Similarity in Gender and Self-Esteem for Supportive Peer Relationships:  
The Mediating Role of Cooperative Goals 

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Abstract

We investigated whether cooperative goals mediated the relationship between the similarity in gender and self-esteem, on the one hand, and social support and relationship quality in ongoing peer dyads. Based on data collected from 209 student dyads, our findings largely support the mediating role of cooperative goals. However, we found that gender similarity was positively while self-esteem similarity was negatively related to the cooperation and the relationship quality of the peer dyad members.
Recognizing the importance of understanding diversity, researchers have extensively developed knowledge on the effects of demographic and behavioral similarity on teams and subordinate-supervisor dyads (Ashkanasy & O’Connor, 1997; Bauer & Green, 1996; Engle & Lord, 1997; Graen & Cashman, 1975; Huang, Van Der Vegt, & Iun, 2004; Huang, Wright, & Chiu, 2004; Liden, Wayne, & Stilwell, 1993; Pelled & Xin, 1997; Philips & Bedeian, 1994; Pulakos, Oppler, White, & Borman, 1989; Reskin, McBrier, & Kmec, 1999; Riordan, 2000; Steiner & Dobbins, 1989G; Tsui & Gutek, 1999; Tsui & O’Reilly, 1989; Tsui, Xin, & Egan, 1995). Research is needed though to increase our theoretical understanding of the dynamics by which diversity and similarity affect interaction and relationships, especially as they occur in the ongoing development of relationships between peers (Flynn, 2003). This study uses the recent distinction between surface-level and deep-level similarities (Harrison, Price, & Bell, 1998) and the theory of cooperation and competition (Deutsch, 1973) to identify important dynamics by which similarity affects the development of relationships in peer dyads.

Researchers have recently emphasized the value of peer relationships in providing employees instrumental and emotional support and alternative sources of mentoring (Kram & Isabella, 1985). Peer relationships can also provide intrinsic reward for employees, buffer job-related stress, and reduce job dissatisfaction and turnover. Rawlins (1992) has proposed that peers with good relationships help each other solve such problems as “finding opportunities for promotions, conveying warnings about policy changes and `rumblings upstairs!’" (pp. 165-166). They also make each other’s work more enjoyable and more creative (Yager, 1997). From the organization's perspective, developing strong relationships between peers can enhance employee commitment to the organization, increase morale, and reduce turnover (Kram & Isabella,
This study examines how similarity can affect the development of peer relationships. It contributes to the literature by linking the theory of cooperation and competition with diversity research, by identifying the mediating effect of cooperative goals, and by exploring the extent to which the proposed model (see Figure 1) can be applied in the Chinese context. The study also strengthens the cooperation and competition literature by identifying antecedents to goal interdependence.

Theory of Cooperation and Competition

This study proposes that the theory of cooperation and competition can help to understand the relationship between similarity and the interaction dynamics between peers. This section reviews the theory of cooperation and competition and research on the effects of cooperative goals on effective interaction and relationships.

Deutsch (1949, 1973) theorized that individuals are pursuing their goals self-interestedly, but how they believe their goals related greatly affects the dynamics and consequences of their relationship. The basic premise of the theory of cooperation and competition is that the way goals are structured determines how individuals interact, and their interaction determines the outcome (Deutsch, 1949, 1973; Johnson and Johnson, 1989). He defined the alternatives as cooperation, competition and independence.

According to the theory of cooperation and competition (Deutsch, 1949, 1973; Johnson & Johnson, 1989; Tjosvold, 1986), when people regard their goals as positively related, they believe that the success of one helps others succeed, and that people are more willing to help each other perform effectively so that all can achieve their goals. In competition, goals are
considered negatively related. Believing that others’ goal attainment interferes with their success, people are tempted to obstruct or even mislead others because they want to win. They pursue their interests at the expense of others’ (Deusch, 1973).

People with cooperative goals tend to provide support and assistance to each other, they develop trusting and friendly attitudes (Deutsch, 1973). Studies also show that people with cooperative goals discuss their opposing ideas and positions directly, examine each other’s perspectives, and work for mutual benefits. With open-mindedness, they will try to understand each other and integrate their ideas for high-quality decisions (Alper et al., 1998; Johnson & Johnson, 1989). Recent studies suggest that, in the Chinese context, cooperative goals can help to develop strong relationships, commitment, and innovation (Chen, Tjosvold, & Su, 2003; Chen, Tjosvold & Su, 2003). Overall, cooperative goals between peers can help employee performance and satisfaction, serving important purposes for both organizations and individuals (Alper, Tjosvold, & Law, 1998; Chen, Tjosvold, & Su, 2003; Johnson & Johnson, 1989; Su, Chen & Tjosvold, 2003; Tjosvold, 1985, 1989; Tjosvold, Hui, & Law, 1998).

Based on the literature just reviewed, we hypothesize that:

\( H1a: \) Cooperative goals facilitate high quality relationships.

\( H1b: \) Cooperative goals facilitate perceived peer support.

**Similarity-Attraction Paradigm**

The increasing diversity of individuals in organizations requires a clear understanding of how peer dyads with different backgrounds, values, and personalities interact with each other. One important area of diversity research is relational demography. The similarity-attraction paradigm forms the major theoretical tenet of the relational demography research (Tsui et al.,
1995). This paradigm states that upon noticing their differences in demographic characteristics, people tend to assume that they have dissimilar attitudes, beliefs, and values (Berscheid & Walster, 1969; Byrne, 1971). As a result, they are unlikely to be attracted to each other (Rosenbaum, 1986; Werner & Parmelee, 1979), communicate frequently (Lincoln & Miller, 1979; Zenger & Lawrence, 1989), or engage in positive interactions at work (e.g., Reskin et al., 1999; Riordan, 2000; Tsui & Gutek, 1999; Tsui & O’Reilly, 1989; Tsui et al., 1995).

The similarity-attraction paradigm has received empirical support mainly from studies on the vertical dyads. Tsui, Porter, and Egan (2002) reported a positive effect of subordinate-supervisor similarity in gender on the extra-role behaviors of subordinates rated by supervisors. Moreover, subordinate-supervisor’s similarity in gender has been shown to be positively related to constructive leader-member relations, job satisfaction, organizational commitment, satisfaction with supervisor, and attendance rate (Green, Anderson, & Shivers, 1996; Pelled & Xin, 1997). In their comprehensive study of relational demography, Tsui and O’Reilly (1989) found gender similarity to be the best predictor of performance. Gender similarity has also been found to be related to trust building and ultimately to the quality of leader-member exchange (Dienesch & Liden, 1986; Mayer & Davis, 1995).

Flynn (2003) pointed out that in its emphasis on subordinate-supervisor exchange researchers have largely neglected the importance of understanding the relationships among ongoing peer employees. To address this gap, we investigate similarity effects on the ongoing relationship between peer dyads and, based on the similarity-attraction paradigm, predict positive effects of gender similarity on the interaction between peers.

**H2a:** Demographic similarity of gender between members of peer dyads facilitates high
quality relationship.

H2b: Demographic similarity of gender between members of peer dyads facilitates perceived peer support.

Although, the similarity-attraction theory suggests that people tend to engage in more positive social interactions with those who are similar to them (Berscheid & Walster, 1969; Byrne, 1971), virtually no previous studies have found that perceived similarity has a mediating effect on the link between actual similarity and various work outcomes ((Dose, 1999; Ensher & Murphy, 1997; Liden et al., 1993; Pulakos & Wexley, 1983; Turban & Jones, 1988). Actual similarity refers to the actual difference in, for example, gender, age, race, personality, and values. Perceived similarity is the extent to which the dyad members perceive that they are similar to the others (Turban & Jones, 1988). A possible explanation is that most of these prior studies only examined the global measure of perceived similarity with items like “My supervisor / subordinate and I see things in much the same way”; “My supervisor / subordinate and I analyzed problems in a similar way”; and “My supervisor / subordinate and I are alike in a number of areas,” Ensher and Murphy’s (1997). Our contention is that research should examine a more specific mediator and that perceived cooperative goals are a viable alternative to the global measure of perceived similarity.

This study therefore contributes to the demography literature by proposing that perceived cooperative goals mediate between gender similarity and attraction. Indeed, Meglino and Ravlin (1998) argued that “Similarity produces a social system that facilitates the interactions necessary for individuals to achieve their common goals”. A few experiments have supported Deutsch’s
(1973) reasoning that actual similarity leads to a feeling of shared values and community, which in turn promote cooperative goals. Krauss (1966) found that people with similar attitudinal orientations believe that they have cooperative goal interdependence. Johnson and Johnson (1972) showed that similar attitudes, especially in initial interactions where people did not have other cues, could induce the expectation of cooperative interaction that in turn resulted in attraction.

Although some studies suggest that similarity overall induces cooperative goals (Krauss, 1966; Johnson and Johnson 1972), there is no study conducted on the impact of gender similarity on goal interdependence between ongoing peer dyads. Applying the rationale of similarity-attraction paradigm, we expect that gender similarity between ongoing peer dyads is a potential predictor of cooperative goals, which mediate the link between gender similarity, on the one hand, and quality peer dyad relationships and social support, on the other (see Figure 1).

**H2c:** Demographic similarity of gender between members of peer dyads facilitates cooperative goals.

**H3a:** Cooperative goals of peer dyads mediate the relationship between gender similarity and peer dyad relationship.

**H3b:** Cooperative goals of peer dyads mediate the relationship between gender similarity and perceive peer support.

**Surface-Level vs. Deep-level Similarity**

Harrison, Price and Bell (1998) have made the distinction between surface-level and deep-level similarity. Similarity at a surface level occurs as overt, biological characteristics, such as physical features. Deep-level similarity refers to similar attitudes, personality, beliefs, knowledge and values (Harrison et al., 1998; Jackson et al., 1995; Milliken and Martins, 1996).
Deep-level characteristics are more mutable and difficult to detect than surface-level characteristics (Jackson et al., 1995). Some scholars have argued that “deep-level” similarity such as personality might play an important role in the interaction between peers (Antonioni & Park, 2001; Ferris & Judge, 1991) and dyadic outcomes (e.g., Meglino, Ravlin, and Adkins, 1989). Although not readily observable, deep-level similarity is thought to have more lasting influences on processes and social integration of individuals over time than surface-level (Harrison, et al., 1998).

Many theorists have recognized the important role that personality similarity plays in organizational behaviour. For example, Schneider (1987) emphasizes the role played by personality similarity in determining organizational behaviour. Other research has demonstrated that personality similarity is associated with quality leader-member relationship and positive organizational behaviour (Antonioni, 1998; Bauer & Green, 1996; Day & Bedeian; Antonioni & Park, 2001).

People (typically in vertical dyads) who have similar personality tend to develop favourable attitudes towards each other and develop high quality relationships. For example, Schaubroeck and Lam (2002) reported that similarities of personality in the four dimensions of extraversion, sensing, thinking, and judging are positively related to relationship quality and to the promotion opportunities of subordinates. Bauer and Green (1996) argued that personality similarity played an important role in trust building between leaders and members because people trust similar others more. Deluga (1998) found that personality similarity between leaders and members is positively related to supervisor-rated performance. Strauss, Barrick, and Connerley (2001) also found a weak but significant positive effect of subordinate-supervisor conscientiousness
personality similarity on supervisor-rated performance.

However, Bregman and McAllister (1982) suggested that such an argument that personality similarity leads to positive relationship and interaction cannot be made when the similarity concerns self-esteem. Their study revealed that self-esteem similarity did not predict interaction outcomes as well as other personality similarity. The results of their study indicated that both high and low-self esteem participants liked the high self-esteem persons most. Further study is needed to test the effect of self-esteem similarity. Moreover, as explained in the following section, self-esteem is an important personality trait which determines how people perceive themselves, others, and the relationships between themselves and others. Therefore, in this study, we examine the effect of self-esteem similarity on ongoing peer relationships.

**Self-esteem**

Researchers have suggested that self-esteem, defined as a positive attitude towards the self, serves to guide individuals in social interactions. Leary, Tambor, Terdal, and Downs (1995) found that people with high self-esteem are more capable, competent, and aware of the cues of others, which enables them to be more responsive to others (Burns, 1982; Walster and Walster, 1978). On the other hand, those individuals with low self-esteem tend to have anxiety, depression, unhappiness, and other emotional problems (Block and Thomas, 1955; Coopersmith, 1967; Fitts, 1972; Rosenberg, 1965). Studies have also supported the proposition that self-esteem is associated with the extent to which people set goals for themselves and others, as well as with their subsequent performances (Bandura, 1986; Tesser & Campbell, 1982).

Self-esteem has been found to affect relationship quality. Low self-esteem persons are not only more suspicious, but also more passive in managing their relationships (Pierce, et al, 1993).
People with high self-esteem have more cooperative features and are more popular among the peers (Deutsch and Coleman, 2000), while those with low self-esteem experience more reduced expectations for cooperation and have more negative relationships (Dweck, 1996).

Many scholars have argued that personality similarity may increase the communication between coworkers and help them interpret behaviours and events similarly (Engle & Lord, 1997; Meglino, Ravlin & Adkins, 1991), thus leading to better interpersonal relationships and job performance (Antonioni and Park, 2001). However, there are only a few studies devoted to investigating the effect of self-esteem similarity and the results are mixed. A study by Abloff and Hewitt (1985) revealed that people showed a preference for those with the same level self-esteem, but were not attracted to those with higher or lower self-esteem. This result is quite different from a former study (Bregman and McAllister, 1982), which demonstrated that both high and low self-esteem participants liked the high self-esteem persons most. Therefore, in the current study, we explored whether the following hypotheses which are based on the similarity-attraction theory would be supported.

**H4a:** Similarity in self-esteem between members of peer dyads facilitates high quality relationships.

**H4b:** Similarity in self-esteem between members of peer dyads facilitates perceived peer support.

In addition, no research has investigated the effect of self-esteem similarity on cooperative goals directly. Self-esteem similarity may be a cognitive antecedent for cooperation in that
people with similar levels of self-esteem develop cooperative goals. People with similar self-esteem might perceive events and behave in similar ways and be attracted to each other (van Vianen, De Pater, Kristof-Brown, & Johnson, 2004), and develop interdependent and cooperative goals. The cooperation between peer members will then lead to high levels of peer support and quality relationships. Specifically, we hypothesize that:

\[ H4c: \] Similarity in self-esteem between members of peer dyads facilitates perceived cooperative goals.

\[ H4d: \] Perceived cooperative goals of peer dyads mediate the relationship between self-esteem similarity and peer dyad relationship.

\[ H4e: \] Perceived cooperative goals of peer dyads mediate the relationship between self-esteem similarity and perceive peer support.

Overall, the hypotheses explore the mediating role of cooperative goals on similarity effects. We expect that the cooperative goals between ongoing peer dyads mediate the relationship between peer dyad (surface and deep level) similarity and their quality relationship and social support.

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Method

*Sample and Procedures*

Data were collected from 416 undergraduate students studying management and tourism in
two universities in Mainland China. Our research aims to find whether gender similarity and personality similarity are significantly related to cooperative goals, which mediate the relationship between gender/personality similarity and ongoing peer dyad relationship (in our case the students studying in the same class). Hence, we only selected students who have studied in the same class more than three months. We visited ten classes. On average, each class had around forty students. We grouped the students studying in the same class and randomly paired the students. In doing so, we could randomly sample a number of student pairs in each class ranging from with high quality relationship to low quality relationship, and that the relationship tenure within each pair is random. The questions in the first part of the questionnaire were about the individual students’ demographic characteristics (e.g., gender and family background) and personality (self-esteem). The questions in the second part of the questionnaire were about perceived cooperative goals with the other peer student in the dyad, his/her perceived relationship, and the assessment of social support. Each questionnaire was given a code number so that the researchers could match the responses of the members of dyads. To reduce their potential worries about mutual-evaluation, participants were told that their responses would be held totally confidential and would be used for research only. Since the surveys were conducted during the class and the students were so enthusiastic about the experiences being involved in a scientific research, the response rate was 100%.

Measurements

Dependent Variables

Perceived peer support. Perceive peer support was measured using Cassidy’s (1994) social
support scale, which contains seven 5-point (1 = strongly disagree; 5 = strongly agree) items. Considering the respondents were all students, we modified the wordings to match the students’ real situation. A sample item is: “He\She can give me practical support when I have a problem.” The coefficient alphas for this scale was .90

*Peer dyad relationship.* A six-item five-point scale adopted from Graen and Uhl-Bien (1995) work on LMX relationship (1 = strongly disagree; 5 = strongly agree). We also modified it to match the students’ situation. A sample item is: “How well does your peer dyad understand your problems and needs?” The coefficient alpha for relationship was .88.

*Mediator Variable*

*Cooperative goals.* Scale for cooperative goal interdependence was developed from previous questionnaire studies conducted in Mainland China and North America (Tjosvold & Tjosvold, 1995; Tjosvold, Andrews, Struthers, 1990; Tjosvold et al., in press). The five items for cooperative goals measure whether they have compatible common goals. A sample item for the cooperative goal scale is “My peer and I share common goals”. The coefficient alpha for this scale was .86

*Independent Variables: Demographic Similarity*

*Gender similarity.* The information on gender was obtained from the personal information provided by participants.

*Independent Variables: Personality Similarity*

*Self-esteem.* This variable was measured using the 10-item scale developed by Rosenberg (1965). Participants were required to rate on 4-point scales (from 1=strongly disagree to 4=strongly agree). A sample item is “I take a positive attitude toward myself”. The coefficient alpha for self-esteem scale was .77.
**Questionnaire Translation**

A questionnaire originally written in English was translated into Chinese and back into English to ensure conceptual consistency. Following the procedures suggested by Brislin (1970) and Chapman and Carter (1979), the original questionnaire was translated into Chinese by one researcher and was translated back into English by another independent researcher. The translator and back-translator then met with a third bilingual researcher to examine the differences found in the back-translation. After considering alternative suggestions, some necessary modifications were made.

**Analysis**

We conducted hierarchical regression analyses to test the hypotheses by examining the effects of the interaction terms on the dependent variables, peer dyad relationship, and social support. A conventional way of studying the impact of similarity between people is to use difference scores, such as the difference scores or squared difference scores of age, tenure, years of education, and so forth. Edwards and his associates (1994, 1995; Edwards & Parry, 1993) have demonstrated that difference scores create serious mathematical problems that render results ambiguous and potentially misleading. To avoid this problem, following the procedure used by Sacco, Scheu, Ryan, and Schmitt (2003), we used product terms of the demographic characteristics and personality traits of dyad members (e.g., A’s self-esteem x employee B’s self-esteem).

To test the mediating effect of cooperative goal, we followed the suggestion of Baron and Kenny (1986): First, the independent variable (the interaction term of pair’s gender and the interaction term of pair’s self-esteem) must affect the mediator; second, the independent variable (the interaction term of pair’s gender and the interaction term of pair’s self-esteem) must be
shown to affect the dependent variable, and third, the mediator must affect the dependent variable (the independent variable must be included in this equation). Once these conditions are satisfied, it must be shown that, in the third equation, the effect of the independent variable (the interaction term of pair’s gender and the interaction term of pair’s self-esteem) on the dependent variable is less than it was in the second equation. In Equation 3, if the mediator significantly impacts the dependent variable, and the relationship between the independent and dependent variable is no longer significant when the mediator is included, a mediating model exists. Alternatively, it is possible for both the mediator and the independent variable to significantly impact the dependent variable. When the mediator is significant and the independent variable is also significant, but explains less variance in Equation 3 than in Equation 2, a partially mediated model exists.

Result

Table 1 shows an overview of means, standard deviations, and correlations of the variables on the individual level.

| Insert Table 1 about here |

The results of the regression analyses are presented in Table 2. Hypothesis 1 predicted that the cooperative goal between peer dyads leads to quality peer dyad relationship and social support between them. The results (See Table 2) showed that cooperative goals were positively and significantly related to peer dyad relationship ($\beta = .60, p<.001; R^2 = .356, p<.001$), and social support ($\beta = .33, p< .01; R^2 = .108, p< .001$). Therefore, hypothesis 1 was support.

Hypothesis 2 was that demographic similarity of gender between peer dyads is positively
related to cooperative goal, quality relationship, and social support. Results (See Table 2) supported it in that demographic similarity of gender between peer dyads is positively related to cooperative goals, peer relationship and social support. The significant two-way interaction indicated that the gender similarity positively and significantly impact the cooperative goals between peers dyads ($\beta = .39, p<.01$; $R^2 = .039, p<.01$), peer dyad relationship $\beta = .51, p<.001$; $R^2 = .065, p<.001$), and social support($\beta = .37, p<.01$; $R^2 = .034, p<.01$).

To determine whether the forms of the interactions matched those raised in Hypothesis 1, we should statistically confirm the visual observation that the two regression lines varied significantly in their slopes. Therefore, we tested the simple slopes of female and male. The results of the simple slope tests are shown on the plots in Figures. We found, for example, if student B is a female, the gender similarity of peer students was more positively related to their perceived cooperative goals (simple slope test: $b = -.38, p < .01$) than male (simple slope test: $b = - .04, p= n.s.$). Similar results were obtained in all of the plots shown in Figures attached at the end of the paper.

Hierarchical regression analysis was conducted to test the mediating effect of cooperative goal. Following the method introduced in the last part, we regressed the mediator (cooperative goal) on the interaction term of gender. The interaction term of gender was found to be positively and significantly related to cooperative goal ($\beta = .39, p<.01$) (See Table 3, Model 1), meeting the first requirement of mediation. In Model 2, results satisfied the second requirement of mediation in that, the interaction term of gender was positively and significantly related to peer
dyad relationship ($\beta=.51$, $p<.001$). In Model 3, we examined whether complete or partial mediation existed. When we used cooperative goal as mediator, the interaction term of gender was still significantly related to peer dyad relationship ($\beta=.28$, $p<.05$) but explained less variance, which suggested cooperative goal partially mediated the relationship between gender similarity and peer dyad relationship. Therefore, hypothesis 3a was partially supported.

The similar results turned out when we tested hypothesis 3b. In Model 1 (See table 4), the interaction term of gender between the peer dyads positively and significantly impacted cooperative goal ($\beta=.39$, $p<.01$), meeting the first requirement of mediation. In Model 2, results satisfied the second requirement of mediation in that, the interaction term of gender between the peer dyads was also positively and significantly related to social support ($\beta=.37$, $p<.01$). Then in Model 3, when we used cooperative goal as mediator, the interaction term of gender did not significantly impact social support between dyads ($\beta=.24$, $p=ns$), which suggested cooperative goal fully mediated the relationship between gender similarity and social support between dyads. Therefore, hypothesis 3b was fully supported.

In contrary to our expectation, hypothesis 4, which predicted that personality similarity of self-esteem between peer dyads is positively related to cooperative goals, relationship and social support between peer dyads, was rejected (See Table 2). The significant two-way interaction indicated that self-esteem similarity was negatively and significantly related to the cooperative goals ($\beta=-.19$, $p<.01$; $R^2=.033$, $p<.01$), peer dyad relationship ($\beta=-.17$, $p<.05$; $R^2=.027$, $p<.01$).
p<.05). Plots of these interactive effects are shown in Figure 5, 6. There was no significant relation between self-esteem similarity and social support ($\beta = -0.08, p=ns; R^2 = 0.007, p=ns$).

Insert Figure 5 and 6 about here

Hypothesis 5a stated that cooperative goal between peer dyads mediates the relationship between self-esteem similarity and peer dyad relationship. Hierarchical regression analysis was conducted to test the mediating effect. In Model 1 (See table 5), results showed that the interaction term of self-esteem between the peer dyads negatively and significantly impacted cooperative goals ($\beta = -0.19, p<0.01$). In Model 2, the interaction term of self-esteem between the peer dyads was negatively and significantly related to peer dyad relationship ($\beta=-.17, p<.05$). Then, in Model 3, we used cooperative goal as mediator, the interaction term of self-esteem did not significantly impact peer dyad relationship ($\beta = -0.06, p=ns$), which suggested that cooperative goal fully mediated the relationship between self-esteem similarity and peer dyad relationship. Therefore, hypothesis 5a was fully supported.

Insert Table 5 about here

As shown in Table 6, the two-way interaction of peer dyad self-esteem was not statistically and significantly related to social support, therefore, hypothesis 5b was rejected.

Insert Table 6 about here

Discussion

Results of this study generally support the hypotheses that cooperative goals mediate the effects of similarity on relationships. Although the two regression lines in some interactions are
not varied significantly in their slopes, we can still see the tendency of their interaction. Both gender similarity and personality similarity were significantly related to cooperative goals, which mediated the relationship between gender and personality similarity and ongoing peer dyad relationship. However, results also suggest that the effects of similarity depend upon whether it is surface or deep-level. The surface similarity of gender was found to be associated with cooperative goals and relationship quality and social support whereas deep-level dissimilarity of self-esteem predicted cooperative goals and relationship quality.

Findings extend previous findings on the value of gender similarity to ongoing peer relationships and support the idea that cooperative goals can mediate the relationship between gender similarity and peer relationships. Gender similarity can result in strong, supportive peer relationships because it promotes the belief that the peers have cooperative goals. Gender similarity between peer dyads was found to facilitate cooperative goals, which in turn strengthened their relationship and their willingness to help each other.

Contrary to expectations based on the similarity-attraction paradigm and previous research (Rosenbaum, 1986; Werner & Parmelee, 1979, Reskin et al., 1999; Riordan, 2000; Tsui & Gutek, 1999; Tsui & O’Reilly, 1989; Tsui et al., 1995), self-esteem diversity was found to be related to cooperative goals and peer relationships. Previous research had also suggested that high self-esteem induces cooperative interaction whereas low self-esteem people demonstrate reduced expectation for success, negative feelings and low persistence (Deutsch & Coleman, 2000; Dweck, 1996). However, this study found that peer dyads with different levels of self-esteem tend to develop cooperative goal with each other, while those with self-esteem similarity were not that willing to develop cooperative goals.
It may be that, although high self-esteem generally promotes cooperative goals, self-esteem differences play a more complex role on interaction. Individuals with low self-esteem have been found to prefer working with individuals with high self-esteem (Abloff & Hewitt, 1985). In their study of 221 pairs, Astra and Singg (2000) found that people with high self-esteem tended to affiliate with low self-esteem others, while those with low self-esteem tended to affiliate with those who have higher self-esteem. These studies suggest that people with self-esteem dissimilarity might prefer working together, though they do not directly indicate whether they also develop cooperative goals.

Social comparison theory and self-consistency theory may help to understand how self-esteem dissimilarity may lead to cooperative goals and quality relationships. Social comparison theory suggests that as individuals are more reluctant to admit inadequacy relative to a similar than a dissimilar other, they ask for less help from similar others (Brickman and Bulman, 1977; Festinger, 1954). Self-consistency theory argues that people are attracted to those whose perceptions about them reinforce their own self-perceptions (Jones & Pines, 1968). To pair with a low self-esteem peer, individuals with high self-esteem can maintain their sense of well being, while individuals with low self-esteem can reconfirm their personal feelings that they were somehow inferior to others (Astra and Singg, 2000).

Indeed, the theory of cooperation and competition may also help to understand the value of self-esteem diversity for ongoing peer relationships. Johnson and Johnson (1972) have argued that, although similarity may be a cue that they cooperative goals in initial interaction, what is critical for attraction over time is the demonstration of cooperative goals through the actual facilitation of each other’s goals (Deutsch, 1973). Perhaps in self-esteem dissimilarity, high
self-esteem people contribute a great deal and feel success through contribution whereas persons with low self-esteem appreciate and value the assistance. People sometimes find that they can pursue their goals more effectively working with dissimilar others than similar ones (Nadler, Jazwinski, Lau & Miller, 1980). Complementary, cooperatively related goals may help diverse self-esteem people strengthen their relationships.

Findings of this study cast doubt that self-esteem similarity develops ongoing peer relationship. Future research is needed to document this finding further, extend it to other deep-level similarities, and to investigate the dynamics by which self-esteem dissimilarity affects peer relationships.

We followed the procedures suggested by Baron and Kenny (1986) to test the mediating effect. Although cooperative goal had significant effect on social support, our findings tentatively show that there is not direct effect of self-esteem similarity on social support between members of peer dyads, therefore, we concluded that cooperative goal did not mediate the relationship between self-esteem similarity and social support between members of peer dyads.

Although self-esteem similarity between dyads does not impact the social support directly, it can lead to cooperative goals, which has statistically significant effect on social support between members of peer dyads. This finding tentatively suggests that, the social support between members of peer dyads depends more on the cooperative goals than the self-esteem similarity between them. They are more willing to help each other when they believe they have cooperative goals. Previous experimental study only indicates that self-esteem similarity is negatively related to affiliation (Astra and Singg, 2000). Therefore, what we argue is that the different levels of self-esteem lead to their willingness to affiliate, but the social support exists
between dyads only when they believe they have cooperative goals. What is critical for their social support is whether the dissimilarity induces cooperative goals between the dyads.

In general, empirically linking the theory of cooperation and competition with the similarity-attraction paradigm, the present study suggests that both gender similarity and self-esteem dissimilarity are antecedents of cooperative goal interdependence, which can help to enhance the peer dyad relationship and social support between peer dyads.

Farh and his colleagues (1998) have argued that, although the effects of relational demography are well established in the U.S. context, whether those dynamics are generalizable to different cultural contexts, specifically the Chinese context is not known. Findings of present study extend the dynamics to Chinese context. We found that the similarity-attraction paradigm was supported in Chinese context for the effect of gender similarity on cooperative goal, peer dyad relationship and social support. The results are consistent with the previous research, suggesting that similarity in gender very much affects psychological commitment (Tsui, Egan, and O'Reilly, 1992). Individuals are more likely to form friendship relations with others who are similar to themselves than with those who are different in gender (Sias & Cahill, 1998). In line with these findings, our analyses revealed that gender similarity could be an antecedence of cooperative goal between peer dyads. Gender similarity was also associated with quality relationship and social support between members of peer dyads.

Finally, methodologists have criticized the reliance of relational demography research on difference scores to calculate demographic dissimilarity and argued that this would lead to inflated and misleading results (Sacco et al., 2003; Tsui, Egan and Porter, 2002). Following the procedures suggested by Sacco et al. (2003), we used interaction terms (e.g., subordinate’s age x
supervisor’s age) as a conservative way to test the hypotheses.

Limitation

The present study has two major limitations. The first one is generalizability. Although a large sample was secured and the dyads were also randomly paired, the sample only consists of college students might limit the present findings to be generalizable to broader populations. For future researchers, to test the model with peer dyads in organizations will be an enlightening inquiry. A promising line of research could be to study the reason why dyads with different level of self-esteem would have cooperative goal than those with same level of self-esteem.

Common-method variance is another possible limitation. This is because only paper-and-pencil measures were used to collect study data. However, we did try to lessen common-method concerns. First, subjects in the responded to all questionnaires under the condition of anonymity, which reduces socially desirable responding (Zerbe & Paulhus, 1987). Second, all the items in the questionnaire were randomly ordered to avoid a source of common-method variance (Spector, 1994). Third, both positively and negatively worded items were used to lessen mono-method bias (Greenleaf, 1992). Fourth, a variety of response formats were used to anchor various focal measures, thereby reducing the potential threat of mono-method bias. Fifth, the outcome measures were not self-reported. The cooperative goals between peer students were rated by the student A, while their relationship and perceived social support was rated by student B. Sixth, we used interaction terms but not self-reported ratings as independent variables, which also minimize the effect of common method variances.
In conclusion, our findings support the mediating role of cooperative goals. Both gender similarity and personality similarity are significantly related to cooperative goals, which mediate the relationship between gender/personality similarity and ongoing peer dyad relationship. However, contrary to expectations based on the similarity-attraction paradigm, our study indicates that self-esteem diversity but not similarity was positively related to cooperative goals and peer relationships.
References


Deluga, R. J. (1998). Leader-member exchange quality and effectiveness ratings: The role of


### Table 1

*Standard Deviations, Means, and Correlations*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>S.D.</th>
<th>Gender A</th>
<th>Gender B</th>
<th>Self-esteem A</th>
<th>Self-esteem B</th>
<th>Cooperation</th>
<th>Peer Dyad Relationship</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender B</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-esteem A</td>
<td>4.45</td>
<td>.39</td>
<td>.10</td>
<td>.12</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-esteem B</td>
<td>2.69</td>
<td>.20</td>
<td>.01</td>
<td>.04</td>
<td>.03</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cooperation</td>
<td>3.36</td>
<td>.78</td>
<td>.05</td>
<td>.04</td>
<td>.03</td>
<td>-.13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peer Dyad</td>
<td>2.84</td>
<td>.82</td>
<td>-.01</td>
<td>-.15*</td>
<td>.02</td>
<td>-.08</td>
<td>.60**</td>
<td></td>
</tr>
<tr>
<td>Relationship</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Support</td>
<td>3.25</td>
<td>.85</td>
<td>-.22**</td>
<td>-.15*</td>
<td>.09</td>
<td>-.08</td>
<td>.33**</td>
<td>.48**</td>
</tr>
</tbody>
</table>

*Note. N= 416
* p < .05, ** p < .01; two-tailed*
Table 2
Regression Summary for the Mediating Role of Cooperative Goal on the Link between Participative Leadership Behavior and Organizational Commitment

<table>
<thead>
<tr>
<th>Independent Variable:</th>
<th>Cooperative Goal</th>
<th>Peer Relationship</th>
<th>Social Support Between Peers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Initial β</td>
<td>Final β</td>
<td>ΔR²</td>
</tr>
<tr>
<td>Gender of peer A</td>
<td>.06</td>
<td>-.17</td>
<td>.003</td>
</tr>
<tr>
<td>Gender Similarity</td>
<td>.02</td>
<td>-.17</td>
<td>.000</td>
</tr>
<tr>
<td>Two-way interaction</td>
<td>.39**</td>
<td>.39**</td>
<td>.039**</td>
</tr>
<tr>
<td>Gender of peer B</td>
<td>.03</td>
<td>.06</td>
<td>.001</td>
</tr>
<tr>
<td>Self-esteem of peer A</td>
<td>-.13</td>
<td>-.12</td>
<td>.016</td>
</tr>
<tr>
<td>Self-esteem Similarity</td>
<td>-.19*</td>
<td>-.19*</td>
<td>.033*</td>
</tr>
</tbody>
</table>

Note. N = 416.

* Initial betas are the beta weights of the variables at each step. Final betas are the beta weights of the variables at the last step.

p < .05,  ** p < .01,  *** p < .001
Table 3
*Regression Summary for the Mediating Role of Cooperative Goal on the Interactive Effect of Gender Similarity on Peer Dyad Relationship*

<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cooperative Goal</td>
<td>Peer Relationship</td>
<td>Peer Relationship</td>
</tr>
<tr>
<td>Initial β(^a)</td>
<td>Final β(^a)</td>
<td>ΔR^2 (^2)</td>
<td>Initial β</td>
</tr>
<tr>
<td>Step 1. Gender of peer A</td>
<td>.06</td>
<td>-.17</td>
<td>.003</td>
</tr>
<tr>
<td>Step 2. Gender of peer B</td>
<td>.02</td>
<td>-.17</td>
<td>.000</td>
</tr>
<tr>
<td>Step 3. Two-way interaction Ax B</td>
<td>.39(\star)</td>
<td>.39(\star)</td>
<td>.039(\star)</td>
</tr>
<tr>
<td>Step 4. Mediator Cooperative Goal</td>
<td>.58(\star)</td>
<td>.58(\star)</td>
<td>.325(\star)</td>
</tr>
</tbody>
</table>

*Note.* N = 416.

\(^a\) Initial betas are the beta weights of the variables at each step. Final betas are the beta weights of the variables at the last step.

* \(p < .05\), ** \(p < .01\), *** \(p < .001\)
Table 4

Regression Summary for the Mediating Role of Cooperative Goal on the Interactive Effect of Gender Similarity on Social Support between Peers

<table>
<thead>
<tr>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cooperative Goal</td>
<td>Social Support between Peers</td>
</tr>
<tr>
<td></td>
<td>Initial $\beta$</td>
<td>Final $\beta^a$</td>
</tr>
<tr>
<td>Step 1. Gender of peer A</td>
<td>.06</td>
<td>-.17</td>
</tr>
<tr>
<td>Step 2. Gender of peer B</td>
<td>.02</td>
<td>-.17</td>
</tr>
<tr>
<td>Step 3. Two-way interaction</td>
<td>Ax B</td>
<td>.39**</td>
</tr>
<tr>
<td>Step 4. Mediator</td>
<td>Cooperative Goal</td>
<td>.33***</td>
</tr>
</tbody>
</table>

Note. $N = 416$.

*a Initial betas are the beta weights of the variables at each step. Final betas are the beta weights of the variables at the last step.

* $p < .05$, ** $p < .01$, *** $p < .001$
Table 5
Regression Summary for the Mediating Role of Cooperative Goal on the Interactive Effect of Self-esteem Similarity on Peer Dyad Relationship

<table>
<thead>
<tr>
<th>Step</th>
<th>Effect</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cooperative Goal</td>
<td>Peer Relationship</td>
<td>Peer Relationship</td>
<td>Peer Relationship</td>
</tr>
<tr>
<td></td>
<td>Initial β</td>
<td>Final β</td>
<td>ΔR²</td>
<td>Initial β</td>
</tr>
<tr>
<td>1. Self-esteem of peer A</td>
<td>.03</td>
<td>.06</td>
<td>.001</td>
<td>.02</td>
</tr>
<tr>
<td>2. Self-esteem of peer B</td>
<td>-.13</td>
<td>-.12</td>
<td>.016</td>
<td>-.08</td>
</tr>
<tr>
<td>3. Two-way interaction Ax B</td>
<td>-.19*</td>
<td>-.19*</td>
<td>.033*</td>
<td>-.17*</td>
</tr>
<tr>
<td>4. Mediator</td>
<td>Cooperative Goal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. N = 416

*a Initial betas are the beta weights of the variables at each step. Final betas are the beta weights of the variables at the last step.

*p < .05, **p < .01, ***p < .001
Table 6
Regression Summary for the Mediating Role of Cooperative Goal on the Interactive Effect of Self-esteem Similarity on Social Support between Peers

<table>
<thead>
<tr>
<th>Step</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cooperative Goal</td>
<td>Social Support between Peers</td>
<td>Social Support between Peers</td>
</tr>
<tr>
<td></td>
<td>Initial β</td>
<td>Final β</td>
<td>ΔR²</td>
</tr>
<tr>
<td>Step 1. Self-esteem of peer A</td>
<td>.03</td>
<td>.06</td>
<td>.001</td>
</tr>
<tr>
<td>Step 2. Self-esteem of peer B</td>
<td>-.13</td>
<td>-.12</td>
<td>.016</td>
</tr>
<tr>
<td>Step 3. Two-way interaction</td>
<td>Ax B</td>
<td>-19*</td>
<td>-19*</td>
</tr>
<tr>
<td>Step 4. Mediator</td>
<td>Cooperative Goal</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Note. N = 416</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a Initial betas are the beta weights of the variables at each step. Final betas are the beta weights of the variables at the last step.

* p < .05, ** p < .01, *** p < .001
Figure 1
Demographic and Personality Similarities as Antecedents of Cooperation
Figure 2
The effect of gender similarity on the cooperative goal between members of peer dyads
Figure 3
The effect of gender similarity on the relationship between members of peer dyads

Peer Relationship

\( b = -0.61 \ p < 0.01 \)

\( b = 0.19 \ p < 0.01 \)

Male (Student B)

Female (Student B)
Figure 4
The effect of gender similarity on social support between members of peer dyads

![Graph showing the effect of gender similarity on social support between members of peer dyads.](image)

- **Male (Student B)**
- **Female (Student B)**
Figure 5
The effect of similarity in self-esteem on cooperative goal between members of peer dyads

![Graph showing the effect of similarity in self-esteem on cooperative goal between members of peer dyads.](image)

- High Self-esteem (Student B)
- Low Self-esteem (Student B)

Notes:
- \( b = -0.12, p = ns \)
- \( b = 0.24, p < 0.05 \)
Figure 6
The effect of similarity in self-esteem on the relationship between members of peer dyads

![Graph showing the relationship between self-esteem and peer relationship](image-url)