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Loneliness and Peer Relations in Young Children

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CASSIDY, JUDE, and ASHER, STEVEN R. *Loneliness and Peer Relations in Young Children*. CHILD DEVELOPMENT, 1992, 63, 350–365. Recent studies indicate that feelings of loneliness and social dissatisfaction can be reliably assessed with third- through sixth-grade children, and that children who are sociometrically rejected by their peers are significantly more lonely than other children. The present research was designed (a) to examine whether loneliness could be reliably assessed in a population younger than previously studied, (b) to learn whether young children who are poorly accepted by peers report elevated levels of loneliness and social dissatisfaction, (c) to assess whether young children understand the concept of loneliness, and (d) to examine the behavioral characteristics of lonely young children. Kindergarten and first-grade children ($N = 440$) responded to a questionnaire about feelings of loneliness and social dissatisfaction in school. A subset of children ($N = 46$) were individually interviewed to assess their understanding of loneliness. To assess sociometric status and behavior, peers were asked to respond to various sociometric measures and behavioral assessment items. Teachers also provided behavioral information about children using a newly developed instrument. Results indicated that nearly all children understood loneliness, that loneliness was reliably assessed in young children, and that poorly accepted children were more lonely than other children. In addition, children who reported the most loneliness were found to differ from others on several behavioral dimensions.

Children's abilities to form close relationships and to function successfully within the peer group are increasingly viewed as important indicators of social competence (Asher & Parker, 1989; Berndt & Ladd, 1989; Hartup & Sancilio, 1986; Sullivan, 1953; Youniss, 1980) and as reliable predictors of adjustment in later life (Kupersmidt, Coie, & Dodge, 1990; Parker & Asher, 1987). Accordingly, considerable attention has been focused recently on children whose peer relations are problematic and who are highly disliked by their peers (see Asher & Coie, 1990, for reviews).

As part of this concern for children with peer relationship problems, attention has been directed toward learning whether rejected children experience greater feelings of loneliness and social dissatisfaction than other children. It is now clear that for children in the range of 8–12 years of age, loneliness is a meaningful construct and can be reliably measured (e.g., Asher, Hymel, & Renshaw, 1984; Asher & Wheeler, 1985; Bukowski & Ferber, 1987; Hayden, Tarulli, & Hymel, 1988; Marcoen & Brumagne, 1985). Furthermore, several investigations examining third- through sixth-grade children have

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indicated that children who are disliked by peers report more loneliness than children who are better accepted (Asher & Wheeler, 1985; Crick & Ladd, 1988; Williams & Asher, 1991).

As noted elsewhere (Asher, Parkhurst, Hymel, & Williams, 1990), the possibility that loneliness would accompany peer rejection is quite plausible given the difficulty rejected children have in relating to other children in school. Although rejected children rate the importance of getting along with others as highly as do other children (Taylor & Asher, 1988), it is clear that they are less successful in initiating interactions (Putallaz & Wasserman, 1990). Even when interacting, rejected children do not remain engaged with other children very long, but move from interaction to interaction more frequently than do other children (Ladd, 1983). Problems lie not only in the behavior of rejected children, but also in how their peers behave toward them. Several observational studies have found that, compared with other children, rejected children receive fewer positive initiations and more negative treatment from peers (e.g., Dodge, 1983; Gottman, Gonso, & Rasmussen, 1975). Rejected children also have reputational problems that constrain their opportunities for friendship; given an ambiguous situation, rejected children are less likely than others to be "given the benefit of the doubt" by their peers (Hymel, 1986; Hymel, Wagner, & Butler, 1990).

Until now, studies of childhood loneliness have not been conducted during the early childhood years, partly because some theorists have doubted the existence of loneliness in young children (e.g., Weiss, 1973). The present research, designed to examine loneliness among a population younger than previously studied, had two principal goals. First, we were interested in whether loneliness in school could be reliably assessed with kindergarten and first-grade children. Second, we were interested in whether sociometrically rejected children in this age group would report more school-based loneliness than children in other status groups. Although previous research with older students provides the basis for expecting rejected children to be the most lonely status group, there are reasons why the link between loneliness and rejection may not be strong with young children. Younger children tend to have inflated views of their competence in a variety of areas (Harter, 1983; Nicholls, 1979; Stipek & Mac Iver,

1989) and may not be as aware of their actual status among peers. Furthermore, the relatively informal structure of kindergarten and first grade may provide the child with many opportunities for social interaction, thereby preventing rejected children from fully recognizing their rejected status.

Because this study assessed loneliness in a group younger than previously studied, it was important to ensure that the children in this study had a valid understanding of the concept of loneliness. To address this, a subsample of participants were individually asked a series of questions about the definition of loneliness, its causes, and its alleviation. Children's responses to these interviews were transcribed and coded to examine whether young children had an appropriate definition of loneliness. This we defined as an understanding that loneliness involves both the circumstance of aloneness and the feeling of sadness or some other type of depressed affect. (See Peplau & Perlman, 1982, for evidence that this definition parallels those provided by adults.)

Two different methods of assessing sociometric status were used in the present study. First, following the widely used Coie and Dodge (1983) limited-choice nomination procedure, children were classified into popular, rejected, neglected, controversial, and average groups based on scores derived from positive and negative sociometric nominations. Previous research with 8–12-year-old elementary school students has found that rejected children report elevated feelings of loneliness compared to average students, but that neglected children do not differ in loneliness from average students (Asher & Wheeler, 1985; Crick & Ladd, 1988). Of interest in the present study was whether this pattern would replicate with younger children. If so, it would contribute to emerging evidence that sociometrically rejected but not neglected children are a risk group (Coie, Dodge, & Kupersmidt, 1990; Rubin, Hymel, LeMare, & Rowden, 1989).

Sociometric status was also assessed by having children rate, on a 5-point rating scale, how much they like to play with each classmate (Ladd, 1981; Oden & Asher, 1977; Singleton & Asher, 1977). This method has been widely used in studies of elementary school students, including research with first-grade students (Putallaz, 1987). Rating-scale sociometric measures have the advantage that each child's score is based on the ratings of all classmates. This results in

352 Child Development

scores with greater reliability than that typically found using limited-choice nomination measures (Asher & Hymel, 1981). The greater reliability associated with rating-scale sociometric measures is particularly evident with younger children (Asher, Singleton, Tinsley, & Hymel, 1979). In the present study, children were classified as low-, average-, or high-accepted based on the average rating they received from their classmates. It was expected that low-accepted children would report greater loneliness than average- or high-accepted children.

The present study was also designed to examine the behavioral characteristics of very lonely young children. The relation of loneliness to behavioral characteristics in childhood has as yet received little attention. Studies examining loneliness in adulthood have indicated that lonely adults behave differently from others along several dimensions. Some studies have involved self-reports by lonely and nonlonely adults, and others have involved observations in laboratory settings. Lonely adults are more likely than nonlonely adults to exhibit shy behavior and other indices of "inhibited sociability," limiting social contact by spending more time alone, making friends less easily, dating less often, and initiating fewer interactions (Horowitz, French, & Anderson, 1982; Jones, Freeman, & Goswick, 1981; Russell, Peplau, & Cutrona, 1980). Similarly, high-lonely adults, relative to low-lonely adults, have been found to show a greater lack of such prosocial behaviors as demonstrating an interest in others and using effective interpersonal problem solving (Chelune, Sultan, & Williams, 1980; Horowitz & French, 1979; Horowitz et al., 1982; Jones, Hobbs, & Hockenbury, 1982). In the present study, in order to parallel previous literature with adults, we were interested in learning whether lonely children differed from others along the two behavioral dimensions of inhibited sociability and prosocial behavior. We were also interested in two dimensions not examined in the adult literature on the behavioral correlates of loneliness—aggressive and disruptive behavior—which are of great interest to researchers, teachers, and clinicians. For this reason, and because they have been found to be important correlates of children's sociometric status (Coie et al., 1990), we included these two dimensions.

This interest in children's behavioral characteristics prompted us to gather behavioral data from more than one source, and we obtained both peer reports and teacher

reports. Our peer-report measure, a nomination procedure, was similar to measures used in previous studies (Coie & Dodge, 1983; Coie, Dodge, & Coppotelli, 1982; Dodge & Coie, 1987). Our teacher-report measure was developed particularly for this study because no brief measure existed that tapped the four dimensions in which we were interested (prosocial, aggressive, shy/withdrawn, and disruptive behavior). We assessed the validity of this new measure by examining how teacher ratings of behavior related to peer assessments of behavior and to children's sociometric status.

Method

Subjects

Subjects were 452 children (230 boys, 222 girls) from seven kindergarten and 15 first-grade classrooms. These 5–7-year-old children came from four public schools in a moderate-size Midwestern community. Seventy percent of the children were Caucasian, 25% African-American, and 5% Asian. Most children came from working- and middle-class families. All children whose parents gave permission participated; the permission rate was greater than 80% in each classroom. Because of repeated school absences, 12 of the 452 children did not complete the loneliness questionnaire. One sociometric measure, the negative nomination measure, was not administered in five of 22 classrooms, in accordance with teacher preference. Thus, in analyses involving this measure, the sample size was 352. A subset of 46 children (25 girls, 21 boys), selected to include children from a range of sociometric status groups, was interviewed to assess children's understanding of loneliness.

Procedure

The study was conducted in the spring of the school year. Children were interviewed individually outside their classrooms by one of four female graduate students, all of whom had extensive prior experience working with children. Sociometric measures were administered first, followed by a series of behavioral nomination items, and, finally, by the loneliness and social dissatisfaction questionnaire. Children were assured of the confidentiality of their responses, and appeared to enjoy their participation. Children responded readily and without difficulty to the questions. The entire interview lasted 15–20 min per child.

Each teacher received the behavior rating questionnaire after all the children in

her class had been interviewed. She was asked to fill out the questionnaire as soon as possible and to return it through the mail. Teachers were paid \$10 for their participation.

Approximately 4–6 weeks after the first assessment, the subset of 46 students were interviewed individually about their understanding of loneliness.

Measures

Loneliness and social dissatisfaction.—The 24-item Loneliness and Social Dissatisfaction Questionnaire designed by Asher et al. (1984), and subsequently revised by Asher and Wheeler (1985) to focus on the school setting, formed the basis of the measure used in the present study. In the previous versions, children were presented with a series of statements and asked to indicate, using a Likert-type scale, the extent to which the statement was a true description of themselves (i.e., ranging from “that’s not true at all about me” to “that’s always true about me”). In the adaptation used here, there was a shift from a format in which children were required to respond to statements to a format in which they were required to respond to questions. Children responded to each question by answering “yes,” “no,” or “sometimes.” As in the earlier versions, questions focused on children’s feelings of loneliness (e.g., “Are you lonely at school?”), feelings of social adequacy versus inadequacy (e.g., “Are you good at working with other children at school?”), subjective estimations of peer status (e.g., “Do you have lots of friends at school?”), and appraisals of whether important relationship provisions are being met (e.g., “Are there kids you can go to when you need help at school?”). Interspersed with these items were eight additional “filler” items focused on children’s hobbies or preferred activities (e.g., “Do you like music?”; “Do you watch TV a lot?”). These items were included to help children feel more open and relaxed about indicating their attitudes about various topics. Although we had intended to include modified versions of all 24 items from the earlier questionnaires, one item was inadvertently omitted due to a clerical error. The omitted item was to have read, “Is it hard for you to get along with other kids at school?” Because of this omission, the questionnaire administered here contained 15 principal items and eight filler items. Before the questionnaire was administered, children were trained to use the response format and were given several practice items (e.g., “Do you have toast

for breakfast?”; “Do you like ice cream?”; “Do you like to do homework?”). Once it was clear that children understood the task, the experimenter read aloud each questionnaire item and recorded the responses. Table 1 lists the questionnaire items. Research with older children has revealed one principal factor on which all loneliness and social dissatisfaction items load (Asher et al., 1984; Asher & Wheeler, 1985).

Sociometric measures.—Sociometric measures were administered using individual photographs of each child in the class. Photographs were used to overcome any potential memory problems that might occur by relying on names only (Asher et al., 1979; see McCandless & Marshall, 1957).

The first sociometric measure was a 5-point rating-scale measure on which children rated how much they liked to play with each classmate. Children were taught to use a 5-point rating scale consisting of five faces ranging from a large frown through a neutral expression to a large smile. The training procedure is described in Singleton and Asher (1977). Once it was clear that the children understood how to use the rating scale, they were shown the photographs, one by one, of each classmate, and were asked to indicate on the 5-point scale “How much do you like to play with this child?” The experimenter recorded the children’s responses. A child’s score first was computed by calculating the average rating received from same-gender peers. Next, to permit comparison of scores across classrooms, average-rating scores were converted to standard scores, using means and standard deviations for each gender group in each classroom. These standard scores were used to classify children as high-, average-, and low-accepted. Children whose average rating was 1 SD or more *above* the mean were identified as high-accepted. Children whose average rating was 1 SD or more *below* the mean were identified as low-accepted. Children not in one of these two extreme groups were identified as average-accepted.

The second sociometric measure involved both positive and negative nomination questions. For the positive nomination procedure, children were asked to name the three children with whom they most liked to play. The experimenter displayed all of the children’s photographs in random order. The child was first asked, “Of all these children, point to the child you *most* like to play with.” The experimenter removed the se-

TABLE 1

FACTOR LOADINGS AND ITEM-TO-TOTAL SCORE CORRELATIONS FOR EACH ITEM OF THE LONELINESS AND SOCIAL DISSATISFACTION QUESTIONNAIRE FOR YOUNG CHILDREN

	Factor Loading	Item-to-Total Score Correlation
1. Is it easy for you to make new friends at school?	.25	.34
2. Do you like to read? ^a	.20	^a
3. Do you have other kids to talk to at school?	.41	.39
4. Are you good at working with other kids at school?	.35	.34
5. Do you watch TV a lot? ^a	-.07	^a
6. Is it hard for you to make friends at school? ^b	.49	.55
7. Do you like school? ^a	.38	^a
8. Do you have lots of friends at school?	.48	.44
9. Do you feel alone at school? ^b	.58	.48
10. Can you find a friend when you need one?	.43	.38
11. Do you play sports a lot? ^a	.10	^a
12. Is it hard to get kids in school to like you? ^b	.44	.44
13. Do you like science? ^a	.26	^a
14. Do you have kids to play with at school?	.52	.41
15. Do you like music? ^a	.12	^a
16. Do you get along with other kids at school?	.48	.39
17. Do you feel left out of things at school? ^b	.52	.45
18. Are there kids you can go to when you need help in school?	.32	.26
19. Do you like to paint and draw? ^a	.06	^a
20. Are you lonely at school? ^b	.58	.48
21. Do the kids at school like you?	.61	.47
22. Do you like playing card games? ^a	.06	^a
23. Do you have friends at school?	.36	.29

NOTE.—Administration instructions are available from the authors. One question was inadvertently omitted in the present study. This question (“Is it hard for you to get along with the kids at school?”^b) should follow question 19.

^a Filler items, focusing on hobby or interest items.
^b Items for which response order was reversed in scoring.

lected photograph and repeated the procedure until three children were chosen. The experimenter then gathered all the photographs and laid them out again in a different random order for the negative nomination procedure. The child was then told, “Sometimes there are children in our class who we really *do not* like to play with very much. Of all these children, point to the child who you really *do not* like to play with.” The procedure continued as in the positive nomination procedure, until up to three children were nominated. To permit comparison of nomination scores across classrooms that varied in size, a proportion score was computed for each child (i.e., the number of nominations received was divided by the number of classmates contributing sociometric data), and the proportion scores were standardized within each classroom. These standardized most-liked (ML) and disliked (DL) scores were used to classify children following the Coie and Dodge (1983) computational

formula. A social preference (SP) score was computed as the ML score minus the DL score, and a social impact (SI) score was computed as the sum of the ML and DL scores. The SP and SI scores were then standardized within each classroom. Each child was classified as fitting into one of the following five groups: (a) *popular*, consisting of all children receiving an SP score greater than 1.0, an ML score greater than 0, and a DL score less than 0; (b) *rejected*, consisting of all children receiving an SP score less than -1.0, an ML score less than 0, and a DL score greater than 0; (c) *neglected*, consisting of all children receiving an SI score less than -1.0, an ML score less than 0, and a DL score less than 0; (d) *controversial*, consisting of all children receiving an SI score greater than 1.0, an ML score greater than 0, and a DL score greater than 0; and (e) *average*, consisting of all children receiving an SP score between -.5 and .5, and an SI score between -.5 and .5. Children not

falling into one of these groups (those classified as "other") were not included in analyses using this measure.

Peer and teacher assessment of behavior.—On the peer assessment measure, children were asked to consider all classmates on three behavioral dimensions: aggressive, shy/withdrawn, and prosocial. For the aggressive dimension, children were asked to indicate which of their classmates "start fights and say mean things." For the shy/withdrawn dimension, children were asked to indicate which of their classmates "act shy around other kids, play alone and work alone most of the time, and seem afraid to be around other kids." For the prosocial dimension, children were asked to indicate which of their classmates are "really good to have in your class because they cooperate, help, and share. They let other children have a turn." For each behavioral dimension, children were shown, one by one in random order, all the photographs of the children in their class, and asked whether or not that particular child was "like that." Before beginning the assessment, several sample questions were administered until it was clear that the children understood the procedure (e.g., "Some children have brown hair. How about this child? Is she like that?"). Children were asked to respond either "yes" or "no." Scores were computed that reflected the proportion of classmates who attributed the particular behavior to each child.

On the teacher assessment measure designed for this study, teachers were asked to rate children on four behavioral dimensions: prosocial, aggressive, shy/withdrawn, and disruptive. Each dimension was assessed using three items, for a total of 12 items (see Table 2). In order to minimize potential dependency in the ratings teachers provided for the different items, each item was presented on a different page. On each page a roster of all students' names appeared underneath the item, with a 5-point scale next to each name. The scale ranged from a "1" ("very uncharacteristic") to a "5" ("very characteristic").

Understanding of loneliness.—Children were individually asked a series of questions to assess their understanding of loneliness. Questions focused on definitions of loneliness (e.g., "Do you know what being lonely means?"), its causes (e.g., "What are some of the reasons a kid might be lonely?"), and its

alleviation (e.g., "If you were lonely, what's the very best thing someone could do for you so you wouldn't feel lonely anymore?"). Responses to this interview were tape-recorded and were coded from verbatim transcripts. Children were considered to understand loneliness when they indicated that loneliness involved both (a) aloneness and (b) sadness or some other form of depressed affect. When the child mentioned only one component, the coder noted which was mentioned. Two independent coders with no information about the children coded all transcripts. Inter-coder agreement was 100%.

Results

Five sets of analyses are presented in this section. First, children's understanding of the definition of loneliness is reported. Second, the psychometric properties of the new loneliness and social dissatisfaction questionnaire are examined. Third, relations between loneliness and children's sociometric status are presented. Fourth, the reliability and validity of the new teacher rating measure are reported. Finally, the behavioral characteristics of lonely children are examined.

Understanding of Loneliness

Forty-three of 46 children (93%) revealed an understanding of loneliness by referring to both aloneness and sadness in their responses to the interviewer. The remaining three children (7%) referred to aloneness but not sadness. Sample responses to the question, "Do you know what 'being lonely' means?" included: "When no one's gonna play with you, and you feel kinda sad, an' no one will play with you, and you start feeling lonely"; "When you're alone, and you feel kinda sad"; "Being alone, being sad."

Loneliness and Social Dissatisfaction

Given that nearly all of the children interviewed demonstrated a basic understanding of the meaning of loneliness, next we examined children's responses to the questionnaire designed to assess feelings of loneliness and social dissatisfaction in school. Table 3 presents descriptive information about the distribution of children's responses to each of the principal items. It can be seen that for over half of the items, more than 10% of the children indicated considerable loneliness. For example, 12% of children responded "yes" to the question "Are

TABLE 2
FACTOR LOADINGS AND ITEM-TO-TOTAL SCORE CORRELATIONS FOR EACH ITEM OF THE TEACHER ASSESSMENT OF SOCIAL BEHAVIOR

	PRINCIPAL FACTOR LOADINGS				ITEM-TO-TOTAL SCORE (Factor) CORRELATION
	I Aggressive (alpha = .91)	II Disruptive (alpha = .89)	III Prosocial (alpha = .88)	IV Shy/Withdrawn (alpha = .62)	
1. This child starts fights	.62				.80
2. This child is mean to other children	.92				.88
3. This child hurts other children	.69				.80
4. This child disrupts other children's activities		.77			.84
5. This child acts up in class		.87			.80
6. This child interrupts other children		.59			.73
7. This child is cooperative with other children— he/she shares and takes turns			.64		.79
8. This child is friendly and nice to other children			.50		.77
9. This child is helpful toward other children		-.44	.44		.73
10. This child is shy/withdrawn				.69	.43
11. This child does not play or work much with other children				.42	.40
12. This child seems fearful about being with other children				.65	.53

NOTE.—Items were administered in the following order: 7, 1, 10, 6, 8, 2, 11, 5, 9, 3, 12, 4. All loadings above .35 are listed.

TABLE 3
PERCENTAGE DISTRIBUTION OF CHILDREN'S RESPONSES TO LONELINESS
AND SOCIAL DISSATISFACTION ITEMS

	RESPONSE		
	Yes	Sometimes	No
1. Is it easy for you to make new friends at school?	62.0	12.5	25.2
2. Do you have other kids to talk to at school?	92.3	3.2	4.5
3. Are you good at working with other kids at school?	86.1	7.5	6.4
4. Is it hard for you to make friends at school?	25.7	6.8	67.4
5. Do you have lots of friends at school?	83.9	2.7	13.4
6. Do you feel alone at school?	12.0	9.5	78.4
7. Can you find a friend when you need one?	85.0	8.0	7.0
8. Is it hard to get kids in school to like you?	31.1	11.4	57.5
9. Do you have kids to play with at school?	93.9	4.5	1.6
10. Do you get along with other kids at school?	85.5	10.7	3.9
11. Do you feel left out of things at school?	17.0	13.4	69.5
12. Are there kids you can go to when you need help in school?	82.6	6.8	10.5
13. Are you lonely at school?	11.8	10.9	77.3
14. Do the kids at school like you?	80.1	15.3	4.6
15. Do you have friends at school?	97.3	.9	1.8

you lonely in school?” and a similar number responded “yes” to the question “Do you feel alone in school?” Seventeen percent of children responded affirmatively when asked, “Do you feel left out of things at school?”

Results of a factor analysis (quartimax rotation) of the loneliness questionnaire indicated that all but one of the principal items and only one filler item (“Do you like school?”) loaded above .30 on the principal factor. Factor loadings for each item and the item-to-total correlations are shown in Table 1. In order to be consistent with previous research with older children, each child’s score was created using all principal items. Cronbach’s alpha, a measure of internal reliability, was .79 for the principal items, indicating satisfactory reliability.

Loneliness and Sociometric Status

We next examined connections between loneliness and the sociometric measures. A total loneliness score was calculated for each child. Children’s scores could range from 15 to 45, given 15 primary items each on a 3-point scale. Children’s total loneliness scores were found to be significantly correlated with rating-scale scores of acceptance for all children, $r(440) = -.23, p < .001$, as well as for boys, $r(226) = -.14, p < .05$, and for girls, $r(214) = -.33, p < .001$, separately. Loneliness was also significantly correlated ($p < .05$ in all cases) with both positive and negative nominations for all children ($-.19$ and $.24$, respectively), as well as for boys

($-.16$ and $.25$, respectively) and for girls ($-.23$ and $.30$, respectively).

Using groups created by the Coie and Dodge (1983) classification approach (popular, average, rejected, neglected, and controversial), children of different sociometric status groups were compared. Table 4 presents the means and standard deviations of loneliness for each group, separately by gender. A 5×2 (status group $\times$ gender) analysis of variance (ANOVA) revealed a significant effect of status group, $F(4,195) = 4.59, p < .001$. Follow-up Tukey tests indicated that rejected children were significantly more lonely than average children, than neglected children, and than popular children. No other comparisons were statistically significant. There was no significant main effect for gender, nor was there a significant status group $\times$ gender interaction.

In a parallel analysis, we compared children classified as high-, average-, or low-accepted based on their mean rating-scale sociometric scores. Table 5 presents the means and standard deviations of loneliness for each group, by gender. A 3×2 (acceptance group $\times$ gender) ANOVA indicated a significant effect of acceptance group, $F(2,437) = 12.84, p < .001$, and follow-up Tukey tests indicated that low-accepted children were more lonely than average- or high-accepted children, and that average-accepted and high-accepted children did not differ significantly. There was no significant main effect for gender, nor was there a sig-

TABLE 4
MEAN TOTAL LONELINESS AND SOCIAL DISSATISFACTION SCORES AS A FUNCTION OF SOCIAL STATUS GROUP AND GENDER

GENDER	STATUS GROUP				
	Popular	Average	Rejected	Neglected	Controversial
Girls	18.3 (3.3)	18.4 (4.7)	23.6 (5.6)	20.6 (4.5)	22.0 (4.6)
n	33	27	11	29	3
Boys	18.7 (4.2)	20.3 (5.8)	22.2 (6.3)	19.0 (4.2)	19.3 (4.5)
n	15	24	32	19	7

NOTE.—Total N is 200. Standard deviations are given in parentheses.

nificant acceptance group $\times$ gender interaction.

Given that the 15 principal items from the loneliness and social dissatisfaction scale focus on several different kinds of dimensions (e.g., loneliness, perceptions of social competence, expectations that friendship needs will be satisfied), it becomes important to assess whether significant findings again emerge when only the items directly focused on loneliness are used. Accordingly, a subscale was created using the following three items: “Do you feel alone at school?”; “Do you feel left out of things at school?”; and “Are you lonely at school?” The pattern of relations between loneliness and sociometric status obtained with the entire scale were once again obtained when this subscale was used.

Behavioral Characteristics

The next major set of analyses compared the behavioral characteristics of lonely and nonlonely children. Prior to this, a series of preliminary analyses were conducted to examine the properties of the peer and teacher behavior assessment measures.

Peer assessment.—The first preliminary analysis was intended to examine whether peer assessments of behavior in this study

related to status and gender in ways congruent with previous literature. Acceptance groups were used as the basis for defining sociometric status so that all children could be included in the analysis. A 3×2 (acceptance group $\times$ gender) multivariate analysis of variance (MANOVA) with all three peer behavioral assessment items as the dependent variables was conducted. There was a significant effect of acceptance group, $F(6,888) = 41.44, p < .001$, a significant effect of gender, $F(3,444) = 16.45, p < .001$, and a significant acceptance group $\times$ gender interaction, $F(6,888) = 2.19, p < .05$. A follow-up series of 3×2 (acceptance group $\times$ gender) ANOVAs was then conducted, examining each item separately. Acceptance groups differed significantly for prosocial behavior, $F(2,449) = 126.63$, for aggressive behavior, $F(2,449) = 111.63$, and for shy behavior, $F(2,449) = 16.96$ (all $p < .001$). Follow-up Tukey tests revealed aggressive and shy/withdrawn behavior to be more characteristic and prosocial behavior to be less characteristic of low-accepted than of average- or high-accepted children. These findings are consistent with previous literature (see Coie et al., 1990, for a review). Significant univariate gender differences emerged for prosocial behavior, $F(1,450) = 28.22$, for aggressive behavior, $F(1,450) =$

TABLE 5
MEAN TOTAL LONELINESS AND SOCIAL DISSATISFACTION SCORES AS A FUNCTION OF LEVEL OF ACCEPTANCE AND GENDER

GENDER	ACCEPTANCE GROUP		
	Low	Average	High
Girls	23.8 (6.5)	19.5 (4.2)	19.0 (3.8)
n	31	151	32
Boys	20.9 (6.2)	19.3 (4.4)	19.2 (4.3)
n	45	153	28

NOTE.—Total N is 440. Standard deviations are given in parentheses.

39.60, and for shy behavior, $F(1,450) = 4.78$ (all $p < .05$). Boys were viewed by peers as more aggressive, less cooperative, and less shy than girls. These differences, too, are consistent with previous literature (see Huston, 1983, for a review). Two significant acceptance group $\times$ gender interactions emerged: low-accepted boys were viewed as particularly high on aggressive behavior, $F(2,449) = 5.31$, $p < .01$, and as particularly low on prosocial behavior, $F(2,449) = 3.63$, $p < .05$. In addition, all three peer assessment items were significantly intercorrelated (see Table 6).

Teacher assessment.—Next, we conducted several preliminary analyses to assess the psychometric properties of the new teacher rating measure. First, we performed a factor analysis of the teacher rating measure (promax rotation). Results are shown in Table 2. Evidence of four distinct factors matching those expected emerged, although one item ("This child is helpful toward other children") loaded not only (positively) on the prosocial factor as expected, but also loaded equally (negatively) on the disruptive factor. For data analysis, this item was considered part of the prosocial scale. Second, we assessed the internal reliability of each subscale, and found each to have satisfactory reliability. Cronbach's alphas are given in Table 2.

Third, we examined the intercorrelations among the various behavioral dimensions. Ratings of prosocial, aggressive, and disruptive behavior were strongly intercorrelated, whereas correlations of each of these three dimensions with shy/withdrawn behavior were considerably weaker (see Table 6). Fourth, we examined the linkage between teacher assessments and corresponding peer measures, and found all to be significant (see Table 6). Again, correlations related to prosocial and aggressive behavior were stronger than those related to shy/withdrawn behavior.

Finally, in order to verify that these teacher reports of behavior related to status and gender in ways congruent with previous literature, we conducted a 3×2 (acceptance group $\times$ gender) MANOVA with teacher reports of behavior as the dependent variables. There was a significant effect of acceptance group, $F(8,886) = 15.16$, $p < .001$, a significant effect of gender, $F(4,443) = 7.63$, $p < .001$, and no significant acceptance group $\times$ gender interaction, $F(6,888) = 2.19$. Follow-up ANOVAs revealed that accep-

tance groups differed significantly on all behavioral dimensions in expected ways (for prosocial behavior, $F[2,449] = 53.83$; for aggressive behavior, $F[2,449] = 47.11$; for shy behavior, $F[2,449] = 5.85$; for disruptive behavior, $F[2,449] = 43.39$; all $p < .005$). Follow-up Tukey tests revealed aggressive, disruptive, and shy/withdrawn behavior to be more characteristic and prosocial behavior to be less characteristic of low-accepted than of average- or high-accepted children. Significant and expected univariate gender differences emerged in relation to all dimensions except shy/withdrawn behavior (for prosocial behavior, $F[1,450] = 16.47$; for aggressive behavior, $F[1,450] = 16.25$; for disruptive behavior, $F[1,450] = 29.95$; all $p < .001$). Boys were viewed by teachers as more aggressive, more disruptive, and less prosocial than girls. Acceptance group $\times$ gender interactions emerged for aggressive and disruptive behavior, with low-accepted boys being rated particularly highly on these two dimensions, $F's(2,449) = 3.46$ and 3.92 (both $p < .05$), respectively.

Behavioral characteristics of lonely children.—For the next analysis, the behavioral style of high-lonely children was compared with that of low-lonely children. Performing a median split on loneliness would have meant including in the high-lonely group many children who were not particularly lonely. Accordingly, children were classified as high-lonely if their scores on the loneliness and social dissatisfaction scale were in the top 20% of respondents (i.e., 1.6 and above). The remaining children were identified as low-lonely. Results indicated that high-lonely children, compared to low-lonely children, were viewed as less prosocial (by both peers and teachers), more aggressive (by both peers and teachers), more shy (by peers but not by teachers), and more disruptive (only teachers rated this dimension). Table 7 presents findings for these comparisons. High- and low-lonely children were also compared when the loneliness groups were created based on the subscale of the three pure loneliness items described earlier. Analyses that had been significant when the loneliness groups were based on the entire loneliness and social dissatisfaction scale were again significant.

It is conceivable that the relations between loneliness and behavior are simply due to the relation of each with sociometric status. To assess this possibility, an analysis of covariance (ANCOVA) was performed in which the relation between behavior and

TABLE 6
INTERCORRELATIONS OF PEER AND TEACHER MEASURES OF CHILDREN'S BEHAVIORAL CHARACTERISTICS

	PEER MEASURE			TEACHER MEASURE		
	Prosocial	Aggressive	Shy/Withdrawn	Prosocial	Aggressive	Shy/Withdrawn
Peer measure:						
Prosocial	...	-.87***	-.27***	.69***	-.69***	-.13**
Aggressive		...	.19***	...	.75***	.08
Shy			...	...	.24***	.40***
Teacher measure:						
Prosocial				...	-.77***	-.30***
Aggressive					...	.13**
Shy						...
Disruptive						...

* $p < .05$.
 ** $p < .01$.
 *** $p < .001$.

TABLE 7
BEHAVIORAL CHARACTERISTICS OF HIGH-LONELY AND LOW-LONELY CHILDREN

BEHAVIORAL CHARACTERISTICS	LEVEL OF LONELINESS		F (1,438)
	High (n = 85)	Low (n = 355)	
Peer measure:			
Prosocial	.68 (.25)	.76 (.21)	9.83**
Aggressive	.34 (.26)	.25 (.23)	9.98**
Shy/withdrawn	.29 (.15)	.22 (.13)	17.28***
Teacher measure:			
Prosocial	3.56 (1.11)	4.00 (.95)	14.07***
Aggressive	2.05 (1.18)	1.55 (.90)	18.69***
Shy/withdrawn	1.77 (.79)	1.70 (.73)	N.S.
Disruptive	2.58 (1.36)	2.06 (1.16)	13.09***

NOTE.—Standard deviations are given in parentheses. The peer measure reflects the proportion of classmates who described the behavior as characteristic of the subject. The teacher measure is based on ratings on 5-point scales.
** $p < .01$.
*** $p < .001$.

loneliness was examined while covarying out the influence of sociometric status. Children’s average rating on the rating-scale sociometric measure was used as the covariate. Analyses were first conducted using the total loneliness and social dissatisfaction scale to derive the high- and low-lonely groups. Results indicated that high-lonely children were considered by teachers to be less prosocial, $F(1,438) = 4.43, p < .05$, more aggressive, $F(1,438) = 8.06, p < .005$, and more disruptive, $F(1,438) = 4.37, p < .05$, and by peers to be more shy, $F(1,438) = 10.29, p < .001$, independent of the effects of peer acceptance. It appears, then, that although controlling for peer acceptance reduced the number of significant relations, several significant connections remained. However, when loneliness groups were based on the pure loneliness items only, no connections between loneliness and behavior emerged once children’s sociometric status was controlled.

Discussion

The findings from this study suggest that the modified loneliness and social dissatisfaction questionnaire presented here is psychometrically sound for use with children as early as kindergarten and first grade. The factor analysis revealed a single factor, suggesting that feelings of loneliness in school cohere with perceptions of having few friends, being socially incompetent, and not having basic friendship needs satisfied. The emergence of this single factor, along with the scale’s good internal reliability, of-

fers evidence that young children have a coherent concept of their own school-based loneliness and social dissatisfaction. These findings are made even more meaningful given that the subset of children interviewed about their understanding of loneliness had a basic understanding of the concept.

On the majority of items, a considerable proportion of children (over 10%) expressed feelings of loneliness or dissatisfaction with their social relationships at school. It seems, then, that even among very young children loneliness is a fairly common problem. Indeed, a comparison of the data with previous research with older children suggests that feelings of loneliness are comparable or even somewhat greater among young children (Asher et al., 1984; Asher & Wheeler, 1985; Zill, in press).

As expected, children’s reports of loneliness were linked to social status in meaningful ways, congruent with studies examining older children (Asher et al., 1984; Asher & Wheeler, 1985). The finding that poorly accepted children experience the most loneliness suggests that even young children recognize when they have peer relationship difficulties and experience unhappiness associated with their rejection in school.

Recently, attention has been given to the issue of subgroups of rejected children (e.g., Coie, 1985; Rubin, LeMare, & Lollis, 1990). Indeed, there is evidence that, in the later elementary school and in the middle-school years, withdrawn or submissive re-

jected children may be more lonely than aggressive rejected children (Parkhurst & Asher, *in press*; Williams & Asher, 1991). The sample size of the present study prevented us from making this comparison with younger children. It is notable, however, that, as was the case in studies with older children (e.g., Asher & Wheeler, 1985; Williams & Asher, 1991), the variance in loneliness was greater for the rejected and low-accepted groups than it was for the other groups.

The present findings also provide additional information about the relative risk for loneliness of various nonrejected groups of children. First, the findings that average children and popular children (identified using nomination-based data) did not differ in loneliness, and the parallel finding that average-accepted children and high-accepted children (identified using the rating-scale measure) did not differ, suggest that children do not need to be exceptionally well liked to avoid feeling lonely. Second, unlike rejected children, neglected children were found to be no more lonely and socially dissatisfied than other children. Apparently it is children who are actively disliked by their peers who experience distress with their social lives in school. This finding contributes to the growing body of data that suggests that neglected children are not distressed about their social relationships (Asher & Wheeler, 1985; Crick & Ladd, 1988; Parkhurst & Asher, *in press*; Williams & Asher, 1991).

It is important to note that in the present study loneliness and social dissatisfaction were assessed in the school context. This reflects our focus on the link between children's loneliness and social dissatisfaction in school and their peer status in school. Researchers interested in examining loneliness in contexts other than the school may wish to modify the wording of the questionnaire items.

It is also important to keep in mind the diverse item content of the loneliness and social dissatisfaction questionnaire, and to consider the extent to which item content of the present scale focuses specifically on loneliness. Some items directly measure the construct of loneliness, and others can be viewed as relevant to loneliness given that all children interviewed mentioned being alone as a component of loneliness. However, still other items seem to assess dimensions less directly related to loneliness,

such as feelings of adequacy or appraisal of whether important relationship provisions are being met. This diversity of item content leads us to stress that we view our measure, as its title suggests, as a measure of loneliness and social dissatisfaction. The assessment in its present form should prove useful for researchers interested in capturing both loneliness and a global sense of dissatisfaction with social relationships in school. However, for researchers focused on connections between loneliness and related constructs (e.g., self-esteem, perceived peer acceptance, and depression), the use of only items that directly tap loneliness is recommended to avoid overlapping item content (see Nicholls, Licht, & Pearl, 1982; Parker & Asher, *in press*).

Findings from the present study on the behavioral characteristics of lonely children are convergent with the literature on loneliness and behavior in adults. Lonely children, like lonely adults, were more shy and less prosocial than other individuals. In addition, lonely children were more aggressive and more disruptive than other children. These relations remained, albeit less consistently, when the influence of peer acceptance was statistically controlled. However, findings emerging when the three "pure" loneliness items were used to create the loneliness groups suggest caution in interpreting links between loneliness and behavior in children. The pattern of relations between loneliness and behavior obtained with the entire scale were once again obtained, but once social status was controlled, these relations were no longer significant. This suggests the need for additional research on the link between loneliness and behavior while controlling for sociometric status.

An additional contribution of this study was the development of a new behavior rating measure for completion by teachers. This measure is simple to administer and assesses several behavioral dimensions found to be important in previous peer-relations research (e.g., Coie et al., 1990). The relatively brief length means that the measure will be manageable even for a teacher with many students. The four expected factors were found, and each corresponding subscale had good internal reliability. Furthermore, teacher assessments of children's behavior were related to peer acceptance and gender in ways consistent with previous literature (Coie et al., 1990; Huston, 1983). Finally, expected connections emerged not

only among the teacher scales but also between teacher and peer assessments of behavior. Particularly good agreement between teachers and peers emerged concerning the aggressive and prosocial dimensions. Agreement was lower for shy/withdrawn behavior, a finding consistent with earlier evidence suggesting that this dimension is difficult for children and adults to agree on (Ladd & Mars, 1986; Ledingham & Younger, 1985; Rubin, 1984). Part of the reason for this difficulty could be that, from the rater's perspective, shy behavior has fewer personal consequences than aggressive or prosocial behavior, and is therefore less salient. This reduced salience could lead to less accurate reporting of shy behavior. Indeed, this possibility is supported by findings from recent research indicating that young children have poorer memories for shy behavior than they do for aggressive and prosocial behaviors (Bukowski, 1990; Younger & Boyko, 1987; Younger & Piccinin, 1989). Perhaps the same is true for adults.

To summarize, the findings of the present study indicate that young children have a basic understanding of the meaning of loneliness and can make reliable reports of their own loneliness and social dissatisfaction that are related to their acceptance versus rejection by peers. A variety of research topics can be addressed through the use of this new loneliness measure for young children. For instance, it can be useful in studies of variations in classroom climate, in outcome studies of intervention programs with young children, in studies assessing the effects of life crises and normative transitions on children's functioning, and in continued investigations of the link between peer relationships and children's affective experiences in school.

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364 Child Development

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