Individual and Contextual Predictors of Perceived Friendship Quality among Ethnic Minority, Low-Income Adolescents

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This longitudinal study examined the separate, relative, and combined contributions of demographic (i.e., gender and ethnicity), individual-level (i.e., psychological well-being), and contextual (i.e., relationships with parents and perceived school climate) factors on changes over time in perceived quality of general and closest same-sex friendships among 114 Asian American, Black, and Latino adolescents from low-income families. Multiple regression analyses indicated that the increase in reported levels of general friendship support from Time 1 to Time 2 (a 1-year period) was greater for those who reported more positive perceptions of school climate at Time 1. The increase in general friendship support from Time 1 to Time 2 was also greater for those who reported lower support scores from mothers at Time 1. Findings suggest a compensatory model of relationships and draw attention to the importance of exploring the ecological context of adolescent friendships.

The extensive body of research on friendships over the past 2 decades has provided much information on adolescents' perceptions of their friendships, as well as on the psychological and developmental consequences of friendships for adolescents. Friendships have been found to help satisfy adolescents' desire for intimacy; enhance their interpersonal skills, sensitivity, and understanding; and contribute significantly to cognitive and social development and psychological adjustment (Hartup, 1993, 1996;
Few researchers, however, have investigated the predictors of friendship quality among adolescents (Savin-Williams & Berndt, 1990). Little is known, for example, about what individual-level and contextual factors predict changes in the quality of adolescent friendships over time. Research on friendships among ethnic minority adolescents is rare as well. Although a small body of research has focused on the friendships of low-income and middle-class African American adolescents (Cauce, 1986, 1987; Coates, 1985, 1987; DuBois & Hirsch, 1990; Gallagher & Busch-Rossnagel, 1991), there has been almost no research on the friendships of Latino or Asian American adolescents from any socioeconomic background. Finally, researchers have typically examined either peer relationships or friendships, rarely distinguishing between close friendships and friendships in general. Adolescents appear to make sharp distinctions between types of friendships, however (Duff, 1996; Savin-Williams & Berndt, 1990; Shulman, 1993; Way, 1998), and their psychological well-being is often more influenced by their general friendships or classmates than by their close friendships (Harter, 1990). Responding to these gaps in the literature, the aim of the present longitudinal study was to examine the predictive contributions of demographic (i.e., gender and ethnicity), individual-level (i.e., psychological well-being), and contextual (i.e., relationships with parents and perceived school climate) factors on changes over time in perceived quality of general and closest same-sex friendships among Asian American, Black, and Latino adolescents from low-income families.

**Individual-Level Variable: Psychological Adjustment**

Research on adolescents has found that friendship quality, peer support, or attachment to friends is associated positively with self-esteem (Armsden & Greenberg, 1987; Buhrmester & Yin, 1997; Cauce, 1986; Coates, 1985; Dubow & Ullman, 1989; Hirsch & Rapkin, 1987; Keefe & Berndt, 1996; Ryan, Stiller, & Lynch, 1994; Way & Chen, 2000) and associated negatively with depression (Armsden & Greenberg, 1987; Berndt & Hawkins, 1985; Buhrmester, 1990; Compas, Slavin, Wagner, & Vannatta, 1986; Way & Chen, 2000). The theoretical assumption underlying much of this research is that peer support or strong attachments to friends enhances an adolescent’s sense of self-worth (“If I am well supported by my friends, I must be worthy of such support.”; Harter, 1990). Peer or friend support is typically assumed to be a predictor of psychological well-being rather than vice versa.

Furthermore, research has suggested that the association between friend-
ship quality and psychological well-being may vary by gender (Armsden, 1986; DuBois & Hirsch, 1993; Fenzel & Blyth, 1986; Rosenbaum, 2000). Self-esteem or psychological well-being appears to be a stronger correlate of perceived friendship quality among females than males (Armsden, 1986; Rosenbaum, 2000). In a study of ethnic minority adolescents, Rosenbaum (2000) found a significant association between psychological adjustment and perceived friendship quality only among females. The reason for this pattern may be that females’ self-images are more “relationally oriented” than are males’ (see Brown & Gilligan, 1992; Gilligan, 1982). It is unknown, however, if gender moderates the association between psychological adjustment and changes in perceived friendship quality over time.

Limitations of the research on psychological adjustment and friendship quality include its cross-sectional approach (Buhrmester & Yin, 1997). Thus, it remains unclear whether psychological adjustment and friendship quality are associated with each other over time. The few longitudinal studies that do exist have found that whereas indices of self-esteem and/or depressive symptoms and friendship quality were correlated significantly in concurrent data, friendship quality did not predict changes in self-esteem or depressive symptoms over time (Keefe & Berndt, 1996; Way & Greene, in press). Similarly, findings from a 2-year longitudinal study of junior high school students indicated that peer support was a significant predictor of self-esteem only for adolescents who reported chronically low self-esteem over 2 years (Hirsch & DuBois, 1991). However, these longitudinal studies, as well as the concurrent studies described previously, have focused almost exclusively on examining the effects of friendship quality on psychological well-being. Psychological well-being might also influence friendship quality (Paterson, Pryor, & Field, 1995; Savin-Williams & Berndt, 1990). As Estrada (1996, p. 7) has pointed out, “adolescents’ own characteristics affect their capacity to obtain support from others.” Adolescents who feel positively about themselves may experience their friendships improving over time. Longitudinal research is needed to determine if and to what extent psychological well-being predicts changes over time in perceived friendship quality (Hartup, 1996; Paterson et al., 1995) and whether gender moderates this association.

**Contextual Variables**

*Parent–adolescent relationships.* Research that examined the influence of family relationships on peer relationships or friendships has indicated that the perceived quality of relationships with parents is associated positively with the perceived quality of relationships with peers or friends.
According to attachment theorists, children internalize their parents’ acceptance of and responsiveness toward them in the form of internal working models of the self in relationships (Ainsworth & Bowlby, 1991). These internal working models, consequently, influence nonfamilial relationships, including those that children have with their peers. Children whose parents provide security, warmth, and trust have been found to be more likely than others to experience similar qualities in their relationships with their peers (Armsden & Greenberg, 1987; Greenberg et al., 1983; Kerns & Stevens, 1996; Ryan et al., 1994; Sroufe & Waters, 1977). Research on perceived social support also has consistently detected a positive association between perceived family and friend support (Procidano, 1992; Procidano & Smith, 1997). When a child’s need for support is met at home, that child will likely perceive others outside of the home as supportive as well (Bartholomew, Cobb, & Poole, 1997; Procidano & Heller, 1983; Sarason, Pierce, & Sarason, 1990).

It remains unclear, however, whether the perceived quality of relationships with parents contributes significantly to perceived quality of friendships among adolescents, over and above the effects of individual-level variables. A concurrent analysis of the Time 1 sample from the present study indicated that perceived family support was a significant correlate of perceptions of friendship quality, even after controlling for psychological well-being (Way & Chen, 2000). Yet it is unclear if perceptions of relationships with parents are associated with changes over time in perceptions of friendship quality, before or after controlling for individual-level variables.

Researchers have suggested that the association between parent and peer support may vary as a function of gender, culture, race and ethnicity, or a combination of these factors (Cooper & Cooper, 1992; Edwards, 1992; Parke, 1992; Procidano & Smith, 1997; Way & Chen, 2000). Different socialization goals for males and females, and different cultural values regarding family relationships and friendships may lead the association between family and friends to vary by gender, race and ethnicity, or both (Cooper & Cooper, 1992; Edwards, 1992). In a concurrent analysis of the Time 1 sample from the present study, Way and Chen (2000) found that the association between perceived family support and perceived general friendship support was stronger for males than for females. Rosenbaum (2000) also concluded that the association between perceived quality of family relationships and perceived quality of friendships was stronger for males than for females. Parke (1992, p. 431), in a review of the literature, noted that parental influence may “assume different forms in the case of boys and girls’ so-
cial relations with peers.” Socialization processes in and outside of the family may lead males’ friendships to be more sensitive to, or influenced by, the support provided by parents than females’ friendships. The influence of parent–adolescent relationships on adolescent friendships may also take different forms across ethnic, racial, and cultural lines due to socialization processes (see Cooper & Cooper, 1992; Whiting & Edwards, 1988). Males, for example, are more likely to engage in prosocial behavior with their peers when they come from cultures in which they are expected to care for their younger siblings (Whiting & Edwards, 1988). The existence of gender or ethnic and racial variations in the association between family relationships and friendships, however, has rarely been tested in a prospective analysis.

**Perceived school climate.** In studies on social and psychological development among adolescents, researchers have emphasized not only the importance of families but also the importance of perceived school environment (Epstein, 1989; Epstein & Karweit, 1983; Haynes & Emmons, 1994; Kuperminc, Leadbeater, Emmons, & Blatt, 1997; Roeser & Eccles, 1998; Seidman, 1991). The perceived school climate—the quality of interactions and feelings of trust, respect, and support that exist within the school community—has been found to relate concurrently and prospectively to students’ ratings of self-esteem, psychological adjustment, level of anxiety, problem behaviors, and academic self-concept (Felner, Brand, Adan, & Mulhall, 1993; Grobel & Schwarzer, 1982; Haynes & Emmons, 1994; Kuperminc et al., 1997; Moos, 1991; Roeser & Eccles, 1998). Perceptions of school climate have also been proposed to have a significant effect on the social behaviors and interpersonal relationships of students (Doll, 1996; Epstein & Karweit, 1983; Haynes & Emmons, 1994; Minuchin & Shapiro, 1983; Rizzo, 1989). Students who perceive the school environment as respectful, supportive, and trusting may find it easier to make and maintain supportive friendships with their peers than those who perceive the school to be a hostile environment. As Epstein and Karweit (1983, p. 60) note, “[n]egative features in a school environment—ridicule, discrimination, low expectations, stereotypes, repressions, punishment, isolation—may increase the dissociative quality of the setting and affect the thought processes and social behavior of the students.” Experiences of alienation at school may enhance students’ sense of isolation, which may, in turn, make it difficult for them to find supportive friendships in and out of school settings. In addition, the extent to which students feel physically safe in school may affect the quality of their friendships and their willingness to seek out friends. Students who do not feel safe at school often report feeling wary and distrustful of their peers in general (see Way, 1998), and this
pervasive sense of distrust may also make it difficult to find supportive
friendships (Epstein & Karweit, 1983).

Although researchers have argued that perceived school climate is
likely to influence the quality of adolescent friendships (see Cochran &
Davila, 1992; Epstein, 1989; Epstein & Karweit, 1983), little empirical evi-
dence of such an association exists. In addition, research has not examined
the relative and combined influence of perceived school climate, family re-
lationships, and psychological well-being on changes in the quality of ad-
olescent friendships over time. The concurrent analysis of the present
study’s Time 1 sample indicated that school climate was a significant cor-
relate of perceived quality of general friendships, and a marginally signif-
icient correlate of perceived quality of close friendships, after controlling
for family support and psychological well-being (Way & Chen, 2000). This
analysis, however, did not examine the influence of perceived school cli-
mate on changes over time in perceived friendship quality.

Present Study

Responding to these gaps in the literature, we sought to examine (1) the
separate, relative, and combined contributions of individual-level (i.e.,
psychological well-being) and contextual (i.e., relationships with parents
and school climate) factors on changes over time in perceived quality of
general friendships (i.e., friends who are not considered best friends) and
closest same-sex friendships among low-income adolescents of color; and
(2) the moderating effects of gender on the association between psycholog-
ical well-being and the perceived quality of general and closest same-sex
friendships, and the moderating effects of gender and ethnicity on the as-
sociation between relationships with parents and the perceived quality of
general and closest same-sex friendships. It was hypothesized that higher
scores (more positive) on the individual-level and contextual variables, in-
dividually and combined, would predict improvements over time in the
perceived quality of friendships. Because most of the adolescents in the
present study came from mother-only households, perceived relation-
ships with fathers were expected to have less predictive power on friend-
ship quality than perceived relationships with mothers. It was also ex-
pected that the effects of psychological well-being on changes in perceived
quality of friendships would be stronger for females than for males, and
the effects of perceived relationships with parents on changes in perceived
quality of friendships would be stronger for males than for females. There
were no specific hypotheses regarding the moderating effects of ethnicity
on the association between perceived relationships with parents and
friends due to the lack of research examining such effects. Perceptions of the quality of general friendships and closest same-sex friendships were examined separately in response to research that underscores the importance of distinguishing between types of friendships (Harter, 1990; Savin-Williams & Berndt, 1990; Shulman, 1993), particularly between general and close friendships (Duff, 1996; Harter, 1990).

**METHOD**

**Participants**

Participants in this longitudinal study were 124 adolescents (46.8% males, mean age = 14.3 at Time 1) from a New York City public high school. The sample included 31.5% self-identified Black (predominantly African American), 41.8% Latino (predominantly Dominican or Puerto Rican), 19.4% Asian American (predominantly Chinese American), and 7.3% racially and ethnically mixed students. The majority of the participants came from single-parent families (70%), and had mothers (74%) and fathers (71%) who were not educated beyond high school. Ninety-five percent of the students in the study were born and/or raised primarily in the United States. Ninety-percent of the student body at the school were eligible for federal assistance through the free lunch program. One hundred and seventy-six ninth-grade high school students participated in the study in the fall of 1996 (85% of the students who were invited to participate), and 124 of these 176 students participated in the study in the fall of 1997 (95% of the students who remained in the school at Time 2). The present study’s analyses focused only on the 124 students who participated in both waves of data collection. Analysis of Time 1 data indicated that the adolescents who were not a part of the study at Time 2 did not differ significantly from those who were a part of the study at Time 2. For statistical purposes, biracial students were eliminated from the final analyses due to their small group size \( N = 10 \). Consequently, the sample size for the analyses was 114 students.

**Procedure**

During the first and second wave of data collection, students were recruited from mainstream English classes. The purpose of using mainstream English classes was to assure that the participants in the study were fluent English speakers. Informed consent from parents and informed assent from students were obtained. The parental consent forms were trans-
lated into Spanish and Chinese, the two languages spoken most commonly by non-English speaking parents. Questionnaires were administered during English classes or lunch periods. Students were paid $10.00 to complete the questionnaires. A racially and ethnically diverse team of research assistants administered the questionnaires.

Measures

**Background variables.** Demographic questions were used to assess participant ages, gender, race and ethnicity, current living situation (e.g., people with whom they were living and for how long), and parental (or primary caretaker) occupation(s) and highest level of education.

**Psychological well-being.** The Rosenberg Self-Esteem Scale (RSE; Rosenberg, 1965), administered at Time 1 to assess general self-esteem, was developed with high school students and has been used with racially and ethnically diverse, urban high school students (Buhrmester, 1990; Wheelock & Erickson, 1996). The RSE consists of statements such as “I certainly feel useless at times” to which participants in the present investigation were asked to indicate their agreement or disagreement on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). The reliability and validity of the RSE has been well-established (Buhrmester, 1990; Rosenberg, 1965). In the present study, this measure yielded good internal reliability, $\alpha = .83$. A 10-item depressive symptom subscale from Buhrmester’s (1990) measure of socioemotional adjustment was administered also at Time 1. Students responded on a 5-point Likert scale (1 = never or not at all, 5 = very often or very much) to questions such as “How often do you feel unhappy or down?” Previous research has provided support for both the reliability and validity of the scores on this measure (Buhrmester, 1989). In the present study, this measure of depression demonstrated adequate internal reliability, $\alpha = .73$.

For theoretical reasons and to avoid multicollinearity, self-esteem scores were combined with depressive symptom scores to create a composite score of psychological well-being. This decision was based on research that has repeatedly found indices of depressive symptoms and self-esteem to be strongly negatively correlated for both European American and ethnic minority adolescents (see Aguilar, de Eduardo, & Berganza, 1996; Brown & Orthner, 1990; Chan, 1995; Duongtran, 1996). Some researchers have argued, in fact, that self-esteem is a component of depressive symptoms (Overholser, Brinkman, Lehnert, & Ricciardi, 1995). A strong negative correlation between depressive symptoms and self-esteem was detected in
the present sample, $r = -.60$, $p < .001$. The composite index was created as the average of the standardized scores on the RSE and the depressive symptom subscale (reversed scored).

**Parent–adolescent relationships.** To assess the perceived quality of relationships with parents, the Network of Relationships Inventory (NRI; Furman & Buhrmester, 1985) was administered at Time 1. The 30-item measure assesses positive and negative dimensions of relationships with mother, father, and closest same-sex friend (i.e., affection, reliable alliance, intimacy, companionship, satisfaction, conflict, and antagonism). Adolescents respond to questions regarding their relationship with a particular person by endorsing answers on a 5-point Likert scale ($1 =$ never or hardly ever, $5 =$ very often or extremely much). Items include questions such as “How often do you share feelings or secrets with this person?” or “How much does this person really love you?” The NRI has been used with ethnically diverse adolescents and yielded good internal reliability (Buhrmester, 1990; Clark-Lempers, Lempers, & Ho, 1991; Gavin & Furman, 1996). In the present study, the NRI yielded adequate internal reliability for the positive as well as the negative dimensions of the scale, $\alpha > .76$. Based on previous research on parent and peer relationships that has indicated that it is the positive elements of parent and peer relationships that are associated significantly with each other (Armsden & Greenberg, 1987; Procidano, 1992; Procidano & Smith, 1997), only the items examining the positive dimensions of relationships (i.e., affection, reliable alliance, intimacy, companionship, and satisfaction) were assessed. A mean score for each parent was calculated from the positive dimensions on the scale for a measure of the quality of the mother–adolescent relationship and of the father–adolescent relationship. Internal consistencies for these two measures were high, $\alpha > .91$.

**Perceived school climate.** A 33-item version of the School Climate Scale (Haynes, Emmons, & Comer, 1993) was administered at Time 1 to assess perceptions of school climate (perceptions of student–student relationships, teacher–student relationships, and order and discipline). The measure has a 5-point Likert scale ($1 =$ strongly disagree, $5 =$ strongly agree.) Items include “My school is a safe place,” “Students at my school have good self-control,” and “At my school, the teachers make the students feel good about themselves.” This measure was created with an ethnically diverse population and has shown evidence of good psychometric properties (Haynes et al., 1993). In the present study, the measure yielded high internal consistency, $\alpha = .88$. Following the standard coding procedure established by the authors of the scale, a mean score was calculated for each participant for a measure of perceived school climate.
Quality of general friendships. The Perceived Social Support Scale for Friends (PSS-Fr; Procidano & Heller, 1983) was administered at Time 1 and Time 2 to measure the perceived quality of friendships in general. Responses (1 = yes, 2 = no, 3 = don’t know) are given to 20 items, including such statements as “My friends give me the support that I need,” “I rely on my friends for emotional support,” and “My friends want to hang out or spend time with me.” The responses indicative of perceived social support are each scored as +1, and all other responses are not scored. Scores range from 0, indicating no perceived support, to 20, indicating maximum perceived support from friends. The measure has shown evidence of good psychometric properties when used with ethnically diverse populations (Tardy, 1985; Way & Leadbeater, 1999). In the present study the measure yielded adequate internal consistency at Times 1 and 2, α > .78.

Quality of closest same-sex friendships. The same scale used to assess the quality of parent–adolescent relationships was administered at Time 1 and Time 2 to assess the quality of closest same-sex friendships (NRI; Furman & Buhrmester, 1985; see previous description of this measure). Unlike the measure used to assess the quality of general friendships (the PSS-Fr), this measure focuses exclusively on relationships with closest same-sex friends. A mean score was calculated from the positive dimensions on the scale for a measure of the quality of closest same-sex friendships. Internal consistency for this measure was high at Times 1 and 2, α > .91.

RESULTS

To address our research questions, correlational and multiple regression analyses were conducted with the predictor and criterion variables. As shown in Table 1, bivariate correlations among the predictors in our model indicated that psychological well-being at Time 1 was correlated positively with ratings of relationship with mother at Time 1. Ratings of relationship with mother at Time 1 correlated positively with ratings of relationship with father at Time 1, as well as with reports of perceived school climate at Time 1. Bivariate correlations between the predictors and criterion variables indicated that reports of perceived school climate and of

1 Although the scoring procedure used in the analysis for this article is the standard procedure for this measure, an anonymous reviewer for this manuscript suggested that a better way to score this measure may have been to prorate the scores so that the “I don’t know” responses were not included in the calculation of the total number of items responded to on the scale.
psychological well-being at Time 1 correlated positively with reports of quality of general and closest same-sex friendships at Time 2. Bivariate correlations between the two criterion variables (i.e., quality of general and closest same-sex friendships) and within each criterion variable over time (Time 1 and 2) were statistically significant. The mean level of perceived support for general friendships significantly increased over time (Time 1 = 13.43, Time 2 = 14.21, \( p = .05 \)). The mean level of perceived support from closest same-sex friendships increased over time, but the increase was not significant (Time 1 = 3.89, Time 2 = 3.93, \( ns \)).

### Predictors of Perceived Quality of General Friendships

A series of regression analyses were conducted to examine the separate, relative, and combined contributions of demographic (i.e., gender and race and ethnicity), individual-level (i.e., psychological well-being), and contextual (i.e., perceptions of mother–adolescent relationships, father–adolescent relationships, and school climate) factors assessed at Time 1 on changes in perceived quality of general friendships from Time 1 to Time 2. The first set of regression analyses examined the separate or “zero-order” contribution of each predictor on changes in perceived quality of general friendships. The second set of regression analysis examined the relative and combined contributions of the demographic, individual-level, and contextual variables on changes in perceived quality of general friendships. For these simultaneous regression analyses, perceived quality of general friendships at Time 1 was entered into the model together with the demographic,
individual-level, and contextual variables assessed at Time 1. Because quality of general friendships at Time 1 was included in the regression equation, the regression coefficient for the other independent variables in the model indicated how well they predicted changes over time in adolescents’ perceptions of quality of general friendships from Time 1 to Time 2.²

Simultaneous multiple regression analyses were also conducted with three sets of interaction terms to assess the moderating effects of gender on the association between the psychological well-being and perceived quality of general friendships, and the moderating effects of gender and ethnicity on the association between perceived parental relationship variables and perceived quality of general friendships. The three sets of interaction terms were as follows: (1) Psychological Well-Being × Gender, Relationship with Mother × Gender, and Relationship with Father × Gender; (2) Relationship with Mother × Asian Dummy Variable and Relationship with Mother × Latino Dummy Variable; and (3) Relationship with Father × Asian Dummy Variable and Relationship with Father × Latino Dummy Variable. Each set of interaction terms was entered into separate regression equations because, had all the interaction terms been entered into one regression model, statistical power would have been greatly compromised given the number of predictors in the regression equation and the small sample size (see Tabachnik & Fidell, 1996).

The results of the regression analyses that examined the simple associations between each predictor and changes over time in perceived quality of general friendships revealed that the increase in reported levels of general friendship support from Time 1 to Time 2 was significantly greater for those who reported lower mother support at Time 1, $b = -.96, SE = .48, \beta = -.15, p = .048$, and for those who reported more positive perceptions of school climate at Time 1, $b = 1.87, SE = .76, \beta = .19, p = .016$. Graphic displays of these simple associations are presented in Figures 1 and 2. Neither reports of psychological well-being nor relationships with fathers contributed to changes over time in reports of quality of general friendships.

The results of the simultaneous regression analysis (see Table 2) indicated that perceived relationships with mother and perceived school climate remained significantly associated with changes in perceptions of quality of general friendships, even after controlling for all other predictor variables. The increase in reported levels of general friendship support over time was significantly greater for those who reported lower mother support at Time 1, and for those who reported more positive perceptions

² This strategy for investigating predictors of change over time in criterion measures has been used repeatedly by researchers (DuBois, Felner, Brand, Adan, & Evans, 1992; Dubow, Tisak, Causey, Hryshko, & Reid, 1991; Hoge et al., 1990; Keefe & Berndt, 1996).
FIGURE 1  Change in general friendship support over time as a function of mother support at Time 1.

FIGURE 2  Change in general friendship support over time as a function of perceptions of school climate at Time 1.
of school climate at Time 1. No other predictors were statistically significant. The final model accounted for 45% of the explained variance in perceived quality of general friendships at Time 2. After controlling for perceived quality of general friendships at Time 1, the demographic, individual-level, and contextual variables accounted for an additional 32% of the explained variance in perceived quality of general friendships at Time 2.

In the series of regression models assessing the moderating effects of gender or race and ethnicity, there was a significant interaction effect between perceived support from fathers at Time 1 and the Asian dummy variable, $b = 2.95$, $SE = 1.47$, $t(7, 96) = 2.00$, $p = .048$. The simple slope for the Asian American students, $b = 2.78$, $SE = 1.32$, $p = .038$, indicated that the increase in reported levels of general friendship support from Time 1 to Time 2 was significantly greater for Asian American students who reported higher support from their fathers at Time 1 than for those who reported lower support from their fathers at Time 1. The association between perceived father support and changes over time in perceived quality of general friendships was not significant for the Black or Latino adolescents. None of the other interaction terms contributed significantly to the explained variance in quality of general friendships.

### Table 2

<table>
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<th>Variable</th>
<th>$B$</th>
<th>$SE_{b}$</th>
<th>$\beta$</th>
</tr>
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<tr>
<td>General friendships at Time 1</td>
<td>.58</td>
<td>.10</td>
<td>.52***</td>
</tr>
<tr>
<td>Demographic variables</td>
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<td></td>
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<tr>
<td>Gender</td>
<td>−1.32</td>
<td>.76</td>
<td>−.14†</td>
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<tr>
<td>Latino†</td>
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<td>.92</td>
<td>.15</td>
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<tr>
<td>Asian American†</td>
<td>−.37</td>
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<tr>
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<td>.55</td>
<td>−.24**</td>
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<tr>
<td>Relationship with father at Time 1</td>
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<td>.10</td>
</tr>
<tr>
<td>Contextual variable/school</td>
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<td>School climate at Time 1</td>
<td>2.90</td>
<td>.81</td>
<td>.30***</td>
</tr>
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</table>

$R^2 = .452^{**} \quad F(8, 95) = 9.80^{***}$

*a Reference group for ethnic group dummy variables was Black.

** $p \leq .01$; *** $p \leq .001$; † $p \leq .10$. 

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Predictors of Perceived Quality of Closest Same-Sex Friendships

Regression analyses were conducted next to examine the separate, relative, and combined contributions of demographic, individual-level, and contextual factors assessed at Time 1 on changes over time in perceptions of quality of closest same-sex friendships. The measure of perceived quality of closest same-sex friendships assessed at Time 2 was used as the criterion variable, and the corresponding measure of quality of closest same-sex friendships assessed at Time 1 was entered into the model with the other predictor variables assessed at Time 1. The same series of regression analyses conducted with the measure of perceived quality of general friendships was conducted with the measure of perceived quality of closest same-sex friendships.

None of the individual-level or contextual predictor variables entered into separate regression equations with closest same-sex friendships at Time 2 as the criterion variable were statistically significant. The simultaneous regression analysis (see Table 3), however, indicated that lower support from mothers at Time 1 was associated significantly with an increase in perceived friendship quality over time, and more positive perceptions of school climate were associated marginally with an increase in perceived

<table>
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<td>.50***</td>
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<td>.15</td>
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<td>.09</td>
<td>−.08</td>
</tr>
<tr>
<td>Contextual variable/school</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School climate at Time 1</td>
<td>.26</td>
<td>.15</td>
<td>.17⁺</td>
</tr>
</tbody>
</table>

R² = .32***  F(8, 95) = 5.6***

^a Reference group for ethnic group dummy variables was Black.
* p ≤ .05; *** p < .001; † p ≤ .10.
friendship quality over time, after controlling for all other predictor variables. The other predictor variables were not significantly associated with changes over time in reports of quality of closest same-sex friendships. The final model accounted for 32% of the explained variance in perceived quality of closest same-sex friendships at Time 2. After controlling for perceived quality of closest same-sex friendships at Time 1, the demographic, individual-level, and contextual variables accounted for an additional 12% of the explained variance in quality of closest same-sex friendships at Time 2. None of the interaction terms were associated significantly with changes over time in quality of closest same-sex friendships.

DISCUSSION

The findings of this study underscore the usefulness of exploring the ecological context of adolescents’ experiences of friendships. As expected, more positive perceptions of school climate at Time 1 were associated significantly with increases over time in perceived quality of general friendships, even after controlling for the demographic, individual-, and family-level variables. Perceptions of school climate appear to influence not only academic achievement (Roeser & Eccles, 1998) and psychological well-being (Hoge, Smit, & Hanson, 1990), but also adolescents’ perceptions of their friendships. A school that is perceived to be unsafe and unsupportive of, or even hostile toward, relationships may make it not only difficult for students to pursue and maintain friendships over time; but may also undermine the friendships that students have when they enter school. In contrast, a school that is perceived to be supportive of its student body may be perceived as a safe space for friendship development and maintenance.

Reasons for the weaker association of perceived school climate with the perceived quality of closest same-sex friendships than with the perceived quality of general friendships might be related to the fact that closest friendships among the adolescents in the study appeared less likely to be school based than were general friendships (only 34% of best friends at Time 1 attended the same school as the adolescent). Perceptions of school climate may have a stronger influence on school-based friendships. Attachment-oriented theorists, however, would argue that the role modeling, or lack thereof, experienced in school could potentially influence school-based and non-school-based friendships. Furthermore, a post hoc analysis of our data suggested that having a best friend at school was not a significant moderator of the association between perceived school climate at Time 1 and changes over time in the perceived quality of closest same-sex friendships. The difference across friendship type in the effects
of perceived school climate may also have been due to the different measures used to assess the two types of friendships or the relatively small mean level change over time in perceived quality of closest same-sex friendships when compared with perceived quality of general friendships. Additional qualitative and quantitative research is needed to examine the replicability and generalizability of the current findings. Research is also needed to explore the processes by which perceptions of school climate influence perceptions of friendship quality.

As expected, perceived relationships with mothers not only contributed significantly to changes in perceived friendship quality, but also made a greater contribution than perceived relationships with fathers. The direction of effect between perceived relationships with mothers and friendship quality, however, was unexpected. Findings indicated that the increase in reported levels of general friendship support over time was significantly greater for those who reported lower mother support at Time 1, before and after demographic, individual-level, and contextual variables were taken into account. Lower mother support at Time 1 was also associated with an increase in perceived quality of closest same-sex friendships over time, but the association was only significant after controlling for the other predictor variables in the model. All of these patterns appeared to be similar for females, males, African Americans, Latinos, and Asian Americans.

The negative associations between perceptions of mother and friendship support may indicate that adolescents compensate for poor relationships with mothers by seeking out supportive friendships. Kahn’s (1989) study of high school students’ perceptions of family relationships and friendships indicated that perceptions of low family cohesion were significantly associated with perceptions of supportive friendships. East and Rook (1992) found that isolated children, compared with average and aggressive children, were most likely to perceive their school friendships as least supportive and their favorite sibling relationships as most supportive. These researchers explained their findings by noting that children may seek “social provisions in an effort to substitute or make up for a particular relationship deficiency” (p. 163). Those who perceive low support in one type of relationship may seek support in another.

Another plausible explanation for the negative association may be that adolescents who have supportive relationships with their mothers may be less interested or have less time to invest in friendships, especially as they grow older and the daily demands of homework, employment (60% of the adolescents in our study had part-time jobs by the tenth grade), and romantic relationships increases. The consequences of less time for friendships may not be that the quality of friendships is poor or declines over
time, but rather that the quality of friendships simply may not improve over time. In contrast, if adolescents are not receiving support at home, they may be more interested in finding time to spend with friends, especially as they grow older and more independent from their families. Spending more time with friends may improve the quality of their friendships over time.

The negative association between mother support and change in friendship quality may also relate to the culture and race and ethnicity of the sample investigated in the present study. Research with low-income and/or ethnic minority families has indicated that many such families maintain a belief system—due to a history of discrimination and oppression—that those who are not part of one’s family or one’s extended family should not be trusted (Salguero & McCusker, 1996; Stack, 1974; Way, 1998). The closer that adolescents feel to their families, perhaps, the more likely that they will share their family’s belief system and maintain a distrustful stance toward their nonfamilial peers. Similar to having less time for friends, maintaining a distrustful stance toward peers may not lead to poor friendships, or to a decrease in friendship quality over time, but to the quality of friendships remaining the same over time.

These explanations and the findings in the present study contradict much of the attachment and social support research. Yet, the attachment and social support research has rarely examined the prospective contributions of family relationships on adolescent friendships. Additional longitudinal research with adolescents is needed to further explore the ways in which perceived relationships with family members contribute to changes over time in the perceived quality of adolescent friendships. Movement should be toward an understanding of when, how, and with whom attachment and compensatory processes are suggested in parent and peer relationships.

Psychological well-being assessed at Time 1 did not significantly contribute to changes in quality of general or closest same-sex friendships over time, before or after controlling for contextual variables. Studies of early adolescents have reported similar findings. In their study of 297 junior high school students, Keefe and Berndt (1996) found that although global self-esteem was a significant correlate of the quality of friendships, it was not a predictor of change in the quality of friendships over time. As Buhrmester’s (1990) research suggested, however, the influence of psychological adjustment on friendships may grow stronger during adolescence. Buhrmester (1990) found that the association between friendship intimacy and psychological adjustment was relatively weak during preadolescence, but grew strong during adolescence. This pattern is congruent with theory that emphasizes the increasing importance of intimacy in friendships for
the evaluation of self-worth during adolescence (Sullivan, 1953). Although the present study found that psychological adjustment did not contribute significantly to changes in friendship quality from the ninth to tenth grade (Time 1 to Time 2), psychological adjustment may predict changes in friendship quality as adolescents grow older and the association between self-worth and intimacy grows stronger.

Unexpectedly, the present study detected only one moderating effect: perceived relationships with fathers at Time 1 appeared to make a more significant contribution to changes over time in perceived quality of general friendships among Asian American students than among Black or Latino students. This ethnic difference may be due to the fact that almost all (87.5%) of the Asian American students lived with their fathers at Times 1 and 2, whereas less than 40% of the Black or Latino students lived with their fathers at Times 1 and 2. Clearly, more contact with fathers may result in fathers having more influence on their children’s perceptions of their friendships. However, perceived relationships with fathers was not associated with perceived quality of closest same-sex friendships among any of the adolescents in the study. It is not clear how these mixed findings should be interpreted. It is important to note that the significant interaction (Father Relationships × Asian) may have been a spurious finding given the number of interactions that were tested and the relatively small sample size. Similar findings, however, were indicated in the concurrent analysis of the present study’s larger sample at Time 1 (see Way & Chen, 2000). The significant interaction found between perceived relationships with fathers and ethnicity as well the general lack of significant interactions found overall in the current analyses suggest that research with larger samples of Asian American, Latino, and Black adolescents is needed to examine further whether gender, ethnicity, or both moderate the association between individual-level or contextual variables and perceived friendship quality.

Although this study begins to provide an understanding of the predictors of perceived quality of general and close friendships among ethnic minority, low-income adolescents, there are numerous limitations, including the small sample size, the sole focus on parents and schools as contextual predictors, the use of only one type of research method (i.e., questionnaires), and the use of only self-report data. Studies of the predictors of adolescent friendships should expand the investigation of context to include not only families and schools but also neighborhoods and after-school environments—environments that may have a strong influence on the quality and characteristics of adolescent friendships (Parke, 1992). These investigations should also include subjective perceptions and objective features of these environments. Crime-ridden neighborhoods, for ex-
ample, may lower adolescents’ trust in other people and, consequently, affect their ability to experience their friendships as supportive. The investigation of the influence of family relationships on adolescent friendships should not be restricted to the quality of parent–adolescent relationships, but also include other factors that may play an important role in shaping adolescent friendships, such as the quality of sibling relationships and parental monitoring (Cooper & Cooper, 1992; East & Rook, 1992; Ping & Berryman, 1996). In addition, studies are needed that integrate quantitative and qualitative methods. With qualitative methods, the meanings adolescents make of their friendships and of the factors that shape the quality of their friendships over time, as well as the ways in which cultural values and expectations influence their friendships, could be tapped along with quantitative assessments of the quality of their friendships. The integration of methods would greatly enhance our knowledge of the predictors and experiences of friendships among adolescents. Finally, it is important for future studies to examine multi-informant data rather than self-report data alone so that the potential for bias stemming from shared method variance is reduced.

Expanding the friendship research to include investigations of the predictors of changes over time in the perceived quality of adolescent friendships seems critical for a more comprehensive understanding of adolescent development. The current study suggested that perceptions of relationships with mothers and of school climate contribute significantly to changes over time in the perceived quality of friendships among adolescents. Yet, it is unclear how these contextual factors and others shape adolescents perceptions of their friendships. What are the mechanisms or processes that explain the significant associations between various contextual variables and the quality of adolescent friendships? Exploring the ways in which the immediate and larger context influences the friendships of ethnically and socioeconomically diverse adolescents is a necessary step toward learning how to help adolescents have supportive and satisfying friendships.

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