid goal orientation was their dominant orientation (Van Yperen, 2006).

Figure 1. The 2 x 2 achievement goal framework (adapted from Elliot & McGregor, 2001).

Definition

		Absolute/intrapersonal (learning)	Normative (performance)
Valence	Positive (approaching success)	Learning-approach goal	Performance-approach goal
	Negative (avoiding failure)	Learning-avoidance goal	Performance-avoid goal

Trait vs. state. Another key point of discourse in the goal orientation literature is whether the construct is best conceptualized as a trait or as a state (see Payne et al., 2007). Goal orientation has been primarily approached as a relatively stable individual difference or trait; however, some researchers have adopted a state-based view, assuming that the achievement context influences the saliency of certain goals (e.g., Dragoni, 2005; Dragoni & Kuenzi, 2012). This question was the subject of a meta-analysis conducted by Payne, Youngcourt, and Beaubien (2007) who provided evidence for the fact that goal orientation operates as both a trait and as a state. While the achievement context does influence the activation of certain goals, goal orientation also remains relatively stable over time, particularly over short periods.

Team composition. In this research, I was primarily interested in how team members' goal orientations combine to influence individual attitudes and team processes. *Team composition* describes this combination of individual team member attributes (Mohammed et al., 2009). Depending on the research question and individual characteristic of interest, team composition can be conceptualized in a number of ways (see Chan, 1998; Kozlowski & Klein, 2000). Most commonly, researchers are concerned with team members' average level on a particular trait. For example, research has shown that teams with higher mean levels of cognitive

ability and conscientiousness routinely demonstrate superior performance (Barrick, Stewart, Neubert, & Mount, 1998). Sometimes a research question makes it appropriate to consider other aspects of a team's composition, such as the highest or lowest score of a team member on a certain characteristic. In this research, I was specifically interested in team member differences and the role of goal orientation heterogeneity. In the next sections, I discuss how team member differences are most often conceptualized in team research.

Conceptualizing member differences in teams. Researchers interested in team member differences typically distinguish between two forms of heterogeneity: (1) diversity – a *team-level* characteristic reflecting "…the presence of differences among members of a social unit" on some particular attribute (Jackson, May, & Whitney, 1995, p.217) and (2) dissimilarity – an *individual-level* characteristic reflecting how different a particular team member is from his or her teammates on some attribute (Jackson et al., 1991). While both diversity and dissimilarity reflect team member differences, the two operate at different levels of analysis.

To further illustrate this distinction, it is helpful to consider a simple example. Imagine a five-member team in which four members are 60 years old and one member is 20 years old. At the team level, this team is not particularly diverse (i.e. most of its members are the same age). However, when dissimilarity is considered, it is plain to see that the 20-year-old is quite different, in respect to age, from his or her teammates.

Theoretical perspectives on heterogeneity. Scholars have made the argument for both positive and negative effects of team member differences. For instance, when team member variability facilitates the consideration of multiple perspectives and diverse information, teams should be able to generate more solutions to problems and innovate more effectively (Bell et al., 2011). In contrast, when team members have different values, there may be contrasting

expectations about how team members ought to behave and which courses of action the team should take (Klein et al., 2011), leading, potentially, to team conflict. Generally, hypotheses surrounding the effects of diversity and dissimilarity are framed around three dominant theoretical perspectives: the similarity-attraction paradigm (Byrne, 1971); the information-processing/decision-making approach (Williams & O'Reilly, 1998); and social-identity and self-categorization theories (Tajfel, 1978; Turner, 1982).

Similarity-attraction paradigm. The similarity-attraction paradigm, initially outlined by Byrne (1971) suggests that individuals are attracted to those who are similar to them because of an implicit belief that similar others will uphold one's own values and beliefs. This theory is most often used in concert with visible and, thus, readily apparent demographic differences (see, for example, Linnehan, Chrobot-Mason, & Konrad, 2006), but has also been used to explain the negative effects of dissimilarity on 'deep-level' characteristics such as conscientiousness (Gevers & Peeters, 2009). From this perspective, heterogeneity leads to negative outcomes for teams because members' values are incongruent. This can lead to the frustration of individual pursuits and team process difficulties.

Information-processing and decision-making approaches. In contrast to the similarity-attraction paradigm, the information-processing and decision-making approaches are used to support hypotheses about the value of diversity. This perspective maintains that "diverse groups are more likely to possess a broader range of task relevant knowledge, skills, and abilities that are distinct and nonredundant and to have different opinions and perspectives on the task at hand" (van Knippenberg, De Dreu, & Homan, 2004, p.1009).

Social-identity and self-categorization theories. According to social-identity and self-categorization theories, heterogeneity makes it more difficult for individual members to identify

and integrate with a team (Tajfel, 1978; Turner, 1982). As people categorize others into groups based on similarities and differences, "in-groups" and "out-groups" are formed and the two groups can experience competition that leads to potential process difficulties in a team. Like the similarity attraction paradigm, this theory has its roots in more prototypical *workplace diversity* research (see Konrad, 2003) and relational demography (Linnehan, Chrobot-Mason, & Konrad, 2006), but has also been used to develop theory according to a trait model of heterogeneity (e.g., Kammeyer-Mueller, Livingston, & Liao, 2011; Zellmer-Bruhn, Maloney, Bhappu, & Salvador, 2008).

Team goal orientation composition. Now that I have generically explained both the goal orientation construct and team composition, I consider the combination of team members' goal orientations. In the following sections, I review findings surrounding team goal orientation composition and consider more explicitly how goal orientation dissimilarity might influence individual satisfaction with the team, as well as how goal orientation diversity might contribute to team conflict.

Research exploring goal orientation composition. Past empirical work has already examined goal orientation through a team composition lens, but much of this research has simply looked at mean levels and considered only team-level outcomes. For example, mean levels of learning goal orientation have been linked to team backing up behaviour, team efficacy, team commitment (Porter, 2005), and team adaptability (LePine, 2005). Additionally, evidence suggests that teams with high mean levels of learning goal orientation use task conflict productively to increase team performance (Huang, 2012). Performance goal orientation, on the other hand, is negatively related to team efficacy, commitment (Porter, 2005), and adaptability

(LePine, 2005). Furthermore, task conflict in teams characterized by high mean levels of performance goal orientation is associated with decreased team performance (Huang, 2012).

In terms of goal orientation heterogeneity, Klammer (2008) investigated the effect of goal orientation diversity on team viability and performance. She discovered that, generally, diversity on the approach dimensions of goal orientation was negatively related to viability and performance while diversity on the avoidance dimensions was positively related. In similar research, Pieterse, van Knippenberg, and Ginkel (2011) found that diversity in both learning and performance goal orientation is related to decreased group performance.

Dierdorff and Ellington (2012) suggested that team members' individual goal orientations combine to create a social context within which each member operates. They also proposed that an individual's goal orientation may interact with this context to influence individual experiences. One possible manifestation of this interaction is parallelism which occurs when the individual's goal orientation matches that of the team. The alternative form is dissimilarity which occurs when an individual's goal orientation is in contrast to that of most team members. These two situations can be mapped on to the 2 x 2 goal orientation framework *(Table 1)*.

Table 1

Linking Individual Goal Orientation and Team Goal Orientation Composition

Individual goal orientation	Team goal orientation composition			
	Team mean LAPGO	Team mean LAVGO	Team mean PAPGO	Team mean PAVGO
LAPGO	Parallelism	Dissimilarity (approach-avoid)	Dissimilarity (internal-external referent)	Dissimilarity (internal-external referent & approach-avoid)
LAVGO	Dissimilarity (approach-avoid)	Parallelism	Dissimilarity (internal-external referent & approach-avoid)	Dissimilarity (internal-external referent)
PAPGO	Dissimilarity (internal-external referent)	Dissimilarity (internal-external referent & approach-avoid)	Parallelism	Dissimilarity (approach-avoid)
PAVGO	Dissimilarity (internal-external referent & approach-avoid)	Dissimilarity (internal-external referent)	Dissimilarity (approach-avoid)	Parallelism

Note. Interactions between individual goal orientation and team goal orientation composition. (Adapted from Dierdorff & Ellington, 2012). LAPGO = learning-approach goal orientation; LAVGO = learning-avoid goal orientation; PAPGO = performance-approach goal orientation; PAVGO = performance-avoid goal orientation.

Using a framework similar to the one in Table 1, Dierdorff and Ellington (2012) examined the influence of team goal orientation composition on individual self-regulation during team training. The authors found main effects at the individual-level (i.e. learning goal orientation was positively related to self-regulation and performance goal orientation was negatively related), but also discovered that these relationships were moderated by team goal orientation composition. For example, when individuals had a high performance goal

orientation, mean learning goal orientation amplified the negative effects of performance goals on changes in self-efficacy.

Composition vs. climate approaches. It should also be noted that some researchers have considered team goal orientation as a shared team climate rather than considering the combination of individual members' goal orientations (e.g. Bunderson & Sutcliffe, 2003; Dragoni & Kuenzi, 2012; Mehta, Feild, Armenakis, & Mehta, 2009; Porter, Webb, & Gogus, 2010). These scholars make the argument that the combination of individual characteristics and situational cues lead to the emergence of a team goal orientation that is shared by the team's members. Because I was interested in the dispositional goal orientations of individual team members and the effects of heterogeneity, this approach was not adopted in the current research.

Dependent Variables in the Current Research

Individual satisfaction with the team. An emphasis on team-level outcomes in team member heterogeneity research has led certain researchers to call for more work conducted at the individual level of analysis. For example, Gevers and Peeters (2009) claim that "due to a general focus on team-level performance variables in diversity *(heterogeneity)* research, little is known about the effects of diversity *(heterogeneity)* on individual-level affective outcomes such as team member satisfaction" (p. 379; clarification in italics added). Given the prevalence of work teams, team member satisfaction is an important consideration because teamwork experiences will have an increasing effect on individual job satisfaction and other work-related attitudes and behaviours such as commitment, turnover, and contextual performance (Gevers & Peeters, 2009). Dissatisfied team members may restrict their effort, withdraw from the team, or become a source of disruption for other team members (de la Torre-Ruiz, Ferron-Vilchez, & Ortiz-de-

Manodjana, 2014). Additionally, team member satisfaction can be considered an important

individual outcome in its own right and an important contributor to overall well-being.

Team conflict. Some degree of conflict is inevitable in work groups (Jehn, 1995) and

the past two decades have been marked by a surge of research aimed at understanding this

fundamental team process (De Dreu & Weingart, 2003; de Wit, Greer, & Jehn, 2012; O'Neil,

Allen, & Hastings, 2013). A research question that has driven much of the empirical work

surrounding team conflict is whether all conflict is inherently detrimental. Specifically, it has

been argued that relationship conflict (e.g., interpersonal tension, resentment, etc.) harms team

performance while task conflict (e.g., the presentation of different ideas, perspectives, and

viewpoints regarding the work itself) has the potential to improve team performance (Jehn, 1995;

O'Neil, Allen, & Hastings, 2013). Conflict in teams is inherently about differences. Indeed, past

empirical work has generally supported the notion that team member differences in respect to

personality (e.g., Mohammed & Angell, 2004; Molleman, 2005) and values (e.g., Klein, Knight,

Ziegert, Lim, & Saltz, 2011; Woehr, Arciniega, & Poling, 2013), for example, contribute to the

emergence of conflict in teams.

Hypotheses

Because so much of behaviour in teams is goal-directed, differences in goal orientation

should have an opportunity to manifest themselves, particularly in achievement-oriented

situations. Past work surrounding person-organization fit has provided evidence for the fact that

similarity on personal characteristics such as goals (Vancouver & Schmitt, 1991), values (Boxx,

Odom, & Dunn, 1991; Chatman, 1991), personality, and attitudes (Bretz & Judge, 1994) can

improve individuals' attitudes, performance, and participation in collective activities. With

regard to goals specifically, Vancouver and his colleagues (Vancouver, Millsap, & Peters, 1994;

Vancouver & Schmitt, 1991) showed that self-other congruence is related to increased

satisfaction and reduced turnover. At the individual level, Kristof-Brown and Stevens (2001)

found that perceived self-other congruence in regard to performance and mastery goals is

positively related to individual satisfaction and contribution to the team task. These findings

support the investigation of team goal orientation composition and its relation to individual

satisfaction with the team.

The various goal orientations lead to different interpretations of information and response

tendencies in achievement settings (Farr et al., 1993). For example, individuals with a high

learning goal orientation maintain motivation in challenging circumstances, focus on task

mastery, and actively seek out challenges (VandeWalle, Cron, & Slocum, 2001). In contrast,

those with a high performance goal orientation can often experience decreased motivation after

failure and tend to focus on external information about their competence (Dierdorff & Ellington,

2012).

When faced with challenging work assignments, individuals with a performance goal

orientation can consider failure to be an indication that they are incompetent. When this occurs,

such individuals may restrict their effort because sustaining it is no longer rewarding. In

contrast, individuals who hold learning goals are more likely to sustain effort in the face of

failure because they are less concerned about the implications of failing and can obtain useful

information about the inadequacy of current task strategies through failure (Kristof-Brown &

Stevens, 2001).

As a specific illustration, consider an individual who seeks out opportunities to learn and

master new skills, but works with team members who are particularly worried about looking like

failures compared to others. Because the team would be inclined to primarily focus on external

information about its competence and to fear any achievement situations that might result in a display of incompetence, the individual could be thwarted from approaching his or her own learning goals and, consequently, might become frustrated.

When team members hold compatible goals, members should find that the team provides a supportive context for the pursuit of their own, individual goals. When team members hold competing goals, however, the attention to different sources of information and the various response tendencies may negatively influence individuals' attitudes toward the team. Following this reasoning, I made these hypotheses at the individual level of analysis:

Hypothesis 1a: Learning-approach goal orientation dissimilarity is negatively related to individual satisfaction with the team.

Hypothesis 1b: Learning-avoid goal orientation dissimilarity is negatively related to individual satisfaction with the team.

Hypothesis 1c: Performance-approach goal orientation dissimilarity is negatively related to individual satisfaction with the team.

Hypothesis 1d: Performance-avoid goal orientation dissimilarity is negatively related to individual satisfaction with the team.

As the team negotiates priorities and task assignments, members who hold different goal orientations may experience conflict surrounding the appropriate choice of task strategies (Kristof-Brown & Stevens, 2001). This incongruence may also lead to reduced interpersonal attraction and escalated relationship conflict. As an illustration, when some teams members hold a performance-approach orientation and others hold a performance-avoid orientation, there may be conflict surrounding the amount of risk members are willing to assume in selecting a task strategy. While those concerned with approaching success may desire creative solutions,

adopting a 'high risk, high reward' mentality, those concerned with avoiding displays of incompetence might have a strong leaning toward safe and well-established task strategies that have a low risk of resulting in failure. As another example, team members may vary in terms of whether competence is evaluated by normative or intrapersonal standards. Conflict may quickly result if the former camp is continually comparing the group's performance to that of other teams. In light of these considerations, I formulated the following hypotheses at the team level:

Hypothesis 2a: Learning-approach goal orientation diversity is positively related to task conflict.

Hypothesis 2b: Learning-avoid goal orientation diversity is positively related to task conflict.

Hypothesis 2c: Performance-approach goal orientation diversity is positively related to task conflict.

Hypothesis 2d: Performance-avoid goal orientation diversity is positively related to task conflict.

Hypothesis 3a: Learning-approach goal orientation diversity is positively related to relationship conflict.

Hypothesis 3b: Learning-avoid goal orientation diversity is positively related to relationship conflict.

Hypothesis 3c: Performance-approach goal orientation diversity is positively related to relationship conflict.

Hypothesis 3d: Performance-avoid goal orientation diversity is positively related to relationship conflict.

Method

Participants

Participants in this research included 420 undergraduate students (81% male and 19% female) enrolled in an engineering design course. Students participated on project teams (N = 101) to complete three different design projects during the academic year. Team performance on these projects, taken together, constituted 62.5% of the students' final course grade. Participation in the study was optional and involved completion of three surveys. Students were awarded a half point toward their final grade for each survey in which they participated and an additional half point if they participated in each of the three surveys.

The study sample was 60.5% Caucasian, 16.9% Asian, 11.9% Arabic/East Indian, and 10.7% other ethnicities. English was the first language for 76.2% of respondents. The average participant age was 18.86 years and respondents reported working for an average period of 2.31 years.

Procedure and Task

Prior to team assignment, students completed a survey that included demographic information and the goal orientation measure. Though research suggests that goal orientation has both dispositional (e.g., Button, Mathieu, & Zajac, 1996; Phillips & Gully, 1997) and situational (e.g., Harackiewicz & Elliot, 1993; Stevens & Gist, 1997) antecedents, my focus was on the dispositional goals that individuals hold. By administering the goal orientation measures prior to team formation, I was able to minimize the influence of many situational effects.

After the initial questionnaire, students were quasi-randomly assigned to project teams on the basis of a short questionnaire in which students ranked their proficiency in four skills (communication, analytical, "hands-on", and computer) considered to be important by members of the engineering department. Over the next 10 weeks, teams completed the first design project

and began work on the second. For the first project, teams were contracted to "design or modify the existing design of an everyday object to maximize the safety of the object" (ES 1050, 2013a, p. 1). The teams had to identify a problem and possible solutions, build a prototype, present their design, and submit a final report for this project. In the second project, teams were given a mousetrap to use as the power source for a device that would launch a projectile with the objective of hitting a target at an unknown distance (ES 1050, 2013b). Satisfaction and conflict data were collected while the teams were in the midst of testing and revising their initial designs for this second project.

Measures

      Goal orientation. Because of the empirical evidence in support of the 2 x 2 goal orientation framework and the apparent importance of learning avoidance goals in a university context (van Yperen, 2006), Elliot and McGregor's (2001) measure of goal orientation was selected. This measure was purposefully constructed to assess the goal orientations of undergraduate students, making it additionally appropriate for the current research context. The measure yields four scores, one for each of the goal orientation dimensions. Sample items include: "It is important for me to do better than other students", "I just want to avoid doing poorly in this class", "It is important for me to understand the content of this course as thoroughly as possible", and "I worry that I may not learn all that I possibly could in this class". Responses to the 12-item measure (3 items per dimension) were recorded on a seven-point scale. Coefficient alpha for each subscale showed good internal consistency (.86, .79, .80, and .86 for the performance-approach, performance-avoid, learning-approach, and learning-avoid orientations respectively).

Individual satisfaction with the team. There is a proliferation of scales constructed to measure team members' satisfaction with the team (e.g., Foo, Sin, & Yiong, 2006; Gevers & Peeters, 2009; Humbyrd, 2010; Park & DeShon, 2010; Rockmann & Northcraft, 2010; Van der Vegt, Emans, & Van de Vliert, 2001; Zeitun, Abdulqader, and Alshare, 2013). Upon evaluating these different scales, it was apparent that there was an opportunity for measurement refinement and consolidation. My approach for developing a revised scale is outlined in subsequent sections. The final scale included nine items, taken or adapted from Barrick, Stewart, Neubert, and Mount (1998), Gevers and Peeters (2009), Humbyrd (2010), Park and DeShon (2010), and Rockmann and Northcraft (2010), that have been previously used to capture satisfaction with the team, its members, and the team's performance. Sample items include: "I am pleased with the way my team members and I work together" and "I am satisfied with the quality of my team's work". Responses were recorded on a seven-point scale. This measure showed excellent internal consistency ($\alpha = .95$).

Team conflict. Task conflict was measured using a three-item scale developed by Behfar, Mannix, Peterson, and Trochim (2011). The items are: "To what extent does your team argue the pros and cons of different opinions", "How often do your team members discuss evidence for alternative viewpoints", and "How frequently do members of your team engage in debate about different opinions or ideas". Responses were recorded on a five-point scale. This scale demonstrated acceptable levels of internal consistency ($\alpha = .72$).

Relationship conflict was measured using four items from Jehn (1995). Sample items include: "How much friction is there among members of your team" and "How much emotional conflict is there among team members". Responses were recorded on a five-point scale and also demonstrated strong reliability ($\alpha = .89$).

Computation of Variables at Different Levels of Analysis

  Individual-level goal orientation dissimilarity. Goal orientation dissimilarity was

calculated for each team member using the formula for Euclidean distance (Tsui & Gutek, 1999).

This measure is the predominant method for operationalizing dissimilarity in similar research

(e.g., Allen & Williams, 2003; Gellatly & Allen, 2012; Gevers & Peeters, 2007; Jackson et al.,

1991) where s_i the individual's score on the attribute of interest, s_j is the score for each other

group member (from member 1 to j) and *n* is the number of individuals in the group.

Equation 1

$$\sqrt{\frac{\sum_{i=1}^{n}(s_i - s_j)^2}{n}}$$

  A difference score was calculated for each individual on each dimension of goal

orientation. This score represents the average squared distance of the individual's score relative

to each of the other members of their team (*Equation 1*). All participants who completed the

goal orientation measure were included in the computation of dissimilarity scores, regardless of

whether they completed the subsequent survey that included all dependent variables.

  Team-level goal orientation diversity. Goal orientation diversity was operationalized

using the standard deviation for each team. This measure is preferred when diversity is

conceptualized as separation, as it was in this research (see Harrison & Klein, 2007 for a

complete discussion). All participants who completed the goal orientation measure were

included in the diversity calculation for each team.

Mean goal orientation. The use of difference scores in dissimilarity research is complicated by the fact that they mask whether the discrepancy is caused by an individual who is high on a particular characteristic being nested in a team of low-scoring individuals or vice versa. For this reason, I was also concerned with the team's overall level of each goal orientation. An additive approach was taken for aggregating individual goal orientations to the team level and a mean score was calculated for each team on each dimension.

Team conflict. Relationship and task conflict were conceptualized as team-level variables. As such, team member responses were aggregated and the mean response was used. The degree to which team members agreed about the amount of conflict their team experienced was assessed by calculating the $r_{wg(j)}$ statistic (James, Demaree, & Wolf, 1993). The mean $r_{wg(j)}$ statistics were 0.78 for relationship conflict and 0.82 for task conflict, suggesting adequate within-team agreement about the amount of conflict. In addition, intraclass correlations (ICCs) were calculated to determine the validity and reliability of the team-level conflict variables (Bliese, 2000). The intraclass correlations provide an indication about whether there is sufficient intragroup agreement and intergroup variability to justify aggregating the responses of individual team members. The ICC(1) value was statistically significant for relationship conflict [ICC(1) = 0.28, $F = 2.527$, $p < .001$], but only marginally significant for task conflict [ICC(1) = 0.07, $F = 1.275$, $p = .063$]. This indicates that more variance exists in the responses between teams than within teams for relationship, but not task, conflict. The ICC(2) values indicated that team-level means were reliable measures of relationship conflict only: relationship conflict, 0.60; task conflict, 0.21. Although the intraclass correlations for task conflict were only marginally significant, I proceeded with all analyses that used task conflict as the dependent variable. The

rationale for this decision was that team members did demonstrate adequate agreement and the lack of between-group variability would only serve to suppress any effects.

Analytical Approach

       Scale refinement: individual satisfaction with the team. Given the proliferation of scales used to measure team member satisfaction, I first engaged in measure refinement. I began with a list of all the items (n = 50) I found that have previously been used to measure individual satisfaction with the team. After generating this item bank, I removed the items (n = 30) that seemed to be redundant or to poorly reflect the construct. This was done prior to administering the items because of time constraints and to reduce the burden on respondents. I included the remaining twenty items in the survey. Because I was uncertain about the underlying factor structure, I elected to use exploratory procedures. The nine items for the final scale were selected on the basis of principal axis factor analysis, inter-item and reliability analyses, and face validity, following recommendations by Hinkin (1998).

       Tests of hypotheses. Because participants were nested in teams, Hypotheses 1a-1d, which pertained to goal orientation dissimilarity and individual satisfaction with the team, were tested using multilevel modeling in HLM 7 (Raudenbush, Bryk, & Congdon, 2010) in order to account for the non-independence of observations. For each model tested, I began by constructing a null model that partitioned the variance in individual satisfaction into within- and between-team components. In other words, satisfaction was first predicted on the basis of the team grouping variable alone. I constructed multilevel models to test the relationship between goal orientation dissimilarity and individual satisfaction with the team using a staged approach by first examining a random-coefficient regression model in order to establish whether there was sufficient between-group variability in the goal orientation dissimilarity-satisfaction slope to warrant adding mean goal orientation as a team-level predictor. I then proceeded to test a full random coefficients (intercepts-and-slopes-as-outcomes) model to investigate possible cross-

level interactions (Raudenbush & Byrk, 2002). A full random coefficients model was used to examine the level 1 slopes of satisfaction on goal orientation dissimilarity as moderated by the level 2 grouping variable and covariate of mean goal orientation. The full random coefficients model is depicted in Figure 2.

Figure 2: Generic Form of the Full Random Coefficients Model
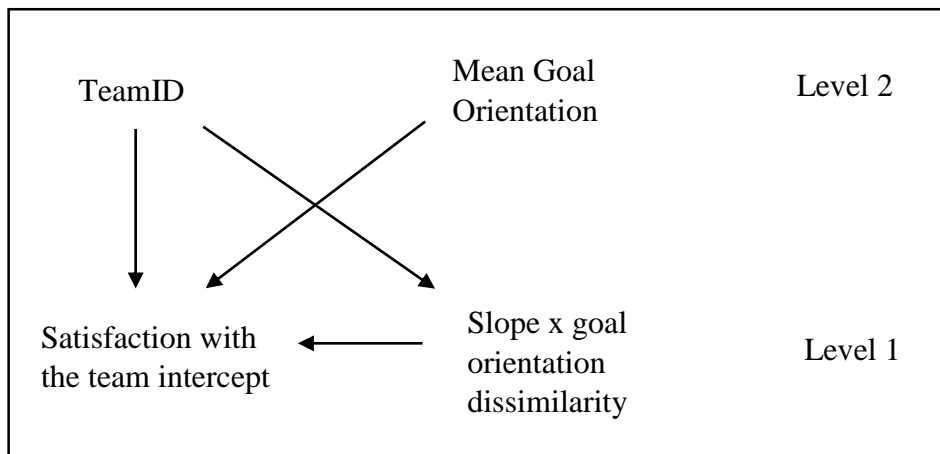
Hypotheses 2a-3d, which pertained to the relationship between goal orientation diversity and team conflict, were tested using a combination of bivariate correlation and multiple regression analyses. First, bivariate correlations were examined to see whether there were significant relationships between diversity on each goal orientation dimension and either relationship or task conflict. Second, two multiple regression analyses were performed in order to examine the cumulative effect of goal orientation diversity on each dimension.

Results

Table 2 and Table 3 show the means, standard deviations, reliabilities (Cronbach's alpha)

and intercorrelations for all of the individual- and team-level variables included in this study.

Table 2

Means, Standard Deviations, Coefficient Alphas, and Intercorrelations for Individual-Level Variables

Variable	Mean	SD	1	2	3	4	5	6	7	8	9
1. LAPGO	5.75	.87	(.80)								
2. LAVGO	4.37	1.38	.207**	(.86)							
3. PAPGO	4.92	1.25	.073	.075	(.86)						
4. PAVGO	4.57	1.52	.088	.268**	.069	(.79)					
5. LAPGO_DIS	.97	.48	-.264**	-.120*	-.019	-.044					
6. LAVGO_DIS	1.53	.68	.106*	-.197**	-.033	.011	.115*				
7. PAPGO_DIS	1.38	.74	.059	-.053	-.236**	-.025	.146**	.133**			
8. PAVGO_DIS	1.67	.79	.121*	-.088	-.041	-.175**	.002	.073	.134*		
9. Satisfaction with the Team	5.23	1.11	-.018	.068	-.033	.175**	.018	.020	-.066	-.021	(.95)

Note. *n* ranged from 378-420; Coefficient alphas are in parenthesis where appropriate. LAPGO = learning-approach goal orientation; LAVGO = learning-avoid goal orientation; PAPGO = performance-approach goal orientation; PAVGO = performance-avoid goal orientation.
* *p* < .05 (two-tailed); ** *p* < .01 (two-tailed)

Table 3

Means, Standard Deviations, and Intercorrelations for Team-Level Variables

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10
1. LAPGO_MEAN	5.75	.40										
2. LAVGO_MEAN	4.36	.72	.275**									
3. PAPGO_MEAN	4.91	.60	-.107	.144								
4. PAVGO_MEAN	4.56	.79	.218*	.274**	.056							
5. LAPGO_SD	.80	.35	-.362**	-.165	.011	-.050						
6. LAVGO_SD	1.27	.38	.142	-.193	-.030	.143	.108					
7. PAPGO_SD	1.14	.55	.077	-.092	-.308**	.075	.148	.137				
8. PAVGO_SD	1.40	.56	.082	-.122	-.145	-.153	.038	.069	.171^			
9. Task Conflict	3.26	.46	.078	.068	.180^	.089	-.103	.146	.145	.067		
10. Relationship Conflict	1.61	.54	-.130	.027	.103	-.133	.079	-.096	.119	.016	.252*	
11. Team Satisfaction	5.20	.70	.037	-.046	-.056	.175^	.001	.154	-.007	.033	-.005	-.551**

Note. N ranged from 100 - 101; LAPGO = learning-approach goal orientation; LAVGO = learning-avoid goal orientation; PAPGO = performance-approach goal orientation; PAVGO = performance-avoid goal orientation.

^ p < .10 (two-tailed); * p < .05 (two-tailed); ** p < .01 (two-tailed)

Scale Refinement: Individual Satisfaction with the Team

An exploratory factor analysis was conducted in order to determine the underlying factor

structure of the items selected to measure individual satisfaction with the team. I used principal

axis factoring with an oblique rotation because I expected that the factors would be related (see

Bandalos & Boehm-Kaufman, 2009; Hinkin, 1998). The scree plot indicated that a three-factor

solution best explained the data. The first factor accounted for 65.6% of the variance and

included items related to satisfaction with the benefits of team membership. The second factor

accounted for 5.7% of the variance and was composed of items related to satisfaction with the

team's members. The third factor accounted for 4.3% of the variance and contained items

regarding satisfaction with the team's performance. The correlations between factors are

displayed in Table 4. I removed four items due to low- or cross-loadings.

Table 4
Correlations between Latent Factors for Individual Satisfaction with the Team

Factor	1	2
1. Satisfaction with the benefits of membership		
2. Satisfaction with team members	.666	
3. Satisfaction with the team's performance	.664	.698

Note. Extraction method: principal axis factoring; rotation method: direct oblimin

I also desired to reduce the number of items per dimension. Using item-total statistics, I

sequentially removed one item after another from each scale, keeping the most face-valid items

that would retain variance and reliability. I retained three items per factor and each subscale

demonstrated excellent reliability (Factor 1, $\alpha = .91$; Factor 2, $\alpha = .95$; Factor 3, $\alpha = .89$). The

entire scale, composed of all nine items, also demonstrated excellent internal consistency ($\alpha =$

.95; see Appendix A for item bank and final scale).

Tests of Hypotheses

  Goal orientation dissimilarity and individual satisfaction with the team. The results

of the HLM analyses used to test the relationship between goal orientation dissimilarity and

individual satisfaction with the team are presented in Tables 5-8. The results for the null model

(i.e. the model based only on team membership) indicated that the mean satisfaction score was

5.22 ($\gamma_{00} = 5.22$, $t(99) = 74.01$, $p < .001$) and that there was significant between-group variation

($\tau_{00} = .22$, $X^2(99) = 182.09$, $p < .001$). Indeed, 18.3% of the variation in satisfaction could be

explained by group membership. Therefore, using multilevel modeling was the appropriate

approach. I constructed the multilevel models using a staged approach – first examining a

random-coefficient regression model to establish whether there was sufficient between-group

variability in the goal orientation dissimilarity-satisfaction slopes to warrant adding team-level

predictors and testing an intercepts-and-slopes-as-outcomes model (though, for the sake of

completion, all intercepts-and-slopes-as-outcomes models are presented in Tables 5-8).

Following Hofmann and Gavin's (1998) recommendation for cross-level interactions, individual-

level variables in the analyses were group-mean centered to avoid confounding cross-level and

between group interactions. Level 2 predictors were grand-mean centered to reduce

multicollinearity.

  As shown in Table 5 the random-coefficient regression model showed that there was not

a significant effect of learning-approach goal orientation dissimilarity on team member

satisfaction ($\gamma_{10} = .15$, $t(99) = .655$, $p = ns$). Additionally, the results revealed that there was not

significant between-group variation in the learning-approach goal orientation dissimilarity-

satisfaction slope ($\tau_{11} = .07$, $X^2(95) = 87.52$, $p = ns$). The lack of between-group variation for the

slope suggested that further modeling of cross-level interactions (i.e. including the mean level of learning-approach goal orientation) was unjustified.

In contrast, the random-coefficient regression model in Table 6 shows that learning-avoid goal orientation dissimilarity was negatively related to individual satisfaction with the team (γ_{10} = -.35, $t(99)$ = -2.23, p = 0.03). Following the guidelines outlined by Woltman, Feldstain, MacKay, and Rocchi (2012), I calculated that this relationship explained 7% of the variance in satisfaction. Furthermore, between-group variability was present for the learning-avoid goal orientation dissimilarity-satisfaction slope (τ_{11} = .33, X^2 (97) = 129.26, p = .06). This suggested that consecutive modeling of this variance using an intercepts-and-slopes-as-outcomes model was warranted. The results of this model show that the mean level of learning-avoid goal orientation did not contribute significantly to the prediction of either the satisfaction intercept (γ_{01} = -.04, $t(99)$ = -.37, p = ns) or slope (γ_{11} = -.04, $t(99)$ = -.17, p = ns). Dissimilar team members were less satisfied regardless of whether they were higher or lower than the average team member on learning-avoid goal orientation. There was significant variation in the slopes across groups (τ_{11} = .35, X^2 (97) = 120.69, p = .05), suggesting potential level 2 moderators of the relationship between learning-avoid goal orientation dissimilarity and individual satisfaction with the team.

Table 7 shows that performance-approach goal orientation dissimilarity was also negatively related to individual satisfaction with the team (γ_{10} = -.33, $t(99)$ = -2.09, p = 0.02). This relationship accounted for 1.4% of the variance. Because there was not significant between-group variation in the performance-approach goal orientation dissimilarity-satisfaction slope (τ_{11} = .13, X^2 (95) = 101.09, p = ns), it was unnecessary to test an intercepts-and-slopes-as-outcomes model that included the mean level of performance-approach goal orientation.

Finally, the random-coefficient regression model in Table 8 revealed a marginally significant, negative relationship between performance-avoid goal orientation and individual satisfaction with the team ($\gamma_{10} = -.25$, $t(99) = -1.95$, $p = 0.06$), accounting for 3.2% of the variance in satisfaction. Again, this relationship did not differ significantly across groups ($\tau_{11} = .09$, $X^2 (98) = 108.26$, $p = $ ns) and I did not interpret more complex models.

Table 5
Results for HLM models of Individual Satisfaction with the Team on LAPGO Dissimilarity

Model	Parameter Estimates						
	γ_{00}	γ_{01}	γ_{10}	γ_{11}	σ^2	τ_{00}	τ_{11}
Null model							
L1: $TMS_{ij} = \beta_{0j} + r_{ij}$							
L2: $\beta_{0j} = \gamma_{00} + U_{0j}$	5.22**				1	.23**	
Random coefficient model							
L1: $TMS_{ij} = \beta_{0j} + \beta_{1j}*(LAPGO\_DIS_{ij}) + r_{ij}$							
L2: $\beta_{0j} = \gamma_{00} + U_{0j}$							
$\beta_{1j} = \gamma_{10} + U_{1j}$	5.22**		0.15		1	.23**	0.07
Intercept-and-slope-as-outcome model							
L1: $TMS_{ij} = \beta_{0j} + \beta_{1j}*(LAPGO\_DIS_{ij}) + r_{ij}$							
L2: $\beta_{0j} = \gamma_{00} + \gamma_{01}*(LAPGO\_MEAN_j) + U_{0j}$							
$\beta_{1j} = \gamma_{10} + \gamma_{11}*(LAPGO\_MEAN_j) U_{1j}$	5.22**	0.05	0.11	-0.27	1.01	.23**	0.07

Note. LAPGO = Learning-approach goal orientation
^$p < .10$; *$p < .05$; **$p < .01$

Table 6

Results for HLM models of Individual Satisfaction with the Team on LAVGO Dissimilarity

	Parameter Estimates						
Model	γ_{00}	γ_{01}	γ_{10}	γ_{11}	σ^2	τ_{00}	τ_{11}
Null model							
L1: $TMS_{ij} = \beta_{0j} + r_{ij}$							
L2: $\beta_{0j} = \gamma_{00} + U_{0j}$	5.22**				1	.23**	
Random coefficient model							
L1: $TMS_{ij} = \beta_{0j} + \beta_{1j}*(LAVGO\_DIS_{ij}) + r_{ij}$							
L2: $\beta_{0j} = \gamma_{00} + U_{0j}$							
$\quad \beta_{1j} = \gamma_{10} + U_{1j}$	5.22**		-.35*		.94	.23**	.33^
Intercept-and-slope-as-outcome model							
L1: $TMS_{ij} = \beta_{0j} + \beta_{1j}*(LAVGO\_DIS_{ij}) + r_{ij}$							
L2: $\beta_{0j} = \gamma_{00} + \gamma_{01}*(LAVGO\_MEAN_j) + U_{0j}$							
$\quad \beta_{1j} = \gamma_{10} + \gamma_{11}*(LAVGO\_MEAN_j)\ U_{1j}$	5.22**	-.04	-.35*	-.04	.94	.23**	0.35*

Note. LAVGO = Learning-avoid goal orientation

^$p < .10$; *$p < .05$; **$p < .01$

Table 7

Results for HLM models of Individual Satisfaction with the Team on PAPGO Dissimilarity

Model	γ_{00}	γ_{01}	γ_{10}	γ_{11}	σ^2	τ_{00}	τ_{11}
			Parameter Estimates				
Null model							
L1: $TMS_{ij} = \beta_{0j} + r_{ij}$							
L2: $\beta_{0j} = \gamma_{00} + U_{0j}$	5.22**				1	.23**	
Random coefficient model							
L1: $TMS_{ij} = \beta_{0j} + \beta_{1j}*(PAPGO\_DIS_{ij}) + r_{ij}$							
L2: $\beta_{0j} = \gamma_{00} + U_{0j}$							
$\beta_{1j} = \gamma_{10} + U_{1j}$	5.22**		-.33*		.99	.23**	.02
Intercept-and-slope-as-outcome model							
L1: $TMS_{ij} = \beta_{0j} + \beta_{1j}*(PAPGO\_DIS_{ij}) + r_{ij}$							
L2: $\beta_{0j} = \gamma_{00} + \gamma_{01}*(PAPGO\_MEAN_j) + U_{0j}$							
$\beta_{1j} = \gamma_{10} + \gamma_{11}*(PAPGO\_MEAN_j) \ U_{1j}$	5.22**	-.06	-.31*	.25	.99	.23**	.02

Note. PAPGO = Performance-approach goal orientation

$^\wedge p < .10$; $*p < .05$; $**p < .01$

Table 8

Results for HLM models of Individual Satisfaction with the Team on PAVGO Dissimilarity

	Parameter Estimates						
Model	γ_{00}	γ_{01}	γ_{10}	γ_{11}	σ^2	τ_{00}	τ_{11}
Null model							
L1: $TMS_{ij} = \beta_{0j} + r_{ij}$							
L2: $\beta_{0j} = \gamma_{00} + U_{0j}$	5.22**				1.00	.23**	
Random coefficient model							
L1: $TMS_{ij} = \beta_{0j} + \beta_{1j}*(PAVGO\_DIS_{ij}) + r_{ij}$							
L2: $\beta_{0j} = \gamma_{00} + U_{0j}$							
$\beta_{1j} = \gamma_{10} + U_{1j}$	5.22**		-.24^		.97	.23**	.09
Intercept-and-slope-as-outcome model							
L1: $TMS_{ij} = \beta_{0j} + \beta_{1j}*(PAVGO\_DIS_{ij}) + r_{ij}$							
L2: $\beta_{0j} = \gamma_{00} + \gamma_{01}*(PAVGO\_MEAN_j) + U_{0j}$							
$\beta_{1j} = \gamma_{10} + \gamma_{11}*(PAVGO\_MEAN_j) U_{1j}$	5.22**	.15*	-.24^	.05	.97	.23**	.11

Note. PAVGO = Performance-avoid goal orientation

$^\wedge p < .10$; $*p < .05$; $**p < .01$

Goal orientation diversity and team conflict. Hypotheses 2a-3d were concerned with the relationship between goal orientation diversity and team conflict. As can be seen from Table 3, for no dimension of goal orientation was diversity related to relationship or task conflict (r = .016-.146, p = ns). I conducted a post hoc analysis including all diversity scores in multiple regression analyses to examine their combined effect. Even considering all dimensions, goal orientation diversity did not account for a significant portion of variance in either relationship (R^2 = .032, $F(4,96)$ = .79, p = ns) or task (R^2 = .058, $F(4,96)$ = 1.47 , p = ns) conflict.

Table 9

Multiple Regression Analysis of Goal Orientation Diversity and Team Conflict

Variable	Relationship Conflict β	Task Conflict β
LAPGO_DIV	.073	-.143
LAVGO_DIV	-.121	.140
PAPGO_DIV	.123	.142
PAVGO_DIV	.001	.039
R^2	.032	.058
F	.787	1.472

Note. N = 100. β = standardized regression coefficients.
** $p < .01$; * $p < .05$

Discussion

The purpose of this study was to investigate whether goal orientation heterogeneity is an important consideration for team composition decisions. At the individual level of analysis, the results generally support the hypothesis that team members who are more dissimilar in terms of goal orientation are less satisfied with their team. Though dissimilarity on each dimension of goal orientation explained only a modest amount of the variance in satisfaction, the results are comparable to other research examining similar relationships (e.g., Gevers & Peeters, 2009). At the team level of analysis, the proposed relationships between goal orientation diversity and team

conflict were not supported. A number of conceivable explanations exist for these null to small relationships.

First, it is possible that goal orientation is a sufficiently deep-level characteristic that it does not frequently cause detectable behaviours that would influence individual satisfaction with the team or team conflict. Deep-level differences may become apparent only after extensive and rich periods of interaction (Harrison et al., 1998). Relatedly, some researchers have argued that, in order to be meaningful, differences must be perceived (e.g., Harrison et al., 1998; Zellmer-Bruhn et al., 2008). According to this line of reasoning, if individual differences on a particular characteristic go unnoticed by team members, it is unlikely that they will influence member experiences and team outcomes. Again, it is possible that goal orientation does not often manifest itself in distinct and recognizable behaviours. Furthermore, individuals may exercise some degree of self-regulation. For example, an individual who is extremely concerned with their performance relative to others might consciously choose not to express that fact. Taken together, these possibilities might explain the modest relations found in this research. Kristof-Brown and Stevens (2001) point out that the effects of actual goal congruence on individuals' reactions or behavior may depend on whether other members' actual goals are readily apparent to the individual. Past research has, in fact, shown that perceptions of congruence are more strongly associated with individual reactions than is actual congruence (Cable & Judge, 1997).

Second, and at odds with the previous explanation, it is conceivable that there are important moderating variables that suppressed any negative effects caused by goal orientation heterogeneity. Indeed, some scholars have suggested that the effects of team diversity are highly contingent in nature and that focusing on main effects is unlikely to capture diversity's influence (e.g., Pieterse et al., 2009; van Knippenberg & Schippers, 2007). For example, Pieterse and her

colleagues (2009) examined team reflexivity (i.e. the extent to which the team discusses objectives, strategies, and processes) as a moderator of the relationship between goal orientation diversity and team performance. Their research indicated that goal orientation diversity led to decreased team performance, but only for teams low in reflexivity. Though achievement situations might inherently invite the expression of individual differences in goal orientation, situational influences may simultaneously act to bring individuals' goals into alignment. For example, in the context of the present research, characteristics of the course instructor may have increased the salience of specific achievement goals, leading to convergence within the team and, thus, negating the effects of dispositional differences. This is consistent with emerging views on team goal orientation that conceptualize it as a shared team property that has situational antecedents (e.g., Dragoni & Kuenzi, 2012; Porter et al., 2010). The explicitly competitive nature of the second design project, for instance, might have led learning-oriented individuals to be more concerned with performance goals.

Though peripheral to the primary aims of this study, perhaps the greatest contribution of the current research is the preliminary attempt to consolidate measures that have been previously used to capture individual satisfaction with the team. This construct is generally considered important by many scholars – so much so that at least nine scales have been developed for its measurement. Additionally, some researchers have advocated for considering dimensions of individual satisfaction with the team distinctly (e.g., Gevers & Peeters, 2009). The present exploration of satisfaction with the team suggests that the construct can, indeed, be considered in terms of multiple dimensions – satisfaction with the benefits of team membership, satisfaction with one's team members, and satisfaction with the team's performance. I was able to reduce the

nine existing scales to nine items that seem to reliably capture the entire content domain considered in past research.

Implications

The current findings suggest that individuals who are more dissimilar than their team members in terms of goal orientation are less satisfied; however, the explanatory power is modest. Additionally, goal orientation diversity does not seem to contribute to team conflict. Taken together, the results of this study suggest that goal orientation heterogeneity is not a particularly utile consideration for composing effective and satisfied teams. It is also worth noting that goal orientation was initially introduced in developmental psychology and has mostly been used to explain motivation in an educational context such as this one; as such, it does not seem reasonable to expect that more substantial effects would emerge in an organizational setting. Of course, to make any absolutely dismissive claims on the basis of one study would be premature (see Stanley & Spence, 2014).

Study Limitations

I measured goal orientation prior to team composition. Though this was beneficial in that it helped remove many conceivable situational influences from the measure, it is possible that individuals' attention was later shifted toward a goal type to which they were not predisposed (Harckicwicz & Elliot; Stevens & Gist, 1997). In other words, I did not incorporate the fact that goal orientation has both trait and state components into the present research. As a result, it is possible that any effects of goal orientation heterogeneity had already dissolved when the dependent variables were collected 10 weeks later. Future work could consider a more rigorous longitudinal methodology to address this limitation.

Another methodological concern with the present research surrounds the omitted-variables problem (James, 1980). I elected to assess the influence of dissimilarity on each goal orientation dimension in order to determine their unique relationships with individual satisfaction with the team. As can be seen from the correlation matrix in Table 3, however, the relations between some goal orientation dimensions are statistically significant. By conducting analyses individually, I may have inadvertently inflated Type I error. Additionally, it is possible that there are other correlates with the goal orientation dimensions that account for the effects found in the present research. For example, dissimilarity in terms of avoidance goals may share a substantial portion of variance with dissimilarity in neuroticism.

Some researchers may also take issue with the use of student teams. Indeed, it is possible that the findings of this research are not fully generalizable to an organizational setting. However, the teams used in this study share a number of important characteristics with project teams in organizations and the course itself was designed to closely parallel a real, team-based, engineering experience. The students were assigned to their teams, given particular project parameters, allotted constrained time and resources, and rewarded based on performance. The teams completed consequential and complex projects and their performance had a significant bearing on the personal outcomes of individual members.

Future Directions

Above, I proposed two competing theories for why goal orientation heterogeneity demonstrated non-significant or small relations to the dependent variables in this study. The first explanation is that an insufficient amount of time elapsed between team composition and the measurement of the dependent variables. The second explanation is that situational factors led to the convergence of team members' activated goals. Future research could examine these

competing theories. Toward this end, I collected both dependent variables, once again, at the

end of the course. In the future, this will allow me to take a rudimentary look at whether the

effects changed over time.

In future work, it might also be useful to consider perceptions of goal orientation

heterogeneity. For example, one could consider whether an individual's goal orientation is

congruent with their perception of the team's goal orientation (e.g., Kristof-Brown & Stevens,

2001). Conceptualizing heterogeneity in terms of perceptions might lead to stronger

relationships with dependent variables. Though my primary interest in this research was actual

differences in goal orientation, I also measured individuals' perceptions of team goal orientation

to examine this possibility at a later date. Alternatively, researchers could examine perceived

differences in goal orientation by constructing items that measure perceptions directly (e.g.,

Zellmer-Bruhn et al., 2008).

In an independent sample, I intend to confirm the factor structure of the newly revised

measure of individual satisfaction with the team. Additionally, I believe that it is possible to

develop a reliable, three-item short version of the scale that would be useful in time sensitive

research contexts. Another consideration for the future is whether goal orientation dissimilarity

relates differently to each dimension of individual satisfaction with the team. As a foundation

for this idea, Gevers and Peeters (2009) found that similarity in conscientiousness was positively

related to satisfaction with the team, but had no bearing on members' satisfaction with the team's

performance. Of course, though it is possible that goal orientation dissimilarity will also

demonstrate differential relationships with the various dimensions of satisfaction with the team,

the practical importance of any difference could be a matter of debate.

Finally, the exclusive use of difference scores to operationalize dissimilarity assumes that both positive and negative self-other discrepancies have equal and symmetrical relationships with individual outcomes. Put more simply, a large difference score does not reveal whether an individual is either low on a particular characteristic in a team of high-scoring individuals or vice versa. As a result, the relationships between dissimilarity and individual outcomes can often be underestimated (Edwards, 1994; Edwards & Parry, 1993). In the future, it might be worthwhile to analyze this data using surface modeling/polynomial regression techniques (Edwards, 1994; Edwards & Parry, 1993). This methodology, reportedly, enables greater precision in testing congruence relationships such as those specified in the present research (Kristof-Brown & Stevens, 2001).

Conclusion

Team composition can be a powerful lever for improving team processes and performance (Bell, 2007). It can also be a tool for altering team members' attitudes (Gevers & Peeters, 2009). The present research focused on whether goal orientation heterogeneity is an important consideration for team composition. The results indicate that while dissimilar members, in respect to goal orientation, are less satisfied with their team, this relationship does not explain a large amount of the variance in satisfaction. Furthermore, goal orientation diversity demonstrates a small and non-significant relationship with team conflict. A number of theoretical explanations were offered for the small relationships found in this study that may guide future research; however, the findings presented here suggest that goal orientation heterogeneity is not an especially practical consideration for team composition decisions.

References

Allen, N. J., & Williams, H. (2003). "Being different" in the work group: The first year and

beyond. Paper presented at the annual meeting of the Administrative Sciences Association

of Canada, Halifax, NS.

Bandalos, D. L., & Boehm-Kaufman, M. R. (2009). Four common misconceptions in exploratory

factor analysis. *Statistical and methodological myths and urban legends: Doctrine, verity*

and fable in the organizational and social sciences, 61-87.

Baranik, L. E., Barron, K. E., Finney, S.J. (2007). Measuring goal orientation in a work domain:

Construct validity evidence for the 2 x 2 framework. *Educational and Psychological*

Measurement, *67*, 697-718.

Barrick, M. R., Stewart, G. L., Neubert, M. J., & Mount, M. K. (1998). Relating member ability

and personality to work-team processes and team effectiveness. *Journal of Applied*

Psychology, 83, 377-391.

Behfar, K. J., Mannix, E. A., Peterson, R. S., & Trochim, W. M. (2011). Conflict in small

groups: The meaning and consequences of process conflict. *Small Group Research, 42*, 127-

176.

Bell, S. T. (2007). Deep-level composition variables as predictors of team performance: A meta-

analysis. *Journal of Applied Psychology, 92*, 595-615.

Bell, S. T., Villado, A. J., Lukasik, M. A., Belau, L., & Briggs, A. L. (2011). Getting specific

about demographic diversity variable and team performance relationships: A meta-analysis.

Journal of Management, 37, 709-743.

Bliese, P. D. (2000). Within-group agreement, non-independence, and reliability: Implications

for data aggregation and analysis. In K. J. Klein & S. W. J. Kozlowski (Eds.), *Multilevel*

theory, research, and methods in organizations: Foundations, extensions, and new directions. (pp. 349-381) Jossey-Bass, San Francisco, CA.

Boxx, W. R., Odom, R. Y., & Dunn, M. G. (1991). Organizational values and value congruency and their impact on satisfaction, commitment, and cohesion: An empirical examination within the public sector. *Public Personnel Management, 20*, 195.

Bretz, R. D., & Judge, T. A. (1994). Person-organization fit and the theory of work adjustment: Implications for satisfaction, tenure, and career success. *Journal of Vocational Behavior, 44*, 32-54.

Bunderson, J. S., & Sutcliffe, K. M. (2003). Management team learning orientation and business unit performance. *Journal of Applied Psychology, 88*, 552-560.

Button, S. B., Mathieu, J. E., & Zajac, D. M. (1996). Goal orientation in organizational research: A conceptual and empirical foundation. *Organizational Behavior and Human Decision Processes, 67*, 26.

Byrne, D. E. (1971). *The attraction paradigm* (Vol. 11). Academic Pr.

Cable, D. M., & Judge, T. A. (1997). Interviewers' perceptions of person–organization fit and organizational selection decisions. *Journal of Applied Psychology, 82*, 546-561.

Chatman, J. A. (1991). Matching people and organizations: Selection and socialization in public accounting firms. *Administrative Science Quarterly, 36*, 459-484.

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

de la Torre-Ruiz, J.M., Ferrón-Vílchez, V., & Ortiz-de-Mandojana, N. (2014). Team decision making and individual satisfaction with the team. *Small Group Research, 45*, 198-216.

de Wit, F. R., Greer, L. L., & Jehn, K. A. (2012). The paradox of intragroup conflict: A meta-

analysis. *Journal of Applied Psychology*, *97*, 360.

Devine, D. J., Clayton, L. D., Philips, J. L., Dunford, B. B., & Melner, S. B. (1999). Teams in organizations: Prevalence, characteristics, and effectiveness. *Small Group Research, 30*, 678-711.

Dierdorff, E. C., & Ellington, J. K. (2012). Members matter in team training: Multilevel and longitudinal relationships between goal orientation, self-regulation, and team outcomes. *Personnel Psychology, 65*, 661-703.

Dragoni, L. (2005). Understanding the emergence of state goal orientation in organizational work groups: The role of leadership and multilevel climate perceptions. *Journal of Applied Psychology, 90*, 1084-1095.

Dragoni, L., & Kuenzi, M. (2012). Better understanding work unit goal orientation: Its emergence and impact under different types of work unit structure. *Journal of Applied Psychology, 97*, 1032-1048.

Dweck, C. S. (1975). The role of expectations and attributions in the alleviation of learned helplessness. *Journal of Personality and Social Psychology, 31*, 674-685.

Dweck, C. S. (1986). Motivational processes affecting learning. *American Psychologist, 41*(10), 1040-1048.

Dweck, C. S. & Elliott, E. S. (1983). Achievement motivation. In P.H. Mussen (Gen. Ed.) & E. M. Hetherington (Vol. Ed.), *Handbook of child psychology: Vol. IV. Social and personality development* (pp. 643-691). New York: Wiley.

Dweck, C. S., & Leggett, E. L. (1988). A social-cognitive approach to motivation and personality. *Psychological Review, 95*, 256-273.

Edwards, J. R. (1994). The study of congruence in organizational behavior research: Critique and

a proposed alternative. *Organizational Behavior and Human Decision Processes*, *58*, 51-100.

Edwards, J. R., & Parry, M. E. (1993). On the use of polynomial regression equations as an alternative to difference scores in organizational research. *Academy of Management Journal*, *36*, 1577-1613.

Elliot, A. J., & Church, M. A. (1997). A hierarchical model of approach and avoidance achievement motivation. *Journal of Personality and Social Psychology, 72*, 218-232.

Elliot, A. J., & Harackiewicz, J. M. (1996). Approach and avoidance achievement goals and intrinsic motivation: A mediational analysis. *Journal of Personality and Social Psychology, 70*, 461-475.

Elliot, A. J., & McGregor, H. A. (2001). A 2 × 2 achievement goal framework. *Journal of Personality and Social Psychology, 80*, 501-519.

ES 1050. (2013). *Design project I: Creativity.*

ES 1050. (2013). *Design project II: Iteration.*

Farr, J. L., Hofmann, D. A., & Ringenbach, K. L. (1993). Goal orientation and action control theory: Implications for industrial and organizational psychology. *International Review of Industrial and Organizational Psychology*, *8*, 193-232.

Foo, M. D., Sin, H. P., & Yiong, L. P. (2006). Effects of team inputs and intrateam processes on perceptions of team viability and member satisfaction in nascent ventures. *Strategic Management Journal*, *27*, 389-399.

Gellatly, I. R., & Allen, N. J. (2012). Group mate absence, dissimilarity, and individual absence: Another look at "monkey see, monkey do". *European Journal of Work and Organizational Psychology, 21*, 106-124.

Gevers, J. M. P., & Peeters, M. A. G. (2009). A pleasure working together? The effects of dissimilarity in team member conscientiousness on team temporal processes and individual satisfaction. *Journal of Organizational Behavior, 30*, 379-400.

Harackiewicz, J. M., & Elliot, A. J. (1993). Achievement goals and intrinsic motivation. *Journal of personality and social psychology*, *65*, 904.

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

Harrison, D. A., Price, K. H., & Bell, M. P. (1998). Beyond relational demography: Time and the effects of surface- and deep-level diversity on work group cohesion. *Academy of Management Journal, 41*, 96-107.

Hinkin, T. R. (1998). A brief tutorial on the development of measures for use in survey questionnaires. *Organizational Research Methods*, *1*, 104-121.

Hofmann, D. A., & Gavin, M. B. (1998). Centering decisions in hierarchical linear models: Implications for research in organizations. *Journal of Management*, *24*, 623-641.

Huang, J. (2012). The relationship between conflict and team performance in taiwan: The moderating effect of goal orientation. *The International Journal of Human Resource Management, 23*, 2126-2143.

Humbyrd, M. (2010). *The relationship of personality traits to satisfaction with the team: A study of interdisciplinary teacher teams in Rhode Island middle schools.* (Order No. AAI3397942, *Dissertation Abstracts International Section A: Humanities and Social Sciences,* 1153.

Ilgen, D. R. (1999). Teams embedded in organizations: Some implications. *American Psychologist, 54*, 129-139.

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

Jackson, S. E., May, K. E., & Whitney, K. (1995). Understanding the dynamics of diversity in decision-making groups. In R. A. Guzzo & E. Salas & Associates (Eds.), *Team effectiveness and decision-making in organizations* (pp. 204-261). San Francisco: Jossey-Bass Inc.

James, L. R. (1980). The unmeasured variables problem in path analysis. *Journal of Applied Psychology*, *65,* 415.

James, L. R., Demaree, R. G., & Wolf, G. (1993). Rwg: An assessment of within-group interrater agreement. *Journal of Applied Psychology, 78*, 306-309.

Jehn, K. A. (1995). A multimethod examination of the benefits and detriments of intragroup conflict. *Administrative Science Quarterly, 40*, 256-282.

Kammeyer-Mueller, J. D., Livingston, B. A., & Liao, H. (2011). Perceived similarity, proactive adjustment, and organizational socialization. *Journal of Vocational Behavior*, *78*, 225-236.

Klammer, J. D. (2010). *Surface- and deep-level heterogeneity in teams: Exploring the moderators of contact time and self-monitoring.* (Order No. AAINR50241, *Dissertation Abstracts International: Section B: The Sciences and Engineering,* 5232.

Klein, K. J., Knight, A. P., Ziegert, J. C., Lim, B. C., & Saltz, J. L. (2011). When team members' values differ: The moderating role of team leadership. *Organizational Behavior and Human Decision Processes, 114*(1), 25-36.

Klein, K.J., & Kozlowski, S.W.J. (2000). *Multilevel theory, research, and methods in organizations: Foundations, extensions, and new directions*. Jossey-Bass, San Francisco, CA.

Kristof-Brown, A., & Stevens, C. K. (2001). Goal congruence in project teams: Does the fit between members' personal mastery and performance goals matter? *Journal of Applied Psychology, 86*, 1083-1095.

Konrad, A. M. (2003). Special issue introduction: Defining the domain of workplace diversity scholarship. *Group & Organization Management*, *28*, 4-17.

Latham, G. P. (2007). *Work motivation: History, theory, research, and practice.* Sage Publications, Inc, Thousand Oaks, CA.

LePine, J. A. (2005). Adaptation of teams in response to unforeseen change: Effects of goal difficulty and team composition in terms of cognitive ability and goal orientation. *Journal of Applied Psychology, 90*, 1.

Lewis, K. (2004). Knowledge and performance in knowledge-worker teams: A longitudinal study of transactive memory systems. *Management Science, 50*, 1519-1533.

Linnehan, F., Chrobot-Mason, D., & Konrad, A. M. (2006). Diversity attitudes and norms: The role of ethnic identity and relational demography. *Journal of Organizational Behavior*, *27*, 419-442.

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

Mehta, A., Feild, H., Armenakis, A., & Mehta, N. (2009). Team goal orientation and team performance: The mediating role of team planning. *Journal of Management, 35*, 1026-1046.

Mohammed, S., & Angell, L. C. (2004). Surface- and deep-level diversity in workgroups: Examining the moderating effects of team orientation and team process on relationship conflict. *Journal of Organizational Behavior, 25*, 1015-1039.

Mohammed, S., Hamilton, K., & Lim, A. (2009). The incorporation of time in team research: Past, current, and future. *Team effectiveness in complex organizations: Cross-disciplinary perspectives and approaches.* (pp. 321-348) New York, NY: Routledge/Taylor & Francis Group.

Molleman, E. (2005). Diversity in demographic characteristics, abilities and personality traits: Do faultlines affect team functioning? *Group Decision and Negotiation, 14*, 173-193.

O'Neill, T. A., Allen, N. J., & Hastings, S. E. (2013). Examining the "pros" and "cons" of team conflict: A team-level meta-analysis of task, relationship, and process conflict. *Human Performance, 26*, 236-260.

Park, G., & DeShon, R. P. (2010). A multilevel model of minority opinion expression and team decision-making effectiveness. *Journal of Applied Psychology*, *95*, 824.

Payne, S. C., Youngcourt, S. S., & Beaubien, J. M. (2007). A meta-analytic examination of the goal orientation nomological net. *Journal of Applied Psychology, 92*, 128-150.

Phillips, J. M., & Gully, S. M. (1997). Role of goal orientation, ability, need for achievement, and locus of control in the self-efficacy and goal-setting process. *Journal of Applied Psychology, 82*, 792-802.

Pieterse, A. N., van Knippenberg, D., & van Ginkel, W. P. (2011). Diversity in goal orientation, team reflexivity, and team performance. *Organizational Behavior and Human Decision Processes, 114*, 153-164.

Porter, C. O. L. H. (2005). Goal orientation: Effects on backing up behavior, performance, efficacy, and commitment in teams. *Journal of Applied Psychology, 90*, 811-818.

Porter, C. O. L. H., Webb, J. W., & Gogus, C. I. (2010). When goal orientations collide: Effects of learning and performance orientation on team adaptability in response to workload imbalance. *Journal of Applied Psychology, 95*, 935-943.

Raudenbush, S. W., & Bryk, A. S. (2002). *Hierarchical linear models: Applications and data analysis methods.* Thousand Oaks, CA: Sage.

Raudenbush, S.W., Bryk, A.S, & Congdon, R. (2010). HLM 7 for Windows [Computer software]. Skokie, IL: Scientific Software International, Inc.

Resick, C. J., Dickson, M. W., Mitchelson, J. K., Allison, L. K., & Clark, M. A. (2010). Team composition, cognition, and effectiveness: Examining mental model similarity and accuracy. *Group Dynamics: Theory, Research, and Practice, 14*, 174-191.

Rockmann, K. W., & Northcraft, G. B. (2010). Expecting the worst? The dynamic role of competitive expectations in team member satisfaction and team performance. *Small Group Research, 41*, 308-329.

Stanley, D. J., & Spence, J. R. (2014). Expectations for Replications Are Yours Realistic?. *Perspectives on Psychological Science*, *9*, 305-318.

Stevens, C. K., & Gist, M. E. (1997). Effects of self-efficacy and goal-orientation training on negotiation skill maintenance: What are the mechanisms? *Personnel Psychology, 50*, 955-978.

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

Tesluk, P. E., & Mathieu, J. E. (1999). Overcoming roadblocks to effectiveness: Incorporating management of performance barriers into models of work group effectiveness. *Journal of Applied Psychology, 84*, 200-217.

Tsui, A. S., & Gutek, B. A. (1999). *Demographic differences in organizations: Current research and future directions* Lexington Books/Macmillan, New York, NY.

Turner, J.C. (1982). Toward a cognitive definition of the group. In H. Tajfel (Ed.), *Social identity and intergroup relations* (pp. 15-40). Cambridge, UK: Cambridge University Press.

Van Der Vegt, G., Emans, B., & Van De Vliert, E. (2000). Team members' affective responses to patterns of intragroup interdependence and job complexity. *Journal of management*, *26*, 633-655.

van Knippenberg, D., De Dreu, C. K. W., & Homan, A. C. (2004). Work group diversity and group performance: An integrative model and research agenda. *Journal of Applied Psychology, 89*, 1008-1022.

Van Yperen, N.W. (2006). Goals in the context of the 2 x 2 framework: Identifying distinct profiles of individuals with different dominant achievement goals. *Personality and Social Psychology Bulletin, 32*, 1432-1445.

Vancouver, J. B., Millsap, R. E., & Peters, P. A. (1994). Multilevel analysis of organizational goal congruence. *Journal of Applied Psychology, 79*, 666-679.

Vancouver, J. B., & Schmitt, N. W. (1991). An exploratory examination of person-organization fit: Organizational goal congruence. *Personnel Psychology, 44*, 333-352.

VandeWalle, D. (1997). Development and validation of a work domain goal orientation instrument. *Educational and Psychological Measurement, 57*, 995-1015.

VandeWalle, D., Cron, W. L., & Slocum, J. W., Jr. (2001). The role of goal orientation following performance feedback. *Journal of Applied Psychology, 86*, 629-640.

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

Woehr, D. J., Arciniega, L. M., & Poling, T. L. (2013). Exploring the effects of value diversity on team effectiveness. *Journal of Business and Psychology, 28*, 107-121.

Woltman, H., Feldstain, A., MacKay, J. C., & Rocchi, M. (2012). An introduction to hierarchical linear modeling. *Tutorials in Quantitative Methods for Psychology*, *8*, 52-69.

Zeitun, R. M., Abdulqader, K. S., & Alshare, K. A. (2013). Team Satisfaction and Student Group Performance: A Cross-Cultural Study. *Journal of Education for Business*, *88*, 286-293.

Zellmer-Bruhn, M., Maloney, M. M., Bhappu, A. D., & Salvador, R. (2008). When and how do differences matter? An exploration of perceived similarity in teams. *Organizational Behavior and Human Decision Processes, 107*, 41-59.

Zweig, D., & Webster, J. (2004). Validation of a multidimensional measure of goal orientation. *Canadian Journal of Behavioural Science/Revue Canadienne Des Sciences Du Comportement, 36*, 232-243.

APPENDIX A

Measures

Individual Satisfaction with the Team

Initial Item Bank (Previously used Satisfaction/Viability Scales):

Barrick, Stewart, Neubert, and Mount (1998)
1. This team has helped me to meet the personal goals I had in mind when I joined it.
2. I feel that working with this particular team will enable me to attain my personal goals.
3. I believe that my personal well-being has been improved as a result of participating in this team.
4. I believe my team approaches its task in an organized manner.
5. This team accomplishes what it sets out to do.
6. My team achieves as much as I thought we would.
7. This team should continue to function as a team.
8. This team is capable of working together as a unit.
9. This team probably should work together in the future.
10. I have learned a lot from participating in this team.
11. This team has influenced me in a lot of positive ways.
12. I think this team has been very helpful to me.

Foo, Sin, and Yiong (2006)
1. Generally speaking, I am very satisfied with the team (Hackman, 1988).
2. I frequently wish I could quit the team (Hackman, 1988).
3. I am generally satisfied with the work I do on the team (Hackman, 1988).

Gevers and Peeters (2009)
1. Taken as a whole, I was satisfied with the composition of our team (Peeters, Rutte et al., 2006).
2. If I ever had to participate in a similar project again, I would like to do it with this team (Peeters, Rutte et al., 2006).
3. Taken as a whole, things went pleasantly within our team (Peeters, Rutte et al., 2006).
4. How satisfied are you with your team's performance?
5. How satisfied are you with the quality of the project output?

Humbyrd (2010)
1. I am satisfied with the present members of my team.
2. I am pleased with the way my team members and I work together.
3. I have a positive working relationship with my team members.
4. I would like to work on this team again.

Park and DeShon (2010)
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 with the progress you made in the task?
4. Considering the effort you put into the task, how satisfied are you with your team's performance?

Rockmann and Northcraft (2010)
1. I am satisfied with how things went during the exercise.
2. I am satisfied with how my fellow group members performed during the exercise.
3. I am satisfied with how my fellow group members and I worked together on the exercise.
4. I was frustrated working on the exercise (reversed).
5. I felt our group effectively coordinate to complete the exercise.

Tesluk and Mathieu (1999)
1. I really enjoyed being part of this team (Tesluk & Mathieu, 1999).
2. I get along with the people on this team (Tesluk & Mathieu, 1999).
3. I felt like I get a lot out of being a member of this team (Tesluk & Mathieu, 1999).
4. I'm very happy that I was a member of this team (Tesluk & Mathieu, 1999).

Van der Vegt, Emans, and Van de Vliert (2001)
1. I am satisfied with my present colleagues (Gladstein, 1984).
2. I am pleased with the way my colleagues and I work together (Gladstein, 1984).
3. I am very satisfied with working in this team (Gladstein, 1984).

Zeitun, Abdulqader, and Alshare (2013)
1. I enjoyed working with my team members.
2. Our team was able resolve conflicts very well.
3. Our team members worked well together.
4. Our team members had low stress.
5. Our team had high level of trust among members.
6. I would like to work with the same team members in the future.
7. Our team had a clear communication plan.
8. Our team members were very cooperative.
9. Our team had a clear statement of role and responsibility for each member.
10. I consider my team among the best ones I had.

Items Used to Measure Individual Satisfaction with the Team:

1. I am satisfied with the present members of my team (Humbyrd, 2010).
2. I am pleased with the way my team members and I work together (Humbyrd, 2010).
3. I have a positive working relationship with my team members (Humbyrd, 2010).
4. I would like to work on this team again (Humbyrd, 2010).
5. I really enjoyed being part of this team (Tesluk & Mathieu, 1999).
6. I get along with the people on this team (Tesluk & Mathieu, 1999).
7. I felt like I get a lot out of being a member of this team (Tesluk & Mathieu, 1999).
8. I'm very happy that I was a member of this team (Tesluk & Mathieu, 1999).
9. All in all, how satisfied are you with your members in your team (Park & DeShon, 2010)?
10. This team has helped me to meet the personal goals I had in mind when I joined it (Barrick et al., 1998).
11. I feel that working with this particular team will enable me to attain my personal goals (Barrick et al., 1998).
12. I believe that my personal well-being has been improved as a result of participating in this team (Barrick et al., 1998).
13. I have learned a lot from participating in this team (Barrick et al., 1998).
14. This team has influenced me in a lot of positive ways (Barrick et al., 1998).
15. I think this team has been very helpful to me (Barrick et al., 1998).

Items Used to Measure Individual Satisfaction with the Team's Performance:

1. I am satisfied with how my fellow group members performed on this team (adapted from Rockmann & Northcraft, 2010).
2. I felt our group effectively coordinated to complete the exercise (Rockmann & Northcraft, 2010).
3. All in all, how satisfied are you with your team's performance (adapted from Park & DeShon, 2010)?
4. Considering the effort you put into the task, how satisfied are you with your team's performance (Park & DeShon, 2010)?
5. How satisfied are you with the quality of your team's work (adapted from Gevers & Peeters, 2009)?

Individual Satisfaction with the Team Scale (For Future Refinement):

Satisfaction with team members:

1. I am satisfied with the present members of my team (Humbyrd, 2010).
2. I am pleased with the way my team members and I work together (Humbyrd, 2010).
3. I have a positive working relationship with my team members (Humbyrd, 2010).

Satisfaction with the benefits of team membership:

1. I believe that my personal well-being has been improved as a result of participating in this team (Barrick et al., 1998).
2. This team has influenced me in a lot of positive ways (Barrick et al., 1998).
3. I think this team has been very helpful to me (Barrick et al., 1998).

Satisfaction with team performance:

1. All in all, how satisfied are you with your team's performance (adapted from Park & DeShon, 2010)?
2. How satisfied are you with the quality of your team's work (Gevers & Peeters, 2009)?
3. How satisfied are you with how your fellow group members performed on this team (Rockmann & Northcraft, 2010)?

Achievement Goal Questionnaire (Elliot & McGregor, 2001)

1.   It is important for me to do better than other students.
2.   It is important for me to do well compared to others in this class.
3.   My goal in this class is to get a better grade than most of the other students.
4.   I worry that I may not learn all that I possibly could in this class.
5.   Sometimes I'm afraid that I may not understand the content of this class as thoroughly as I'd like.
6.   I am often concerned that I may not learn all that there is to learn in this class.
7.   I want to learn as much as possible from this class.
8.   It is important for me to understand the content of this course as thoroughly as possible.
9.   I desire to completely master the material presented in this class.
10.   I just want to avoid doing poorly in this class.
11.   My goal in this class is to avoid performing poorly.
12.   My fear of performing poorly in this class is often what motivates me.

Relationship Conflict (Jehn, 1995)

1. How much friction is there among members of your team?
2. How much are personality conflicts evident in your team?
3. How much tension is there among team members?
4. How much emotional conflict is there among team members?

Task Conflict (Behfar et al., 2011)

1. To what extent does your team argue the pros and cons of different opinions?
2. How often do your team members discuss evidence for alternative viewpoints?
3. How frequently do members of your team engage in debate about different opinions or ideas?

Curriculum Vitae

Kyle Cameron

Education

2012-2014   Western University
MSc, Industrial and Organizational Psychology
Thesis Title: Goal Orientation Heterogeneity in Teams: Investigating Implications for Individual Satisfaction with the Team and Team Conflict

2008-2012   Schulich School of Business, York University
BBA (Specializations: Organizational Behaviour & Strategic Management)

Awards & Distinctions

2014   Ontario Graduate Scholarship

2013   Joseph-Armand Bombardier CGS Master's Scholarship, *Social Sciences & Humanities Research Council*

2012-2014   Western Graduate Research Scholarship, *Western University*

2008-2012   Dean's Honour List, *Schulich School of Business, York University*

2008   Millennium Excellence Scholarship

2008   York University Entrance Scholarship

Research Experience

2013-Present   Research Assistant, *Western University*

2011-2012   Research Assistant, *York University*

Teaching Experience

2013-Present   Tutorial Instructor, *Western University*
Course: Statistics for Psychology

2012-2013   Teaching Assistant, *Western University*
Course: Introduction to Industrial and Organizational Psychology

Conference Presentations

2014   Cameron, K. A. & Lee, H. H. (2014, June). *Examining the relationship between goal orientation and psychological safety.* Poster presented at the Canadian Psychological Association Annual Convention, Vancouver, BC.

2014   Lee, H. H., Cameron, K. A., Allen, N. J. (2014, June). *Development of a trait psychological safety measure.* Poster presented at the Canadian Psychological Association Annual Convention, Vancouver, BC.

2013   Lee, H. H., Allen, N. J., Cameron, K. A., & Woodley, H. J. R. (2013, June). *Rethinking the measurement of team psychological safety: Referent use validity and the role of core self-evaluations.* Paper presented at the Administrative Sciences Association of Canada Annual Conference, Calgary, AB.

Professional Publications
2013   Cameron, K. A. (2013, December 15) Examining error prevention at work. *Public Sector Digest*.