

**THE GRAND DUALITY: WHO SEES COMPETITION WITHIN FRIENDSHIP, AND
HOW DO THEY PERFORM AT WORK?**

XI ZOU

London Business School
Address: Regent's Park, London NW1 4SA, United Kingdom
Email: czou@london.edu
Tel: +44(020) 7000 8904
Fax: +44 (020) 7000 7001

PAUL INGRAM

Columbia University
Department of Management
712 Uris Hall
New York, NY 10027

Abstract

This paper examines the overlap between competition and friendship in networks, an instance of multiplexity that we call the grand duality. We demonstrate that managers differ systematically whether they perceive competition with their friends. Structure matters, in that managers are more likely to see competition among friends who are the same sex, in the same work unit, on the same social rank, and share many common friends (i.e. structurally equivalent). Individual differences in prevention focus and self-monitoring also predict how likely a manager will perceive competition with friends. Recognition of the grand duality matters for networkers, as those who see more competitor friends at work show better job performance, but also experience more turnover in their network.

Meet Alex, a successful real estate developer in his early thirties. When we interviewed him about his professional network he expressed frustration about his relationship with his “structural equivalent”—the person in Alex’s network whose own ties overlapped most with his. For Alex, that person turned out to be his twin brother, who had occupied a similar role to his in their family business. Alex loved his brother, but was frustrated by the tendency of others in the network to view them as substitutes. In his own words,

“The competition got so intense that I decided to leave my family’s business and start my own business. I am now thinking about changing industries, due to among other issues, the problems created by having similar contacts.”

Alex’s problem is an example of what we call the grand duality: the fact that the same forces that create closeness, trust, and affect in interpersonal networks are also associated with rivalry born of redundant resources, information, and capability. Put simply, friendship and competition, two relationships that are sometimes seen as in tension, or even as incompatible, have the same foundation in social structure.

The most familiar example of this fact is sibling rivalry. Siblings love each other because their relationship is embedded in a cohesive, closed network of strong ties. At the same time, they experience a form of competition because of the structural equivalence that emerges from those strong ties—they share relationships to important others (the parents) and therefore compete over the time, attention, and affection of those others. Of course, these structural determinants influence friendship and competition beyond the family, and indeed, it is only coincidence that Alex’s salient professional rival was his brother. In our interviews of business people about the closest ties in their professional networks Alex’s problem is not uncommon, although the closest professional ties are usually not family members.

The literature on the performance implications of social networks has long recognized the grand duality. It is what stands behind the strength of weak ties and the strategic advantage of structural holes. Both of those ideas emerge from the flipside of the truth that there is a positive association between closeness, closure, and competition, namely that weak ties and open triads are associated with autonomy and non-redundancy (Burt 1992; Granovetter 1985). Yet, while we recognize the grand duality in terms of the implications of networks, our field has given very little consideration to its implication for the management of networks. This gap is significant, because for many people, friendship relationships and competitive relationships are in tension. If they are the same relationships, then we should be interested in which individuals successfully resolve the tension, and whether doing so makes them better performers at work, or in any other sphere of life.

The tension between friendship and competition in networks is an important instance of the general tension between affect and instrumentality in relationships. Zelizer (2005) has theorized that there are three responses to this tension. First, Zelizer indicates that competition and friendship may be seamlessly integrated, so much so that they need not be differentiated. Consistent with Ingram and Zou (2008), who argued that this approach is rare in professional networks, we have seldom encountered it in our surveys and interviews with managers. Not a single one of the participants in our study identified all of the friends in their professional network as also being competitors.

The second, 'separate worlds' logic, is to insist that competition and friendship cannot exist in the same relationships. This logic appears occasionally in our literature in vignettes of business people who deny apparently obvious overlap between friendship and competition (Ingram and Roberts 2000), or become emotional when confronted with the overlap between

those categories (Coser, Kadushin, and Powell 1982). In our interviews and surveys¹, we have found this logic to be quite common, at least when business people describe their closest professional relationships, those with their structural equivalents (the people whose networks overlap the most with their own). Despite the fact that this structure suggests redundant information and capabilities, approximately 60 per cent of our informants deny that they see competition from their structural equivalent. Sometimes, this denial is based on the fact that the alter, while similar in terms of network ties, is different in some other important way, such as different functional skills, or different aspirations. In other cases, however, the denial is based on the perceived incompatibility of competition and strong affect. Examples of ‘separate worlds’ logic drawn directly from our informants include “we are not in competition as we are very close friends outside of work”; and “I do not consider him a threat given the nature of our relationship. If we were not married, I would most certainly consider him a threat and would try to reduce the risk of competition.” Sometimes, our informants indicated that they viewed friendship and competition as incompatible by describing a competitive (but affectively positive) relationship, and then simply refusing to label it as competitive: “We are often compared to each other in terms of performance and promotions ... that said we are very good friends ... he is not a source of competition.”

Zelizer’s third category, a form of ‘negotiated integration’, is the focus of her own work. The negotiated integration approach sees networkers as conscientious and even sophisticated in negotiating multiplex relationships that simultaneously represent affect and instrumentality. For

¹ The qualitative data in this paper comes from interview questions that we gave our subjects in writing after the data we analyze quantitatively was collected. Specifically, after they had finished all of the surveys, we gave them a workbook that summarized statistics from their network survey and asked them (among other things) to describe their relationship with their “structural equivalent” (the person with the greatest relational overlap to their other network ties), particularly whether they saw that person as a source of support (the answer to that is almost always yes) and/or competition, and how they manage the relationship.

example our informants described responding to friendship-competitor relationships with strategies of differentiation, either in terms of social capital (“branch out my ties to new groups”; “expand my network with other department heads”) or human capital (“I am responding to this competition by studying for my executive MBA”). Some strategies involve direct communication with the competitor-friend (“coach him on career options and next steps, while being relatively open with my own”). In other instances, our informants resolved simply to accept the duality of friendship and competition in the same relationship, as something they could not change in a relationship they wanted to maintain. All of these negotiation strategies start with recognition of the grand duality. If a person does not recognize her friend as a competitor, she cannot strategize about managing, reducing, or accepting the inherent tension. In all of the approaches to negotiated integration we have heard, none involved ending the friendship. The opposite sentiment is more common, as with the manager who said: “We are close friends and I wouldn’t want to jeopardize that. At the same time, I would take on new projects that would differentiate me.”

While the recognition of grand duality may lead managers to adopt more effective strategies and lead to performance advantages, few studies have examined the possibility that people may willingly embrace competition with friends. Some prior research tends to assume that even when people are indeed competing with friends, they are motivated not to recognize the competition potential with a friend. This notion that competition and friendship are separate relational domains goes back to Scottish enlightenment philosophy. In an analysis of the concept of friendship from precommercial to contemporary society, Silver (1990) argues that in precommercial society, all personal relations were necessarily motivated by symbiotic interests, where friends, spouses, and other allies were chosen partly due to their functional compliments

to the individual. There was simply no alternative to personal relationships for obtaining the necessities of life. In contrast, the market creates a middle category of strangers between friends and enemies; a group with which one may engage in purely competitive exchange. This possibility purifies the category of friendship—because competitive interests can be pursued in the market, friends may be chosen on the basis of affect. Indeed this notion of the purity of friendship is widely taken as a given in contemporary social relational theories, where resources exchanged in instrumental relationships and friendships are often treated as incommensurable (e.g., Fiske 1992; Foa and Foa 1974). In this view, people resist seeing a friend as a competitor because doing so would be to admit to a less pure form of friendship.

Although theoretical models often treat competition and friendship as incompatible, some indirect evidence suggests that competitor friendship may be a particular form of relationship where people maintain an optimal distinctiveness from contacts in their professional networks. In this regard, a long history of psychological research has pointed out that people need a certain level of both similarity to and differentiation from others (Codol 1984; Lemaine 1974; Maslach 1974; Snyder and Fromkin 1980; Ziller 1964). People are uncomfortable in social contexts in which we are either too distinctive (Frable, Blackstone, and Scherbaum 1990; Lord and Saenz 1985) or too similar (Fromkin 1970, 1972). Integrating these two fundamental concerns, Brewer (1991, 2003) argued that people strive to obtain an optimal distinctiveness with others. In our view, competitor friendship may uniquely predict an optimal distinctiveness. Being friends leads to closeness and similarity, whereas by recognizing the competition people seek opportunities to be unique and different from their friends at the same time.

In this study, the first question we address is: When does someone view a friend as also a competitor? This amounts to an examination of when networkers employ the separate-worlds

logic, and when they use negotiated integration. We consider attributes of the relationship, particularly those that represent the structural inputs to competition. We then go on to consider individual differences. Which personalities are more likely to employ negotiated integration rather than separate worlds when it comes to the grand duality? Finally, we examine the implications of that choice for performance. Like Zelizer (2005) our belief is that negotiated integration is a more sophisticated approach to the multiplexity inherent in networks. We show that those who employ it receive more career and task information from their networks, and are viewed by others as more effective leaders.

Similarity Implies Competition

A cognitive structure view of network relational ties (Krackhardt 1987) provides a useful analytical framework to understand how people perceive friends as also competitors. Under this model, identifying competitors in the friendship network is a categorization process (Burner 1957; Smith and Medin 1981). A category should contain a set of features that are indicative to the category memberships (Rosch 1973, 1975). Competitor friends as a subcategory of friendship ties should therefore contain attributes of friends. The question is, then, how likely are the attributes of friends also to imply competition? We argue that similarity breeds friendship, but the very features that predict friendship also imply competition.

Similarity of individual attributes, such as sex, race, or group membership (e.g., Brass 1985; Brewer and Kramer 1986; Ibarra 1992; Rogers and Kincaid 1981; Tita 1995; Turner 1982) often leads to attraction and interaction (Byrne 1971; Huston and Levinger 1978; Montoya, Horton, and Kirchner 2008), which is more likely to foster friendly interactions (Feld 1982; Marsden 1988) and friendship (Bell 1981; Lazarsfeld and Merton 1954). Yet, such similarity attributes not only lead to friendship but also encourage social comparisons. A long history of

social comparison research has shown that people strive to evaluate themselves, and in particular tend to compare their performance with that of others whom they perceive to be similar (Festinger 1954). This focus on the relative performance of similar others can often heighten perceptions of competitiveness (Goethals 1986; Hoffman, Festinger, and Lawrence 1954). Although few empirical studies have directly tested whether the similarity of individual attributes increases resource competition, analysis at the group and firm level have provided indirect evidence. Managers are more likely to identify firms that are similar in size (Baum and Mezias 1992), form (Porac and Thomas 1994), and resource or market profile (Baum and Korn 1996; Chen et al. 2007) as competitors. Likewise, group research has shown that when people interact with a similar outgroup member, compared to a dissimilar outgroup member, they are more likely to experience a feeling of threat from the outgroup member and commit more intergroup bias (e.g., Henderson-King, Henderson-King, Zhermer, Posokhova, and Chiker 1997; Jetten et al. 1998). In a recent study of NCAA basketball teams, Kilduff, Elefenbein, and Staw (2010) found that competition was highest between teams that were similar. We hypothesize, therefore, that friends who share similar individual attributes, such as sex, race, or working in the same organization, are more likely to be seen as competitors.

Hypothesis 1: Ego is more likely to perceive a friend who has the same demographic background as a competitor.

The second type of similarity is structural equivalence—a measure of the extent to which two people share the same social network contacts. People feel more comfortable when their opinions about others align with the opinions of their positive associates (e.g., Heider 1946; Zajonc 1968), as a result existing ties provide foundations for future relationships (Gibbons and Olk 2003). On the other hand, structural equivalence has also been widely used as an indicator of

competition. Two actors that occupy the same network positions have access to similar resources from the network (Burt 1992) and thereby become close competitors. Many analyses at the organizational level often treated structurally similar firms as competitors, such as high-tech firms that use overlap patent citations (Podolny, Stuart, and Hannan 1996) or share sales channels (Bothner 2003). In our view, this logic is also applicable to professional networks. Managers who share a similar set of network contacts tend to be exposed to similar information and compete for similar career opportunities. To the extent that the perceived competition should be based on the actual competition potential, we predict that friends who are structurally similar are more likely to be competitors.

Hypothesis 2: Ego is more likely to perceive a friend who is structurally equivalent as a competitor.

Who is More Likely to See Friends as Competitors?

Approach or Avoid Friend Competitors

While individual attributes and structural equivalence suggest that friendships often imply competition in a professional network, managing the dynamics of friendships and associated potential competition is a central arena in which individual motives are channeled into daily goal pursuits (Hays 1988; Rook and Sorkin 2003). People are not passive pawns of the structural influence, rather individuals actively decide who they see as a friend and who they see as a competitor. Regulatory focus theory is a useful framework to understand the individual difference in how people approach and avoid friend competitors in their friendship networks.. Specifically, people differ systematically in how they perceive and manage relationships. Two such preferred strategies distinguished in previous research are the eager strategy and the vigilant strategy (Crowe and Higgins 1997; Friedman and Förster 2001; Liberman, Molden, Idson, and

Higgins 2001; Molden and Higgins 2004). Eager strategies arise from promotion motivations for advancement and the fulfillment of hopes and aspirations. The promotion-focused system regulates nurturance needs and is concerned with growth, advancement, and accomplishment. Individuals who are promotion focused are striving toward ideals and are particularly sensitive to the presence and absence of positive outcomes. They are more sensitive to positive stimuli and are more likely to approach them. In contrast, vigilant strategies arise from the prevention-focus system which regulates security needs. Individuals in a prevention focus are concerned with safety and maintaining the status-quo, with meeting one's oughts, duties, and responsibilities. They are particularly sensitive to the absence and presence of negative outcomes, and are motivated to avoid negative events. For example, promotion- and prevention-focused people adopt distinct strategies to maximize ingroup and outgroup differences. Promotion-focused people show bias toward their ingroup in terms of cheerfulness- and dejection-related emotions and approach-related behaviors, whereas prevention-focused people show bias toward their outgroup in terms of anxiety-related emotions and avoidance-related behavior (Shah and Higgins 2004). The difference in eagerness and vigilance also affect more basic categorization and attribution processes (Crowe & Higgins, 1994; Higgins, 1997). For example, Liberman, Molden, Idson, and Higgins (2001) showed that promotion-focused people tend to endorse multiple sets of hypotheses or attributes when characterizing a person whereas prevention-focused people tend to select only one set of hypothesis or attribute. This suggests that promotion-focused people are more likely to endorse the multiplex negotiated-integration logic, whereas prevention-focused people are more likely to follow separate-world logic.

In the context of friend competitors, we argue that promotion-focused people tend to focus on the positive gains of having competitor friends. Competitor friends are likely to have

useful resources and information that is relevant to the self. Further promotion-focused people are better at managing uncertainty (Molden and Higgins 2002), which suggests that they are also able to manage the complexity and ambiguity of being friends and competitors at the same time. Given that recognizing competitor friends could entail a lot of benefits and not much cost to promotion-focused people, we argue that they are more likely to perceive competition with friends. By contrast, the prevention-focused people tend to focus on the threat of competing with friends. In particular, the notion of competing with friends could be particularly risky for self-threat. For example, evidence on the self-evaluation maintenance model has shown that if people see themselves competing with friends they are more likely to compare themselves with the friends and be threatened by the success of the friend much more than by that of strangers (Tesser and Campbell 1982; Tesser, Millar, and Moore 1988; Tesser, Pilkington, and McIntosh 1989). Such threats are more likely to be salient to prevention-focused people, as past research has shown that those high in avoidance motivation are particularly reactive to negative events (Gable, Reis, and Elliot 2000). Therefore, prevention-focused people are motivated to not recognize a friend as a competitor.

Hypothesis 3: Promotion-focused people are more likely to perceive a friend as a competitor, whereas prevention-focused people are less likely to do so.

Self-monitoring

Embracing friendship and competition simultaneously within a multiplex relationship requires that a person is sensitive to the shifting dynamics of a relationship across different relational context. Further, playing the role as a competitor and friend simultaneously can engender significant role conflict and psychological stress (Biddle 1986; Gross, Mason, and McEacher 1958). Those who play it well are required to control their self-representation flexibly

and shift their behavioral styles, which is a classic characteristic of self-monitoring. Self-monitoring describes the degree to which people are motivated and capable of adapting their self-presentation style across various situations (Synder, 1987). High self-monitors are acutely attuned to cues of situational appropriateness and are especially sensitive to social expectations (e.g., Harris 1989). They can closely monitor the thoughts, actions, and feelings of those around them (e.g., Funder and Harris 1986; Ickes et al. 1990); and, like good actors, they use a range of verbal and extra-linguistic cues to create and project images of themselves that correspond to others' expectations (e.g., Snyder and Monson 1975). Low self-monitors, by contrast, are less attuned to social expectations than to their own beliefs and values. High self-monitors, compared to low self-monitors, can better adapt their distinct self-presentation to fit in a variety of situations, high self-monitors are more likely to establish social network contacts from distinct social circles and thereby more likely to span structural holes (Mehra et al. 2001; Oh and Kilduff 2008; Sasovava et al. 2010). Following the same logic, high self-monitors are more likely to embrace competitions in their friendship networks, because they are more attune to the situational cues. High self-monitors are more likely to recognize the change of the relational dynamics across situations, whether it is at the happy hour after work or during a serious debate in a conference. Further, after recognizing the competitor friendships, high self-monitors also have the ability to manage the complex relational dynamics. When interacting with a colleague who is a simultaneously a friend and competitor high self-monitors are able to shift their self-presentation and behave in accordance to the situation. As a result, high self-monitors, compared to low self-monitors, are more likely to maintain friendships with competitors or manage the competition dynamics with friends; therefore, we hypothesize that high self-monitors are more likely to perceive a friend in their professional network as a competitor.

Hypothesis 4: High self-monitoring people are more likely to perceive a friend as a competitor.

Performance Advantages of Seeing Friends as Competitors

Following Zelizer (2005), we see performance advantages to the negotiated integration of the grand duality, a position that requires that the networker recognize competition among friends when it exists. The leaping off point of our argument is that networks are enacted by networkers, and therefore that perceptions of relationships, and particularly whether the networker recognizes the grand duality, matters for performance even after controlling for structure. In other words, our focus here is on the performance implications of seeing competitor friends, not on the direct effect of having more competitors. Consequently, our performance models control for structural determinants of competition, and include an independent measure of whether the networker sees competitors among his or her friends.

Just how is it advantageous to recognize the grand duality? One mechanism is by avoiding the performance-dulling effect of pure friendship. Although some evidence has shown that there are benefits to friendship ties such as information sharing and resource exchanges (e.g., Brass 1984; Converse and Foa 1993; Gibbons 1996; Heimer 1992; Krackhardt 1992; Labianca, Brass, and Gray 1998; Lincoln and Miller 1979), some other research has suggested that being purely friends can constrain performance efficiency. For example, Polzer, Neale, and Glenn (1993) show that in negotiations involving friends, both the politeness ritual and the reciprocity norm are likely to be active, overriding self-interest and resulting in an outcome close to an equal division of the resource. Chua, Ingram, and Morris (2007) found that friendship ties predict affective-based trust—the critical bonds—but are not related to cognitive trust which is about getting work done. Likewise, communication research has shown that when people are motivated

to form or maintain a relational bond, they often tend to only share the known and common information, thereby reducing the quality of the information exchange (Clark and Kashima 2007). In this regard, pure friendship can distract people from work and lead to suboptimal performances. We argue that the recognition of potential competition may prevent friendship ties from distracting performance efficiency.

In this regard, several streams of research provide indirect evidence of the advantage of competitor friendship ties. First, compared to pure friendship ties, competitor friends are more likely to provide relevant information. Some evidence has shown that information from competitors could be particularly relevant to job performance (i.e., Menon and Pfeffer 2003; Menon, Thompson, and Choi 2007). Friendship allows more open information exchange, yet by recognizing the competition dynamics, managers may better identify the more relevant information to their performance. Conversely, by recognizing the competition dynamics, manager may be more cautious of information disclosure that may decrease their competitive advantages at work, and thereby do a better job managing the exchange of information in their own favor. Second, by recognizing the competitive dynamics with friends, people may better strategize, collude, or collaborate. For example, in a study of managers in the Sydney hotel industry, Ingram and Roberts (2000) found that managers were able to blunt the intensity of price competition with their competitor friends in a different hotel. In the research on behavioral games, experimental evidence has shown that friends who engage in a prisoner's dilemma tend to cooperate more than strangers (Halpern 1992; Murnighan 1991). For these reasons we argue that people who recognize potential competitors among their friends at work will gain more valuable information, and ultimately, have better job performance.

Hypothesis 5a: People are more likely to receive information of career development and work tasks from competitor friends than non-competitor friends.

Hypothesis 5b: People who perceive more competitors among their friends at work receive better ratings of job performance.

METHODS

Participants and Procedure

We collected the data from managers attending an executive MBA program at a business school in a large city in the United States. The students were managers who continued full-time work while they studied. A total of 333 managers (27 per cent females) participated in this study. Of these, 55 per cent were Caucasians, 38 per cent were Asians (Chinese, Japanese, Korean, or Indian) and the rest were of other races (mostly African-Americans and Hispanic-Americans). The most common industries of employment were finance and banking (36 per cent). Typically, the participants held managerial positions in banks, financial institutions, or other professional service firms. Some participants held executive positions in smaller companies (e.g., as CEO of a family business). A smaller group were professionals who had risen to supervisory or managerial positions (e.g., a PhD scientist who led a research project for a large pharmaceutical company). At the beginning of their MBA program, the participants were instructed to request job performance feedback from their work colleagues as part of a 360-degree feedback exercise. Participants nominated at least four colleagues from work and provided their email addresses. A private link for a web survey was then sent directly to the colleagues. The survey was completed online and anonymously. Participants received an aggregated performance rating from all the raters, who were not individually identified. At approximately the same time, the participants completed a network survey as part of a separate exercise. The network survey asked each

participant (ego) to list his professional network. In the analysis below we focus on the professional friendship network, made up of members of the professional network that ego characterized as friends, specifically those who provide “friendship, social enjoyment, and support.” For each alter listed, the participant was asked to furnish details on the alter’s background. In still another exercise, shortly before the others, participants completed personality and job satisfaction surveys.

Alter Level Measures

Dependent variables

Competitor. We asked the participants to indicate whether each alter is “a potential competitor to you.” The variable was dummy coded; 1 if the friend is a potential competitor and 0 otherwise.

Information exchange. To assess whether the alter provides useful information at work, we asked participants to indicate in the network survey whether they receive the following information from each network member: (1) information or advice for getting tasks done, and (2) information on career guidance and opportunities. Participants could select one type or both types of information. Each variable was dummy coded (1 if the specific form of information was obtained from the alter and 0 otherwise).

Independent variables

Alter’s similarity to ego. To test hypothesis 1, we include dummy variables that are coded one if alter is (a) same sex; (b) same race; (c) in the same organization; and (d) in the same work unit as ego.

Structural Equivalence. This variable is used to test hypothesis 2. After participants had completed the first part of the survey which involved listing the alters and describing their

relationships, the second part of the survey began with the heading “Who knows whom in your network?” Here, the respondents filled in a half-matrix indicating any positive relationships between alters. Negative relations were also indicated, but these were rare, occurring for approximately one percent of the alter pairs, and we do not analyze them here. The survey instructions stated that, “A positive relationship can be (a) a close relationship (example: when people work very close together or have a high level of friendship) or (b) a positive but not especially close relationship (example: people who know each other but are not in frequent contact, and are not strong friends or enemies).” For each alter, we count the number of ties they have to other alters in ego’s network. When this count is higher, their structural overlap with ego is also higher.

Control Variables

Alter’s age. We asked the participants to report or provide their closest estimation of each contact’s age.

Years Known. We asked participants to report or provide their closest estimation of how many years they have known the alter.

Ego Level Measures

Dependent variables

Job performance As part of the 360-survey, participants were rated by work colleagues on their leadership and influence performance at work. On average, participants had eight work colleagues serve as raters. We asked raters to clarify how well they knew the participant, using a four-point scale, ranging from 1 (*not well at all*) to 4 (*extremely well*). The average score on the familiarity measure was 3.02 (SD = 0.36). The colleagues rated the participant’s leadership performance, using a seven-point scale ranging from 1 (*not at all*) to 7 (*very much*) (Cronbach

alphas = 0.7). The items were developed with the goal of allowing for comparisons across jobs and across companies (Austin and Villanova 1992), see Appendix A. Each participant's performance was rated by more than one rater, intra-class correlation coefficients (ICC(1)), within-group inter-rater agreement (multi-item rWG(J); James, Demaree, and Wolf 1993) and indices of average deviation from the scale mean (ADM(J); Burke, Finkelstein, and Dusig 1999) were used to assess whether or not the judges were in sufficient agreement in their ratings to justify aggregation of their responses. All of these variables exceeded this cutoff (ICC(1) = 1.1, ADM(J) = 1.7).

In additional analyses we go beyond testing our hypotheses to examine the possibility that recognizing competition among friends comes at a psychic or relational cost. The dependent variables in that analysis include the following:

Job satisfaction. Job satisfaction was measured by the short form of the Brayfield and Rothe (1951) job satisfaction scale. Items are "Most days I am enthusiastic about my work," "I feel fairly satisfied with my present job," "Each day at work seems like it will never end" (reverse scored), "I find real enjoyment in my work", and "I consider my job rather unpleasant" (reverse scored). The response scale has five points ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The five items were averaged to form a job satisfaction score ($\alpha = 0.94$).

Stress in managing network. At the end of the network survey, participants rated the extent to which they agree with the statement: "I find it stressful to manage my contact network", on a five point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). To measure the job performance and stress, we hope to examine whether there is any psychological costs of mixing competition in a friendship.

Network Change. In the network survey, we asked participants to “Look the [network contact] list over. These are people who are critical for getting things done today, but they may not be critical for getting things done tomorrow. Who is notably absent from the list, in the sense that they were critical for getting things done last year, but did not make the list this year? Approximately, how many names come to mind?”

Independent Variables.

Regulatory Focus. To test hypothesis 3 we rely on the Regulatory Focus Questionnaire (RFQ; Higgins et al., 2001) which includes 11 questions, of which the promotion subset (six questions; $\alpha = 0.92$) measures individuals’ subjective history of success in exploiting promotion-focused strategies with items such as “how often have you accomplished things that got you ‘psyched’ to work even harder?” The prevention subset (five questions; $\alpha = 0.91$) measures subjective history of success in exploiting prevention-focused strategies with questions such as “Not being careful has gotten me into trouble at times” (reverse scored). The response scale for these questions range from one (*never or seldom*) to five (*very often*). Higher scores on the individual subsets indicate greater promotion pride and prevention pride, indicating of the level of strategic inclination to pursue goals in an eager or vigilant manner, respectively (See Higgins et al., 2001). Past research has also well documented that the promotion pride and prevention pride scales are only slightly positively correlated (and not always significantly), they have good predictive, convergent, and discriminant validity, and they have strong internal and test-retest reliability (see Higgins et al., 2001; Grant & Higgins, 2003).

Self-monitoring. To test hypothesis 4, we used the revised 18-item Self-Monitoring Scale ($\alpha = 0.81$). Items consist of self-descriptive statements intended to capture several elements of social adroitness, including concern with situational appropriateness, attention to social cues, and

ability to control expressive behavior. Each of the items (e.g., “I’m not always the person I appear to be”) was rated using true or false responses. The revised scale has been shown to be more reliable than the original 25-item measure (Snyder & Gangestad, 1986) and has been widely used in the prior research on the relationship between self-monitoring and social networks (e.g. Kilduff, 1994; Flynn, Reagans, Amanatullah, and Ames, 2006).

Percentage of Competitor Friends To test hypothesis 5 on performance we include a variable that is the percentage of the participant’s friends at work that are perceived as competitors.

Control Variables

Controlling for the features of ego’s overall friendship network would isolate the unique effect of competitor friendship ties from the general features of the network. We therefore include *network size*, the number of ego’s professional friends, and *network density*, the extent to which the alters were connected (Wasserman and Faust 1994).

Ego’s background. We controlled for the participants’ sex, race, and age. Caucasian men were the comparison categories, and dummy variables indicated women and non-whites. As the participants were executive-MBA students, they came from different industries. Almost half of the participants were from finance and banking, so we constructed a dummy variable to indicate participants’ industry background as finance/banking.

Rater familiarity. For the job performance analysis, we were concerned that respondents who have more friend competitors at work might be more likely to nominate colleagues who are their friends in the workplace and with whom they are more familiar, as evaluators and thereby garner biased evaluations. We therefore controlled for the average familiarity score of the performance raters.

RESULTS

Overall, participants listed 14.21 (SD = 5.20, Max. = 24, Min. = 2) ties in their professional friendship network. On average, participants identified 3.13 (SD = 3.38, Max. = 16, Min. = 0) friends as competitors. Table 1 reports the descriptive summary data that compares the competitor friendship ties with the pure friendship ties. On average, competitor friends were significantly more embedded in the ego's network than pure competitor friends; they knew more contacts in the ego's network than the pure friends ($F = 93.15, p < 0.001$). Competitor friends were more similar to the ego than the pure friends. Specifically, competitor friends were more likely to be ego's work colleagues in the same unit ($F = 158.08, p < 0.001$) and were more likely to be on the same rank ($F = 202.97, p < 0.001$). Competitor friends were also more likely to provide information about work tasks ($F = 81.23, p < 0.001$) and information about career development ($F = 205.87, p < 0.001$). Not surprisingly, egos also felt less close with competitor friends than with pure friends ($F = 4.54, p < 0.03$); but the mean score suggested that, on average, participants felt close to the competitor friends as well. Table 2 reports the correlation data at the ego level, including the personality difference, overall network structures, and job performance.

[Insert Tables 1 and 2 about here]

Antecedents of Friend Competitor Ties

Because our theory and data involved a hierarchically nested variable—the ego-alter relationships were nested within a given ego—we analysed the data using hierarchical modelling (HLM, Version 5.04; Raudenbush, Bryk, Cheong, and Congdon 2001). In addition, because our outcome variable was a dichotomous variable concerning whether an alter is a competitor, we ran a hierarchical logit model. Model 1 tested our first three hypotheses whether race and gender

similarity, structural equivalence, and personality differences predict the competitor perception in the friendship network. There are 4681 observations of ego-alter dyads at Level 1 model, and 333 observations of egos at Level 2 model. The Level 1 model concerns the characteristics of the ego-alter dyad and includes following predictors: gender similarity, race similarity, structural equivalence, controlling the alter's age, the relationship closeness, the frequency of communication, the number of years that they have known each other, whether the alter is higher rank to the ego, whether the alter is the same rank, whether the alter worked in the ego's work unit, whether the alter was from the ego's organization. Then, Level 2 variables capture the features of the ego and the ego's overall network structure, including ego's sex, estimated age, ethnicity, network size, network density, and the three individual differences variables, self-monitoring, promotion focus, and prevention focus.

Table 3 shows the results from the HLM analysis. Consistent with hypothesis 1, egos were more likely to see as competitors alter friends who were the same gender ($b = 0.36$, $SE = 0.10$, $p < 0.018$), the same rank ($b=1.48$, $SE = 0.14$, $p<0.001$), working in the same organization ($b = 0.72$, $SE = 0.15$, $p < 0.001$), and in the same unit ($b = 0.68$, $SE = 0.16$, $p < 0.001$). Consistent with hypothesis 2, egos were more likely to see a friend as a competitor if they were more structurally equivalent ($b = 0.03$, $SE = 0.02$, $p < 0.03$).

Moving on to our predictions about ego personality, prevention-focused managers (hypothesis 3) were less likely to see competitor ties in their friendship network ($b = -0.22$, $SE = 0.10$, $p < 0.03$), whereas high self-monitoring managers (hypothesis 4) were more likely to see competitors in their friendship network ($b = 0.05$, $SE = 0.02$, $p < 0.045$). Although we predicted that promotion-focused people would embrace the uncertainty and risky approach, we did not observe the significant effect. We suspect that it is because the positive features are not as salient

as the negative features of the competitor friendships (Baumeister, Bratslavsky, Finkenauer, and Vohs 2001), and therefore the promotion effect does not emerge.

[Insert Table 3 around here]

Information from Friends and Competitors

Using the same HLM modelling, we tested the predictive power of friend competitor ties in providing information for career advice and information for getting tasks done at work in models 2 and 3 respectively. We used the same analysis as above and included the same list of control variables. Consistent with our hypothesis, egos were more likely to name competitor friends as a source of information for career development ($b = 0.61$, $SE = 0.11$, $p < 0.001$) than they were friends who were not competitors. Not surprisingly, egos were also more likely to seek information for career development from alters with whom they felt close ($b = 0.62$, $SE = 0.07$, $p < 0.001$) and who were structurally equivalent ($b = 0.03$, $SE = 0.01$, $p < 0.03$). Model 3 tested the effect on seeking information of getting tasks done. We observed the same pattern of results, egos were more likely to name competitor friends as a source of information for getting tasks done ($b = 0.55$, $SE = 0.11$, $p < 0.001$). They were also more likely to seek task advice from alters with whom they feel close ($b = 0.51$, $SE = 0.06$, $p < 0.001$) and who were structurally equivalent ($b = 0.08$, $SE = 0.01$, $p < 0.001$). It is notable that task advice is more likely to come from competitor friends even after controlling for similarity of rank and work location, and structural equivalence. This is consistent with our claim that ego's recognition of the grand duality provides performance opportunities beyond those determined by network and other structures.

[Insert Table 4 around here]

Competitor Friendships and Job Performance

To test the effect of recognizing the grand duality on overall job performance, we calculated the percentage of competitor friends in the ego's friendship network at work. The percentage measure helps to control for a potential confounding effect that people who work in larger work units are likely to have more competitor friends. We focused on the competitor friendship dynamics within the work unit because the immediate social networks have the direct impact on the ego's performance at work. We tested the hypothesis by using the OLS regression analysis. Model 4 shows that the percentage of competitor friends at the work unit significantly predicted job performance at work ($b = 0.27$, $SE. = 0.10$, $p < 0.008$), controlling for ego's demographic background, overall network structure, performance rater's familiarity and personality differences.

Are there Costs to Seeing Friends as Competitors?

The above analysis suggests that the negotiated integration approach to the grand duality pays off for performance on the job. However, there may be psychic or relational costs to seeing friends as competitors, through compromising the purity of friendship (Silver, 1990; Fiske, 1992). If this were the case, networkers who use the separate-worlds logic may not be making a mistake, but instead trading lower job performance for psychic and relational satisfaction. We examined this idea in models 5, which had as the dependent variable the stress ego feels managing his or her network, and model 6, which had as the dependent variable ego's job satisfaction; and model 7, which included a measure of ego's network turnover in the past year. The first two of these variables were not negatively affected by ego's recognition of friends as competitors (indeed, job satisfaction has a marginally positive relationship to the percentage of competitor friends). However, model 7 shows that those who had more competitor friends at

work reported more turnover in their networks ($b = 3.94$, $SE. = 1.97$, $p < 0.05$). This suggests a potential cost of recognizing friends as competitors in the form of relational instability.

[Inserted Table 5 around here]

DISCUSSION

Many of the same things that create friendship in a relationship also create the potential for competition. We call this the grand duality. Networkers may deny this duality, insisting on separation between the worlds of affect and instrumentality, or they may engage in a negotiated integration of the worlds, which can only begin with the recognition that friends may also be competitors. Our results suggested that prevention-focused managers tend to engage in separate worlds logic, avoiding acknowledging the competition potential with friends. By contrast, high self-monitors tend to engage in negotiated integration and are more likely to acknowledge friends as competitors. The perception of competition is also partially shaped by the structural factors that are often assumed to imply competition. Managers are more likely to see friends who are the same sex, same organization, in the same unit, of the same social rank, and who share many common friends (i.e. structurally equivalent) as competitors. Further, perception matters as friends who are seen as competitors provide more information to get tasks done and for career development than mere friends who are similar in other ways. Ultimately, those who recognize the grand duality perform better at work, at least in the opinion of their coworkers.

Implications and Future Research

In this study, we provide a detailed examination of competitor friendship as a psychological phenomenon, disentangling the antecedents and consequences of managers' subjective perception of competition with friends. This approach has several theoretical implications for competition and friendship research. First, we examined managers' subjective

perceptions of competition and show its positive link to performance, suggesting that when people willingly recognize competition with friends, the perceived competition has a direct and positive effect on performance. By focusing on people's subjective perception of competition, we take a significant departure from much of the previous research on competition, which has tended to take competition as a given or implied in the social structures. The psychological analysis of competition often follows Deutsch's (1949) tradition to define competition in purely situational terms, as a setting in which the goal attainment of participants is negatively linked, so that the success of one participant inherently comes at the failure of the other. Likewise, the analysis of competition among managers working in different organizations often assume competition as a given by the market structure and focus on the benefit of developing friendship with the competitors (Ingram and Yue, 2009). Our results demonstrate that although perception of competition is significantly driven by structural factors, there are still substantial individual differences in the likelihood of seeing a friend as a competitor. Critically, the instrumental benefits of friendships depend on the recognition of the potential competition in those relationships.

Second, our focus on the grand duality provides a new approach to study competition dynamics in the real world, where competitors often know one another, have histories of prior interaction, and are sometimes friends at work. Experimental studies of interpersonal competition have typically examined participants in a laboratory setting, pitting people against one another or against confederates of the experimenter (e.g., Beersma, Hollenbeck, Humphrey, Moon, and Conlon 2003; Deci, Betley, Kahle, Abrams, and Porac 1981; Reeve and Deci 1996; Scott and Cherrington 1974; Tauer and Harackiewicz 1999). Evidence from the lab often suggest that competition results in reduced motivation and productivity (e.g., Deci et al. 1981;

Deutsch 1949; Hammond and Goldman 1961; Kohn 1992; Stanne et al. 1999). Yet, some recent evidence from the field shows that competition reduced performance only when people are forced to compete (Reeve and Deci 1996). When people choose to compete, competition enhances motivation (e.g., Mulvey and Ribbens 1999; Tauer and Harackiewicz 2004) and task performance (e.g., Brown et al. 1998; Erev et al. 1993; Scott and Cherrington 1974). Obviously, seeing friends as competitors is a choice, and our paper joins the work that suggests that the discretionary enactment of competition matters for performance, and that the grand duality provides an important opportunity for such agency.

. Third, our findings further highlight the wider implications of studying the cognition of social networks. There is a long tradition of work examining how people form relational schemas of network structures (De Soto, 1960; Heider, 1946; Kumbasar, Romney, & Batchelder, 1994). In this regard, much of the research focuses on people's perception of network patterns of their network contacts. Evidence has shown that individuals' perceptions of other people's relationships tend to display systematic biases (Krackhardt & Kilduff, 1999). The perceived social network structure is often consistent with the network structures (such as structural holes and small world networks) that researchers have discovered in the actual network (Janicik & Larrick, 2005; Kilduff, Crossland, Tsai, & Krackhardt, 2008). While much is known on how people perceive the network structure as a whole, relative few have examined its implications on the relational dynamics between people and their direct network contacts. Our finding suggests that network structure in which a contact is situated could also systematically affect whether a person sees the contact as either a competitor friend or a pure friend. By merely knowing how many common friends with a contact, people may perceive the contact differently.

Forth, future research should examine the role of national culture and gender in explaining individual differences in perceiving multiplex competition and friendship ties. In this regard, cross-cultural studies have shown that people may have distinct preference in multiplexity relationships. For example, Morris, Podolny, and Ariel (2000) report that multiplex relations at work are particularly low in the United States compared to China, Germany, or Spain, consistent with Kacperczyk et al.'s (2010) more recent and more extensive comparisons. Likewise, Chua et al. (2009) find that Chinese managers are more likely than American counterparts to report higher levels of trust toward others when they share both affective and instrumental ties. In countries where cultural norm embrace multiplex ties, managers may be more easily recognize the grand duality in a competitor friendship tie. Similarly, past research has also shown that men tend to have more multiplex relations at work than women, because men tend to seek friendship from the same men who can provide access to organizational resources (Ibarra, 1992). Although this evidence may be partially driven by the structural differences that men are more likely to be at the powerful position to access the resources, some other evidence has suggested that women tend to prefer a separated-world approach to obtain affective support and instrumental resources (Brass, 1985). In this regard, a potential source of gender difference is their tendency to embrace competition in an affective based relationship. Indeed, our result showed that females are more likely to perceive competition in a friendship. Future study should include perception measures as a mechanism to explain the gender difference in development of multiplex tie.

Further, the psychological approach also allows us to appreciate the individual agency in constructing the world of competitor friendship in which they are embedded. A long standing critique of social network research is that a 'structural bias' denies much of the dynamic nature

of social relations (Emirbayer 1997; Emirbayer and Goodwin 1994). Controlling the effect of structural dynamics, prevention focus orientation and self-monitoring significantly predict whether people embrace a ‘negotiated integration’ in managing the world of competitor friendships. The effects of these two personality differences also illustrate two distinct challenges in managing competitor friendships. First, competition is likely to entail higher uncertainty and pose threats in maintaining a good friendship. Second, competition friendship entails that people have to be able to shift between different relational norms—competition or friendship within a single relationship across situations. This demands people to be flexible in relational style and adaptive to situational cues. In this regard, understanding the link between personality difference and relationship dynamics can not only help us understand the human agency, but also enable us to have a richer understanding of different psychological characteristics demanded by a relationship.

Practical Implications

We see our results, particularly those on overall performance as a leader, as supporting Zelizer’s (2005) advocacy of negotiated integration as the preferred way to deal with the juxtaposition of affective and instrumental concerns in the same multiplex relations. We advise networkers to recognize the competitive potential in even their closest relationships, and to manage those relationships in a way that responds to the competitive potential, without cutting off the benefits of friendship.

There are logical reasons why seeing competitor friends helps ego, for example, allowing for the possibility of collusion, or the strategic management of information exchange. At the same time, our methodology does not rule out the possibility that some omitted factor explains both the recognition of the grand duality, and performance as a leader. For example, it may be

that more intelligent managers, or those more sophisticated in their understanding of social structure, see the grand duality and perform better at work, but those two factors are not causally linked. Our finding that friend competitors provide more career and task information indicates that recognizing the grand duality does have real implications for performance, but we encourage more fine grained research to identify the exact sources of the performance advantages we identified.

Our advice to managers is also incomplete because we examine only the necessary first stage of negotiated integration, the recognition of competition and friendship in the same relationships. We believe, and our qualitative data indicates, that there are many ways to manage the grand duality once it has been recognized. It is worth knowing, for example, who colludes with their friend competitors, and who tries to outmaneuver them, and which approach results in better results.

And while we find the performance implications of recognizing the grand duality to be exciting, we must also note at least one potential down side. Although managers in our sample do not show increased networking stress or lower job satisfaction when they perceive competition among friends, this perception is associated with more turnovers in the network. This finding suggests several possibilities, some of which seem positive and some negative for ego. First, it may be that managers who perceive more competitor friends in their network tend to proactively manage their network relationships; they are more willing to break away from the old contacts and seek new contacts as they seek success in new tasks or professional environments. Second, the managers who recognize the grand duality may be more sensitive to the relational conflicts. Even before the competition at work becomes intensified, they choose to break away from the relationship. Third, they may experience more conflict with their friends

through their efforts at negotiated integration, and lose relationships that way. To sort out these possibilities, it would be very useful to know exactly what relationships turn over. Our data does not allow us to determine whether competitor friend relationships are less stable, or if people who recognize those relationships have more turnover among other relationships.

Given the intriguing arguments in favor of the separate-worlds strategy for managing the grand duality, and the fact that it seems to be the natural inclination of many people, we are very open to the idea that negotiated integration may come with costs, either through relational instability, or in outcomes not measured in our analysis. Still, the evidence we have uncovered indicates that people are generally better off by engaging in a negotiated integration to manage competitor friendships in their professional networks.

Limitations

This study examined only egocentric networks. Several limitations stem from this method. First, we were not able to consider structural characteristics of the networks beyond one node from the survey respondent. The structural measures were also heavily reliant on the respondents' perceptions of ties among people in their networks (Krackhardt 1990). People may overestimate the embeddedness of their competitors in the friendship network. Second, we are not able to validate the existence of the reported relationships between alters; however, previous research suggests that people are able to accurately report typical social relationships (Hansen 1999; Marsden 1990). Further, our theory focuses on the perception of competition friendship. It is the subjective experience of the competitor friendship that is central in our prediction; therefore, we consider it is less a threat to our hypothesis testing. Third, another limitation of current study is the causality. It is of course possible that people who have better job performance are more likely to perceive more competitors in their friendship network,. Although

we argue theoretically that embracing a negotiated integration would lead to better performance, future studies should use longitudinal design and provide a more stringent test to the causal direction.

Conclusion

We became fascinated by the grand duality because we so often saw smart people perform mental gymnastics when confronted with the fact that their friends may also be competitors. Networkers pursue either a separate-worlds logic or negotiated integration when faced with this multiplexity. Our evidence suggests that the latter approach, which begins by recognizing that friends may also be competitors, is more likely for high self-monitors and less likely for prevention-focused people. Negotiated integration is also associated with better information access through the network and ultimately, with better performance on the job. Although negotiated integration is associated with network turnover, our evidence overall suggests that it is favored overall compared to separate worlds. The bottom line for us is that competition may coexist with friendship and that networkers who realize this are at the least better competitors, and possibly even better friends.

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Table 1
Mean Summary of the Characteristics of
Non-competitor Friendship Ties and Competitor Friendship Ties

	Non-Competitor	Competitor
Percentage of the same gender	0.72(0.45)	0.74(0.44)
Percentage of the same race	0.74(0.44)	0.71(0.45)
Relational closeness ^a	2.33(0.70)	2.29(0.71)
Structural equivalence	5.77(4.90)	7.24(5.09)
Percentage in the same unit ^a	0.14(0.35)	0.29(0.46)
Percentage in the same organization, but outside the unit ^a	0.19(0.47)	0.23(0.50)
Percentage outside the organization ^a	0.67(0.47)	0.48(0.50)
Percentage of higher rank ^a	0.46(0.50)	0.25(0.43)
Percentage of same rank ^a	0.38(0.49)	0.60(0.49)
Percentage of lower rank ^a	0.16(0.37)	0.60(0.49)
Percentage of giving work task information ^a	0.65(0.48)	0.69(0.46)
Percentage of giving career information ^a	0.60(0.49)	0.73(0.44)

a. The labelled dimensions were significant across the competitor and non-competitor ties.

‡ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 2: Descriptive Data Summary of Ego Level Variables

	mean	SE	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Female	0.28	0.45														
2. Non-White	0.36	0.48	-.11†													
3. Age	37.94	5.36	-.12*	-0.02												
4. Finance Industry	0.36	0.48	-0.04	0.03	-.20**											
5. Self-monitoring	9.90	2.95	0.05	-0.01	-0.06	-.12*										
6. Promotion	4.09	0.54	0.17**	-0.09	-.17**	0.00	.19***									
7. Prevention	3.62	0.87	0.13*	0.02	0.04	-0.05	-.13*	0.02								
8. Rater Familiarity	3.05	0.35	-0.11†	0.05	-0.09	0.00	0.02	0.02	-0.06							
9. Percentage of Competitor Friends at work	0.19	0.26	0.01	0.00	-0.11	0.02	.17**	0.06	-0.08	0.01						
10. Job Performance	5.70	0.44	0.11†	-0.09	-0.09	0.01	0.00	-0.02	-0.01	.20***	.17**					
11. Networking Stress	2.85	1.92	0.03	0.04	-0.10	0.04	0.02	-.14*	0.00	-0.06	0.03	0.05				
12. Network Change	5.74	8.40	0.04	-0.06	0.08	-0.02	0.03	0.06	0.06	-0.05	0.12*	0.00	0.00			
13. Job Satisfaction	4.53	0.98	0.21***	-0.02	-0.03	0.01	0.00	.35***	.11†	0.02	0.09	0.07	0.04	0.18**		
14. Network Size	14.19	5.16	0.05	0.02	-0.21	-0.01	0.03	0.19	-0.02	0.05	0.17	0.09	0.00	0.07	0.08	
15. Network Density	0.32	0.18	0.11	-0.08	0.16	-0.03	0.00	0.01	0.05	0.07	0.05	0.07	-0.06	0.03	0.16	-0.17

† $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 3: Model 1
HLM Logistic Analysis in Predicting Competitor
Friendship Ties

	Fixed Effect	B(Std. Error)
Ego Level	Intercepts	0.75(0.4)
	Female	0.35(0.18)*
	Finance	0.10(0.17)
	Network size	0.05(0.02)*
	Non-white	0.001(0.17)
	Self-monitoring	0.05(0.03)*
	Promotion	-0.22(0.15)
	Prevention	-0.22(0.10)*
	Age	0.01(0.02)
	Network density	-0.36(0.53)
Ego-Alter		
Dyad	Tie strength	-0.18(0.07)*
	Same gender	0.36(0.1)***
	Same race	-0.02(0.17)
	Alter age	-0.085(0.001)**
	Years Known	-0.04(0.02)
	Same work unit	0.68(0.16)***
	Same organization	0.72(0.15)***
	High rank alter	0.46(0.19)***
	Same rank alter	1.48(0.14)***
	Structural equivalence	0.03(0.02)*
Chi-square	1111.88	
P value	.001	

a. Coefficients are unstandardized. Standard errors are reported in parentheses.

‡ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 4
Logistic HLM Models:
Competitor Friendship Ties as Sources of Information

		Model 2	Model 3
		Task Information	Career Information
Ego Level	Intercepts	-2.15(0.31)	-2.65(0.31)
	Female	0.18(0.22)	0.04(0.2)
	Non-white	-0.13(0.19)	-0.16(0.16)
	Finance	-0.01(0.2)	-0.01(0.2)
	Network size	0.001(0.02)	-0.01 (0.02)
	Network density	-1.38(0.61)*	-1.17(0.5)*
	Self-monitoring	-0.06(0.03)‡	-0.05(0.03) ‡
	Promotion	-0.13(0.19)	0.2(0.16)
	Prevention	-0.21(0.1)*	-0.02(0.09)
Ego-Alter			
Dyad	Tie strength	0.51(0.07)***	0.62(0.07)
	Same gender	-0.17(0.09)‡	-0.09(0.95)
	Same race	0.02(0.10)	0.035(0.11)
	Alter age	0.008(0.01)	0.02(0.001)*
	Years Known	-0.02(0.01)*	-0.02(0.01)*
	Same work unit	0.69(0.15)***	-0.59(0.14)***
	Same organization	0.81(0.13)***	-0.04(0.14)
	High rank alter	0.7(0.15)***	2.15(0.15)***
	Same rank alter	0.39(0.12)**	0.98(0.12)****
	Structural equivalence	0.08(0.01)***	0.03(0.01) ‡
	Competitor	0.55(0.11)***	0.61(0.12)***
	Chi-square	1520.67	1280.58
p value	0.001	0.001	

a. Coefficients are unstandardized. Standard errors are reported in parentheses.

‡ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 5
OLS Regressions Predicting the Effect of Competitor Friendship Ties

	Model 4	Model 5	Model 6	Model 7
DV:	Performance	Networking Stress	Job Satisfaction	Network Change
(Constant)	5.22(0.40)	7.724(1.81)	1.01(0.86)	-5.88(7.93)
Female	0.12(0.05)*	0.213(0.26)	0.32(0.12)*	0.44(1.15)*
Non-white	-0.09(0.05) ‡	0.103(0.23)	0.07(0.11)	-0.85(1.03)
Age	-0.004(0.01)	-0.042(0.02)*	0.10(0.01)	0.17(.01) ‡
Finance	0.001(0.05)	0.077(0.24)	0.05(0.11)	0.24(1.05)
Network size	0.01(0.01)	0.001(0.02)	0.01(0.01)	0.11(0.10)
Network density	0.10 (0.14)	-0.39 (0.64)	0.71 (0.30)*	0.45 (2.81)
Self-monitoring	-0.01(0.01)	0.03(0.04)	-0.02 (0.02)	0.05 (0.17)
Promotion	-0.06 (0.05)	-0.61 (0.22)**	0.60 (0.10)**	0.71 (0.96)
Prevention	-0.001(0.03)	0.01(0.13)	0.08(0.06)	0.63(0.58)
Rater familiarity	0.26(0.07)**	-0.36 (0.32)	0.06(0.15)	-0.96(1.43)
Percentage of competitor friends at work	0.27(0.1)**	0.12 (0.45)	0.31(0.21)	3.94(1.97)*
R-square	.103	0.05	0.18	0.04
F	2.98***	1.28	5.76***	1.05

a. Coefficients are unstandardized. Standard errors are reported in parentheses.

‡ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Appendix: Performance Scales Rated by Colleagues at Work

- ❖ when making a decision, s/he seeks information from a diverse array of resources
- ❖ s/he misjudges people's personality and character (reverse coded)
- ❖ s/he fails to realize the impact of what s/he says and does on others (reverse coded)
- ❖ s/he is to empathize and understand someone else's perspective
- ❖ s/he find ways to make his/her work and others work more enjoyable
- ❖ s/he is able to build effective working relationships with others who have different opinions or interest
- ❖ s/he is good at generating innovative solutions to resolve conflicts