

Suggested citation: Hood, A. C., Cruz, K., & Bachrach, D. G. (in press). Conflicts with friends: A multiplex view of friendship and conflict and its association with performance in teams. *Journal of Business and Psychology*. doi:10.1007/s10869-016-9436-y.

The final publication is available at Springer via <http://dx.doi.org/10.1007/s10869-016-9436-y>

#### Abstract

**Purpose** – Drawing on conservation of resources theory, multiplex social networks research, and the emerging conflict involvement perspective, the purpose of this study is to develop and test a multiplex view of conflict that explicitly accounts for the nature of the social relationships between those involved in intrateam conflict and how these multiplex relationships differentially impact team performance.

**Design/methodology/approach** – Data were collected from 120 teams engaged in a four-month business simulation.

**Findings** – Relationship conflicts occurring among team members who are friends have a negative impact on team performance, whereas those occurring between non-friends have a positive impact on team performance. Although we also find non-friend task conflicts to be beneficial for team performance, friend task conflicts have no impact on team performance.

**Implications** – This study highlights the dark side of workplace friendships and admonishes managers to pay close attention not only to conflicts among employees, but also to the relational closeness of those involved in conflict.

**Originality/value** – The current study provides empirical support for the emerging conflict involvement perspective by explicitly assessing the number of individuals involved in conflict as well as the type of relationships between them. We also extend research on multiplex relationships from the individual to the team level of analysis. Finally, we respond to calls for studies of multiplexity that include both positive and negative relationships.

*Keywords:* Intrateam conflict involvement; Team performance; Social networks; Friendship

## Introduction

Recent research on multiplex working relationships - those in which co-workers share both affective and instrumental relations - highlights the benefits and difficulties associated with navigating the competing demands that each type of relationship requires (Methot, LePine, Podsakoff & Christian, in press; Ingram & Zhou, 2008). For example, multiplex workplace friendships are those in which two people look to each other for friendship as well as for help meeting job demands (Methot et al., in press). Multiplex workplace friendships are positive affective relationships that serve as a conduit for the flow of valuable influence and emotional support information (Baldwin, Bedell, & Johnson, 1997; Grosser, Lopez-Kidwell, & Labianca, 2010). Compared to the pure instrumentality of working with non-friends, multiplex co-worker friendships can be more draining, requiring friends to redirect time, attention, and energy away from work tasks towards the growth, protection, maintenance, or repair of the friendship (Oh, Chung, & Labianca, 2006). Despite growing interest in the effects of multiplex relationships on key organizational outcomes, several questions remain.

First, compared to studies exploring multiplex relationships involving those characterized by positive affect among co-workers, those involving negative affective relations have received scant attention (Methot & LePine, 2014; Shah, Dirks, & Chervany, 2006), leading researchers to call for investigations of “different multiplex relationships, such as friendships with competitors (Ingram & Roberts, 2000; Zou & Ingram, 2014)” (Methot et al., in press: 42). In addition to whether positively versus negatively valenced multiplex relationships are best for maximizing key work outcomes, researchers have questioned whether purely affective (e.g., friendship only) or purely instrumental (e.g., non-friend co-workers) relationships are more beneficial for

performance outcomes than those which are multiplex (Methot et al., in press; Uchino, Holt-Lunstad, Uno, & Flinders, 2001).

Second, compared to multiplex research at the individual level of analysis (e.g., Brass, Butterfield, & Skaggs, 1998), investigation of intrateam multiplexity has been overlooked. The consequences of this gap involve a lack of understanding regarding the impact on team performance stemming from the dyadic co-occurrence of multiple relations among the members of a team. This is particularly important given increased attention to and reliance on teams in academic (Wildman & Bedwell, 2013), scientific (National Research Council, 2015) and traditional business settings (Oh et al., 2006). Moreover, due to the heightened intensity of interaction and communication in small team settings (Jackson & Moreland, 2009; Palazzolo, Serb, She, Su, & Contractor, 2006), particularly those required to make frequent decisions under tight deadlines, the effects of multiplex relationships may be more pronounced in small project team settings than they are in the types of contexts studied in previous investigations of multiplexity.

Third, although previous research has explored the interactive effects of intrateam conflict and friendship on team performance, this research is unable to distinguish whether the performance effects of conflicts derive from those occurring between friends versus those who are non-friends. The latter could include team members who are mere acquaintances or enemies. Although disentangling conflicts occurring among those in the various categories of “non-friends” are beyond the scope of the current study, we merely highlight these issues as an illustration of potential gaps in the literature.

In line with these inquiries, the current study takes a first step toward enhancing current understanding of the intersection of conflict and friendship in teams by exploring the differential

performance impacts of the broader categories of multiplex friendship - specifically, conflicts between friends versus those between non-friends. We develop our framing by drawing on theories of conservation of resources (Hobfoll, 1989), conflict involvement (Jehn, Rispens, Jonsen, & Greer, 2013) and multiplex social networks (Methot et al., in press). In addition, by isolating friend versus non-friend conflicts, we also are able to account for those relationships in which there is “pure friendship” - that is friends that experience no conflict (e.g., Methot et al., in press). We test our predictions among a sample of 120 four-person teams engaged in a four-month business strategy simulation.

### **Theory and Hypotheses**

#### **Multiplex Friendships among Co-workers**

Multiplexity can be thought of as the co-occurrence of two or more different kinds of relations in a particular dyadic relationship (Gould, 1991; Kuwabara, Luo, & Sheldon, 2010; Verbrugge, 1979). Examples of multiplex relationships include, for example, neighbors who are also co-workers or friends who are also business partners (Ingram & Zou, 2008).

Conservation of resources (COR) theory (Hobfoll, 1989) often is used to explain the positive and negative effects of multiplexity. According to COR theory, people are motivated to invest their available resources toward the protection (when existing resources are threatened), growth (when resources are safe) and replenishment (when resources are lost) of existing resource pools (Halbesleben & Bowler, 2007; Hobfoll, 1989). For example, Methot and her colleagues (in press) reported that multiplex co-worker friendships have a negative indirect impact on individual job performance via increases in emotional exhaustion and relationship maintenance difficulty.

They reasoned that friendships compel co-workers to direct their physical, emotional, and cognitive energies towards non-task based activities, such as relationship maintenance, development, and recovery. As a result, fewer resources are available for task-focused demands. Overinvestment may cause a depletion of resources, resulting in emotional exhaustion, role conflict, social neglect, and lowered performance. On the positive side, multiplex co-worker friendships have been shown to have a positive indirect effect on individual job performance through trust (Methot et al., in press). Our focus is on multiplex relationships consisting of the co-existence of interpersonal conflict and friendship.

### **Friends versus Non-Friends**

Friendship refers to voluntary, mutually satisfying, positive relations between individuals (Jehn & Shah, 1997). Social networks research typically characterizes friendships in terms of tie strength (i.e., a strong or weak tie). Strong ties are typically associated with high levels of trust, emotional intensity, and a mutual exchange of social resources (Siebert, Kramer, & Liden, 2001). In contrast, weak ties tend to be associated with less emotionally intense interactions, such as those between acquaintances (Granovetter, 1973; Seibert et al., 2001). Strong ties are more likely to be “expressive” and serve as a conduit for affectively laden, socio-emotional resources (Ibarra, 1993; Umphress, Labianca, Brass, Kass, & Scholten, 2003) and allow for the transmission of feelings of belongingness, support, social inclusion, and a sense of personal identity (Umphress et al., 2003).

In contrast, the resources that tend to flow across the relatively weak ties between acquaintances are more likely to be purely “instrumental,” principally serving as a channel for the transmission of information, task-related insights, and other utilitarian resources (Ibarra, 1993; Umphress et al., 2003). Distinctions between strong and weak ties are further illustrated by

the varying levels of resource investments they require. Due to the increased frequency, duration, and intensity of interactions typical of strong ties, the resources required to maintain them is significantly greater than the resources required to maintain weak ties (Hansen, 1999). This is especially so when conflict exists with strong ties, such as between friends.

Despite the assumed benefits of friendship, the relationship between friendship and performance is not straightforward, with extant research often failing to demonstrate a significant positive main effect relationship between friendship and performance. For example, in a study of business students competing in a semester long business simulation, neither friendship network density nor constructive controversy (an analogue of intragroup task conflict), were significantly related to group performance (Shah et al., 2006). However, Shah also reported a significant interaction between friendship network density and constructive controversy, such that in groups with strong friendships, constructive controversy boosted performance, while in weak friendship groups, constructive controversy harmed performance.

Oh and colleagues (2006) argued and found that the relationship between the density of groups' informal social networks exhibited an inverted-U shaped relationship with group effectiveness. These authors reasoned that although informal relationships appear to have benefits for group effectiveness at lower levels of network density, increases in network density beyond a critical point pose a liability for groups. As relationships approach a theoretical maximum level of density, group members become more inwardly focused and biased towards the in-group. Excessive levels of friendliness may lead to members' reluctance to challenge one another's opinions, increasing susceptibility to 'groupthink' (Janis, 1982). High levels of friendship also may cause members to discount or disregard novel or diverse perspectives outside of the group. As friendships increase, information becomes increasingly overlapping and

redundant. These factors may hinder performance by diminishing the number of creative ideas and unique insights brought to bear on complex decisions and difficult problems. As such, friendship can have a “dark side” that may be exacerbated by conflict.

### **A Multiplex View of Task Conflicts with Friends and Non-Friends**

**Task conflict.** Extant research on the relationship between task conflict (hereafter referred to as TC) and performance has provided mixed results, suggesting that the task conflict-performance relationship may be nonsignificant (Hoever, van Knippenberg, van Ginkel, & Barkema, 2012; Hülsheger, Anderson, & Salgado, 2009), positive (Amason, 1996), negative (De Dreu & Weingart, 2003), non-linear (De Dreu, 2006) or contingent on other factors, including relationship conflict (Shaw et al., 2010). In support of the positive relationship, task conflict is thought to facilitate greater consideration and evaluation of the assumptions underlying decision making (Pelled, 1996; Schweiger, Sandberg, & Rechner, 1989), increase information sharing (Amason, 1996; Jehn & Bendersky, 2003), and aid in the assimilation of alternative viewpoints (Amason, 1996; Jehn & Mannix, 2001). TC also can stimulate creativity by helping disputants notice information they might otherwise miss (Pelled, Eisenhardt, & Xin, 1999). Further, because TC involves analysis and understanding of both one’s own and others’ views, it also may facilitate the implementation of team decisions (Olson, Parayitam, & Bao, 2007; Wooldridge & Floyd, 1990). Consistent with this body evidence, some research has reported that TC can lead to increased performance (e.g., De Clercq, Menguc, & Auh, 2008).

However, in order to reap the potential benefits of TC (Shaw et al., 2010) and to avoid the broad liabilities associated with relationship conflict, members have to invest scarce resources (Hobfoll, 1989; Simon, 1957) to resolve these conflicts. On the negative side, empirical evidence suggests that due to the resource consumptiveness of TCs (De Dreu &

Weingart, 2003), and its potential to trigger relationship conflict (Amason, 1996), TC may only be beneficial under a limited set of circumstances (de Wit et al., 2012), such as when the outcome involves strategic decision making (Amason, 1996; Olson et al., 1997).

**TCs with friends.** TCs with friends are likely to impose pre-conflict information processing costs for the initiator of conflict, which may be distracting and potentially interfere with the receipt of other instrumental cues or task-related information within the team (Salancik & Pfeffer, 1978). Pre-conflict encoding requires the initiator to expend additional cognitive resources to insure task dissent is expressed in a manner least likely to injure the friendship. For instance, before dissenting with a friend, an individual may give substantial prior consideration regarding how to communicate disagreement without hurting the friend's feelings, embarrassing them in front of others or violating informal social norms, such as expectations of reciprocity or support (Gouldner, 1960). Further, this resource expenditure is likely to endure once dissent has been raised, as a sender may continue wondering if s/he has hurt her/his friend's feelings, if the dissent was interpreted correctly, or what the other social consequences might be of having raised the issue with her/his friend in the first place (Simons & Peterson, 2000).

Friends may offer additional explanations when disagreeing with their friends (Nelson & Aboud, 1985), seeking to "soften the blow" of disagreements in an effort to reduce perceived social threat of challenges to one another's ideas, and to conserve the social resources associated with their friendship ties (Hobfall, 1989). In addition to processing the dissenting information sent by the friend, the receiver of the conflict also must decode and process the non-task related social information. Friends who don't provide this surplus social information run the risk of TC being misperceived as norm-violating behavior (Simons & Peterson, 2000), and the subsequent withholding of social resources to which they would otherwise be entitled.



**TCs with non-friends.** In contrast, non-friends are likely to devote considerably fewer resources to TC. Non-friends are more likely to attend to the instrumental cues associated with TCs with non-friends than any comparatively trivial social cues that are either intentionally or unintentionally transmitted (Salancik & Pfeffer, 1978; Staw et al., 1981). Subsequent vetting of ideas between non-friends is not impeded by affective considerations. This vetting requires less delay of non-task related, affectively-laden social information. This kind of delay is more prominent among friends who share stronger social ties than non-friends. Because of this, while the task-related elements of non-friends' conflicts are likely to be salient, the non-task related elements of friends' TCs may be more salient than the task-related elements (Salancik & Pfeffer, 1978). While non-friends can retain more focus on the central core of their TC, friends may lose sight of their original divergence of task-related ideas. As a result, non-friends are more likely to reap potential performance benefits from their TCs while friends are more likely to be hampered by their TCs (Rispen et al., 2011). In collectives where members have to rely on one another to complete tasks (Cohen & Bailey, 1997), TCs between friends versus non-friends are likely to have a substantively different impact on team performance, leading to the following:

*Hypothesis 1: Friendship and TC have an interactive effect on team performance such that TC occurring between friends is negatively related to team performance, whereas TC occurring between non-friends is positively related to team performance.*

### **A Multiplex View of Relationship Conflicts with Friends and Non-Friends**

**Relationship conflicts.** The multiplex view of conflict with friends versus non-friends also may be applied to understanding the team performance consequences of relationship conflict (hereafter referred to as RC). RCs are reflective of members' perception of incompatibility regarding values and personal issues (Jehn, 1997), and also consume scarce resources as members engage in negative, emotionally intense interactions (Shaw, Zhu, Duffy, Scott, Shih, &

Susanto, 2011). RC may be triggered when individuals feel threatened, disrespected, mistreated, or overlooked by others, resulting in such outcomes as anger, frustration, and social withdrawal (Jehn, 1997), as well as less constructive and cooperative conflict management behaviors within a team (Desivilya, Somech, & Lidgoster, 2010). As a result, RC appears to be unequivocally detrimental for group performance.

**RCs with friends versus non-friends.** RC encompasses episodic interpersonal disagreement and incompatibilities (Korsgaard et al., 2008), which may emerge between friends or non-friends. However, RCs also may lead to the emergence of negative ties (Labianca & Brass, 2006), which are enduring dyadic exchange relationships characterized by adversity (Baldwin et al., 1997; Klein et al., 2004), avoidance (Labianca et al., 1998), or hindrance (Sparrowe, Liden, Wayne & Kraimer, 2001). Because RCs can lead to negative ties, and reduce access to valuable expressive resources (Labianca & Brass, 2006), navigating RC with friends is likely to consume more resources than with non-friends (Hobfoll, 1989). This expectation is buoyed by recent empirical evidence that relational closeness may diminish the negative impact of RCs on helping behavior (Rispen et al., 2011). Rispen and her colleagues (2011) reported that relationally close groups (e.g., dense friendship networks) were more likely to continue helping one another (i.e., exert more energy) following RCs than were relationally more distal groups (e.g., sparse friendship networks). Because RCs threaten access to valued social capital, friends are likely to divert more time and attention from productive team tasks to relationship preservation than non-friends (Hobfoll, 1989). This pattern of resource allocation may be beneficial for relational outcomes such as team cohesion, viability, and positive emotionality, but may be detrimental for instrumental team performance due to project delays, overruns, rework, and errors. Thus, RCs between those connected by friendship ties should have a significantly

more negative impact on the performance of collectives than RCs between those not connected by friendship ties. We therefore hypothesize:

*Hypothesis 2: Friendship and RC have an interactive effect on team performance such that RC occurring between friends is more negatively related to team performance than RC occurring between non-friends.*

## Method

### Sample and Procedures

The sample for this study<sup>1</sup> consisted of 528 undergraduate business students at a large public university in the United States enrolled in two sections of an upper division management course. The students were randomly organized into 132 four-member teams for their core course activities, which included participation in the Global-Business (Glo-Bus) simulation described below. Our social network design led us to only include teams in which each team member provided conflict and friendship ratings for *each* of their 3 teammates (Sparrowe et al., 2001). Due to missing data (i.e., non-responses from at least one team member on the dyadic conflict and friendship questionnaire), 12 teams were omitted, resulting in a final sample of 120 4-person teams. Seventy six percent were juniors and 21% were seniors. The sample was 20.73 years of age on average ( $SD = 1.53$ ), 88% Caucasian, 46% female, with an average 3.67 years ( $SD = 2.30$ ) of part-time work experience. Although participation in the Glo-Bus simulation was a course requirement, students completed the surveys used in this study voluntarily for extra credit.

**Glo-Bus.** Glo-Bus is a semester-long, team-based, business simulation accounting for 30 percent of students' course grade. Glo-Bus simulates the context in which practicing management teams design and execute strategies concerning the operations of global firms.

---

<sup>1</sup> The sample for this study was drawn from a larger dataset used in previous research reported by Lee, Bachrach, and Lewis (2014). The variables in the current study do not overlap with those of the previous study.

Teams compete against one another in head-to-head fashion, where the effectiveness of each team's strategy is contingent on the competitiveness of the strategies of other teams in an industry. The simulation consists of 10 weekly decision rounds in which teams modify and enact new strategies based on past performance and their competitive position in their industry based on statements depicting teams' financial performance in relation to their competitors.

The simulation is non-routine and complex by design, reflecting real world operational contingencies. Although it initially appears that the Glo-Bus simulation would only apply to top management or similar types of teams, the results are generalizable to teams further down in the organizational hierarchy (Cohen & Bailey, 1997) because all teams can receive feedback about their performance (DeShon, Kozlowski, Schmidt, Milner, & Wiechmann, 2004; Gonzalez-Mulé, Courtright, DeGeest, Seong, & Hong, in press; Hollenbeck, Ilgen, LePine, Colquitt, & Hedlund, 1998).

### **Measures**

A common convention in social networks research is to define networks according to the content of the ties (i.e. relationships) under focus (e.g. Balkundi & Harrison, 2006; Brass et al., 1998), which "is limited only by a researcher's imagination" (Brass, Galaskiewicz, Greve & Tsai, 2004; p. 795). As we detail in the following sections, our particular research focus called for us to first define and analyze three distinct social networks---those composed of TC, RC and friendship. We then used these networks to construct two distinct networks at their intersection---the co-occurrence of friendship and TC on one hand (i.e. multiplex friend-TC) and the co-occurrence of friendship and RC on the other (i.e. multiplex friend-RC).

**Conflict networks.** The conflict network within each team was obtained by measuring each respondent's perceptions of the frequency of interpersonal TC and RC involving the

respondent and specific other team members. Our focus on self-other conflicts within group networks is a departure from the traditional measure of intragroup conflict (Jehn, 1995) that depersonalizes conflict by assessing a respondent's perception of how much conflict occurred in a team generally, as opposed to how much conflict in which the respondent was personally involved. At the dyadic level, our approach for assessing self-other conflicts is consistent with extant interpersonal conflict studies (e.g., Ismail, Richard, & Taylor, 2012; Kacmar, Bachrach, Harris, & Noble, 2012). Moreover, our assessment of the structure of these dyadic conflicts within a larger group network is consistent with research on negative social networks (e.g., Baldwin et al., 1997; Sparrowe et al., 2001).

We measured TC and RC five weeks after team formation, a period generally consistent with the operationalization of an early/mid team phase (Jehn & Mannix, 2001). Task conflict refers to disagreements over task relevant issues such as strategies, methods, and decisions (Amason, 1996; Jehn, 1995). After being provided this definition of task conflict, respondents were provided a roster of their team members and asked to respond to the following network question for each of their teammates: "Please indicate the frequency with which you have had task conflicts with your team mates." Responses were recorded using a six-point scale ranging from 1 to 6 [1 (no conflicts), 2 (very infrequently) to 6 (very frequently)]. As with the measure of task conflict, participants were provided with a definition of RCs (i.e., non-task related disagreements based on personal preferences, dislike, annoyance, or interpersonal incompatibilities) (Jehn & Mannix, 2001). Using the same six-point scale, respondents were

asked to indicate the frequency with which they had experienced RCs with each of their team mates.<sup>2</sup>

Consistent with the focus in our study on the presence or absence of conflict between friends and non-friends, respondents indicating the presence of either TC or RC with a team mate, by a rating of between 2 and 6, were coded as having a task or relationship conflict tie, respectively. Respondents providing a value of 1 were coded as *not having a conflict tie*. Thus, conflict ties were recoded as follows: 0 = no conflict, 1 = conflict. This approach to dichotomously coding social network measures is common in social networks research (e.g., Methot et al., in press; Seibert et al., 2001; Zou, Shin, Brass, Choi, & Zhang, 2009; Zagenczyk, Purvis, Shoss, Scott, & Cruz, 2015).

**Friendship networks.** Due to the popularity of Granovetter's seminal strength of weak ties theory (1973), friendship networks have commonly been assessed using the binary network approach (Henttonen, 2010). As such, friendship ties were assessed five weeks after team formation by asking respondents to indicate, 0 = no or 1 = yes, regarding which team members they considered to be a friend with "0" coded as a "non-friend tie", and "1" coded as a "friend tie" (Wasserman & Faust, 1994). This approach is consistent with prior social networks research

---

<sup>2</sup> Two of the more common approaches for assessing relations in social networks research are binary networks and valued networks. The *binary* approach is often used to assess relations on the basis of strength (e.g., strong versus weak ties) or presence (e.g., ties present or absent). In contrast, the *valued* network approach is often used to assess group closure, or the overall level of connectivity between members in a group (e.g., Oh et al., 2004). When network data are captured using a continuous measure, the valued approach makes use of the full range of reported responses, whereas the binary approach often results in a dichotomization of the valued data (Hanneman & Riddle, 2005). To provide a more comprehensive test of our conceptual model, we employed both approaches in the current study. Because hypothesis testing using both approaches provided similar results, we chose to report only the binary approach in the remainder of the manuscript. We chose the binary perspective as it is more closely aligned with our expectation that team performance is impacted differentially based on the dyadic co-presence of friendship and conflict.

using a dichotomous format to assess friendship networks (e.g., Zagenczyk, Gibney, Murrell, & Boss, 2008; Zagenczyk et al., 2015; Zagenczyk, Scott, Gibney, Murrell, & Thatcher, 2010).

**Multiplex networks.** Drawing on the aforementioned binary approaches to measuring friendship and conflict networks, we assessed multiplexity by creating two different types of multiplex team networks—one multiplex network consisting of the overlap of each team’s friendship and TC networks and the other network composed of the overlap of teams’ friendship and RC networks. We assessed each team’s *multiplex friend-TC network* by counting the number of ties in which one team member reported both a friendship tie and a TC tie with another team member (i.e. *multiplex friend-TC tie*) regardless of whether these ties were reciprocated by the other party. In line with previous research (Oh et al., 2004), we chose to retain these data in asymmetric form because our hypothesis development suggests that perceptions of friendship, and whether conflict is present, influences how the focal individual interacts with the other team member, regardless of whether these perceptions are reciprocated.

We counted and categorized the remaining ties as *non-friend TC* (e.g. a member reported the absence of friendship, but the presence of a TC tie with another member) or *friend-no TC* (e.g. a member reported a friend tie, but the absence of a TC tie). Combined with the number of instances in which a member reported the absence of both friendship and TC, these tie categories sum to a theoretical maximum of 12 ties per team.

Similarly, each team’s *multiplex friend-RC network* was assessed by combining each team’s friendship and RC networks and counting the number of ties in which a member reported both a friend tie and a RC tie with another member (i.e. *multiplex friend-RC tie*). The remaining ties were counted and categorized as *non-friend RC* or *friend-no RC* and summed to a theoretical

maximum of 12 when considered in conjunction with the multiplex friend-RC ties and those in which friendship and RC were absent.

**Team performance.** To encourage competition and to distinguish performance between teams, Glo-Bus provides a range of objective metrics, such as earnings per share, return on equity, stock price, credit rating, and brand image, on a weekly basis. We chose stock price as our indicator of team performance because it is an easily interpretable indicator of performance, reflects teams' ability to consistently deliver results, and is in line with other research that has examined friendship and conflict among student teams participating in a business simulation game (e.g., Shah, Dirks, & Chervany, 2006). We chose stock price following the final, 10<sup>th</sup> week, as our measure of team performance.

**Control variables.** We controlled for several variables that may impact our results. First, due to its potential impact on team processes and performance (e.g., Jehn, 1995; Somech & Drach-Zahavy, 2013), we controlled gender diversity (0 = male, 1 = female), calculated as the percentage of females on a team. We also controlled the average number of hours of face-to-face interaction per week members reported outside of required class interactions, as this also potentially impacts team performance (Marks, Mathieu, & Zaccaro, 2000; Mesmer-Magnus & De Church, 2009).

In order to explore the association between the multiplex relationships we propose and team performance beyond the traditional aggregate measures of intrateam conflict, we also controlled for intrateam aggregate TC and RC. Intrateam TC was captured five weeks after team formation using the 3-item task conflict measure reported by Jehn and Mannix (2001). Participants responded on a 7-point scale ranging from 1 (strongly disagree) to 7 (strongly agree). An example includes "People in your team have conflicting opinions about the project



you are working on” ( $\alpha = .92$ ). Using the same 7-point scale, intrateam RC was also measured at this time using the 3-item scale reported by Jehn and Mannix (2001). An example includes “There is relationship tension in your team” ( $\alpha = .86$ ).

### **Multi-Level Theory: Compilational versus Compositional Emergence**

The distinctions made in the current study between traditional intrateam and multiplex treatments of conflict and friendship and how they emerge at the group level require a brief discussion of multi-level theory and analysis (e.g., Fulmer & Ostroff, 2015; Kozlowski & Chao, 2012). From theory applied in multi-level research, individual phenomenon materialize at the group level via a process of compilational or compositional emergence: “A phenomenon is *emergent* when it originates in the cognition, affect, behaviors, or other characteristics of individuals, is amplified by their interactions, and manifests as a higher level, collective phenomenon” (Kozlowski & Klein, 2000: 55, emphasis added). In teams research, emergence is a “bottom-up” process in which heterogeneous perceptions and interactions among individual group members emerge to form *compilational* group constructs and in which homogeneous individual perceptions and interactions materialize as higher-level *compositional* constructs at the group level (Kozlowski & Chao, 2012).

Both intrateam conflict (e.g., Jehn, 1995) and friendship (e.g., Jehn et al., 2001) have largely been assessed from a compositional emergence approach, where it is assumed that there is consensus among individual members regarding the group’s experience of conflict or friendship. As with our control variables for intrateam TC and RC, an assumption of shared perceptual agreement among members of compositionally emergent groups requires within-group assessments of interrater reliability and agreement to justify aggregation to the group level mean (e.g., James, Demaree & Wolf, 1984).

In contrast, an assumption of divergence and dispersion is made regarding the individual perceptions and behaviors that emerge to form compilational group constructs (Kozlowski & Klein, 2000). The meaningfulness of compilationally emergent constructs often is assessed using measures such as variance (e.g., Jehn et al., 2010), network density (e.g., Oh et al., 2006) and network centralization (Baldwin et al., 1998). As such, we consider our multiplex variables to materialize at the group level via compilational emergence.

In an effort to illustrate the differences in the compilational (e.g., allowance of divergent perceptions) approach, as compared to compositional (e.g., assumption of shared perceptions) approaches (e.g., Jehn & Shah, 1997; Rispens et al., 2011; Shah et al., 2006), we present in Figure 1 a structural depiction of conflict and friendship in three, 4-person teams. Consider a scenario in which, using the compositional emergence approach, the members of these teams provide individual ratings of friendship and conflict that, when averaged to the group level, produce identical levels of low TC (e.g., average of 1 on a 5-point scale) and high friendship (e.g., average of 5 on a 5-point scale) across teams. Based on their equal reports of group-level conflict and friendship, one might conclude that these 3 teams should achieve equivalent performance. However, underlying these identical, compositionally-based group ratings are functionally distinct network configurations based on which team members perceive friendship and conflict with which other team members.

We illustrate this distinction in Figure 1 holding constant the number of friendship ties, the number of conflict ties, and which team members report being friends. We then vary where, and between whom, conflicts occur. We also allow for asymmetry such that a focal member may perceive conflict or friendship with a member who perceives neither of these relationships with the focal member (such as between members 1 and 2 in Teams A and B). In Team A, member 2

perceives conflict with a friend (member 1); in Team B, conflicts occur between non-friends only (members 2 & 3; members 3 & 4); and in Team C, conflicts occur only between friends (members 1 & 2; members 1 & 4). We propose these teams are unlikely to achieve similar levels of performance, despite equivalent, aggregate levels, of compositionally derived friendship and conflict.

Further, this approach highlights insights gleaned from research on conflict asymmetry (e.g. Jehn et al., 2010) and conflict involvement (e.g. Jehn et al., 2013) which suggests that conflict may be perceived by none, some, or all of a team's members. Consider member 1 of Team B who is currently involved in 2 conflict-free friendships. Although this member is not personally involved in any conflict, the 2 teammates with whom s/he receives friendship are involved in conflict with a third party. When asked to respond to items designed to measure intragroup conflict such as "How often do people get angry while working in your group?" (e.g., Jehn, 1995), it is unclear whether s/he would report minimum levels of conflict due to a lack of personal involvement in conflict or whether s/he would report medium to high levels given the team's overall involvement in conflict and friendship. Moreover, it also is unclear which of these characterizations (e.g., personal versus overall involvement) is more predictive of team performance.

-----  
Insert Figure 1 about here  
-----

In this way, the nature of the relationships between those involved in conflict take on heightened importance. Approaching conflict and friendship from a compositionally-based network perspective allows for a closer integration of research on group conflict with research focused on the interpersonal networks (i.e., friendship) of those involved in conflict.

## Results

### Descriptive Statistics and Correlations

Descriptive statistics and correlations are summarized in Table 1. Consistent with previous research (e.g., Jehn & Mannix, 2001; Jehn et al., 2010), the correlation between intrateam TC and RC was high ( $r = .67$ ).

-----  
 Insert Table 1 about here  
 -----

### Hypothesis Testing

To test the study's hypotheses, we ran a series of hierarchical regressions with a baseline ordinary least squares regression model including all controls, including the aggregate conflict terms. We then tested the combined friend-TC and friend-RC variables separately in Models 2 and 3, respectively. Testing all of the multiplex friend-TC and friend-RC variables simultaneously in the same model would heighten concerns regarding multicollinearity. However, testing these variables separately allowed us to isolate the unique effects of multiplex friend-TC and multiplex friend-RC. The results of our analyses are summarized in Table 2.

-----  
 Insert Table 2 about here  
 -----

Hypothesis 1 proposes that TC between friends is negatively related to team performance, whereas TC between non-friends is positively related to team performance. As shown in Model 2 of Table 2, regression analysis revealed a non-significant relationship between multiplex friend-TC and team performance ( $\beta = -.02, n.s.$ ), whereas non-friend-TC was significantly and positively related to team performance ( $\beta = .29, p < .01; \Delta R^2 = .11$ ). Friendships

free of TC (i.e. friend-no TC) were unrelated to team performance ( $\beta = -.13, n.s.$ ). This pattern of results provides partial support for Hypothesis 1.

Hypothesis 2 predicts that RCs between friends are more strongly and negatively associated with team performance than RCs between non-friends. Consistent with this expectation, results reported in Model 3 of Table 2 reveal that multiplex friend-RC is significantly and negatively related to team performance ( $\beta = -.17, p < .05; \Delta R^2 = .09$ ). However, contrary to our expectations of a negative relationship, non-friend-RC was significantly and positively related to team performance ( $\beta = .21, p < .05$ ). Although not hypothesized, friendships free of RC (i.e. friend-no RC) were significantly and negatively associated with team performance ( $\beta = -.21, p < .05$ ). This pattern of findings provides mixed support for Hypothesis 2.

These results coincide with previous research regarding the negative effects of workplace friendships on performance via resource depletion and relationship maintenance difficulties (Methot et al., in press). The pattern of results we uncover also suggest that there may be a differential impact of intrateam conflict on team performance depending on whether conflict occurs between friends or non-friends; suggesting that sociometric expressions of conflict may explain variance in team performance where conventional conflict measures are insufficiently sensitive.

## Discussion

### Theoretical Implications

In this research, we developed and tested an approach to understanding intrateam conflict and its objective performance consequences that makes explicit the importance of establishing who has conflicts with whom, by leveraging multiplex social networks theory (Brass et al., 1998;

Verbrugge, 1979) and the emerging conflict involvement perspective (Jehn et al., 2013). Our network approach and corresponding results have a number of theoretical implications. First, in the face of a large body of research focused on aggregate perceptions of conflict (De Wit et al., 2012), the results from the current study suggest that associations between various forms of conflict and team performance may be more complicated than has previously been assumed (Greer et al., 2009; Jehn et al., 2010).

At the group-level, the traditional shared perceptual view of multirelational interactions (Klein & Kozlowski, 2000) makes no allowance for whether one, two, or more dyadic relationships co-occur between any two group members; potentially distorting the variance explained by the assessment of multiple relations in groups. For example, extant studies of the consequences of friendship and conflict for team performance typically assess only average levels of these relationships shared by the group as a whole. However, this traditional conceptualization provides no specific guidance regarding which team members experience conflict and whether the conflict they experience occurs with a friend or a non-friend. The conflict involvement perspective theorizes that conflicts may be present between some group members, but absent among others, and that these differences may exert a differential impact on team performance (Jehn et al., 2013). Our findings provide empirical support for this perspective by demonstrating that conflicts may be present between some friends, but not others; and between some non-friends, but absent among others.

While our research questions were focused squarely on the independent performance consequences of 2-way forms of multiplexity (i.e. friend-TC and friend-RC), our study provides the theoretical and empirical scaffolding necessary for continued theory development and testing of three-way forms of multiplexity, such as the simultaneous overlap of TC, RC and friendship,

and its associated implications for team outcomes. For example, it may be worthwhile for future research to build on the recent work reported by O'Neill, McLarnon, Hoffart, Woodley, and Allen (in press) regarding the intersection of friendship and team conflict state profiles.

Combined with the insights from our study, subsequent studies could explore the possibility that friends may be more likely to exhibit certain conflict profiles (e.g., both low TC and low RC) than are non-friends (e.g., both high TC and low RC). Further, although we find that TC can be beneficial when it occurs among non-friends, continued theoretical development focused on latent profiles of multiplex conflict and friendship would allow for improved understanding of whether the benefits of non-friend TC hold when other forms of conflict are high, low, or mixed (e.g., O'Neill et al., in press). We see our study as a necessary component in this regard.

Consistent with the conflict involvement perspective, the multiplex perspective we advance suggests that a richer view of intragroup conflict may be gained by examining “factors related to the conflict itself, such as specific individuals involved in the conflict” (Jehn et al., 2013: 358). Indeed, there has been very little conceptual or theoretical development focused on understanding the role played by the nature of conflict participants’ social relationships, and how these complex relationships create subgroups that can impact team performance. While the model we developed focused on friendship ties, it will be important to continue to test multiplex views of conflict in the context of other types of social networks such as trust networks (e.g., Chua, Ingram, & Morris, 2008), leadership networks (e.g., Carson, Tesluk, & Marrone, 2007) and advice networks (e.g., Schulte, Cohen, & Klein, 2012).

Finally, our study explicitly positions the resources required to maintain social relationships as a foundation for predicting the performance consequences of conflict. Specifically, we posit that friendship ties require more socio-emotional resources to maintain

than non-friendship ties, diminishing the pool of available resources from which team members can draw to achieve team performance goals. It remains, however, that we do not measure resource expenditure directly, or differences in social resource expenditure between friends versus non-friends. In contrast, we rely on theory and evidence speaking to the attentional (Shaw et al., 2011), emotional (Methot et al., in press) and social resource investments associated with friendship (Hansen, 1988; Hobfoll, 1989). It will be important for future research to identify and test mediating mechanisms accounting for the associations between multiplex conflicts and performance at the team level of analysis.

### **Practical Implications**

The results of the current study suggest that managers seeking to promote or discourage conflict as a means to prevent resource losses or to enhance the production of novel and useful ideas should first seek to determine the nature of the social relationships between those involved. Although some forms of conflict may be associated with improved task performance, our results suggests that conflicts with certain team members can ultimately diminish performance potential. Members focused on the quality of their personal relationships may be less able to leverage conflict as a means to enhance team performance. It may therefore be worthwhile for managers to implement conflict resolution training focused specifically on understanding the different tactics needed to recognize and manage conflicts with strong versus weak co-worker relationships. We suspect that extant workplace conflict management training may assume all conflicts are equal, and as a result may not adequately address the nuances associated with resolving conflicts based on relationship strength.

Our study highlights the importance of training employees how to recognize and distinguish different forms of conflict, particularly among their friends. Multiplex friend-task



conflicts appear to impose a different impact on team performance than do multiplex friend-relationship conflicts. It may be that distinguishing between different types of conflict is more problematic within workplace friendships. Nevertheless, managers should be especially attentive to workplace friendships that appear to be experiencing any form of conflict. Insofar as managers seek to leverage the potential benefits of various forms of conflict, it may first be worthwhile for managers to uncover largely invisible workplace relationships via organization-wide social network analyses (e.g., Cross, Borgatti, & Parker, 2002).

### **Limitations and Directions for Future Research**

The results from this study should be considered in light of inherent limitations in the current design that diminish the breadth of conclusions that we are able to draw. First, the arguments we developed in support of our prediction that the resources friends expend to conserve their social network ties lead to an imbalance in resource allocation that diminishes team performance are based largely on conservation of resources theory (Hobfoll, 1989). However, it remains that in this study that we did not measure the actual consumption or preservation of various types of resources, such as time, attention, and energy. Although difficult and infrequently measured, it will be important for future research to actually capture the movement of resources associated with conflict and relationship strength.

Future research should also seek to examine the value placed on workplace relationships and the resources available through them. For example, COR theory (Hobfoll, 1989) provides that the value individuals place on the resources derived from their social ties may affect the extent that they take steps to conserve those resources when faced with resource-threatening situations, such as conflict. It may be that it is not friendship ties *per se* that account for the pattern of association we observe, but rather the value individuals place on their social

relationships. Perceived value of ties, be they friendship, mentoring, or leadership ties (Hobfoll, 1989; Salancik & Pfeffer, 1978), may play a determining role in the resources members expend during conflict.

Second, although in line with published research on teams employing artificial situations to examine team inputs, mediators, and outcomes (e.g., DeShon et al., 2004; Ellis, Hollenbeck, Ilgen, Porter, West, & Moon, 2003; Gurtner et al., 2007), our use of a semester-long business simulation limits the potential generalizability of the results we report. Like many other simulations used in business courses, the Glo-Bus simulation is an experiential learning tool designed to reflect managerial decision making in real organizations. Although 30% of students' final course grade was based on the team's performance in the Glo-Bus simulation, which should theoretically motivate students to make the best decisions possible, it lacks the contextual features of managerial decision making in real organizations; such as managerial pressures, responsibility to various stakeholders, and the real possibility of losing one's job based on these decisions. Moreover, Chen's (2006) research suggests that the impact of conflict on team performance is contingent on project type. Because we used student teams and investigated the impact of multiplex conflict on team performance for only one type of project, it will be important for future research to examine the model we propose in real organizations and in teams performing different types of projects.

Third, research has increasingly focused on patterns of change in conflict over time as an important consideration in understanding conflict's potential performance consequences (Jehn & Mannix, 2001). As teams progress through predictable stages - storming, forming, norming and performing (Tuckman, 1965) - the impact of multiplex ties may vary. It could be argued that the pattern of results we report may take another form depending on the stage of team development.

For example, it may be that the socio-emotional resource expenditure required to maintain friendships in well established, long-standing teams is lower than within the teams examined in the current study. It will be important for future research to test the implications of multiplex conflict employing longitudinal models that capture changes in the association between multiplex ties and team performance over time.

Fourth, although we presented respondents with definitions of TC and RC, we did not offer the same for friendship. We assumed that providing a definition for friendship would be unnecessary as most people develop an awareness and appreciation for the concept of friendship at a young age. However, it is possible that friendship may be perceived differently from person to person. To insure consistency, it will be important for future research employing sociometric designs to consider providing definitions for all focal variables.

While the focus of the current study was on multiplex relationships among peers, future investigations might be usefully extended to multiplexity in vertical relationships. For example, conflicts within high quality leader-member exchange relationships may be less likely to lead to subsequent team performance improvements than conflicts within low quality leader-member exchange relationships, and may actually negatively impact team performance. For example, the scarce resources available to team members involved in the conflict may be devoted more to maintaining the strong tie with the leader (Granovetter, 1973; Hansen, 1999) than to the team's task. Further, leaders provide followers with valuable resources, such as social support, advice, mentoring, and access to others in various parts of the organization (Balkundi & Kilduff, 2006). The better the quality of the leader-member relationship (Balkundi & Harrison, 2006), the more resources members have access to through their leader. Team members may lose access to these valuable resources when involved in, or as a result of conflict, because conflict can adversely

impact leader-member exchange relationships (Uhl-Bien, 2006), which can negatively impact individual performance in support of the team. Thus, it will be important for future research to explore the team performance consequences of other types of multiplex conflict relationships.

Finally, recent meta-analytic evidence suggests that process conflict, defined as "...conflict about how task accomplishment should proceed in the work unit, who's responsible for what, and how things should be delegated..." (Jehn, 1997: 540), also is a significant predictor of team outcomes (DeChurch, Mesmer-Magnus, & Doty, 2013; de Wit et al., 2012). De Wit et al. (2012) reported that process conflict is associated with a variety of outcomes, including trust, cohesion, and satisfaction, among others, while DeChurch et al. (2013) reported that process conflict explains an additional 13% of variance in team performance and affective outcomes over TC and RC. We did not measure process conflict in our study. It will be important for future research to determine in what ways the consequences of process conflicts are subject to the nature of the relationships between those involved.

## **Conclusion**

Building from emerging conceptual speculation in the literature, our study highlighted the importance of understanding the relationships between those involved in various forms of conflict. The compilational approach we adopt represents a departure from the vast majority of previous research which has conceptualized team-level friendship and conflict from a compositional emergence perspective. The results from the current study provide support for the prediction that the association between various forms of conflict and team performance is fundamentally impacted by the nature of the social relationships between those involved in conflict.

## References

- Amason, A. C. (1996). Distinguishing the effects of functional and dysfunctional conflict on strategic decision making: Resolving a paradox for top management teams. *Academy of Management Journal*, 39, 123-148.
- Baldwin, T. T., Bedell, M. D., & Johnson, J. L. (1997). The social fabric of a team-based M.B.A. program: Network effects on student satisfaction and performance. *Academy of Management Journal*, 40, 1369-1397.
- Balkundi, P., & Harrison, D. A. (2006). Ties, leaders, and time in teams: Strong inference about network structure's effect on team viability and performance. *Academy of Management Journal*, 49, 49-68.
- Balkundi, P., & Kilduff, M. (2006). The ties that lead: A social network approach to leadership. *Leadership Quarterly*, 17, 419-439.
- Brass, D. J., Butterfield, K. D., & Skaggs, B. C. (1998). Relationships and unethical behavior: A social network perspective. *Academy of Management Review*, 23, 14-31.
- Brass, D. J., Galaskiewicz, J., Greve, H. R., & Tsai, W. (2004). Taking stock of networks and organizations: A multilevel perspective. *Academy of Management Journal*, 47(6), 795-817.
- Carson, J. B., Tesluk, P. E., & Marrone, J. A. (2007). Shared leadership in teams: An investigation of antecedent conditions and performance. *Academy of Management Journal*, 50, 1217-1234.
- Chua, R. Y. J., Ingram, P., & Morris, M. W. (2008). From the head and the heart: Locating cognition-and affect-based trust in managers' professional networks. *Academy of Management Journal*, 51, 436-452.

- Cohen, S. G., & Bailey, D. E. (1997). What makes teams work: Group effectiveness research from the shop floor to the executive suite. *Journal of Management*, 23, 239-290.
- Cross, R., Borgatti, S. P., & Parker, A. (2002). Making invisible work visible: Using social network analysis to support strategic collaboration. *California Management Review*, 44(22), 25-46.
- De Dreu, C. K. W. (2006). When too little or too much hurts: Evidence for a curvilinear relationship between task conflict and innovation in teams. *Journal of Management*, 32, 83-107.
- De Dreu, C. K. W., & Weingart, L. R. (2003). Task versus relationship conflict, team performance, and team member satisfaction: A meta-analysis. *Journal of Applied Psychology*, 88, 741-749.
- De Wit, F. R. C., Greer, L. L., & Jehn, K. A. (2011). The paradox of intragroup conflict: A meta-analysis. *Journal of Applied Psychology*, 97, 360-390.
- DeShon, R. P., Kozlowski, S. W. J., Schmidt, A. M., Milner, K. R., & Wiechmann, D. (2004). A multiple-goal, multilevel model of feedback effects on the regulation of individual and team performance. *Journal of Applied Psychology*, 89, 1035-1056.
- Ellis, A., Hollenbeck, J. R., Ilgen, D. R., Porter, C. O. West, B. and Moon, H. (2003) Team learning: Collectively connecting the dots. *Journal of Applied Psychology*, 88, 821-835.
- Gonzalez-Mulé, E., Courtright, S. H., DeGeest, D., Seong, J.-Y., & Hong, D.-S. (in press). Channeled autonomy: The joint effects of autonomy and feedback on team performance through organizational goal clarity. *Journal of Management*.
- Gould, R. V. (1991). Multiple networks and mobilization in the Paris commune, 1871. *American Sociological Review*, 56, 716-729.

- Gouldner, A. W. (1960). The norm of reciprocity: A preliminary statement. *American Sociological Review*, 25, 161-178.
- Granovetter, M. S. (1973). The strength of weak ties. *American Journal of Sociology*, 78, 1360-1380.
- Greer, L.L., de Hoogh, A. H. B., Jehn, K.A., & Lytle, A. (2009). *Who's fighting? The role of intragroup conflict involvement on team outcomes*. Paper presented at the annual meeting of the Academy of Management, Chicago, IL.
- Grosser, T. J., Lopez-Kidwell, V., & Labianca, G. (2010). A social network analysis of positive and negative gossip in organizational life. *Group & Organization Management*, 35, 177-212.
- Halbesleben, J. R. B., & Bowler, W. M. 2007. Emotional exhaustion and job performance: The mediating role of motivation. *Journal of Applied Psychology*, 92, 93-106.
- Hanneman, R. A., & Riddle, M. (2005). Introduction to social network methods: University of California Riverside.
- Hansen, M. T. (1999). The search-transfer problem: The role of weak ties in sharing knowledge across organization subunits. *Administrative Science Quarterly*, 44, 82-111.
- Henttonen, K. 2010. Exploring social networks on the team level--A review of the empirical literature. *Journal of Engineering and Technology Management*, 27(1-2), 74-109.
- Hobfoll, S. F. (1989). Conservation of resources: A new attempt at conceptualizing stress. *American Psychologist*, 44, 513-524.

- Hollenbeck, J. R., Ilgen, D. R., LePine, J. A., Colquitt, J. A., & Hedlund, J. (1998). Extending the multilevel theory of team decision making: Effects of feedback and experience in hierarchical teams. *Academy of Management Journal*, *41*, 269-282.
- Hülshager, U. R., Anderson, N., & Salgado, J. F. (2009). Team-level predictors of innovation at work: A comprehensive meta-analysis spanning three decades of research. *Journal of Applied Psychology*, *94*, 1128-1145.
- Ibarra, H. (1993). Network centrality, power, and innovation involvement: Determinants of technical and administrative roles. *Academy of Management Journal*, *36*, 471-501.
- Ismail, K. M., Richard, O. C., & Taylor, E. C. 2012. Relationship conflict in supervisor-subordinate dyads: a subordinate perspective. *International Journal of Conflict Management*, *23*, 192-218.
- Jackson, M., & Moreland, R. L. (2009). Transactive memory in the classroom. *Small Group Research*, *40*, 508-534.
- Janis, I. L. (1982). Victims of groupthink. (2nd ed.). Boston: Houghton Mifflin.
- Jehn, K. A. (1995). A multimethod examination of the benefits and detriments of intragroup conflict. *Administrative Science Quarterly*, *40*, 256-282.
- Jehn, K. A. (1997). A qualitative analysis of conflict types and dimensions in organizational groups. *Administrative Science Quarterly*, *42*, 530-557.
- Jehn, K. A., & Bendersky, C. (2003). Intragroup conflict in organizations: A contingency perspective on the conflict-outcome relationship. *Research in Organizational Behavior*, *25*, 187-242.



- Jehn, K. A., & Mannix, E. A. (2001). The dynamic nature of conflict: A longitudinal study of intragroup conflict and group performance. *Academy of Management Journal*, *44*, 238-251.
- Jehn, K. A., Rispens, S., & Thatcher, S. M. B. (2010). The effects of conflict asymmetry on work and individual outcomes. *Academy of Management Journal*, *53*, 596-616.
- Jehn, K. A., Rispens, S., Jonsen, K., Greer, L. (2013). Conflict contagion: a temporal perspective on the development of conflict within teams. *International Journal of Conflict Management*, *24*, 352-373.
- Jehn, K. A., & Shah, P. P. (1997). Interpersonal relationships and task performance: An examination of mediating processes in friendship and acquaintance groups. *Journal of Personality and Social Psychology*, *72*, 775-790.
- Kacmar, K. M., Bachrach, D. G., Harris, K. J., & Noble, D. (2012). Exploring the role of supervisor trust in the associations between multiple sources of relationship conflict and organizational citizenship behavior. *The Leadership Quarterly*, *23*, 43-54.
- Korsgaard, M. A., Soyoung Jeong, S., Mahony, D. M., & Pitariu, A. H. (2008). A multilevel view of intragroup conflict. *Journal of Management*, *34*, 1222-1252.
- Klein, K. J., Lim, B.-C., Saltz, J. L., & Mayer, D. M. (2004). How do they get there? An examination of the antecedents of centrality in team networks. *Academy of Management Journal*, *47*, 952-963.
- Kozlowski, S. W. J., & Chao, G. T. (2012). The dynamics of emergence: Cognition and cohesion in work teams. *Managerial and Decision Economics*, *33*, 335-354.
- Kozlowski, S. W. J., & Klein, K. J. (2000). A multilevel approach to theory and research in organizations: Contextual, temporal, and emergent processes. In K. J. Klein & S. W. J.

- Kozlowski (Eds.), *Multilevel theory, research, and methods in organizations*. San Francisco: Jossey-Bass.
- Kuwabara, K., Luo, J., & Sheldon, O. (2010). Multiplex exchange relations. In S. R. Thye & E. J. Lawler (Ed.), *Advances in group processes*, vol. 27: 239-268. Emerald Group Publishing Limited.
- Labianca, G., & Brass, D. J. (2006). Exploring the social ledger: Negative relationships and negative asymmetry in social networks in organizations. *Academy of Management Review*, 31, 596-614.
- Labianca, G., Brass, D. J., & Gray, B. (1998). Social networks and perceptions of intergroup conflict: The role of negative relationships and third parties. *Academy of Management Journal*, 41, 55-67.
- Lee, J. Y., Bachrach, D. G., & Lewis, K. L. (2014). Social network ties, transactive memory, and performance in groups. *Organization Science*, 25, 951-967.
- Marks, M. A., Mathieu, J. E., & Zaccaro, S. J. (2000). Performance implications of leader briefings and team interaction training for team adaptation to novel environments. *Journal of Applied Psychology*, 85, 971-986.
- Marineau, J. & Labianca, G. (2010). *Work and personal based conflict and advice and knowledge seeking relationships*. Paper presented at the annual meeting of the Academy of Management, Montreal, Canada.
- Mesmer-Magnus, J., & DeChurch, L. (2009). Information sharing and team performance: A meta-analysis. *Journal of Applied Psychology*, 94, 535-546

- Methot, J. R., LePine, J. A., Podsakoff, N. P., & Christian, J. S. (in press). Are workplace friendships a mixed blessing? Exploring tradeoffs of multiplex relationships and their associations with job performance. *Personnel Psychology*.
- National Research Council. (2015). *Enhancing the Effectiveness of Team Science*. Committee on the Science of Team Science, Nancy J. Cooke and Margaret L. Hilton, Editors. Board on Behavioral, Cognitive, and Sensory Sciences, Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press.
- Nelson, J., & Aboud, F. E. (1985). The resolution of social conflict between friends. *Child Development, 56*, 1009-1017.
- Oh, H., Chung, M., & Labianca, G. (2004). Group social capital and group effectiveness: The role of informal socializing ties. *Academy of Management Journal, 47*, 860-875.
- Olson, B. J., Parayitam, S., & Bao, Y. (2007). Strategic decision making: The effects of cognitive diversity, and conflict on decision outcomes. *Journal of Management, 33*, 196 - 222.
- O'Neill, T. A., McLarnon, M. J. W., Hoffart, G. C., Woodley, H. J. R., & Allen, N. J. (in press). The structure and function of team conflict state profiles. *Journal of Management*.
- Palazzolo, E.T., Serb, D.A., She, Y., Su, C., & Contractor, N.S. (2006). Coevolution of communication and knowledge networks in transactive memory system: Using computational models for theoretical development. *Communication Theory, 16*, 223-250.
- Pelled, L. H. (1996). Demographic diversity, conflict, and work group outcomes: An intervening process theory. *Organization Science, 7*, 615-631.
- Pelled, L. H., Eisenhardt, K. M., & Xin, K. R. (1999). Exploring the black box: An analysis of work group conflict, and performance. *Administrative Science Quarterly, 44*, 1-28.

- Rispens, S., Greer, L., Jehn, K. A., & Thatcher, S. M. B. (2011). Not so bad after all: How relational closeness buffers the association between relationship conflict and helpful and deviant group behaviors. *Negotiation and Conflict Management Research, 4*, 277-296.
- Salancik, G. R., & Pfeffer, J. (1978). A social information processing approach to job attitudes and task design. *Administrative Science Quarterly, 23*, 224-253.
- Schulte, M., Cohen, N. A., & Klein, K. J. (2012). The coevolution of network ties and perceptions of team psychological safety. *Organization Science, 23*, 564-581.
- Schweiger, D. M., Sandberg, W. R., & Rechner, P. L. (1989). Experiential effects of dialectical inquiry, devil's advocacy, and consensus approaches to strategic decision making. *Academy of Management Journal, 32*, 745-772.
- Seibert, S. E., Kraimer, M. L., & Liden, R. C. (2001). A social capital theory of career success. *Academy of Management Journal, 44*, 219-237.
- Shah, P.P., Dirks, K.T., & Chervany, N. (2006). The multiple pathways of high performing groups: The interaction of social networks and group processes. *Journal of Organizational Behavior, 27*, 299-317.
- Shaw, J. D., Zhu, J., Duffy, M. K., Scott, K. L., Shih, H., & Susanto, E. (2011). A contingency model of conflict and team effectiveness. *Journal of Applied Psychology, 96*, 391-400.
- Simon, H. A. (1957). *Models of Man*. New York: Wiley.
- Simons, T. L., & Peterson, R. S. (2000). Task conflict and relationship conflict in top management teams: The pivotal role of intragroup trust. *Journal of Applied Psychology, 85*, 102-111.
- Sparrowe, R. T., Liden, R. C., Wayne, S. J., & Kraimer, M. L. (2001). Social networks and the performance of individuals and groups. *Academy of Management Journal, 44*, 316-325.

- Staw, B. M., Sandelands, L. E., & Dutton, J. E. (1981). Threat rigidity effects in organizational behavior: A multilevel analysis. *Administrative Science Quarterly*, 26, 501-524.
- Tuckman, B. W. (1965). Developmental sequence in small groups. *Psychological Bulletin*, 63, 384-399.
- Uchino, B., Holt-Lunstad, J., Uno, D., & Flinders, J. (2001). Heterogeneity in the social networks of young and older adults: Prediction of mental health and cardiovascular reactivity during acute stress. *Journal of Behavioral Medicine*, 24, 361-382.
- Umphress, E., Labianca, G., Brass, D. J., Kass, E. E & Scholten, L. (2003). The role of instrumental and expressive social ties in employees' perceptions of organizational justice. *Organization Science*, 14, 738-753.
- Verbrugge, L. M. (1979). Multiplexity in adult friendships. *Social Forces*, 57, 1286-1309.
- Wasserman, S., & Faust, K. (1994). *Social network analysis: Methods and applications*. Cambridge, England: Cambridge University Press.
- Wildman, J. L., & Bedwell, W. L. (2013). Practicing what we preach: Teaching teams using validated team science. *Small Group Research*, 44, 381-394.
- Wooldridge, B., & Floyd, S. W. (1990). The strategy process, middle management involvement, and organizational performance. *Strategic Management Journal*, 11, 231-241.
- Zagenczyk, T. J., Gibney, R., Murrell, A. J., & Boss, S. R. (2008). Friends don't make friends good citizens, but advisors do. *Group & Organization Management*, 33, 760-780.
- Zagenczyk, T. J., Purvis, R. L., Shoss, M. K., Scott, K. L., & Cruz, K. S. (2015). Social influence and leader perceptions: Multiplex social network ties and similarity in leader-member exchange. *Journal of Business and Psychology*, 30, 105-117.

Zagenczyk, T. J., Scott, K. D., Gibney, R., Murrell, A. J., & Thatcher, J. B. (2010). Social influence and perceived organizational support: A social networks analysis.

*Organizational Behavior and Human Decision Processes*, 111, 127-138.

Zhou, J., Shin, S. J., Brass, D. J., Choi, J., & Zhang, Z.X. 2009. Social networks, personal values, and creativity: Evidence for curvilinear and interaction effects. *Journal of Applied Psychology*, 94, 1544-1552.

**Figure 1**  
**Illustration of the Multiplex View of Friendship and Conflict in Teams**

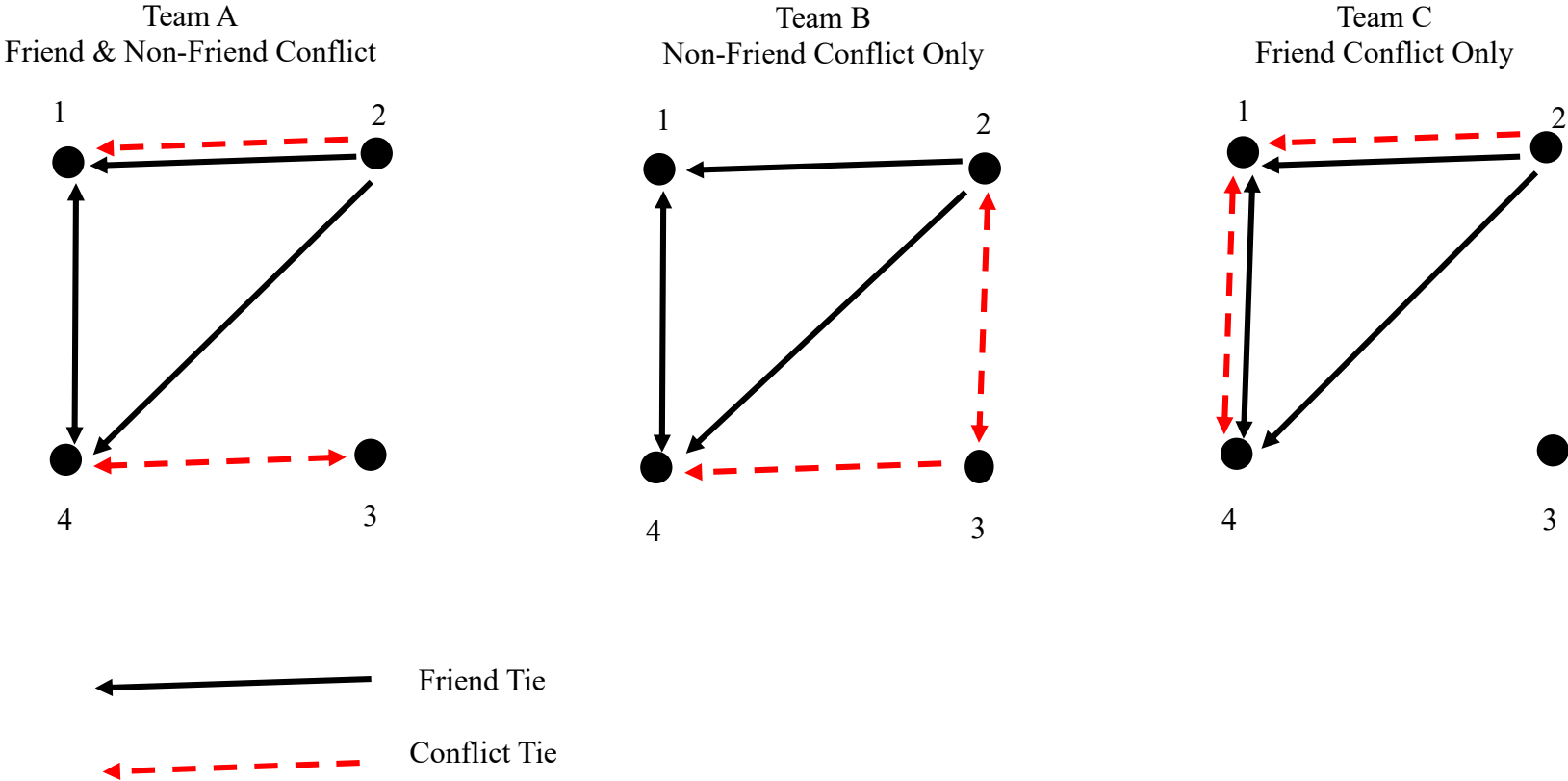


Table 1

*Descriptive Statistics and Correlations*

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10
1. Gender	0.46	0.24										
2. Hours of Interaction	3.20	1.29	.08									
3. Inrateam Task Conflict	2.04	0.83	-.05	-.01								
4. Inrateam Relationship Conflict	1.59	0.72	-.01	-.07	.67***							
5. Friend-Task Conflict	1.00	1.44	.06	.05	.36***	.14						
6. Friend-No Task Conflict	6.53	3.16	.06	.02	-.23**	-.22**	-.28**					
7. Non-Friend-Task Conflict	0.61	0.96	.05	-.07	.28**	.33***	.01	-.31***				
8. Friend-Relationship Conflict	0.82	1.35	.06	.23**	.07	.06	.07	-.16*	.00			
9. Friend-No Relationship Conflict	7.10	3.13	.06	.04	-.15	-.23**	.11	.88***	-.29**	-.33***		
10. Non-Friend Relationship Conflict	0.56	0.99	-.02	-.05	.43***	.54***	.06	-.30***	.64***	.03	-.28**	



11. Team Performance	65.47	29.92	.02	-.12	-.15*	-.16*	-.06	-.14**	.24**	-.13	-.14	.09
-------------------------	-------	-------	-----	------	-------	-------	------	--------	-------	------	------	-----

---

*Note.* N = 120.

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

Table 2

*Hierarchical Regression Results of Multiplex Conflict Relationships on Team Performance*

Variables	Model 1	Model 2	Model 3
<b>Control Variables</b>			
Gender Diversity	.02	.01	.04
Hours of Interaction	-.13	-.11	-.08
Intrateam Task Conflict	-.07	-.11	-.09
Intrateam Relationship Conflict	-.13	-.22	-.26*
<b>Multiplex Variables</b>			
Friend-Task Conflict		-.02	
Friend-No Task Conflict		-.13	
Non-Friend Task Conflict		.29**	
Friend-Relationship Conflict			-.17*
Friend-No Relationship Conflict			-.21*
Non-Friend Relationship Conflict			.21*
<b>R<sup>2</sup></b>	.05	.15	.14
<b>Adjusted R<sup>2</sup></b>	.01	.10	.08
<b><math>\Delta R^2</math></b>	.05	.11**	.09**
<b>F</b>	1.41	2.89**	2.52**
<b>df</b>	4, 115	7, 112	7, 112

Note: Standard regression coefficients are shown. n = 120.

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .