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The mediating role of interpersonal competence between adolescents' empathy and friendship quality: A dyadic approach

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A B S T R A C T

The current study examined the effect of empathy on friendship quality in the context of dyadic same-sex friendships, and how such an effect might be mediated by interpersonal competence. A special version of the actor–partner interdependence model (APIM) was used to examine this hypothesis in 146 same-sex friend dyads in 10th grade. Results showed that empathy was positively related to intimacy and conflict management competences. Also, adolescents higher in intimacy and conflict management competences had more friendship closeness and less discord, respectively, as perceived by both members. Consistent with our hypothesis, the relationship between empathy and self- and friend-reports of friendship closeness and discord were mediated by adolescents' intimacy and conflict management competence, respectively. These findings emphasize the importance of empathy and interpersonal competence in adolescent friendships, and of considering the interdependence of these constructs in friend dyads.

The formation of intimate friendships is a watershed in adolescence (Buhrmester & Furman, 1986; Sullivan, 1953). According to Sullivan (1953), same-sex friendships are especially important because they serve as a primary source of intimacy and support (for a review, see Chow, Roelse, Buhrmester, & Underwood, 2011). Whereas having supportive friendships during adolescence is related to better psychological adjustment (e.g., Bagwell et al., 2005), friendships high in conflict can threaten psychological well-being (e.g., Sherman, Lansford, & Volling, 2006). Given the vital role that intimate friendships play in adolescents' psychosocial development, psychologists have been intrigued by potential predictors of adolescents' friendship quality, especially the role of social perspective-taking skills (Selman, 1980). Furthermore, contemporary perspectives have proposed that adolescent friendships may be better understood by treating friend dyads as the unit of analysis instead of individual adolescents (Laursen, 2005). Integrating these ideas, the current study examined the effect of empathy on friendship quality in the context of dyadic same-sex friendships, and how such an effect might be mediated by interpersonal competence.

Empathy and friendship quality

Developmental theorists suggest that the development of intimate friendships is accompanied by the maturation of adolescents' empathy and perspective-taking skills (Selman, 1980; Sullivan, 1953). Such propositions have led researchers to

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argue that empathy, or the ability to accurately perceive and experience the feelings and thoughts of others, is crucial to the maintenance of well-adjusted friendships (Davis, 1994; Davis & Kraus, 1991). Individuals high in empathy are able to overcome egocentric viewpoints and experience the feelings and thoughts of others; these characteristics are thought to produce more satisfying and less conflicted relationships. Supporting this idea, studies on children and adolescents have consistently found that adolescents who are high in empathy have better functioning friendships, characterized by more caring and companionship, validation, and fewer conflicts (Clark & Ladd, 2000; Davis & Kraus, 1991; Smith & Rose, 2011; Soenens, Duriez, Vansteenkiste, & Goossens, 2007). But what are the interpersonal mechanisms through which empathy begets better friendship functioning? We argued that the ability to share another's feelings by placing oneself in that person's perspective is essential for the emergence of *interpersonal competence*, which in turn, promotes relationship well-being (Buhrmester, Furman, Wittenberg, & Reis, 1988; Davis & Kraus, 1991).

Mediating role of interpersonal competence

Past research has identified two important aspects of interpersonal competence that are important for maintaining well-functioning friendships: *intimacy* and *conflict management* competence. First, intimacy competence is defined by adolescents' capabilities of disclosing their personal feelings and offering support to a distressed friend (Buhrmester et al., 1988; Reis & Shaver, 1988). Past research indicates that adolescents who are better at disclosing their feelings and offering support to others have more intimate friendships (Buhrmester, 1990). Second, establishing intimate friendships assumes the challenge of managing conflicts. This ability involves refining the use of compromise, negotiation, and mitigation with close friends, which stand in contrast to coercion and avoidance strategies seen in conflicts with siblings, non-friends, and adults (Laursen, 1996). Past research indicates that adolescents' conflict management skills are related to less conflict and discord in their friendships (Thayer, Updegraff, & Delgado, 2008). Integrating past research, interpersonal competence appears to be associated with empathy and friendship quality; we argued that the links between adolescents' empathy and friendship closeness and discord may be mediated by their intimacy and conflict management competence, respectively.

Empathy, intimacy competence, and friendship closeness

Disclosing personal information or vulnerabilities to a close friend posts potential risks that one may face rejection, invalidation, or humiliation (Reis & Shaver, 1988). Adolescents' abilities to accurately perceive and experience friends' emotions and thoughts may be crucial for reducing these potential threats during the disclosure process. Similarly, it is necessary for support-givers to accurately decode and identify with the feelings, thoughts, and emotions of a friend, in order for support-giving to be effective (Batson, 1991; Burleson, 2003). Studies have examined associations between empathy and prosocial behaviors such as altruism, volunteerism, caring, and self-disclosure in adolescence (Barr & Higgins-D'Alessandro, 2007; Carbonneau & Nicol, 2002; Carlo & Randall, 2001; Davis & Kraus, 1991; Markstrom, Huey, Stiles, & Krause, 2010; Padilla-Walker & Christensen, 2011). However, to our knowledge, no existing research has examined the link between empathy and intimacy competence, as defined by self-disclosure and support-giving. Furthermore, although studies have examined intimacy competence and friendship quality (e.g., Buhrmester, 1990), this line of research has yet to consider empathy as a potential predictor of this link. Nevertheless, integrating past research on empathy, prosocial behaviors, and friendship functioning, we argued that adolescents who were higher in empathy would demonstrate greater intimacy competence, which would lead to closer friendships (Hypothesis 1a).

Empathy, conflict management competence, and friendship discord

Research suggests that individuals high in empathy are more tolerant and accommodating of other people (Davis & Kraus, 1991). During an interpersonal conflict, the ability to perceive and identify with the distress of another person may lead to a better understanding of the other person's position and may, therefore, reduce the gap between the two differing viewpoints. These characteristics in turn, may help individuals to inhibit destructive impulses during conflicts and adopt more effective strategies for solving conflicts. For instance, one study found that adolescents who are higher in empathy use more compromising strategies, are more likely to discuss issues with friends, and are less likely to become angry when resolving conflicts with friends (de Wied, Branje, & Meeus, 2007). Furthermore, because better conflict resolution strategies are related to lower friendship discord during adolescence (Thayer et al., 2008), we argued that adolescents who were higher in empathy would demonstrate greater conflict management competence, which would lead to less friendship conflict (Hypothesis 1b).

Dyadic perspective

According to an interdependence perspective (Hatfield, Cacioppo, & Rapson, 1993; Kelley & Thibaut, 1978), interpersonal perceptions are subject to reciprocal influences in a dyadic relationship. Applying this idea to friendships, two friends constitute a dyadic system that is behaviorally and psychologically interdependent. For instance, the overt behaviors (e.g., social competence) and psychological states (e.g., relationship perceptions) of friends are mutually dependent. Most studies on adolescent friendship quality, however, have only examined the effect of empathy or interpersonal competence on friendship quality from an individualistic approach (see exception, Smith & Rose, 2011). Typically, the links between adolescents' perceptions of friendship quality, empathy, and interpersonal competence are examined in isolation from their

friends' reports of these variables. This approach has failed to consider the issue of interdependence (Hatfield et al., 1993) in that perceptions of friendship quality may be the result of mutual influences between two friends' characteristics (e.g., interpersonal competence). Thus, we argued that a dyadic approach that treats the friend dyad as the unit of analysis, rather than the individual adolescent, would be an important step toward better understanding friendship functioning.

The actor–partner interdependence model (APIM) has provided ideal theoretical foundations for understanding issues of interdependence in close friendships (Kenny, Kashy, & Cook, 2006). This model argues that an outcome in a relationship is a function of the target person's characteristic (actor effect) as well as the partner's characteristic (partner effect). For instance, Friend A's friendship closeness is a function of his/her intimacy competence (actor) and Friend B's intimacy competence (partner). Whereas a typical APIM would involve one predictor and one outcome variable from each partner, we proposed a mediation model by including interpersonal competence as the mediator between empathy and friendship quality. Fig. 1 depicts the generic actor-partner interdependence mediation model that guided the current study (APIMeM; Ledermann & Macho, 2009).

Based on the APIMeM, two important types of mediation effects can be examined: *mediated actor effects* and *mediated partner effects*. Thus far, our review of the literature has focused on the mediated actor effects, or the effects of actors' own ratings of empathy on friendship quality mediated by their own interpersonal competence (Hypotheses 1a & 1b). However, some of the more interesting hypotheses reside in the mediated partner effects, or the effects of Friend A's ratings of empathy on Friend B's friendship quality mediated by Friend A's interpersonal competence. Based on ideas proposed by interdependence theory (Hatfield et al., 1993), we hypothesized that adolescents who reported greater levels of empathy would demonstrate greater intimacy competence, which would lead to their friends' perceptions of closer friendship (Hypothesis 2a). Similarly, we hypothesized that adolescents who reported more empathy would demonstrate better conflict management competence, which would lead to their friends' perceptions of less friendship conflict (Hypothesis 2b).

The investigation of dyadic friendships is important for two reasons. First, the examination of both actor and partner effects can help demonstrate that there are mutual influences of dyadic friends' personal characteristics. Results from the current study would show whether friendship quality is solely dependent on adolescents' own empathy and interpersonal competence or also their friends' characteristics. Second, partner effects would advance previous research by ruling out "potential shared-method variance" that is characteristic of individual perspective data. In summary, the current study aimed to extend previous research on friendship quality by examining the associations between empathy and friendship quality at the actor and partner levels, and how these associations are mediated by interpersonal competence.

Method

Procedures and participants

The data used in this study came from a larger longitudinal study of adolescents followed from grade 6 through 12. Recruitment letters with return-mail postcards were sent to approximately 1300 families with sixth-graders in ten public

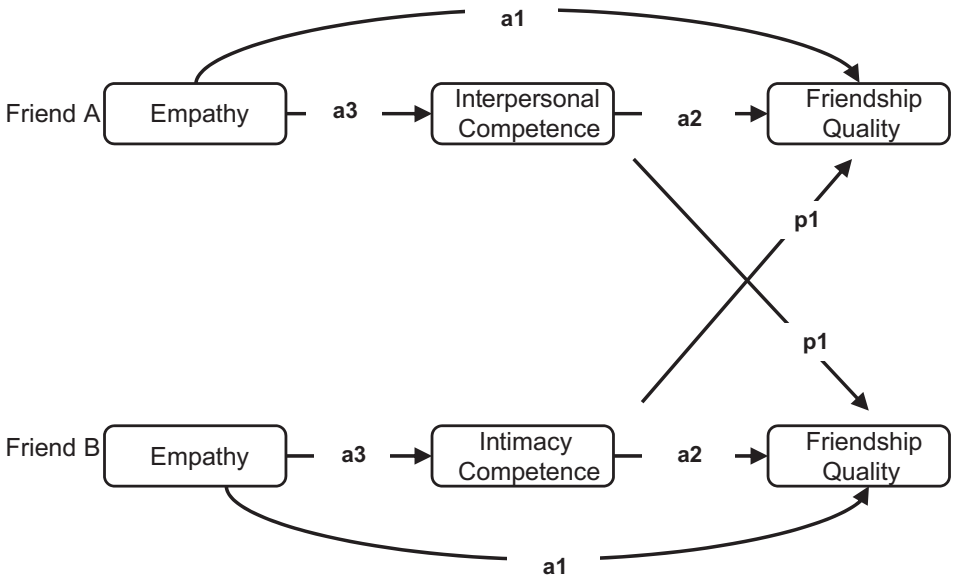

Fig. 1. Theorized APIMeM examining the effects of empathy on friendship quality through interpersonal competence in dyadic friendships. The same variables provided by both members were allowed to covary. Actor effects were denoted as "*a*" and partner effects were denoted as "*p*". Because same-sex friends were indistinguishable, path coefficients for Friend A were identical to Friend B.

schools in the suburb of Richardson, Texas. Families who agreed to participate were visited in their homes by trained assistants for each wave of assessment. Target adolescents also asked a same-sex friend to participate, who was present during the home visits. Data were gathered from target adolescents and their mothers, fathers, and same-sex best friends. After obtaining informed consent, participants were separated into private areas of the home to ensure confidentiality. After completing questionnaire packets, participants sealed their responses in envelopes to guarantee that other participants could not see their responses. All participants received payment for taking part in the study.

Initially, 115 boys and 108 girls participated in the 6th grade. At the subsequent assessments, data were available for 185 adolescents (95 boys) in 8th grade, 153 (79 boys) in 10th grade, and 110 (57 boys) in 12th grade. At the first wave of the study, the majority of participating adolescents were Caucasian (88.9%; 3.9% African-American, 2.6% Hispanic, and 4.6% other), lived with both natural parents (81%; 6.6% single parent, and 11% natural and step parent), and were from middle- and upper middle-class families (88.3%). For the current study, only data from 10th grade were used because empathy was assessed during this wave. Out of 153 families in 10th grade, 146 adolescents (72 boys; $M_{age} = 15.9$ years) had data from a same-sex best friend and were included in the current study.

Measures

Empathy

Participants' empathy was assessed by the Interpersonal Reactivity Index (IRI) questionnaire (Davis, 1983). Fourteen items from the original empathic concern and perspective-taking subscales were adopted for the current study. Two example items are "I sometimes try to understand my friends better by imagining how things look from their perspective." and "I often have tender, concerned feelings for people less fortunate than me." Participants rated items on a 5-point scale (1 = *false* to 5 = *very true*) to indicate the extent to which the items described them. Items were averaged to form an empathy composite score. For the current study, reliability coefficients for adolescents' and their friends' ratings were .83 and .78, respectively.

Intimacy and conflict management competence

Intimacy competence was assessed by the disclosure (7 items) and support (7 items) subscales from Buhrmester's (1990) Adolescent Interpersonal Competence Questionnaire (AICQ). Two example items are "How good are you at telling people private things about yourself?" and "How good are you at making someone feels better when they are unhappy or sad?" Conflict management competence was assessed by the same questionnaire's conflict management subscale (7 items). One example item is "How good are you at resolving disagreements in ways that make things better instead of worse?" Participants rated items on a 5-point scale (1 = *poor at this* to 5 = *extremely good at this*) to indicate the extent to which the items described them. Corresponding items were averaged to form the intimacy and conflict management composite scores. For the current study, reliability coefficients for adolescents' and their friends' intimacy competence were .92 and .91, respectively. Reliability coefficients for adolescents' and their friends' conflict management competence were .83 and .81, respectively.

Friendship closeness and discord

Participants' perceptions of friendship closeness and discord were assessed with the Network of Relationships Inventory (NRI; Furman & Buhrmester, 1985). This 30-item questionnaire measured five features of relational closeness (companionship, intimate disclosure, emotional support, approval, and satisfaction) and five features of relational discord (conflict, criticism, dominance, pressure, and exclusion). One closeness item is "How happy are you with your relationship with your friend?" One discord item is "How often do you and your friend argue with each other?" Participants rated how much/often each feature occurred in their relationship on a scale from 1 (*Never or hardly at all*) to 5 (*Always or extremely much*). Composite indices for closeness and discord dimensions were computed by averaging across the respective subscales. For the current study, reliability coefficients for adolescents' and their friends' friendship closeness scores were .95 and .94, respectively. Reliability coefficients for adolescents' and their friends' friendship discord scores were .84 and .82, respectively.

Plan of analyses

To account for the dyadic nature of the data, we restructured the data before conducting any analyses. Because no clear criterion existed to distinguish dyad members (as opposed to distinguishable pairs such as parent–child or opposite sex dyads), the designation of participants as "Friend A" and "Friend B" in the data set would be arbitrary. Rather than assigning roles arbitrarily, we followed Kenny et al.'s (2006) suggestion and adopted the "double-entry method" to restructure our data set. Specifically, each member's score was entered twice, once in the column for Friend A and again in the column for Friend B (see Appendix A for a hypothetical data set). With the restructured data, both Friend A and Friend B would have identical means and variances, addressing the issue of indistinguishability.

With the restructured dyadic data, we first conducted a series of *t*-tests to examine gender differences in the means of all study variables. Then, we examined gender differences in the variances and covariances with a multi-group analysis in the context of structural equation modeling (SEM; Muthén & Muthén, 2010). Specifically, we first estimated an unconstrained model in which variances and covariances were allowed to vary across boys and girls. Then, another model was specified in which variances and covariances were constrained to be equivalent across boys and girls. We then compared the χ^2/d*f* change from the unconstrained to constrained model. A significant χ^2 value for this difference test would indicate gender differences

in the variance/covariance matrix. If gender differences were present in the variance/covariance matrix, boys' and girls' APIMeMs would be analyzed separately.

Finally, we specified the APIMeM proposed in Fig. 1 with SEM. This approach has three important advantages that directly address our research questions. First, it accounts for the interdependence in dyadic data by correlating the same variables contributed by both members (e.g., intraclass correlations between friends). Second, it simultaneously and independently considers actor effects (denoted as "*a*" paths) and partner effects (denoted as "*p*" paths). As depicted in Fig. 1, friendship quality for both friends was treated as two outcome variables, which were predicted by individuals' own empathy (path a_1) and interpersonal competence (path a_2). Also, adolescents' interpersonal competence was predicted by their own empathy (path a_3). Finally, adolescents' friendship quality was predicted by their friends' interpersonal competence (path p_1). Third, SEM provides a straightforward approach for examining the proposed mediation effects. The mediating effects of interpersonal competence between empathy and friendship quality were examined through indirect effects ($a_3{}^*a_2$ and $a_3{}^*p_1$) and confidence intervals estimated by the bootstrap procedures in Mplus 6.11 (Muthén & Muthén, 2010).

Results

Gender differences

Boys and girls were significantly different in their ratings of empathy, interpersonal competence, and friendship quality (see Table 1 for *t* statistics, *M*s and SDs). Girls were higher than boys in their empathy, intimacy skills, conflict management skills, and friendship closeness. Additionally, girls were lower than boys in friendship discord.

We examined gender differences in variances and covariances with a multi-group analysis with SEM. Results revealed that the chi-square test was not significant when comparing the unconstrained model to the constrained model, $\Delta\chi^2(df = 55) = 42.13$, $p = .90$. The lack of gender differences in the variance/covariance matrix suggested that gender did not moderate the associations among the variables; therefore, boy and girl dyads were analyzed simultaneously in subsequent analyses.

Table 1 presents the (a) within-person, (b) cross-partner, and (c) intraclass correlations among the study variables. Because the analyses were based on the double-entry dyadic data, Friend A's correlations are identical to those of Friend B and only one set of coefficients is reported. All within-person and cross-partner correlations among study variables were related in expected directions. Intraclass correlations showed that friend dyads are similar in their personal characteristics and perceptions of friendship quality. Specifically, friends shared similar levels of empathy and intimacy skills and shared similar perceptions of friendship closeness and discord. Given the interdependence across friends in most of the study variables, the APIMeM was an appropriate analytic method for handling the dyadic data.

Actor–partner interdependence mediation model

Two APIMeMs investigating (a) the links among empathy, intimacy competence, and friendship closeness and (b) the links among empathy, conflict resolution competence, and friendship conflict are presented in Figs. 2 and 3, respectively.

Empathy, intimacy competence, and friendship closeness

Actor effects showed that adolescents who were higher in empathy exhibited greater intimacy competence, and higher intimacy was in turn predictive of greater self-perceived friendship closeness. Interestingly, partner effects showed that adolescents' self-reports of greater intimacy competence were also related to their friends' perceptions of greater closeness. We then examined the couple-oriented effects by constraining the actor and partner effects of intimacy competence on friendship closeness to be equivalent. Imposing such constraints led to a significant decrease in model fit, $\Delta\chi^2(df = 2) = 21.97$, $p < .01$. Therefore, the actor and partner effects were allowed to vary in this model. This suggested that the within-individual associations (actor effects) were significantly stronger than the cross-friend associations (partner effects) between intimacy competence and friendship closeness.

Table 1
Means, standard deviations, and correlations among study variables ($n = 146$ dyads).

	1	2	3	4	5
1. Empathy	**.26****	.20**	.09	.15**	−.18**
2. Intimacy	.49**	**.30****	.16**	.33**	−.08
3. Conflict management	.48**	.48**	**.02**	.18**	−.16**
4. Friendship closeness	.28**	.53**	.33**	**.40****	−.07
5. Friendship discord	−.15*	−.16**	−.12*	.01	**.25****
Boys *M* (SD)	3.40 (.52)	3.29 (.69)	3.35 (.68)	3.31 (.73)	1.95 (.50)
Girls *M* (SD)	3.78 (.52)	3.84 (.69)	3.65 (.68)	4.06 (.73)	1.75 (.50)
t-Values	−6.39**	−6.96**	−3.80**	−8.84**	3.56**

Note. Table shows within-person (below diagonal), cross-partner (above diagonal), and intraclass (bold diagonal) correlations. Coefficients were computed based on double-entry data. All parameters were estimated with maximum likelihood procedures. *$p < .05$, **$p < .01$.

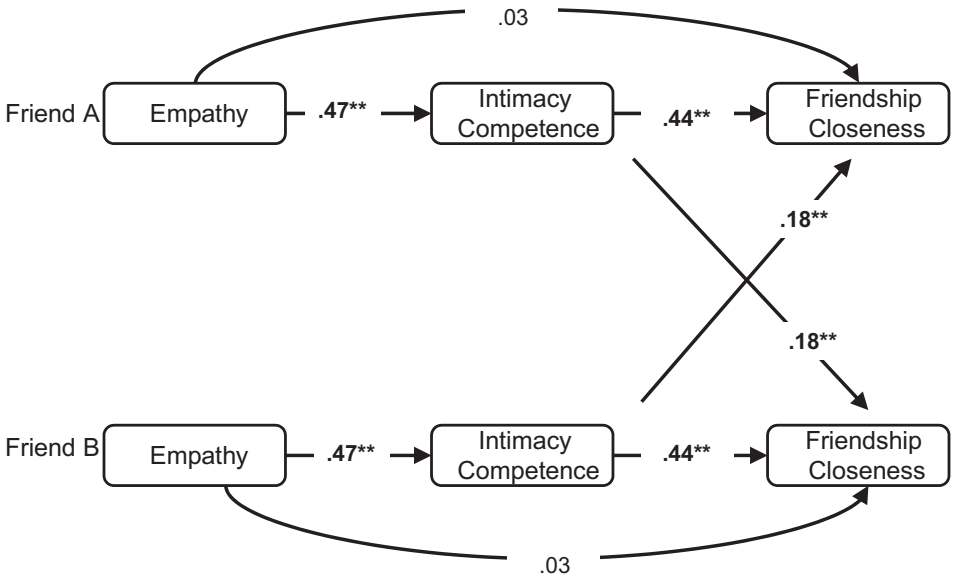

Fig. 2. APIMeM examining the effects of empathy on friendship closeness mediated by intimacy competence. Model fit was excellent: $\chi^2(4) = 5.41$, CFI = .99, TLI = .99, RMSEA = .04. Standardized beta weights were presented. $^{**}p < .01$.

The mediated actor and partner effects were examined and results are presented in Table 2. In support of Hypothesis 1a, the mediated actor effects showed that the links between adolescents' empathy and their own perceptions of friendship closeness were mediated by their intimacy competence. Similarly, the mediated partner effects showed that the links between adolescents' empathy and their friends' perceptions of friendship closeness were mediated by adolescents' intimacy competence (Hypothesis 2a). These findings suggested that adolescents who are high in empathy are also more competent in self-disclosure and support, which in turn, lead to better functioning friendships, as perceived by both members of the dyad.

Empathy, conflict management competence, and friendship discord

Actor effects showed that adolescents high in empathy have better conflict management competence which in turn, predicts lower friendship discord. Interestingly, partner effects also demonstrated that adolescents' conflict management

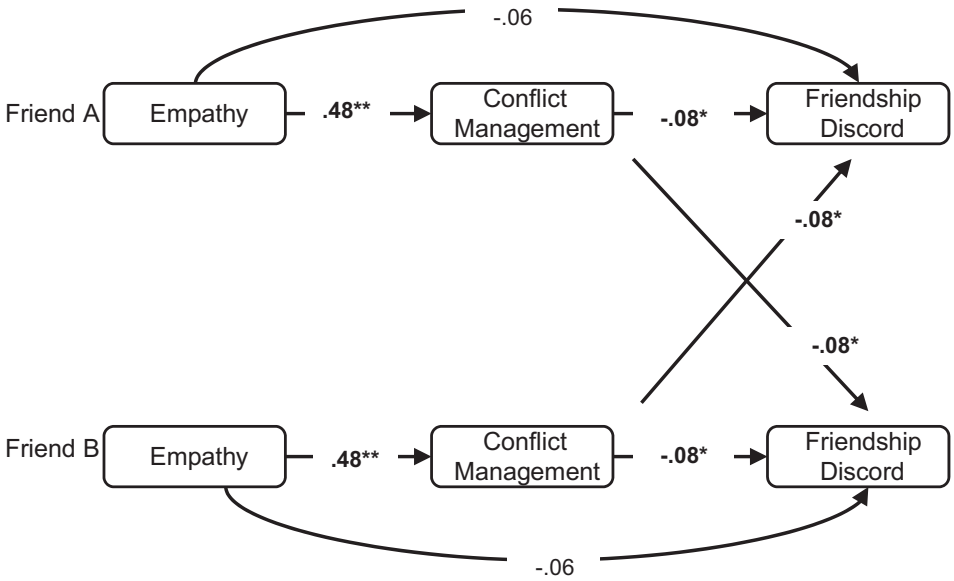

Fig. 3. APIMeM examining the effects of empathy on friendship discord mediated by conflict management competence. Model fit was excellent: $\chi^2(6) = 8.32$, CFI = .98, TLI = .97, RMSEA = .04. Standardized beta weights were presented. $^{*}p < .05$. $^{**}p < .01$.

Table 2
Indirect effects predicting friendship quality variables (closeness and discord) from empathy.

Predictor		Mediator		Outcome	*B*	CI_{95}
Friendship closeness model						
Self-empathy	→	Self-intimacy	→	Self-closeness	.21**	.20 to .43
Self-empathy	→	Self-intimacy	→	Friend-closeness	.09**	.04 to .22
Friendship discord model						
Self-empathy	→	Self-conflict	→	Self-discord	−.05*	−.09 to −.01
Self-empathy	→	Self-conflict	→	Friend-discord	−.05*	−.09 to −.01

Note. Intimacy = intimacy competence, conflict = conflict management competence. *B* = standardized indirect effects. CI_{95} = 95% confidence intervals with bootstrap of 5000. $^{*}p < .05$, $^{**}p < .01$.

competence is significantly related to their friends' reports of lower friendship discord. Imposing equal constraints for the actor and partner effects of conflict management competence on friendship discord did not lead to a significant decrease in model fit, $\Delta\chi^2(2) = 2.00$, $p = .38$. Therefore, the actor and partner effects were constrained to be equivalent in this model. These results suggested that the within-individual associations (actor effects) were not significantly different from the cross-friend associations (partner effects) between conflict management competence and friendship discord. Kenny and Cook (1999) refer to these as *couple-oriented effects*, in that adolescents' perceptions of friendship discord are affected as much by their own conflict management competence as by their friends' conflict management competence.

When examining the mediation effects (see Table 2), findings showed that the link between adolescents' empathy and their own perceptions of friendship discord was mediated by their conflict management competence (Hypothesis 1b). Also, the link between adolescents' empathy and their friends' perceptions of friendship discord was mediated by adolescents' conflict management competence (Hypothesis 2b). These findings together demonstrated that adolescents who are higher in empathy are also more competent in managing conflict in their close relationships, which in turn, leads to lower friendship discord, as perceived by both members.

Discussion

This study employed a special case of the APIM to investigate whether the role of empathy in predicting adolescent friendship quality is mediated by interpersonal competence in reciprocal friend dyads. In so doing, this study contributed three major features to the existing literature. First, the current study highlights the importance of interpersonal competence in explaining the relationship between adolescents' empathy and friendship quality. Second, this study speaks to the importance of accounting for the dyadic nature of friendships and contributes to a better understanding of the reciprocal influences among dyads. Lastly, this study provides a template for subsequent research that may examine mediation relationships with indistinguishable partners.

Intraclass correlations and gender differences

Intraclass correlations between the key study variables suggest that adolescent friends are similar in their empathy, intimacy competence, and ratings of friendship quality. Similarities in these constructs might suggest that adolescent friends are "birds of a feather"; however, it is impossible to discern from these findings whether these similarities are due to a *selection effect* (i.e., attraction to peers with similar characteristics), an *influence effect* (e.g., social modeling, peer conformity, reciprocity), or a combination of the two. It is also noteworthy that although we found mean differences for boys and girls for all key study variables, there were no significant differences in the variance/covariance matrix. These findings suggest that although girls are higher than boys in empathy, interpersonal competence, and friendship quality, the mechanism that underlies the relationships among these variables does not differ for boys and girls.

Empathy, intimacy competence, and friendship closeness

Supporting Hypothesis 1a, adolescents high in empathy demonstrated more intimacy competence, which led to closer friendships. Previous research suggests that the ability to effectively engage in intimate peer exchanges is facilitated by the ability to accurately intuit others' emotional states (Davis & Kraus, 1991). This research supports our finding that empathy predicts more intimacy competence. That is, empathy and perspective-taking skills enable individuals to put aside personal desires in order to support the needs of their partner, which is an important aspect of intimacy competence (Buhrmester et al., 1988).

Past studies have demonstrated that self-disclosure (Chow & Buhrmester, 2011; Morry, 2005) and emotional support competences (Burleson, 2003; Cunningham & Barbee, 2000) are related to friendship closeness and satisfaction. Additionally, adolescents with more interpersonal competence have closer friendships (Buhrmester, 1990). Consistent with past studies, we found that adolescents who are more competent in self-disclosure and emotional support have friendships that are characterized by higher levels of closeness.

Because the friendship closeness model found no direct relationship between empathy and friendship closeness when controlling for intimacy competence, analyses of indirect effects were evaluated to determine the extent to which intimacy

competence mediated the relationship between empathy and friendship closeness. Results suggested that the relationship between adolescents' empathy and their perceptions of friendship closeness are mediated by their intimacy competence. These findings suggest that adolescents high in empathy are more skilled in self-disclosure and in offering emotional support to their friends, which leads to more closeness in their friendships. These findings have linked together previous research that has only focused on the association between empathy and relationship quality (e.g., Smith & Rose, 2011; Soenens et al., 2007) or the association between intimacy competence and relationship quality (Buhrmester, 1990).

With regard to partner effects, Hypothesis 2a was also supported, in that adolescents who were higher in empathy demonstrated more intimacy competence, which led to friends' perceptions of more closeness in the relationship. The finding that adolescents' intimacy competence is positively related to their friends' perceptions of friendship closeness suggests that friends are perceptive of their partners' willingness to engage in intimate behaviors such as personal disclosure and emotional support. When a friend is able to effectively engage in these behaviors, their partner is likely to feel more connected and satisfied in the relationship. Adolescents are likely to perceive of interpersonal exchanges characterized by communication and support as bonding experiences that solidify their alliance to each other. In general, findings for Hypotheses 1a and 2a reveal that the association between adolescents' empathy and self- and other-perceptions of friendship closeness are mediated by adolescents' intimacy competence. Adolescents with high empathy and perspective-taking skills are better at disclosing personal information and feelings as well as providing emotional support to their friends, which leads to more friendship closeness, as perceived by both partners.

Empathy, conflict management competence, and friendship discord

Adolescents high in empathy showed more conflict management competence, which led to less conflict in the friendship, as perceived by the adolescent (Hypothesis 1b). The finding that adolescents' empathy is predictive of greater conflict management competence is consistent with Davis and Kraus' (1991) contention. That is, during an interpersonal conflict, empathic perspective-taking skills may better allow adolescents to understand their partners' viewpoint and the root of the conflict, which may allow the adolescent to come to an acceptable compromise with their partner in order to resolve the conflict. We also found that adolescents who are more competent in managing conflict have friendships that are lower in discord. This result is consistent with findings that adolescents who are characterized by higher interpersonal competence have less conflicted friendships (Buhrmester, 1990).

Similar to the friendship closeness model, there was no direct relationship between empathy and friendship discord when controlling for conflict management competence. Thus, analyses of indirect effects were examined to determine the extent to which conflict management competence mediated the relationship between empathy and discord. Results suggested that the association between adolescents' empathy and their ratings of friendship discord are mediated by their conflict management skills. This finding suggests that adolescents who demonstrate more empathy are more skilled in conflict resolution with friends, which may lead to perceptions of lower discord in their friendships.

Partner effects (Hypothesis 2b) showed that adolescents high in empathy reported more conflict management competence, which led to friends' perceptions of lower relational discord. Adolescents with friends who are willing and able to resolve conflicts in the relationship may perceive that the relationship has less overall discord because they can trust that their friend is able to compromise when conflicts arise. This ability of the partner means that it is not always the responsibility of the individual to defuse the conflict, which may lead to dissatisfaction in the relationship. In general, findings for Hypotheses 1b and 2b suggest that the relationship between empathy and self- and other-perceptions of friendship discord are mediated by conflict management competence. Adolescents high in empathy are likely better at resolving conflicts with friends, which may help both members to perceive that the relationship is lower in discord.

Consistent with interdependence theory, these findings suggest that interpersonal perceptions are subject to reciprocal influences in a dyadic relationship (Kelley & Thibaut, 1978). In this case, the interpersonal competence of adolescents influences both their own perceptions of friendship quality as well as their friends' perceptions. These findings highlight the importance of studying adolescents' interpersonal competence and friendship quality with a dyadic approach in order to illuminate the mutual influences of behaviors and skills between two friends. It is also important to note that the partner effects found in the study are independent of any actor effects of interpersonal competence on perceptions of friendship quality, which serves to increase confidence that these associations are not simply cognitive biases shaped by individuals' own perspectives.

Limitations and future directions

Although we proposed a directional influence of empathy and interpersonal competence on friendship quality, based on previous theory and research, the current study's correlational nature has precluded us from making strong causal inferences about the constructs. For instance, we proposed that friendship quality is a function of adolescents' interpersonal competence. According to Sullivan (1953), however, it is also possible that adolescents may acquire different competences, especially intimacy and conflict management skills, by positively interacting with their close friends. Nevertheless, the current research has provided an important model for future research that elucidates a directional influence among empathy, interpersonal competence, and friendship quality.

Another limitation of the study was that all constructs in the study were based on self-report measures. An approach that integrates different types of measures (e.g., behavioral observations of empathy skills, experimentally induced conflict) could be useful for obtaining more accurate reports of these constructs. For instance, Ickes (1993) developed an experimental procedure that captures how accurately individuals infer their partners' feelings and thoughts by comparing reports from both members. Nevertheless, cross-partner associations that are independent of any within-individual reports were found in the current study. This suggests that the results found in the current study are not completely attributable to shared-method variance.

Finally, the adolescents in the current study were primarily Caucasians, and were from middle- and upper middle-class families. The findings from this study may not generalize to adolescents from different ethnic, socioeconomic, and domestic backgrounds. Future research should investigate the role of empathy and interpersonal competence in relationship quality in adolescents from a variety of ethnic and socioeconomic backgrounds to determine if these results can be generalized outside of this sample.

Conclusion

Our findings highlight the importance of empathy and interpersonal competences in determining friendship outcomes during adolescence. Both theory and findings reported here suggest that future interventions aimed at improving empathy, intimacy skills, and conflict management skills could be more effective if they focused on improving these relational skills in the context of friend dyads, considering that these skills are reciprocally related between friends. In conclusion, we believe that the investigation of dyadic friendships during adolescence will continue to be fruitful, beyond the traditional individual approach.

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Appendix A. Hypothetical dyadic "double-entry" data.

	Person A closeness	Person B closeness	Person A empathy	Person B empathy
Dyad 01	5	4	1	2
Dyad 01	4	5	2	1
Dyad 02	3	2	4	3
Dyad 02	2	3	3	4
Dyad 03	.	.	.	.
Dyad 03	.	.	.	.

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