

Relations of Friendship Quality to Self-Esteem in Early Adolescence

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The major goal of the study was to examine the relations of friendship quality to adolescent self-esteem over time. Seventh and eighth graders ($n = 297$) completed the same questionnaire in the fall and spring of a school year. Students whose friendships were supportive in the fall felt less satisfied with their own appearance during the year, when their friendships mostly were unstable. As expected, students who had many negative interactions with friends in the fall viewed their own conduct as less appropriate during the year. Students who frequently interacted with friends in the fall, when all of their fall friendships were unstable, also became less satisfied with their own appearance over time. The results indicated that the quality and stability of adolescents' friendships not only are related to their self-esteem, but also are related to the changes over time in specific areas of self-esteem.

Several decades ago, Sullivan (1953) proposed that intimate friendships enhance early adolescents' self-worth. To test this hypothesis, researchers have compared friendships not only in their intimacy, but also in other indicators of overall quality. Researchers usually have viewed friendships as higher in quality when they involve more intimacy, prosocial behavior, trust, loyalty, affection, and emotional support (Berndt & Perry, 1986; Bukowski & Hoza, 1989; Furman & Buhrmester, 1985; Parker & Asher, 1993). Consistent with the Sullivan hypothesis, adolescents whose friendships have more of these positive features typically have higher self-esteem (Coates, 1985; Dubow & Ullman, 1989; Mannarino, 1980; McGuire & Weisz, 1982; Townsend, McCracken, & Wilton, 1988).

Preparation of this article was supported in part by a grant from the Spencer Foundation to Thomas Berndt and by NIMH Research Supplements for Minority Individuals in Postdoctoral Training (MH44331-06S1) to Keunho Keele. The authors thank Ann Laychik for her assistance in the collection and coding of the data.

Journal of Early Adolescence, Vol. 16 No. 1, February 1996 110-129

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The correlations between positive friendship features and self-esteem, however, are open to alternative interpretations. As several writers have noted (e.g., McGuire & Weisz, 1982; Savin-Williams & Berndt, 1990), adolescents' self-esteem could affect their ability to form close and supportive friendships rather than vice versa. The main purpose of the present study was to test these alternative hypotheses in a short-term longitudinal study by using multidimensional measures both of friendship quality and self-esteem.

Besides their positive features, friendships also have negative features. Friends have conflicts, rivalry, competition, and other negative interactions with each other (Hartup, 1993b; Laursen, 1993). These negative features are likely also to affect the overall quality of friendships. Moreover, variations in the positive and negative features could have differing effects on psychological adjustment. A few researchers have suggested that the negative features of close relationships have a greater impact on psychological adjustment than do positive features (Frankel, 1990; Rook, 1984; Schuster, Kessler, & Aseltine, 1990).

The frequency of friends' interactions also may be related to the quality of their friendships. Interaction frequency increases between middle childhood and adolescence (Larson & Richards, 1991), and those interactions not only could give adolescents a sense of belonging, but also provide opportunities for supportive exchanges to occur. Therefore, adolescents who interact more frequently with friends might be expected to have higher self-esteem.

Previous research usually has focused on general self-esteem in relation to positive features of friendship (e.g., Coates, 1985; Hirsch & DuBois, 1991; Mannarino, 1980). However, many studies have shown that adolescents distinguish between their self-esteem in various domains (Harter, 1982, 1985; Marsh & Holmes, 1990; Marsh & Shavelson, 1985). For example, adolescents have differing perceptions of their scholastic competence and social acceptance. Adolescents also differentiate between their athletic competence and the appropriateness of their conduct. These domains of self-esteem, in turn, are distinct from self-perceptions of physical appearance. All these specific domains of self-perception contribute to adolescents' general self-esteem or global self-worth (Harter, 1983).

According to Harter (1983) and symbolic-interaction theorists (Cooley, 1922; Mead, 1934), having supportive friendships is one indicator of adolescents' success in peer relationships. Thus, the positive features of friendships should relate most strongly to adolescents' self-perceptions of their acceptance by peers. Because general self-esteem partly is determined by adolescents' perceived social acceptance, positive features of friendship also should be related to general self-esteem. Consistent with this hypothesis, positive friendship features have been shown to be correlated with children's and

adolescents' perceived social acceptance in several studies (Cauce, 1986; Dubow & Ullman, 1989; Verberg, 1990). These correlations often were higher than the correlations of positive friendship features with general self-esteem.

In two longitudinal studies, general self-esteem and self-perceptions of social acceptance have been examined in relation to supportive friendships. Hirsch and Dubois (1991) assessed adolescents' general self-esteem and the support they received from friends before and after they moved to junior high school. Friends' support before the move was not a significant predictor of the changes in adolescents' general self-esteem after the move. Similarly, Verberg (1990) measured adolescents' perceived social acceptance and the positive features of their friendships on two occasions six months apart. Again, reports of positive features did not predict the changes over time in adolescents' perceived social acceptance. These findings imply that previous correlational data may have exaggerated the effects of supportive friendships on self-esteem.

One possible explanation for the nonsignificant results in those studies is that the stability of adolescents' friendships was not considered. Both theoretical writings and a few previous studies have indicated that stable friendships may have a greater impact on adolescents than do unstable ones (see Epstein, 1983). Therefore, the first major hypothesis of the current study was that reports of positive friendship features would be related to the changes over time in adolescents' perceived social acceptance and global self-worth, but only if those friendships were stable.

Little is known about the relations of supportive friendships to other domains of self-esteem. Some writers have argued that friends' support affects multiple dimensions of adjustment (see Buhrmester & Furman, 1986; Hartup, 1992; Savin-Williams & Berndt, 1990). If so, it also might affect multiple domains of self-esteem. Consistent with this claim, a few researchers have reported that adolescents with more supportive friendships received higher grades and were better behaved in school than other adolescents (Cauce, 1986; Kindek & Sinclair, 1988; Rowlison & Felner, 1988). The correlations were weak, however. Further, the correlation between support from friends and academic achievement was negative in one study (Cauce, Felner, & Primavera, 1982). Given these inconsistencies, specific hypotheses about the relations between positive friendship features and other domains of self-esteem were not derived in the current study.

Few researchers with the exceptions of Berndt and Perry (1986) and Frankel (1990) have assessed the negative features of adolescents' friendships. Thus judging the effects of negative friendship features on adolescents' self-esteem is difficult. Nevertheless, some evidence has indicated that

children and adolescents show continuity in negative behaviors across settings and partners (e.g., Berndt & Keefe, 1995; Mackinnon-Lewis, Volting, Lamb, Dechman, Rabiner, & Curtner, 1994). If so, adolescents who have frequent conflicts with friends also might have trouble getting along with other peers and with adults. As a result, those adolescents might report their own conduct as inappropriate. In addition, because self-perceptions of behavioral conduct have been related to global self-worth, those adolescents might have low global self-worth. These hypotheses were tested in the present study. Also tested was the hypothesis that having friendships with many negative features, especially when those friendships were stable, would decrease adolescents' perceptions of their own conduct and their global self-worth over time.

Because adolescents with more supportive friendships interact more frequently with their friends (Mannarino, 1980; McGuire & Weisz, 1982), the correlations of interaction frequency with self-esteem might be similar to those for positive friendship features. In some studies, however, frequent interactions with friends have been associated with drug use, disruptive behavior at school, and poor academic achievement (Csikszentmihalyi & Larson, 1984; Huba, Wingard, & Benler, 1979; Margulies, Kessler, & Kandel, 1977). Because the evidence on the correlates of friends' interaction frequency is mixed, specific hypotheses about its correlates and its effects on self-esteem were not advanced in the current study.

Finally, stability of friendships was examined in relation to adolescents' self-esteem. Adolescents with more stable friendships seem to have more positive psychological adjustment (see Hartup, 1993a). If so, these adolescents should have higher self-esteem. In addition, closer and more supportive friendships typically are more stable (Berndt, Hawkins, & Hoyle, 1986), which suggests the correlates of friendship stability should be similar to those of positive friendship features. It is difficult to predict, however, the relations of friendship stability to specific domains of self-esteem.

In summary, the main goal of this longitudinal study was to examine, over time, the relations of friendship quality to self-esteem. The first hypothesis was that friendships with positive features would enhance adolescents' self-perceptions of social acceptance and their global self-worth. The specific prediction was that adolescents whose friendships had more positive features were more likely to feel accepted by their peers and to feel good about themselves at each time of measurement. Another prediction was that adolescents with more positive features of friendships would improve over time in their self-perceptions of social acceptance and their global self-worth, if their friendships were stable. The second hypothesis was that friendships with many negative features would diminish adolescents' perceptions of their own

conduct and of their global self-worth. The specific predictions were that adolescents with more negative friendship features would perceive their own conduct less positively and that those adolescents would report lower global self-worth at each time of measurement. Another prediction was that adolescents with more negative friendship features would view their own conduct as becoming worse over time, especially if their friendships were stable. A final prediction was that the global self-worth of those adolescents with more negative friendships would decrease over time, especially if their friendships were stable. Also examined were the relations of friends' interaction frequency and friendship stability to various domains of self-esteem, although specific hypotheses were not drawn.

METHOD

Participants

The initial group included 305 seventh and eighth graders from three public schools. This group included more than 60% of the students in those grades at the schools. Eight students moved to other schools between the fall and spring assessments. With these 8 students excluded, the longitudinal group included 152 seventh graders (101 girls and 51 boys) and 145 eighth graders (93 girls and 52 boys). The mean age of the students was 13 years 8 months at the start of the study. The group included more girls than boys because more than one-half the students enrolled in these grades were girls and a higher proportion of girls than boys returned parental consent forms. More than 95% of the students were White, because very few students from ethnic minority groups attended the three schools. The schools drew students from small towns, suburbs, and rural areas. No information on the socioeconomic status of individual students' families was available, but the principals of the schools reported that most students were from working-class or middle-class families.

Procedure

During November and December, trained graduate students and research assistants administered a questionnaire to small groups of students. The questionnaire, before administration, was approved by the university's committee on research involving human subjects. Students and their parents also gave a written consent to participate before the questionnaires were administered. Students were told that the questionnaires were about their friend-

ships and the effects of friendships on their thoughts and feelings. The students completed the questionnaire in about 40 minutes.

Five months later, students completed the same questionnaire again. The consent form distributed in the fall included the information that the questionnaire would be given again in the spring to examine the changes in friendships and in thoughts and feelings over time. This explanation was repeated along with the instructions for the questionnaire.

The 5-month interval was chosen because past research has indicated that early adolescents' best friendships usually last for several months but for less than a full year (Berndt & Hoyle, 1985). A 5-month interval increased the chances of having a reasonable distribution of students with stable and unstable friendships, thereby assessing the effects of friendship stability.

Measures

Self-esteem

The Harter (1985) Self-Perception Profile for Children was used to measure students' self-esteem. The Self-Perception Profile includes six scales with six items each. The scale for scholastic competence assesses students' self-esteem in the domain of academics (e.g., "Some kids do very well at their classwork BUT Other kids don't do well at their classwork"). The scale for social acceptance assesses the extent to which students feel they have friends and are well-liked by peers (e.g., "Some kids find it hard to make friends BUT Other kids find it pretty easy to make friends"). The scale for athletic competence assesses the degree to which students feel they are skilled and successful in outdoor sports and games (e.g., "Some kids do well at all kinds of sports BUT Other kids don't feel that they are very good when it comes to sports"). The scale for physical appearance assesses how students feel about their looks, weight, body shape, and so on (e.g., "Some kids are happy with the way they look BUT Other kids are not happy with the way they look"). The scale for behavioral conduct assesses students' feelings about the appropriateness of their behavior (e.g., "Some kids often do not like the way they behave BUT Other kids usually like the way they behave"). Finally, the scale for global self-worth assesses students' overall feelings about themselves (e.g., "Some kids are often unhappy with themselves BUT Other kids are pretty pleased with themselves").

As the examples imply, all items included statements about two types of children. A student first decided which children were more like himself or herself and then decided whether the statement about those children was sort

of true or really true for himself or herself. Responses were scored so that 1 indicated the lowest self-esteem and 4 indicated the highest self-esteem. A mean score for each scale was obtained by averaging the scores on relevant items. With the whole group, all scales were high in internal consistency (alpha coefficients = .83 to .89, based on analyses of fall and spring responses). Evidence on the validity of the scales was reported by Harter (1982) and by Boivin, Vitaro, and Gagnon (1992).

Students' Reports on Friendships

Adolescents typically say that they have several best friends (Epstein, 1986; Hartup, 1993a). On the questionnaires, students were asked to write the names of their three best friends, in order of closeness. They were told that they could name fewer than three best friends if they had fewer than three. They were told that they could write "none" if there was no one who they considered a best or close friend. In response to these instructions, 91% of the students named three friends at each administration time. About 8% named only two friends and about 1% named only one or no friends. Then the students answered questions adapted from Berndt and Perry (1986) about the features of each of the best friendships that they identified. Students first answered a series of 26 questions about the friend they named first.

Then they answered the same 26 questions about the friend they named second, and then 26 questions about the friend they named third (if they had named three best friends). The questions were ordered in this way to reduce the chance that students' answers would be affected by response sets. That is, students answered all questions about their first best friend before answering any questions about their other friends. As a result, students were unlikely to give the same responses for all friends or to try systematically to order their responses by the closeness of their three friendships.¹

To encourage students to give thoughtful answers to the questions about each friendship, students were paced through this part of the questionnaire. Students who finished the questions about the first friendship early were asked to wait until all students finished. Then everyone began answering questions about the second friendship. Everyone answered all questions about the second friendship before anyone began answering questions about the third friendship.

The 26 questions about each friendship included 12 questions about three positive features of friendship: (a) intimate self-disclosure (e.g., "How often do you tell this friend things about yourself that you wouldn't tell most

kids?"); (b) prosocial behavior (e.g., "How often does this friend help you when you can't do something by yourself?"); and (c) self-esteem support (e.g., "When you do a good job on something, how often does this friend praise or congratulate you?"). Two negative features of friendship were assessed with 8 questions. Students were asked about (a) conflicts with the friend (e.g., "How often do you get into arguments with this friend?"); and (b) rivalry in the friendship (e.g., "How often does this friend show off or brag about doing something better than you?").

Finally, the sheer frequency of interactions with the friend was measured with 6 questions (e.g., "How often do you and this friend get together on weekends or after school?"). Students responded to all questions on a 5-point scale that was scored from 1 = *never* through 5 = *very often/every day*.

Mean scores for the three positive features of friendship, the two negative features, and the frequency of interaction with friends were calculated by averaging the students' ratings on the relevant items for all the friendships they described.² To assess the structure of the friendship measures, the six mean scores were examined in a principal-components factor analysis. Two factors with eigenvalues greater than 1.0 accounted for 79% of the variance in scores. After varimax rotation, the three positive features had very high loadings (.89 to .91) on the first factor. The two negative features had very high loadings (.92 and .93) on the second factor. Interaction frequency loaded .72 on the first factor because of its strong correlation with positive features ($r = .55, p < .001$, in the fall). In past research, however, friends' interaction frequency was shown to be linked to problematic adjustment in adolescence (e.g., Csikszentmihalyi & Larson, 1984). To further examine this link, interaction frequency was kept separate from the measure of positive friendship features despite its high relation to positive features. The final measures of positive features, negative features, and interaction frequency were all high in internal consistency (alpha coefficients = .96, .88, and .82 in the fall and .96, .88, and .79 in the spring, respectively).

Friendship Stability

The best friends who students named in the spring were compared with those who they had named in the fall. If a best friend named in the fall was still among a student's best friends in the spring, that friendship was considered stable. Then each student received a score for the proportion of their fall friendships that remained stable until the spring. Overall, 49% of the students' best friendships remained stable between the fall and the spring.

TABLE 1: Intercorrelations and Stability Coefficients for the Self-Esteem Scales

	1	2	3	4	5	6
1. Scholastic competence	.70	.20	.09	.27	.53	.39
2. Social acceptance	.26	.71	.41	.43	.25	.51
3. Athletic competence	.10	.33	.81	.44	.04	.39
4. Physical appearance	.22	.36	.30	.75	.35	.69
5. Behavioral conduct	.45	.26	.05	.32	.75	.52
6. Global self-worth	.45	.48	.30	.64	.56	.67

NOTE: The *N* for all correlations is 297. Correlations in the fall are shown above the diagonal; those in the spring are below the diagonal. Stability coefficients are on the diagonal. Values greater than .12 are significant at $p < .05$. Values greater than .19 are significant at $p < .001$.

RESULTS

Preliminary analyses indicated that students' grade level was not related significantly to any of the friendship or self-esteem measures. Therefore, analyses reported here were conducted after collapsing the data across grades.

Relations Among the Various Areas of Self-Esteem

Table 1 shows the intercorrelations and the stability coefficients for the self-esteem scales. The high stability coefficients indicate that the self-esteem measures were reliable and that self-esteem shows considerable continuity during a school year (Harter, 1983).

Most correlations among the scales for various domains of self-esteem were significant with one notable exception. Students' perceptions of their athletic competence were not significantly correlated with those of scholastic competence or behavioral conduct at either time. In contrast, there was a strong correlation between self-perceptions of physical appearance and global self-worth. Harter (1993) also has found that children's and adolescents' global self-worth is related highly to their self-perceptions of physical appearance.

Relations of Friendship Quality to Self-Esteem

To test the hypotheses about the relations of friendship quality and stability to self-esteem, the self-esteem measures were correlated with the measures of friendship quality. Table 2 shows these correlations in the fall and the spring.

Most of the correlations were statistically significant. The largest correlation (.37) indicates, however, that the friendship measures account for less

TABLE 2: Relations of Multiple Friendships Measures to Self-Esteem at Each Time

	Self-esteem scale					
	Global self-worth	Social acceptance	Behavioral conduct	Scholastic competence	Athletic competence	Physical appearance
Measures						
Positive features						
Fall	.16**	.33***	.16**	.14*	.02	.06
Spring	.18**	.28***	.16**	.12*	-.06	.02
Negative features						
Fall	-.27***	-.10	-.24***	-.12*	.01	-.17**
Spring	-.20***	-.12*	-.26***	-.07	-.04	-.11
Interaction frequency						
Fall	.13*	.37***	-.03	.02	.16**	.14*
Spring	.19**	.36***	-.01	-.04	.12*	.13*
Friendship stability						
Fall	.13*	.07	.29***	.24***	-.12*	.05
Spring	.10	.10	.24***	.20***	-.12*	.10

NOTE: The *N* for each correlation is 296 or 297.
* $p < .05$. ** $p < .01$. *** $p < .001$.

than 14% of the variance in the self-esteem measures. The pattern of correlations largely is consistent with the hypotheses, however. As hypothesized, reports of positive features were related positively to both perceived social acceptance and general self-worth. Further, tests of differences in correlations (Steiger, 1980) revealed that positive features of friendships were associated more strongly with perceived social acceptance than with general self-worth in the fall. Although the difference in the corresponding spring correlations was not significant, the pattern was consistent with that of the fall. Positive friendship features also were correlated more strongly with perceived social acceptance than with self-perceptions of behavioral conduct in the fall. In addition, positive features of friendships were related more strongly to perceived social acceptance than to self-perceptions of scholastic competence in both fall and spring. On the other hand, the correlations of positive features with self-perceptions of athletic competence and physical appearance were nonsignificant in both fall and spring.

Consistent with the hypothesis, students whose friendships had more negative features also viewed their own conduct as less appropriate and were less happy about themselves in general. The correlations of negative friend-

ship features with other domains of self-esteem were significant for the fall or the spring but not for both.

Interaction frequency with friends was correlated more strongly with perceived social acceptance than with global self-worth in both fall and spring (Steiger, 1980). Interaction frequency with friends also was associated more strongly with perceived social acceptance than with self-perceptions of athletic competence and physical appearance in both fall and spring (Steiger, 1980). Friends' interaction frequency, however, was not related to self-perceptions of conduct or scholastic competence.

Finally, students who had more stable friendships between the fall and the spring perceived their own conduct as more appropriate and felt more competent scholastically. Surprisingly, the students with more stable friendships viewed their athletic competence less positively. The correlations of friendship stability with global self-worth and with other domains of self-esteem were weak and mostly nonsignificant.

The correlations between the friendship quality and self-esteem measures also were calculated for boys and girls separately. Only 1 of the 48 correlations differed significantly for the two sexes. Thus the relations of friendship quality and self-esteem are reported for the whole group.

Relations of Friendship Quality to Changes in Self-Esteem

To test the hypotheses about the relations of friendship quality to changes in self-esteem over time, a series of hierarchical multiple regression analyses were done. Each measure of self-esteem in the spring was used as the criterion in a regression analysis with the corresponding fall measure as the first predictor. Then each measure of fall friendship quality was entered into each regression equation. The regression coefficients for the friendship measures reveal how well they predict changes in students' self-esteem over time. This type of regression analysis often has been used to test hypotheses about the effect of one variable on another (e.g., Berndt & Keefe, 1995; DuBois, Felner, Brand, Adan, & Evans, 1992; Dubow, Tisak, Causey, Hryshko, & Reid, 1991).

In the initial regression analyses, the stability of students' friendships was not taken into account. Two of the 18 analyses (3 friendship measures by 6 self-esteem scales) revealed significant effects of friendship. First, the measure of fall positive friendship features was a predictor of self-perceptions of athletic competence in the spring, when the fall measure of self-esteem entered the equation first ($\beta = -.12, t = -3.48, p < .001$). The negative coefficient indicates that students who had more positive interactions with friends in the fall felt less competent about their athletic ability over time.

Second, as expected, the measure of fall negative friendship features was a predictor of self-perceptions of behavioral conduct in the spring, when the fall measure of conduct was entered into the equation first. The standardized regression coefficient for the measure of negative features was negative in direction ($\beta = -.08, t = -1.99, p < .05$). Students whose friendships involved more conflicts in the fall perceived their own conduct as less appropriate as the school year progressed.

Next, to examine whether the effects of the fall friendship quality depended on friendship stability, a term for the interaction of friendship stability and friendship quality was included in the regression analyses. As before, each measure of self-esteem in the spring was used as the criterion in a regression equation with the corresponding fall measure as the first predictor. Terms for friendship stability and one measure of fall friendship quality also were entered before the term for their interaction. A significant interaction term would indicate that the relation of a measure of friendship quality to a measure of self-esteem differs with the level of friendship stability (Cohen & Cohen, 1983; Pedhazur, 1982). To reduce multicollinearity, all predictors were centered by subtracting the mean from each score (Aiken & West, 1991).

The analyses of the 3 friendship measures for the 6 scales of self-esteem yielded 18 interaction terms, of which 3 were significant. First, the interaction of fall positive features and friendship stability was a significant predictor of self-perceptions of physical appearance in the spring, once the fall self-perceptions of physical appearance was controlled ($\beta = .10, t = 2.49, p < .05$). To specify the significant interaction, the slopes of the simple regression equations were calculated at three levels of friendship stability: one standard deviation (SD) above the mean, the mean, and 1 SD below the mean on friendship stability (Cohen & Cohen, 1983).

At 1 SD below the mean on friendship stability, the slope of simple regression equation was significantly different from 0. More specifically, positive features of fall friendships were negatively related to self-perceptions of physical appearance in the spring, once the corresponding fall competence was controlled ($\beta = -.17, t = -3.02, p < .01$). On the other hand, at the mean and at 1 SD above the mean on friendship stability, positive features of fall friendships were not significantly related to students' self-perceptions of physical appearance in the spring, once their fall competence was controlled. Thus students who viewed their fall friendships more positively were especially likely to show a decrease in perceived physical appearance during the year, when their friendships mostly were unstable.

Contrary to hypothesis, the interaction term for fall positive features and friendship stability was not a significant predictor of either students' self-perceptions of social acceptance or their global self-worth in the spring, once

the corresponding fall competence was controlled ($p > .15$). The nonsignificant results, when taken together with those from the initial regression analyses, indicate that having supportive friendships in the fall did not enhance students' self-perceptions of social acceptance or their global self-worth during the year.

Second, the interaction of fall negative features and friendship stability was a significant predictor of self-perceptions of athletic competence³ in the spring, once their corresponding fall competence was controlled ($\beta = .08$, $t = 2.39$, $p < .05$). At 1 SD below the mean on friendship stability, the negative features of friendships in the fall were related negatively to self-perceptions of spring athletic competence, once the fall athletic competence was controlled ($\beta = -.09$, $t = -2.08$, $p < .05$). At the mean and at 1 SD above the mean on friendship stability, however, reports of the fall negative features were unrelated to the changes in self-perceptions of athletic competence during the year. In other words, students were more likely to decline in perceived athletic competence during the year, when their friendships were high in conflicts and rivalry and were relatively unstable.

Third, the interaction of friends' fall interaction frequency and friendship stability was a significant predictor of changes in self-perceptions of physical appearance during the year ($\beta = .09$, $t = 2.18$, $p < .05$). Further analyses, however, indicated that at each level of friendship stability, interaction frequency in the fall was not related significantly to self-perceptions of physical appearance in the spring, once the corresponding fall competence was controlled. Therefore, slopes of the regression equations were calculated for more extreme levels of friendship stability: at 0 where all friendships were unstable and at 1 where all friendships were stable. At the level of friendship stability 0, interaction frequency in the fall was related negatively to students' self-perceptions of physical appearance in the spring, once their corresponding fall competence was controlled ($\beta = -.14$, $t = -2.04$, $p < .05$). At friendship stability level 1, the relation of fall interaction frequency to self-perceptions of physical appearance in the spring was in the opposite direction, but the effect did not reach significance ($\beta = .14$, $t = 1.74$, $.05 < p < .10$).

A final set of regression analyses was done to see if students' self-esteem in the fall was related to changes in the quality of their friendships during the year. For these analyses, each friendship measure in the spring was taken as the criterion with the corresponding friendship measure in the fall as the first predictor. The six scales for self-esteem in the fall then were considered as possible additional predictors. The 18 analyses (6 scales of self-esteem by 3 friendship measures) revealed a significant effect of one self-esteem scale on one of the three friendship quality measures. Students' perceived social acceptance in the fall predicted their interaction frequency with friends in the

spring, with fall interaction frequency entered into the equation first ($\beta = .14$, $t = 2.58$, $p < .05$). This effect implies that students who felt more accepted by their peers in the fall increased their interactions with friends as the year progressed. However, no domain of self-esteem in the fall was related to changes in either positive features or negative features of students' friendships during the year.

DISCUSSION

The purpose of this study was to test hypotheses about the relations of friendship quality to distinct domains of self-esteem, both at one time and across times. The results were consistent only partially with the initial hypotheses. The results indicate that the quality and stability of adolescents' friendships not only are related to their self-esteem, but also affect the changes over time in specific domains of self-esteem.

Consistent with the findings of past studies (Hirsch & Rapkin, 1987; Verberg, 1990), the magnitude of the correlations between friendship quality and self-esteem was moderate, even though most of the correlations were statistically significant. As expected, students whose friendships involved more positive features also had higher scores on the social acceptance and global self-worth scales. Further, the positive features of friendships were associated most strongly with self-perceptions of acceptance by peers among various domains of self-esteem, supporting the claim of Harter (1983) and symbolic-interaction theories (Cooley, 1922; Mead, 1934). In addition, positive friendship features were related positively to self-perceptions of conduct and scholastic competence. Similar to those of past research (Cauce, 1986; Kurdek & Sinclair, 1988; Rowlinson & Felner, 1988), the findings indicated that having supportive friendships related to higher self-esteem in the social, behavioral, and scholastic domains.

As hypothesized, adolescents whose friendships had more negative features viewed their own conduct as less appropriate and were generally less happy about themselves. Reports of negative friendship features, on the other hand, were not correlated consistently with the measures of other self-esteem domains. The pattern illustrates the importance of distinguishing between differing domains of self-esteem as well as between positive and negative features of friendship.

Friends' interaction frequency was correlated moderately with self-perceptions of social acceptance, athletic competence, and physical appearance in a positive direction. Further, friends' interaction frequency was correlated more strongly with self-perceptions of social acceptance than with

self-perceptions of athletic competence or physical appearance in both fall and spring. In a few past studies, adolescents who interacted frequently with friends were shown to have problematic adjustment (e.g., Csikszentmihalyi & Larson, 1984). The findings of the present study, however, indicated that the sheer frequency of interaction with best friends is not related consistently to poor psychological adjustment in adolescence. Whereas previous research measured adolescents' interactions with friends in general, the present study assessed interaction with specific friends. Moreover, past research often focused on adolescents who interacted frequently with friends, but who interacted little with parents. This focus could introduce an element of parent-friend opposition that was absent from the current measures.

Contrary to hypothesis, having friendships with many positive features was not a significant predictor of changes over time in either self-perceptions of social acceptance or global self-worth. Even when friendship stability was taken into account, positive friendship features were not a significant predictor of changes in either domains of self-esteem. The findings did not support the Sullivan hypothesis (1953) about the beneficial effects of close friendships in early adolescence. However, the present findings are consistent with those of other researchers who also have reported nonsignificant effects of supportive friendships (e.g., Hirsch & Dubois, 1991; Vernerberg, 1990). The positive features of friendships may have only limited effects, perhaps serving mainly to buffer specific stressors (Cohen & Wills, 1985). Also, considering the diverse sources of influences on adolescent self-esteem, especially parental influence, the effects of friendships alone may be weak.

Although the Sullivan hypothesis (1953) was not confirmed, two significant effects of positive features were found. First, adolescents whose fall friendships had many positive features became less competent about their athletic ability during the year. Other writers have speculated that competition in sports can negatively affect friendships if the friends play on opposing teams (Bigelow, Lewko, & Salhani, 1989). The results of the current study indicate, conversely, that having supportive friendships may reduce adolescents' involvement in competitive sports or reduce their perceptions of their athletic competence. However, the data in the current study are insufficient to evaluate these possibilities. Systematic research on the friendships of adolescent athletes would be desirable.

Second, students who had fall friendships with many positive features became less satisfied with their physical appearance during the year, when their friendships were mostly unstable. The similar effect was found with frequency of interactions with friends. Having frequent interactions with friends in the fall was related to decreases in students' self-perceptions of physical appearance during the year, when all of their friendships were

unstable. These effects seem to provide evidence for the costs of unstable friendships in adolescence. Although stable friendships did not enhance self-esteem, the failure to maintain satisfying or highly involved friendships seem to undermine adolescents' competence in physical appearance. Why the costs of losing supportive or highly involved friendships were apparent only for the scale of physical appearance is difficult to explain. Additional research will be valuable to clarify the relations of friendship quality and stability to self-perceptions of physical appearance in adolescence.

Consistent with hypothesis, negative friendship features in the fall predicted changes over time in self-perceptions of conduct. Adolescents who were heavily involved in conflicts and rivalry with close friends perceived their own conduct toward other peers and adults as less appropriate during the year. The finding is consistent with that in previous research on the continuity in negative behaviors toward different interaction partners (e.g., Berndt & Keefe, 1995; Mackinnon-Lewis et al., 1994). The result indicates that problems with friends can spill over and affect other relationships. It also is possible, however, that problems with other relationships may affect interactions with friends.

Another effect of friendships with many negative features was unexpected. Adolescents who had many negative interactions with friends in the fall felt less competent about their own athletic ability during the year, when those friendships mostly were unstable. Further research on adolescents' athletic competence and its effects on friendships would be desirable.

When interpreting the results of the study, two issues must be considered. First, the stability coefficients for the self-esteem scales were of high magnitude, limiting the ability to identify significant predictors of changes in self-esteem. Partly for this reason, even regression coefficients that were statistically significant were modest in size. In future research on the effects of friendship quality, researchers could select criterion variables that show greater variability over time. Similarly, the stability coefficients for the friendship features also were high: .75, .54, and .55 for positive and negative features, and interaction frequency with friends. The high stability of friendship measures may be one reason that the fall self-esteem measures were mostly nonsignificant as predictors of changes in friendship quality during the year. Second, because the group came from schools that enrolled very few minority students, the generalizability of the findings to different ethnic groups is unknown. Only scattered evidence on ethnic differences in peer relationships is available (e.g., Steinberg, Dornbusch, & Brown, 1992). More research of this type is needed greatly.

Nevertheless, the present study is apparently the first one in which a longitudinal design was used to examine the relations of friendship quality

and self-esteem using multidimensional measures of both constructs. The results did not confirm widely accepted hypotheses about the effects of positive friendships on general self-esteem. However, the findings indicated that the failure to maintain satisfying friendships may undermine adolescents' competence in physical appearance. The present study also demonstrated the importance of friendship stability as a moderator of the relations between friendship quality and self-esteem. In addition, the results revealed that conflicts and rivalry between friends deserve more attention, because negative interactions with friends can lead to decreases in adolescents' competence in conduct.

NOTES

1. The mean scores on the measures of friendship quality indicated that students gave differing responses for their three friendships. Students reported their first best friendship more positively than their second best friendship, and their second friendship more positively than their third friendship ($p < .05$). Students also viewed their first best friendship as having fewer negative features than their second and third friendships ($p < .01$) (for more details, see Berndt & Keefe, 1995).

2. Some researchers have assessed only one best friendship of a child or adolescent, and then examined the relations of the quality of that friendship to other measures (e.g., McGuire & Welsh, 1982). In preliminary analyses in the current study, students' reports about their very best friend were used to create analogous measures. Analyses of the very-best-friend measures yielded results similar to those of the measures based on multiple friendships. However, stronger effects were found for the measures of multiple friendships, probably because they were more reliable. Therefore, only the results for the measures of multiple friendships are reported.

3. Given the greater involvement of boys in competitive athletics, multiple regression analyses including the product term for negative features and friendship stability were done for each gender separately to examine whether the significant effect of the product term held only for boys. However, the analyses yielded significant product terms for both genders.

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