Published in final edited form as:

J Soc Pers Relat. 2010 September ; 27(6): 707–725. doi:10.1177/0265407510373259.

Distinguishing Children Who Form New Best-Friendships from Those Who Do Not

Julie C. Bowker,
University at Buffalo, The State University of New York, USA

Bridget K. Fredstrom,
University of Maryland, College Park, USA

Kenneth H. Rubin,
University of Maryland, College Park, USA

Linda Rose-Krasnor,
Brock University, Canada

Cathryn Booth-LaForce, and
University of Washington, USA

Brett Laursen
Florida Atlantic University, USA

Abstract

Three groups were identified using best-friendship nominations at two time points surrounding the transition to middle school (Time 1: Spring of 5th grade; Time 2: Fall of 6th grade): (i) children who had no best-friendship at Time 1, but had a best-friendship at Time 2 (*best-friendship gain; N*=109); (ii) children who had no best-friendship at either Time 1 or 2 (*chronically best-friendless; N*=105); and (iii) children with a best-friendship at both Times 1 and 2, but with different peers at each time (*best-friendship change; N*=120). Peer nominations of social behaviors and victimization were collected at Times 1 and 2. Findings suggest that attraction to similar others, in addition to increased displays of prosocial behaviors, facilitate the formation of *new* best-friendships for both initially best-friendless and best-friended children.

Keywords

best friends; children; adolescents; friendship; peers; middle school transition; victimization

The benefits of best-friendship involvement during childhood and adolescence are well-documented (e.g., Bagwell, Newcomb, & Bukowski, 1998), as are the negative developmental concomitants of best-friendlessness (e.g., Laursen, Bukowski, Aunola, & Nurmi, 2007). Despite interest in the correlates and consequences of best-friendship involvement (Rubin, Bukowski, & Parker, 2006), researchers have largely ignored possible

Address correspondence to Julie Bowker, 224 Park Hall, University at Buffalo, The State University of New York, Buffalo, NY 14260-4100, USA jcbowker@buffalo.edu.

differences between initially best-friendless children who later form *new* best-friendships and those who remain best-friendless over time. This gap in the literature is significant given the longitudinal associations between chronic best-friendlessness and psychosocial adjustment difficulties such as internalizing problems and peer victimization (e.g., Ladd & Troop-Gordon, 2003; Wojslawowicz Bowker, Rubin, Burgess, Rose-Krasnor & Booth-LaForce, 2006).

The overarching goal of the present study was to address this research gap by testing the extent to which increases in socially competent behaviors (*social competence model of friendship*; e.g., Asher, Parker, & Walker, 1996; Parker & Seal, 1996) and homophily in social behaviors and victimization (*interpersonal attraction model of friendship*; e.g., Byrne, 1971) differentiate initially best-friendless children who form new best-friendships from initially best-friendless children who do not. To determine whether increases in behaviors and similarity were uniquely associated with *new* best-friendships only for the initially best-friendless, we explored whether changes and similarity distinguished three groups of children: (i) initially best-friendless children who formed new best-friendships after the middle school transition (*best-friendship gain*), (ii) initially best-friendless children who did not later form new best-friendships (*chronically best-friendless*), and (iii) children consistently involved in a best-friendship albeit with different peers across the transition (i.e., they replaced an “old” best-friendship with a “new” one; *best-friendship change*). Our study focuses on *best*-friendships because such close relationships have greater influence on children’s emotional and social development than do good or regular friendships (e.g., Urberg, 1992). Our study targets the *middle school transition* because evidence indicates that the peer victimization “costs” of friendlessness increase after entry into middle school (Pellegrini & Long, 2002).

Socially Competent Behavior and Best-friendship Formation

Social competence, or the ability to act effectively and appropriately in social situations (Rubin & Rose-Krasnor, 1992), has consistently been associated with peer acceptance and emotional well-being (see Rubin, Bukowski et al., 2006). In the present study, we focused on two distinct dimensions of social competence: sociability and prosocial behavior (e.g., Chen et al., 2002). Sociability represents the motivation and capacity to initiate and maintain social interactions and relationships (Asendorpf, 1990). Prosocial behavior, which includes helping, sharing, and caring behavior, represents the tendency to consider the interests of others during social interactions (Eisenberg, Fabes, & Spinrad, 2006).

Children who display sociable and/or prosocial behaviors are likely to be involved in friendships (Buhrmester, 1990; Gest, Graham-Bermann, & Hartup, 2001; Zeller, Vannatta, Schafer, & Noll, 2003). *Social competence models of friendship* suggest that being outgoing and sociable may improve the appeal and attractiveness of the child as a new potential friend who is enjoyable to be around (Asher et al., 1996). Not surprisingly, it has been found that children able to form *new* friendships are more sociable than those who remain friendless (Gottman & Graziano, 1983; Parker & Seal, 1996). However, results from such investigations should be interpreted with caution because they focused on young children (Gottman & Graziano, 1983) or new friendships that formed in summer camps (Parker &

Seal, 1996). Researchers have not explored the significance of prosocial behaviors for *new* best-friendship involvement, but prosocial skills have been positively associated with the *number* of friendships (Gest et al. 2001). Drawing from Asher and Williams' (1987) conceptualization of interpersonal needs, prosocial behavior may contribute to new best-friendship formation because most children want to become friends with those who are helpful and supportive.

In addition to examining changes in best-friendship involvement (e.g., gaining a new friend when previously without one), this study is unique in its consideration of two other types of temporal changes: (i) changes in two types of socially competent behavior over time (e.g., prosocial and sociable behavior), and (ii) changes in social context. Changes in socially competent behaviors were considered because it has been suggested that increases in social behaviors, especially prosocial behaviors, may reflect increased friendship formation efforts by the child (Barry & Wentzel, 2006). In the present study, the social context change is the transition from elementary (Time 1) to middle school (Time 2). Drawing from child-by-environment models of risk and adaptation (e.g., Magnusson & Stattin, 2006), we reasoned that when initially best-friendless children demonstrate positive changes in behaviors linked to friendship initiation and maintenance (e.g., Asher et al., 1996; Parker & Seal, 1996), and when those changes are demonstrated in a new context, positive changes in peer relationships and prospects for new best-friendship should occur. A change in school venue may offer socially isolated adolescents opportunities for a "fresh start" (Weiss & Bearman, 2007). Thus, some students may increase their displays of prosocial and sociable behaviors upon entry into middle school in a quest for new best-friendships (Barry & Wentzel, 2006).

It is clear that prosocial and sociable behaviors represent related but distinct predictors of peer acceptance at the group level of peer relations (Chen et al, 2002). However, it remains unknown whether these behaviors are distinct in their associations with new best-friendship involvement at the dyadic level. Increases in prosocial (helpful, kind) behaviors may be more important than increases in sociable (outgoing) behaviors to new best-friendship involvement during late childhood and early adolescence, when being trustworthy and loyal first become defining friendship properties (e.g., Buhrmester, 1990). Thus, it was expected that initially best-friendless children who gain new best-friendships (*best-friendship gain*) would increase their displays of both prosocial and sociable behaviors after the middle school transition, whereas initially best-friendless children who do not gain best-friendships (*chronically best-friendless*) would not. *Best-friendship gain* children, however, were expected to exhibit greater increases in prosocial than sociable behaviors. Children consistently involved in a best-friendship, albeit with different children pre- and post-middle-school transition (*best-friendship change)*, may also increase prosocial and sociable behaviors after the transition in an attempt to "switch" best-friends. However, larger behavior changes were expected for the *best-friendship gain* than the *best-friendship change* group because more significant changes in behavior may be necessary to gain new best-friendships than to change best-friendships.

Increases in prosocial behaviors may be more important for a change from best-friendless to best-friended status (as reflected by *best-friendship gain* status) for girls than for boys. This hypothesis was based on evidence that girls' friendships tend to involve more positive

behaviors and greater intimate disclosure than boys' friendships (e.g., Parker & Asher, 1993). Furthermore, girls more strongly endorse prosocial conflict resolution strategies and goals with their friends than do boys (Rose & Asher, 1999).

Behavioral Homophily and Best-friendship Formation

Being socially competent, in general, does not guarantee successful involvement in friendships (Gest et al., 2001). For example, many aggressive (e.g., Cairns, Cairns, Neckerman, Gest, & Gariepy, 1988) and withdrawn children (Rubin, Wojslawowicz, Rose-Krasnor, Booth-LaForce, & Burgess, 2006), often rejected due to their socially incompetent behaviors, have mutual best-friendships. Perhaps then, the best-friendships of many aggressive, withdrawn, and otherwise socially unskilled children may be explained by behavioral similarity.

Researchers typically refer to *interpersonal attraction theory* (Byrne, 1971) to account for within-dyad behavioral similarity. Consistent with this theory, research on behavioral homophily overwhelmingly demonstrates that friends are more behaviorally similar than nonfriends on dimensions of aggression (e.g., Cairns et al., 1988), social withdrawal (e.g., Rubin, Wojslawowicz et al., 2006), and such socially competent behaviors as prosocial behavior (e.g., Haselager, Hartup, van Lieshout, & Riksen-Walraven, 1998). Friends also tend to be similar in peer rejection and likability (Kupersmidt, DeRosier, & Patterson, 1995).

At least two processes can explain similarity between best-friends: socialization (or peer influence) and selection. Socialization refers to the ways in which friends influence each other over time. In this regard, two children in a pre-existing friendship may become increasingly similar over time. Selection refers to the active selection of similar peers to be friends. We focused on selection because of an interest in how degrees of similarity *prior* to best-friendship formation may bring children together into new best-friendships. There is some evidence that many children actively select similarly-behaved peers as friends (e.g., Kandel, 1978; Poulin & Boivin, 2000). For example, Kupersmidt and colleagues (1995) demonstrated that as similarity in behavior and peer reputation increased between children, the likelihood of the initiation of a shared best-friendship increased. Because the middle school transition offers access to a new and larger friendship pool, it may be easier for many initially best-friendless children in elementary school to find (and select) peers who share similar interests and behavioral characteristics after entry into middle school. Thus, we expected that some pre-existing similarity would be evident between *best-friendship gain* children and their Time 2 friends prior to the formation of the friendship at Time 1. At the same time, it is likely that not all best-friendless children will find similar children with whom to form new best-friendships. Therefore, we predicted that *chronically best-friendless* children would nominate dissimilar peers as their friends at both time points. It is possible that children who change friends after the transition do so in favor of a more similarly-behaved peer. Therefore, we expected greater similarity between *best-friendship change* children and their Time 2 (post-transition) friends when compared with their Time 1 (pre-transition) friends.

Little is known about the possible linkages between similarity in peer victimization and new best-friendship involvement. Yet, shared adverse peer experiences, such as similar peer victimization, may be crucial for new best-friendship formation because they may contribute to "a sense of shared history, joint fate, and a perception of investment in the relationship" (Asher et al., 1996, p. 390). Given the peer adversities faced by many friendless children (Rubin, Bukowski, et al., 2006), greater similarity in victimization was expected between *best-friendship gain* children and their new friends than between *best-friendship change* children and their friends at Times 1 and 2.

Summary and Hypotheses

Drawing from social competence and interpersonal attraction models of friendship (Asher et al., 1996; Byrne, 1971), our primary objective was to examine whether behavioral and peer adversity characteristics and similarity differentiate children who form new best-friendships after the middle school transition from those who do not. Although increases in both sociable and prosocial behaviors across the transition were expected to distinguish the *best-friendship gain, best-friendship change* and *chronically best-friendless groups*, we expected that the differences would be more highly accounted for by increases in prosocial than sociable behaviors and that increases in prosocial behavior would be greater for *best-friendship gain* than *best-friendship change* children. Recent research indicates that negative peer experiences, particularly those resulting from aggression and withdrawal, may create later friendship-formation problems (Pedersen, Vitaro, Barker, & Borge, 2007). Therefore, negative behaviors (aggression, social withdrawal) and peer adversity (victimization) were included as dependent variables to examine the unique role of positive social behaviors in the formation of new best-friendships *after* considering the effects of negative behaviors and peer difficulties.

Because changes in socially competent behaviors alone are unlikely to explain new best-friendship involvement, we examined whether similarity in positive social behaviors (sociable, prosocial), negative social behaviors (aggression, withdrawal), and peer victimization levels would draw *best-friendship gain* and *best-friendship change* children and their new best-friends together into new best-friendships. Since prosocial behaviors may be more important to the new best-friendship formation of girls than boys (e.g., Rose & Asher, 1999), a final goal was to examine sex differences in the associations between new best-friendship involvement and changes in social behaviors.

Method

Participants

Participants were drawn from a larger longitudinal study of children's peer relationships across the transition from elementary (5^{th} grade) to middle school (6^{th} grade). All students with parental consent (84%; Grade 5, $N = 827$, 406 boys; Grade 6, $N = 1,210$; 592 boys) from eight public elementary schools and three middle schools in a US metropolitan area participated. The average 5^{th} grade comprised 90 children, and the average 6^{th} grade comprised 280 children. Each middle school received students from four elementary schools; the school district included four additional elementary schools that decided not to

participate in the study. Elementary school populations were not split; that is, each elementary school fed into a single middle school. Data were collected at two time points (Time 1: spring of 5th grade; Time 2: fall of 6th grade). Time 1 assessment took place during April and May; the Time 2 assessment occurred in November so children could become acquainted with new classmates. Available demographic school information indicated similar county-wide ethnic and racial compositions of the elementary (40% Caucasian, 22% Hispanic/Latino, 22% African American, 15% Asian) and middle schools (43% Caucasian, 19% Hispanic/Latino, 23% African American, 15% Asian). Attrition analyses revealed no significant Time 1 behavioral or peer adversity differences between children who participated at both time points and those who did not. Sex differences in attrition analyses were not significant.

Measures

Best-friendship nominations—Participants were asked to write the names of their "very best friend" and "second best friend." Children could only name same-sex best-friends in their grade and school, and only *mutual* (reciprocated) best-friendships were considered subsequently. Children were considered "best-friends" if they were each other's very best or second best friend choice. Although children could nominate any same-sex, same-grade children as best-friends, only participating children completed the nominations. Therefore, it was impossible to determine friendship reciprocation when a nonparticipating child was nominated. For this reason, 44 children (26 boys, 18 girls) in the 5th grade (5% of the 5th grade sample) and 130 children (74 boys, 56 girls) in the 6th grade (11% of the 6th grade sample) were excluded because *both* best-friend nominations were for non-participating children.

Child behaviors—Participants completed the *Extended Class Play* (ECP), an extended version of the *Revised Class Play* (*RCP*; Masten, Morison, & Pellegrini, 1985). Fifth grade children were instructed to nominate one boy and one girl within their classroom for each role in an imaginary play. To adjust for an increased number of peers and changes in classroom that occur throughout the day, 6th grade children could nominate three same-sex and three other-sex, same-grade peers for each role (Gest, Rulison, Davidson, & Welsh, 2008). Only same-sex nominations for participating children were considered (Zeller et al., 2003). Item scores were proportionalized, standardized separately by sex, and averaged to yield five total factor scores: Aggression, Shyness/Withdrawal, Victimization/Exclusion, Prosocial Behaviors, and Sociable Behaviors. The reliability, validity, and factor structure of this measure has been previously established on the study sample, with identical factor structures revealed for the 5th and 6th grade data (see Wojslawowicz Bowker et al., 2006). Relevant to this study is the fact that analyses revealed low-to-moderate correlations among the ECP constructs within each time period. For example, the correlation between prosocial and sociable behaviors was .42 and .52, *ps* <.001, at Times 1 and 2, respectively, supporting earlier research findings that prosocial and sociable behavior are related but distinct dimensions of social competence (e.g., Rubin, Bukowski, et al., 2006). Cronbach alphas at Time 1 and 2 were: *Aggression* (7-items): 91; .93; *Shyness/Withdrawal* (4-items): .84; .85; *Victimization/Exclusion* (8-items): .90; .94; *Prosocial Behaviors* (6-items): .82; .88, and *Sociable Behaviors* (5-items): .88; .95.

Identification of Best-friendship Status Groups and their Best-friends

Best-friendship nominations were used to assess the mutuality of best-friendships. Mutual best-friendships were identified for 63 percent of children (N =491, 220 boys) at Time 1 (Spring of 5th grade) and 64 percent (N = 691, 293 boys) at Time 2 (Fall of 6th grade), percentages that are very similar to those reported elsewhere (e.g., Parker & Asher, 1993). A subsample of 214 children who were *without* a mutual best-friendship at Time 1 and also participated at Time 2 were identified; the remaining 78 children without a best-friend at Time 1 moved to a non-participating school after elementary school or were absent from school during the Time 2 data collection. From this subsample of 214, two groups were identified at Time 2: (i) *Best-friendship gain*: children who were without a mutual best-friendship at Time 1, but who had a mutual best-friendship at Time 2 (109 children; 52 boys; 18 percent of longitudinal sample); and (ii) *Chronically best-friendless*: children without a mutual best-friendship at both time points (105 children; 64 boys; 17 percent of the longitudinal sample).

We also identified a group of children who had stable best-friendship involvement but with different peers at Times 1 and 2. Of the original 491 children (220 boys) who were identified as having a mutual best-friend at Time 1, 120 (51 boys) had a different best-friend at Time 2 (*best-friendship change;* 20 percent of the longitudinal sample). Exploratory analyses testing for sex differences in best-friendship group status (*best-friendship gain*, *chronically best-friendless*, *best-friendship change*) revealed that boys were more likely than girls to be in the *chronically best-friendless* group, χ^* (4, n = 334) = 7.97, $p < .01$. φ =.45.

Children were considered to have a mutual best-friendship if they shared a mutual best-friendship with any given child (reciprocal nominations as either “very best” or “second best” friend). If a child in the *best-friendship gain* group had more than one mutual best-friend, the best-friend chosen for the intra-class correlational analyses described below was the child nominated as the “very best” friend from the perspective of the *best-friendship gain* child. Based on this method of creating best-friend dyads (e.g., Poulin & Boivin, 2000), a child could be a mutual best-friend in two dyads. However, only five friends (4 percent) of the children in the *best-friendship gain* group were in two dyads at each time point. In the *best-friendship change* group, seven friends (6 percent) were in two dyads at Time 1 and three friends (3 percent) were in two dyads at Time 2. It was also possible that two focal children might share a mutual best-friendship at either time point (e.g., a *best-friendship gain* and *best-friendship change* child might be mutual best-friends). In these cases, we randomly selected one child to be the focal child and the other child was considered the mutual best-friend. This procedure ensured that only unique best-friendship dyads for the entire study sample were considered.

Procedures

Questionnaires were administered in group format at the schools to children who received parental consent. Each session lasted approximately one hour. The first questionnaire involved best-friendship nominations and the second was the peer nomination measure. Children were assured of confidentiality and were instructed not to discuss their answers

with classmates. Children without parental consent typically remained in classrooms, working on homework or other class work.

Analytic Plan

To examine the social competence model and whether increases in sociable and prosocial behaviors predict the formation of new best-friendships after the middle school transition, after accounting for negative behaviors and peer difficulty, a 3 (Group: *Best-friendship gain*, *Chronically best-friendless*, *Best-friendship change*)-x-2 (Sex)-x-2 (Time: Time 1, Time 2) mixed-factorial MANOVA with Time as the repeated factor was conducted with the ECP variables of sociable and prosocial behaviors, aggression, social withdrawal, and victimization serving as dependent variables. Only significant main and interaction effects (determined by Pillai's Trace criterion) and follow-up simple effects tests with pairwise comparisons (*LSD*) are described below. Beyond differences *over time*, we considered possible behavioral and peer adversity differences between the three groups at Times 1 and 2 with two 3 (Group)-x-2(Sex) MANOVAs at each time point with the ECP variables serving as dependent variables. Group means and standard deviations at each time point for the study variables are presented in Table 1.

To test the interpersonal attraction model, a series of intraclass correlations was performed separately for each of the best-friendship status groups at each time point. In these analyses, *best-friendship gain* children were paired with their new mutual best-friends at Time 1 (prior to becoming best-friends) and at Time 2 (at the time of best-friendship formation). Of the 109 *best-friendship gain* children, 52 unique best-friend dyads were identified wherein both the *best-friendship gain* child and the new best-friend participated at both time points. Six *friendship-gain* children did not attend the same elementary school as their soon-to-be 6th grade mutual best-friend. *Best-friendship-change* children were paired with their mutual 5th grade friends at Time 1, and their Time 2 best-friendships before (at Time 1) and after (Time 2) best-friendship formation. Time 1 data were not available for all of the new Time 2 best-friend friends; of the 120 *best-friendship change* children, 64 unique dyads were identified for analyses. *Best-friendship gain* and *best-friendship change* children were paired with their soon-to-be best-friends to investigate whether preexisting similarity draws children together into new best-friendships (Urberg, Degirmencioglu, & Tolson, 1998).

Similar to previous studies (Adams, Bukowski, & Bagwell, 2005), c*hronically best-friendless* children were paired with their first *non*-mutual best-friendship choice at Time 1 (102 dyads) and at Time 2 (105 dyads). The fewer number of dyads for the Time 1 analyses reflects the fact that three children nominated non-participating students as their best-friend. *Chronically best-friendless* children were also randomly paired (matched by sex and school) with the new best-friends of the *best-friendship gain* children (105 dyads) to confirm that similarity between *best-friendship gain* children and their new best-friends is specific to their newly formed best-friendship and not simply due to same-school affiliation. Thus, no significant similarity between *chronically best-friendless* children and the friends of *best-friendship gain* children was expected. These three sets of pairings involved unique dyads only, and pairings are mutually exclusive in that the *chronically best-friendless* children were not paired with the *same* child for any set of analysis. Results from the intra-class

correlations analyses, with the alpha adjusted to $p < .001$ using the Bonferroni procedure, are presented in Tables 2 and 3.

Results

Behavior Changes across the Middle School Transition and Best-Friendship Involvement

Repeated measures MANOVA revealed a significant multivariate Group-x-Time interaction effect, ($F(10, 328) = 2.25$, $p < .01$, $\eta_p^2 = .03$), and a significant univariate Group-x-Time interaction for prosocial behaviors, $F(2, 328) = 5.44$, $p < .001$, $\eta^2 = .03$. Follow-up comparisons revealed that *best-friendship gain,* $F(1, 328) = 13.53$, $p < .001$, $\eta^2 = .04$, and *best-friendship change* children, $F(1, 328) = 6.65$, $p < .01$, $\eta^2 = .02$, but not *chronically best-friendless* children, became perceived by their peers as more prosocial after the transition to middle school. A significant univariate Group-x-Time interaction effect appeared for aggression, $F(2, 328) = 3.27$, $p < .04$, $\eta^2 = .02$. Follow-up comparisons revealed that only *best-friendship change* children became more aggressive from Time 1 to Time 2, $F(1, 328) = 10.33$, $p < .001$, $\eta^2 = .03$.

A significant multivariate main effect for Time was revealed ($F(5, 328) = 2.91$, $p < .01$, $\eta^2 = .04$), along with significant univariate effects for prosocial behaviors, ($F(1, 328) = 9.08$, $p < .001$, $\eta^2 = .03$), sociable behaviors, ($F(1, 328) = 7.66$, $p < .01$, $\eta^2 = .02$), and victimization, $F(1, 328) = 4.64$, $p < .03$, $\eta^2 = .01$. Children in the study sample became perceived as more prosocial, sociable, and victimized after the transition to middle school.

A significant multivariate effect appeared for Group ($F(10, 328) = 6.99$, $p < .001$, $\eta^2 = .10$) and significant univariate group effects were revealed for: prosocial behavior ($F(2, 328) = 27.27$, $p < .001$, $\eta^2 = .14$), sociable behavior, ($F(2, 328) = 21.46$, $p < .001$, $\eta^2 = .12$), and victimization, $F(2, 328) = 11.38$, $p < .001$, $\eta^2 = .07$. Follow-up analyses (*LSD*) focusing on the averaged scores by group across time revealed that *best-friendship gain* children were more prosocial and sociable than *chronically best-friendless* children, but less prosocial and sociable than *best-friendship change* children (all *ps* < .01). *Chronically best-friendless* children were more victimized than the other two groups of children (all *ps* <.03). Whereas less victimized than *chronically best-friendless* children, *best-friendship gain* children were perceived as more victimized than *best-friendship change* children (all *ps* < .03). Averaged means and standard deviations are available from the first-author by request.

When analyses focused on Time 1 only, results from the additional 3 (Group)-x-2(sex) MANOVA revealed a significant multivariate Group effect, $F(10, 328) = 6.48$, $p < .001$, $\eta^2 = .09$. Significant univariate Group effects were found for the following variables: aggression, $F(2, 328) = 5.69$, $p < .001$, $\eta^2 = .03$, victimization, $F(2, 328) = 12.19$, $p < .001$, $\eta^2 = .07$, prosocial behaviors, $F(2, 328) = 15.17$, $p < .001$, $\eta^2 = .09$, and sociable behaviors, $F(2, 328) = 18.29$, $p < .001$, $\eta^2 = .10$. Post-hoc analyses (*LSD*) indicated that *chronically best-friendless* children were perceived as more aggressive than *best-friendship change* children (p <.001), but not *best-friendship gain* children. *Chronically best-friendless* children were perceived as more victimized than the other two groups, but *best-friendship gain* children were perceived as more victimized than were *best-friendship change* children (all *ps* < .01). *Best-friendship gain* and *chronically best-friendless* children were lower in their

prosocial and sociable behaviors compared to the *best-friendship change* group (all *ps* <. 001), but did not significantly differ from each other.

Focusing on Time 2 data, a significant multivariate Group effect was revealed, $F(10, 328) = 5.89$, $p < .001$, $\eta^2 = .08$. Results indicated significant univariate Group effects for the following variables: victimization, $F(2, 328) = 7.17$, $p < .001$, $\eta^2 = .04$, prosocial behaviors, $F(2, 328) = 25.45$, $p < .001$, $\eta^2 = .13$, and sociable behaviors, $F(2, 328) = 15.21$, $p < .001$, $\eta^2 = .09$. Post-hoc comparisons (*LSD*) demonstrated that *chronically best-friendless* children were less prosocial and sociable than the *best-friendship gain*, and *best-friendship change* groups. *Best-friendship gain* children were perceived as less prosocial and sociable than *best-friendship change* children ($p < .01$). *Chronically best-friendless* and *best-friendship gain* children were both more victimized than were *best-friendship change* children (all *ps* < .03). However, the *best-friendship gain* and *chronically best-friendless* group did not significantly differ from each other in victimization.

Behavioral Similarity between Children and their Best-friends

Intraclass correlational analyses revealed only one similarity between *best-friendship gain* children and their soon-to-be best-friends, in victimization, *prior to* the formation of the best-friendship at Time 2. However, similarities between *best-friendship gain* children and their new best-friends increased in magnitude by Time 2 such that all of the *best-friendship gain* children's *ECP* variable scores were more strongly associated with the matching variable scores of their best-friends at Time 2 (with the exception of victimization). Fisher *r-to-z* tests revealed that the *best-friendship gain* children became significantly more similar in aggression to their best-friends in the 6th grade after the mutual friendship formed ($Z = 2.29$, $p < .05$).

At Time 1, *best-friendship change* children tended to similar in victimization to their 5th grade mutual best-friend (*ICC*=.20, $p < .01$), but they were not statistically similar to the children who would *later* become their best-friend at Time 2. At Time 2, the *best-friendship change* children and their new best-friends were similar in prosocial and sociable behaviors. Analyses comparing the similarity between *best-friendship change* children and their "old" 5th grade best-friend at Time 1 to the similarity between *best-friendship change* children and their "new" 6th grade best-friend at Time 2 showed that the degree of similarity that *best-friendship change* children shared with their mutual best-friend significantly increased from Time 1 to Time 2 in aggressive ($Z = 2.17$, $p < 05$) and sociable behaviors ($Z = 2.16$, $p < .05$). *Best-friendship change* children were also less similar in shyness ($Z = 1.97$, $p < .05$) to their Time 2 best-friend than their Time 1 best-friend. There were no significant associations between *chronically best-friendless* children and their *non*-mutual best-friend choices at either time point, or the best-friends of *best-friendship gain* children at Time 2.

Discussion

The fundamental question addressed in this study is why some children are able to form new best-friendships while others are not. Guided by *social competence* (e.g., Asher et al., 1996) and *interpersonal attraction* (e.g., Byrne, 1971) models of friendship, we investigated whether increased prosocial and sociable behaviors, and similarity in behavioral and peer

adversity differentiated *best-friendship gain, chronically best-friendless,* and *best-friendship change* children. Our findings generally supported both of these models as results showed that in support of *social competence* models: (i) perceived increases in prosocial behavior across the middle school transition distinguished children who formed any new best-friendship (*best-friendship gain* and *best-friendship change*) from those who did not (*chronically best-friendless*); (ii) increases in sociable, aggressive and withdrawn behaviors and peer victimization did not distinguish between the best-friendship status groups; and in support of *interpersonal attraction* models: (iii) initially best-friendless children who formed new best-friendships (*best-friendship gain*) were similar to their "new" best-friends in peer victimization *prior* to the formation of the best-friendship; and (iv) children with pre-existing best-friendships who formed "new" best-friendships (*best-friendship change*) were more similar to their "new" best-friends than their "old" best-friends.

It is established that prosocial and sociable behaviors are distinct predictors of peer successes at the *group* level of social complexity (e.g., Chen et al, 2002). The present results complement and extend such findings by revealing that, for both best-friended and best-friendless children, increased prosocial (helping, caring) behaviors, but not sociable behaviors, are important for new best-friendship formation at the *dyadic* level. The greater importance of prosocial than social behaviors for new best-friendship formation might be due to the increasing importance of trust, intimacy, and loyalty in friendships in late childhood and early adolescence (Rubin, Bukowski, et al., 2006). Since initially best-friendless children who formed a new best-friendship (*best-friendship gain*) after the middle school transition were perceived by their peers as becoming more prosocial but the same was not true for initially best-friendless children who remained best-friendless (*chronically best-friendless*), it may be that significant changes (and/or improvements) in *both* behavior and environment are required to alter developmental risk trajectories of friendlessness (Magnusson & Stattin, 2006). The *best-friendship change* group was also perceived as increasing prosocial behaviors after the transition. *Best-friendship gain* children, however, were perceived as making more dramatic increases in prosocial behaviors. These results may imply that more significant changes in behavior are necessary to gain new best-friends than to change or replace ones.

Although several researchers have examined similarity in soon-to-be best-friendships and pre-existing best-friendships (e.g., Poulin & Boivin, 2000), our investigation has several unique features. First, we were the first to investigate peer victimization in relation to new best-friendship formation. Similarity in victimization before the middle school transition was associated with new best-friendship formation for initially best-friendless children who later gained a best-friendship (*best-friendship-gain*), but not *best-friendship-change* children, findings that were consistent with our hypothesis that stressful peer circumstances may draw some friendless children together into friendships (Asher et al., 1996). Since victimization was the only significant antecedent similarity between *best-friendship gain* children and their best-friends, it is possible that these children were drawn together upon entry into middle school due to their shared peer difficulties in their previous school settings. Future research should test this hypothesis. Yet, the fact that *best-friendship gain* children were relatively similar to *chronically best-friendless* children at Time 2 in their victimization levels may suggest that new best-friendships for some children, especially when the

friendship is with a similarly-victimized child, may not serve an immediate protective function in a new school setting.

Of course, the significance of similarity in victimization or behavior for new best-friendship involvement may be the greatest for best-friendless children because they are choosing friends from a pool of similarly friendless "leftovers" (Bukowski, Hoza, & Boivin, 1993). This notion is consistent with the "social default" hypothesis of friendship formation (Dishion, Andrews, & Crosby, 1995), which suggests that behavioral similarity within some friendships may not be a consequence of active selection, but rather a result of deselection by others (Billy & Udry, 1985). In support, Hektner, August, and Realmuto (2000) found that although mutual friendship choices reflected similarity in aggression, all children (including highly aggressive) preferred nonaggressive peers as friends. This also appears true for children who were *chronically best-friendless* in our study. These children consistently nominated dissimilarly-behaved peers as their best-friends, which may begin to explain why they remained best-friendless.

Our study was also unique with its consideration of behavioral and peer adversity similarity and new best-friendship involvement across a middle school transition. Findings suggested that *best-friendship change* children switched friends in favor of a more similar-peer after the transition since they were found to be more similar to their "new" best-friends than their "old" best-friends. We speculate that these results might be explained by previous research indicating that active niche-seeking increases within increasingly non-restrictive environments, such as a middle school (Scarr & McCartney, 1983). We also found that *best-friendship gain* children were similar to their newly formed best-friends in sociable and aggressive behaviors after the transition. That *best-friendship gain* children's new best-friends were not similar to *chronically best-friendless* children offers additional support that the similarity between *best-friendship gain* children and their best-friends after the transition is a relational phenomenon and not merely a product of affiliation. Taken together, the replication of earlier findings in a sample of best-friendless children who entered a new school environment, along with novel findings pertaining to victimization and *best-friendship change* children, are notable because they provide greater confidence in asserting that behavioral and peer adversity similarities facilitate the formation of *new* best-friendships for both initially friendless and friended children.

Time and group effects did not differ by sex, suggesting that similar behaviors are likely involved in same-sex new best-friendship formation for boys and girls during late childhood and early adolescence. As differences in the qualities of boys' and girls' best-friendships become more pronounced during adolescence (Rubin, Bukowski, et al., 2006), however, sex differences in the influence of some social behaviors may appear. To further explore the role of sex in the friendship formation process, it would behoove future researchers to consider the formation of *other-sex* friendships. Although no researchers have tested this hypothesis, boys and girls may rely on different behaviors when establishing same- and other-sex friendships. For example, the display of prosocial behaviors by boys may be more important for their successful formation of other-sex, than same-sex, friendships.

It is important to note a number of study limitations, alternative explanations, and future research directions. This study's overarching goal was to apply social competence and interpersonal models of friendship involvement to the study of new best-friendship formation. We found support for both models, but did not directly test one model against the other. Although both friendship-formation processes may operate simultaneously, future researchers should directly compare them to better understand the specific processes involved in new best-friendship formation. Further, in an attempt to examine the influence of social behaviors on new best-friendship formation, we focused on children who were without a mutual best-friendship at the end of elementary school and also children who replaced one best-friendship with another. It is possible, however, that some children whom we identified as best-friendless in the 5th grade formed mutual best-friendships over the summer months, thereby entering middle school with a friend. It is also possible that some best-friendless children had a "good" friendship with a school or neighborhood peer that later turned into a mutual school-based *best*-friendship.

A longer longitudinal design would allow stronger causal claims and more clearly elucidate the friendship formation process. Indeed, examining how best-friendship involvement influences perceptions of positive social behaviors was beyond the scope of this investigation. However, we acknowledge the complicated and reciprocal relations between positive social behaviors and friendship and that new best-friendship involvement may have preceded positive behavioral changes. In fact, follow-up exploratory analyses for all study children revealed a significant association between initial 5th grade best-friendship involvement and 6th grade prosocial (but not sociable) behavior, although results suggested that the relation between initial prosocial behavior and later friendship involvement was somewhat stronger. Nevertheless, some children may increase prosocial and sociable behaviors because they feel more positively about themselves and their social worlds *after* establishing a new best-friendship. Our prosocial items included being helpful and caring with peers in general (e.g., *Someone who waits his or her turn*) and two of our sociable items were *Someone who everyone listens to* and *Someone who likes to play with others*. As such, it may also be that peers were more likely to observe acts of kindness and sociability between friends. Furthermore, as a test of the importance of selection to new best-friendship involvement, we matched children with peers whom they would eventually become friends (see Urberg et al., 1998). Yet, peer influence, in addition to selection, may also generate similarity among friends prior to friendship formation. Two children may spend time together and as a result, become similar before they actually become friends.

We did not consider why children changed behaviors across the middle school transition. Given that *best-friendship gain* and *chronically best-friendless* children were both initially without a mutual best-friend, and rated similarly by peers on behavioral indices at the end of elementary school, one possible explanation is that the *best-friendship gain* children may have deliberately chosen to alter their behavioral styles, perhaps in an attempt to improve their peer relationships as they moved into a new school setting. In this respect, it may be that some children viewed the middle-school transition as an important opportunity to start over. *Best-friendship change* children may also have considered the transition as a chance to start over in terms of their friendships. Why didn't all children, however, capitalize on this possibility of a "fresh start"? To further explore reasons for changes in behaviors and best-

friendship involvement, researchers would do well to explore individual differences in friendship motivation in relation to social behaviors and friendship formation (Richard & Schneider, 2005). Researchers should also explore whether some of the *chronically best-friendless* children were motivated to change their behaviors but were too socially unskilled to do so successfully.

Finally, the present study focused on the role of socially competent and incompetent behaviors for new best-friendship formation. Yet, similarities on other dimensions, such as ethnicity and race (Kao & Joyner, 2004), and deviant behavior (e.g., substance abuse: Hamm, 2000) which have been shown to influence friendship choice and selection, may also allow some best-friendless children to find a friend. Additional contextual aspects of the middle school transition (e.g., increases in free time and decreases in adult supervision) should also be considered in future research.

The present results clearly indicate that both increased prosocial behavior and homophily help explain new best-friendship formation for both friended and friendless children in late childhood and early adolescence. Consistent with the idea that the middle school transition may offer some children opportunities to "start over," findings suggest that changes in school and behavior may be necessary to alter some friendlessness risk trajectories. Taken together, results provide significant insight into the role that social behaviors play in the new best-friendship formation process within school settings. The next logical steps are for researchers to directly compare *social competence* and *interpersonal attraction* models of new best-friendship formation, and to longitudinally examine other social and cognitive factors that may contribute to the formation of new best-friendships.

Acknowledgments

This research was supported by National Institute of Mental Health grant #MH58116 to Kenneth H. Rubin. The second author received support from the NICHD Training Program in Social Development Grant (NIH T32 HD007542) awarded to the Department of Human Development and Quantitative Methodology at the University of Maryland by the National Institutes of Health's Eunice Kennedy Shriver National Institute of Child Health and Human Development.

References

Adams R, Bukowski W, Bagwell C. Stability of aggression during early adolescence as moderated by reciprocated friendship status and friend's aggression. International Journal of Behavioral Development. 2005; 29:139–145.

Asendorpf J. Beyond social withdrawal: Shyness, unsociability, and peer avoidance. Human Development. 1990; 33:250–259.

Asher, S., Parker, J., Walker, D. Distinguishing friendship from acceptance: Implications for intervention and assessment. In: Bukowski, W.Newcomb, A., Hartup, W., editors. The company they keep: Friendship in childhood and adolescence. New York: Cambridge University Press; 1996. p. 366-405.

Asher, S., Williams, G. Children's Social Development: Information for Teachers and Parents. Urbana, IL: ERIC Clearinghouse on Elementary and Early Childhood Education; 1987. Helping children without friends in home and school contexts; p. 1-26.

Bagwell C, Newcomb A, Bukowski W. Preadolescent friendship and peer rejection as predictors of adult adjustment. Child Development. 1998; 69:140–153. [PubMed: 9499563]

Barry C, Wentzel K. Friend influence on prosocial behavior: The role of motivational factors and friendship characteristics. Developmental Psychology. 2006; 42:153–163. [PubMed: 16420125]

Billy J, Udry J. Patterns of adolescent friendship and effects of sexual behavior. Social Psychology Quarterly. 1985; 48:27–41.

Buhrmester D. Intimacy of friendship, interpersonal competence, and adjustment during preadolescence and adolescence. Child Development. 1990; 61:1101–1111. [PubMed: 2209180]

Bukowski, W., Hoza, B., Boivin, M. Popularity, friendship, and emotional adjustment during early adolescence. In: Laursen, B., editor. Close friendships in adolescence. San Francisco: Jossey-Bass; 1993. p. 23-37.

Byrne, D. The attraction paradigm. New York: Academic Press; 1971.

Cairns R, Cairns B, Neckerman H, Gest S, Gariepy J. Social networks and aggressive behavior: Peer support or peer rejection? Developmental Psychology. 1988; 24:815–823.

Chen X, Liu M, Rubin K, Cen G, Gao X, Li D. Sociability and prosocial orientation as predictors of youth adjustment: A seven-year longitudinal study in a Chinese sample. International Journal of Behavioral Development. 2002; 26:128–136.

Dishion T, Andrews D, Crosby L. Antisocial boys and their friends in early adolescence: Relationship characteristics, quality, and international process. Child Development. 1995; 66:139–151. [PubMed: 7497821]

Eisenberg, N., Fabes, R., Spinrad, T. Prosocial behavior. In: Eisenberg, N.Damon, W., Lerner, R., editors. Handbook of child psychology: Vol. 3. Social, emotional, and personality development. 6. New York: Wiley; 2006. p. 646-718.

Gest S, Graham-Bermann S, Hartup W. Peer experience: Common and unique features of number of friendships, social network centrality, and sociometric status. Social Development. 2001; 10:23–40.

Gest S, Rulison K, Davidson A, Welsh J. A reputation for success (or failure): The association of peer academic reputations with academic self-concept, effort, and performance across the upper elementary grades. Developmental Psychology. 2008; 44:625–636. [PubMed: 18473632]

Gottman J, Graziano WG. How children become friends. Monographs of the Society for Research in Child Development. 1983; 48:1–86.

Hamm J. Do birds of a feather flock together? The variable bases for African American, Asian American, and European American adolescents' selection of similar friends. Developmental Psychology. 2000; 36:209–219. [PubMed: 10749078]

Haselager G, Hartup W, van Lieshout C, Riksen-Walraven J. Similarities between friends and nonfriends in middle childhood. Child Development. 1998; 69:1198–1208.

Hektner J, August G, Realmuto G. Patterns and temporal changes in peer affiliation among aggressive and nonaggressive children participating in a summer school program. Journal of Clinical Child Psychology. 2000; 29:603–614. [PubMed: 11126637]

Kandel D. Homophily, selection, and socialization in adolescent friendships. American Journal of Sociology. 1978; 84:427–436.

Kao G, Joyner K. Do race and ethnicity matter among friends? Activities among interracial, interethnic, and intraethnic adolescent friends. Sociological Quarterly. 2004; 45:557–573.

Kupersmidt J, DeRosier M, Patterson C. Similarity as the basis for children's friendships: The roles of sociometric status, aggressive and withdrawn behavior, academic achievement and demographic characteristics. Journal of Social and Personal Relationships. 1995; 12:439–452.

Ladd G, Troop-Gordon W. The role of chronic peer difficulties in the development of children's psychological adjustment problems. Child Development. 2003; 74:1344–1367. [PubMed: 14552402]

Laursen B, Buwkowski W, Aunola K, Nurmi J. Friendship moderates prospective associations between social isolation and adjustment problems in young children. Child Development. 2007; 78:1395–1404. [PubMed: 17650145]

Magnusson, D., Stattin, H. The person in context: A holistic-interactionistic approach. In: Eisenberg, N.Damon, W., Lerner, R., editors. Handbook of Child Psychology: Vol. 3. Social, emotional, and personality development. 6. New York: Wiley; 2006. p. 400-464.

Masten A, Morsion P, Pellegrini D. A revised class play method of peer assessment. Developmental Psychology. 1985; 21:523–533.

Parker J, Asher S. Friendship and friendship quality in middle childhood: Links with peer group acceptance and feelings of loneliness and social dissatisfaction. Developmental Psychology. 1993; 29:611–621.

Parker J, Seal J. Forming, losing, renewing, and replacing friendships: Applying temporal parameters to the assessment of children's friendship experiences. Child Development. 1996; 67:2248–2268.

Pedersen S, Vitaro F, Barker E, Borge A. The timing of middle-childhood peer rejection and friendship: Linking early behavior to early-adolescent adjustment. Child Development. 2007; 78:1037–1051. [PubMed: 17650124]

Pellegrini A, Long J. A longitudinal study of bullying, dominance, and victimization during the transition from primary school through secondary school. British Journal of Developmental Psychology. 2002; 20:259–280.

Poulin F, Boivin M. The role of proactive and reactive aggression in the formation and development of boys' friendships. Developmental Psychology. 2000; 36:233–240. [PubMed: 10749080]

Richard J, Schneider B. Assessing friendship motivation during preadolescence and early adolescence. Journal of Early Adolescence. 2005; 25:367–385.

Rose A, Asher S. Children's goals and strategies in response to conflicts within a friendship. Developmental Psychology. 1999; 35:69–79. [PubMed: 9923465]

Rubin, K., Bukowski, W., Parker, J. Peer interactions, relationships, and groups. In: Eisenberg, N.Damon, W., Lerner, R., editors. Handbook of child psychology: Vol. 3. Social, emotional, and personality development. 6. New York: Wiley; 2006. p. 571-645.

Rubin, KH., Rose-Krasnor, L. Interpersonal problem solving. In: Van Hasselt, VB., Hersen, M., editors. Handbook of social development. New York: Plenum Press; 1992. p. 283-323.

Rubin K, Wojslawowicz J, Rose-Krasnor L, Booth-LaForce C, Burgess K. The best friendships of shy/withdrawn children: Prevalence, stability, and relationship quality. Journal of Abnormal Child Psychology. 2006; 34:139–153.

Scarr S, McCartney K. How people make their own environments: A theory of genotype to environment effects. Child Development. 1983; 54:424–435. [PubMed: 6683622]

Urberg K. Locus of peer influence: Social crowd and best friend. Journal of Youth and Adolescence. 1992; 21:439–450. [PubMed: 24263973]

Urberg K, Degirmencioglu S, Tolson J. Adolescent friendship selection and termination: The role of similarity. Journal of Social and Personal Relationships. 1998; 15:703–710.

Weiss C, Bearman P. Fresh starts: Reinvestigating the effects of the transition to high school on student outcomes. American Journal of Education. 2007; 113:395–421.

Wentzel K. Sociometric status and adjustment in middle school: A longitudinal study. Journal of Early Adolescence. 2003; 23:5–28.

Wojslawowicz Bowker J, Rubin K, Burgess K, Booth-LaForce C, Rose-Krasnor L. Behavioral characteristics associated with stable and fluid best friendship patterns in middle childhood. Merrill-Palmer Quarterly. 2006; 52:671–693.

Zeller M, Vannatta K, Schafer J, Noll R. Behavioral reputation: A cross-age perspective. Developmental Psychology. 2003; 39:129–139. [PubMed: 12518814]

Table 1

Standardized Variable Means and Standard Deviations for Study Sample

	Best-friendship gain **(*n* = 109)**		***Chronically best-friendless*** **(*n* = 105)**		***Best-friendship change*** **(*n* = 120)**	
	M	**SD**	**M**	**SD**	**M**	**SD**
			Time 1 (Spring 5th) variables			
Aggression	0.05_{a}	0.77	0.27_{b}	1.02	-0.08_{ab}	0.74
Shyness	-0.05_{a}	0.82	0.09_{a}	0.89	-0.06_{a}	0.82
Victimization	0.09_{a}	0.85	0.36_{b}	1.09	-0.17_{c}	0.58
Prosocial	-0.18_{a}	0.55	-0.25_{a}	0.59	0.20_{b}	0.88
Sociable	-0.14_{a}	0.71	-0.31_{a}	0.57	0.27_{b}	0.96
			Time 2 (Fall 6th) variables			
Aggression	0.07_{a}	0.70	0.29_{a}	1.08	0.18_{a}	1.20
Shyness	0.10_{a}	0.91	0.10_{a}	0.84	0.01_{a}	0.73
Victimization	0.23_{a}	1.09	0.47_{a}	1.48	-0.09_{b}	0.56
Prosocial	0.10_{a}	0.73	-0.31_{b}	0.59	0.38_{c}	0.95
Sociable	0.05_{a}	0.76	-0.24_{b}	0.50	0.37_{c}	1.31

Note: Within a row, means that do not share a subscript are significantly different at $p < .05$.

Table 2

Best-friendship Gain and Best-friendship Change Children's ECP Scores Correlated with their 6th Grade Best-Friends' ECP Scores

	5th Grade (T1)	6th Grade (T2)
	Best-friendship gain group (n = 52)	
Aggression / Best-friend Aggression	.04	.46***
Shyness / Best-friend Shyness	.12	.25
Victimization / Best-friend Victimization	.58***	.32
Prosocial / Best-friend Prosocial	.14	.35
Sociable / Best-friend Sociable	.13	.40***
	Best-friendship change group (n = 64)	
Aggression / Best-friend Aggression	−.10	.23
Shyness / Best-friend Shyness	.17	.10
Victimization / Best-friend Victimization	.18	.16
Prosocial / Best-friend Prosocial	.23	.46***
Sociable / Best-friend Sociable	.26	.46***

*** p < .001.

Table 3

Chronically Best-friendless Children's ECP Scores Correlated with Non-Mutual and Paired Best-friends' ECP Scores

	5th Grade Non-mutual Best-friend (*n* = 102)	6th Grade Non-mutual Best-friend (*n* = 105)	6th Grade Paired Best-friend from *Gain* group (*n* = 105)
Aggression / Best-friend Aggression	.01	.10	− .12
Shyness / Best-friend Shyness	−.05	.08	.02
Victimization / Best-friend Victimization	.04	− .01	− .05
Prosocial / Best-friend Prosocial	−.06	− .02	− .19
Sociable / Best-friend Sociable	−.01	− .07	− .14