



Pergamon

Journal of School Psychology  
42 (2004) 179–199

---

---

Journal of  
School  
Psychology

---

---

## Academic achievement among formerly homeless adolescents and their continuously housed peers

Yvonne Rafferty<sup>a,\*</sup>, Marybeth Shinn<sup>b</sup>, Beth C. Weitzman<sup>c</sup>

<sup>a</sup>Psychology Department, Pace University, 41 Park Row, New York, NY 10038, USA

<sup>b</sup>Psychology Department, New York University, New York, NY, USA

<sup>c</sup>Wagner Graduate School, New York University, New York, NY, USA

Received 17 March 2003; received in revised form 5 February 2004; accepted 5 February 2004

---

### Abstract

This study examined the school experiences and academic achievement of 46 adolescents in families who experienced homelessness and 87 permanently housed adolescents whose families received public assistance. Measures taken after the homeless students were rehoused showed that both groups valued school highly and were similar in cognitive abilities assessed with the similarities subtest of the Wechsler Intelligence Scale for Children—Revised (WISC-R). Formerly homeless students had more school mobility, more grade retention, and worse school experiences by mother report and lower plans for post-secondary education by self-report. Both groups scored poorly on standardized tests of academic achievement. Homelessness was associated with further declines in achievement during the period of maximal residential disruption, but did not have effects 5 years later.

© 2004 Society for the Study of School Psychology. Published by Elsevier Ltd. All rights reserved.

*Keywords:* Homeless; Education; Academic achievement; School mobility; Grade retention

---

Stability is important for the healthy physical and emotional development of children (Erickson, 1950). A move, regardless of the reason, disrupts one's daily routines and requires substantial adjustments. Research on children who move from one home to another indicates that even when the move is planned and children are prepared for the disruption, the transition is stressful (Humke & Schaefer, 1995). For children who become homeless, loss of the home has generally been more sudden, more unexpected, and more traumatic. It is a major life event that may also involve loss of community, friends,

---

\* Corresponding author. Tel.: +212-346-1506; fax: +212-346-1618.

E-mail address: YRafferty@Pace.edu (Y. Rafferty).

belongings, support systems, and schools. Reviews of studies of children in the midst of an episode of homelessness suggest that homeless children fare worse than poor children who remain housed in terms of health, mental health, and educational outcomes (Molnar, Rath, & Klein, 1990; Rafferty & Shinn, 1991). Because poor children who are housed fare worse than middle class children on similar measures, some authors have suggested that homelessness represents the extreme end of a continuum of risk (Masten, Miotis, Graham-Bermann, Ramirez, & Neemann, 1993). However, published studies examine children in the midst of an episode of homelessness. Little is known about the long-term consequences of homelessness for children after they are rehoused.

The goal of the present study was to examine academic achievement and related outcomes for adolescents who had been homeless with their families, after these families were rehoused, in comparison to adolescents in poor families who never experienced homelessness. We used data from adolescents and their mothers, collected an average of 4.85 years after the families first requested emergency shelter, and data on standardized tests administered annually by the New York City Department of Education (DOE), which, depending on the age of the child, could commence before the family entered shelter and/or extend well after the family left shelter. This allowed us to examine any preexisting differences between homeless and housed children prior to the homeless episode as well as associations of the onset of homelessness with changes in academic achievement over time.

### *School mobility*

Excessive school mobility is a risk factor for academic failure in the general population (Heinlein & Shinn, 2000; United States General Accounting Office, 1994). A number of studies indicate that children who are homeless experience high rates of school mobility. In the first such study, Rafferty and Rollins (1989) found that 76% of 390 school-age children in New York City had transferred schools at least once since becoming homeless, 33% at least twice, and 11% three or more times. More recently, Nunez (2001) reported that 57% of school-age homeless children in New York City had changed schools at least once since becoming homeless. In Chicago, 75% of 319 school-age homeless children had attended three or more schools during the prior year (Dohrn, 1991). In California, 40% of 169 school-age homeless children had been in two or more schools during the prior year (Zima, Bussing, Forness, & Benjamin, 1997). Studies with comparison groups indicate that children who are homeless have higher rates of school mobility than their housed peers. For example, 64% of 159 homeless children in Minneapolis had changed schools, in contrast with 40% of 62 permanently housed peers (Masten et al., 1993). Children who were homeless in Massachusetts ( $n=60$ ) also attended significantly more schools than their permanently housed peers ( $n=114$ ), during their lifetime (median: 3 vs. 2), and during the prior year (median: 2 vs. 1); twice as many had changed schools during the prior year (76% vs. 36%, Buckner, Bassuk, & Weinreb, 2001).

The United States Department of Education (USDOE) has consistently identified multiple movements between schools as one of the major barriers to school success for children who are homeless (e.g., USDOE, 2001). In addition, “frequent mobility from

school to school” was identified by 29 of the 50 State Coordinators for the Education of Homeless Children and Youth throughout the nation as the number one barrier to school success for homeless children (Anderson, Janger, & Panton, 1995). More recently, the USDOE reviewed state and local efforts to serve the educational needs of homeless children and youth and overcome barriers that affect their enrollment, attendance, and school success and concluded that “homeless students’ frequent moves from school to school were their most significant barrier to academic success” (USDOE, 2002, p. 4).

### *Grade retention*

Children who are homeless are also more likely to experience higher rates of grade retention than their housed peers. This finding has been documented in Minneapolis (38% vs. 24%) (Masten, 1990), Los Angeles (30% vs. 18%) (Wood, Valdez, Hayashi, & Shen, 1990), Philadelphia (35% vs. 32%) (Rescorla, Parker, & Stolley, 1991), New York City (20% vs. 8%) (Rubin et al., 1996), and in two studies conducted in Massachusetts (40% vs. 32%, Bassuk & Rosenberg, 1990; and 36% vs. 32%, Buckner et al., 2001). Rafferty and Rollins (1989) found that 15% of homeless children were currently repeating a grade, compared with 7% of all students citywide. Studies without comparison groups have also found holdover rates of 30–43% among children who are homeless (Bassuk & Rubin, 1987; Dumpson & Dinkins, 1987; Maza & Hall, 1990).

### *Academic achievement*

Several studies also suggest that homelessness is associated with poorer academic achievement. Rafferty and Rollins (1989) found that only 42% of the 3805 homeless children in New York who took the Degrees of Reading Power Test in 1988 scored at or above grade level, compared with 68% citywide. In addition, only 28% of the 4203 homeless children who took the Metropolitan Achievement Test in mathematics scored at or above grade level, compared with 57% citywide. Masten et al. (1997) reported on the academic achievement of 40 African-American children, ages 6–11, who were living in a shelter for families in 1993. Academic achievement was assessed using the Wechsler Individual Achievement Test Screener (WIAT-S; Psychological Corporation, 1992), which provides normed achievement scores for basic reading, mathematical reasoning, spelling, and a composite achievement score. Their scores on each measure were lower than normative levels for age and for grade—falling about 1 standard deviation below the standardization sample, with 80% of the scores in the bottom quartile. Teacher ratings of academic performance, using the Teacher Report Form (Achenbach, 1991), were also significantly below the norm for this scale, with 73% of the children scoring in the clinical range.

Other studies indicate that children who are homeless score lower on vocabulary and reading tests than the norm for scale. Fox, Barnett, Davies, and Bird (1990), for example, found that 79% of 49 children who were homeless in New York City scored at or below the 10th percentile on the Peabody Picture Vocabulary Test (PPVT-R; Dunn & Dunn, 1981). Zima, Wells, and Freeman (1994) found that homeless children were more

than four times as likely to score at or below the 10th percentile in receptive vocabulary and reading than children of similar age in the general population. Overall, 47% of the 169 school-age children (ages 6–12) assessed scored at or below the 10th percentile in receptive vocabulary, according to the Peabody Picture Vocabulary Test (Dunn & Dunn, 1981). In addition, 39% had a severe delay in reading according to the reading subtest of the Woodcock–Johnson Language Proficiency Battery (Woodcock, 1984). Rescorla et al. (1991) assessed reading ability among 43 African-American children, ages 6–12, who were homeless in Philadelphia and found that all scored more than 1 standard deviation below the normative group using the Wide Range Achievement Test (WRAT-R) (Jastak & Wilkinson, 1994). Scores for the comparison group were higher (81 vs. 90), although the difference was not statistically significant. Of the homeless group, 33% obtained a score of 90 or above and 30% scored more than 2 standard deviations below the mean for their age, with scores below 70. In the control group, 48% scored 90 or above and 12% scored below 70. Given these findings, it is not surprising that State Education Agencies nationwide have, for more than a decade, identified remediation and tutoring in basic skills as a vital educational need of homeless children and youth (e.g., USDOE, 2001).

In contrast with the studies discussed above, which were primarily descriptive, two other studies not only compared the achievement of homeless and housed children, but also examined various characteristics of children, families, and the experience of homelessness in an attempt to explain differences. Rubin et al. (1996) evaluated 102 children, ages 6–11, who were living with their families in New York City shelters between 1990 and 1992, and compared their cognitive ability and academic performance with 178 of their classroom peers who were permanently housed. There was no association between housing status and cognitive ability, controlling for child's age, sex, race, social class, and family status, and using the Peabody Picture Vocabulary Test—Revised (PPVT-R) as a measure of receptive vocabulary (Dunn & Dunn, 1981) and the Raven's Progressive Matrixes (Raven, Court, & Raven, 1983) as a measure of nonverbal intelligence. A substantial proportion of both homeless and permanently housed students, however, scored at or below the borderline range on both the PPVT-R (61% vs. 51%) and the Ravens (16% vs. 14%). Housing status was associated with academic achievement, assessed with the Wide Range Achievement Test—Revised (WRAT-R) (Jastak & Wilkinson, 1994); controlling for demographic variables, homeless children were more likely than their housed peers to score below grade level in reading (75% vs. 48%), spelling (72% vs. 50%), and arithmetic (54% vs. 22%). The difference between the two groups, however, was not explained by any of the variables assessed: (a) number of days missed from school; (b) length of time homeless; (c) children's medical problems; (d) child anxiety, depression, or behavioral problems; or (e) maternal anxiety or depression. Demographic variables, in contrast, explained 13% of the variance in both reading ability and spelling and 14% of the variance in arithmetic.

The second study, conducted by Buckner et al. (2001), assessed academic achievement among 60 children, ages 6 and older, who were homeless in Massachusetts between 1992 and 1995, and compared their scores with 114 low-income children who were permanently housed. There was no difference between the homeless and housed children in basic reading, mathematical reasoning, spelling, or composite achievement

score on the Wechsler Individual Achievement Test Screener (WIAT-S; [Psychological Corporation, 1992](#)). Both groups, however, scored about one-half of a standard deviation below the standardization sample. Cognitive ability was also comparable, based on the Kaufman Brief Intelligence Test (K-BIT; [Kaufman & Kaufman, 1990](#)). Both groups scored in the low average range compared with the standardization sample for both the vocabulary subtest and the composite score, but in the average range for nonverbal ability (matrices subtest).

[Buckner et al. \(2001\)](#) also explored the predictive ability of a number of variables in explaining academic achievement (WIAT-S composite score). Race/ethnicity, gender, and age explained 19% of the variance. Controlling for these three variables, family income, maternal education, maternal mental health, housing status, residential moves, abuse history, social support, and negative life events were unrelated to achievement when entered one at a time. Only school mobility explained a statistically significant proportion of additional variance in academic achievement (3%) in the context of race/ethnicity, gender, and age.

### *Purpose of Study*

The first purpose of this study was to compare the school experiences and cognitive abilities of formerly homeless and housed adolescents based on their own and maternal reports. Previous research suggests that adolescents who had experienced homelessness would have greater school mobility, higher rates of grade retention, and more negative experiences in general, and might thus have more negative attitudes towards school. However, formerly homeless adolescents were not expected to differ from other poor adolescents in cognitive ability, based on lack of differences in the three studies where measures of cognitive abilities have been examined ([Buckner et al., 2001](#); [Masten et al., 1993](#); [Rubin et al., 1996](#)).

The second purpose was to use standardized test scores from the New York City Department of Education (DOE) records to examine students' achievement in reading and mathematics before, during, and after the experience of homelessness, in comparison to both the achievement of their permanently housed peers. Based on the preponderance of previous research, children who were homeless were expected to perform more poorly than housed children from poor families. However, prior research does not provide clear expectations about whether children's performance would diverge from their peers before their families became homeless, or whether their performance would recover after their families were rehoused. Longitudinal analyses allowed us to examine the association of homelessness with changes in achievement over time.

## **Method**

### *Participants*

Participants consisted of 46 formerly homeless and 87 consistently housed adolescents whose families participated in the second wave of a longitudinal study of homeless and

housed poor families in 1992–1993. Homeless families were recruited into the first wave of the study between January and July 1988, when they requested shelter at an Emergency Assistance Unit, the basic entry point for public and nonprofit shelter for families in New York City. The comparison group was randomly drawn from the public assistance roles via a multistage cluster sample at the same time. Comparison families were eligible at time 1 if they had been on welfare within the previous 6 months (90% of the family shelter population in New York City), included children, and had not been in a shelter in the previous 30 days. Response rates were 72% for shelter seekers and 70% for the comparison group. Families were ineligible for the second wave of data collection if they had been homeless prior to the initial interview, assuring that no adolescent in the study experienced homelessness prior to 1988. This latter criterion ensured that characteristics that might arise after shelter entry would not be considered as potential causes of shelter use. The longitudinal sample included 70% of eligible shelter requesters and 69% of eligible comparison group members, for an overall retention rate of 70%.

In terms of family background, there was no difference between the groups in terms of maternal education, with 42% of both groups having a high-school diploma. African-American families were at greater risk for homelessness than others with similar profiles (56% vs. 35%). Mothers who were homeless were significantly younger than their permanently housed peers (28 vs. 34). Mothers requesting shelter were also more likely to be pregnant or to have given birth in the last year (53% vs. 17%), although their family sizes were no larger. They were also more likely to have experienced domestic violence (25% vs. 16%). Crowding and frequent moves added risk, while having one's own apartment and having subsidized housing were protective (Shinn et al., 1998).

Families interviewed at the follow-up were quite representative of eligible families in the initial sample. Of 20 maternal and family characteristics measured at the initial interview, only 2 distinguished families who were and were not subsequently interviewed at  $p < .05$ : families who were reinterviewed were more likely to be African-American and to report more building problems than families who were not reinterviewed. See Shinn et al. (1998) for more detail about sampling and cross-time comparisons. Of families interviewed at follow-up, 207 had adolescents between 11 and 17, and one child living with the mother was randomly picked in each family to participate in this study. Mothers reported on all of these children. The 133 children in the present report (64% of those eligible) are all those who had two additional sources of data: self-reports and New York City Department of Education (DOE) records.

To determine whether these children were representative of the full sample, we examined whether various factors available from mother report differentiated children who were and were not included here. Factors considered were two housing variables (whether the family had been homeless and for how many months), three demographic variables (age, race, and gender), and six aspects of school experience (whether the child was currently enrolled in school, current grade, number of times the child had been held back, number of schools attended since kindergarten and since the initial interview, and the mother's rating of the child's school experience). We also tested differential attrition in the two groups by examining interactions between family homelessness and the nine demographic and school variables (controlling for main effects). Of the 20 tests conducted, 1 was significant at the  $p < .05$  level: mothers reported that children included in this study

had better school experiences than those who were not included. There was no indication of differential attrition. Note in addition that the DOE was able to provide records for more of the housed adolescents (83%,  $n = 109$ ) than for the formerly homeless adolescents (71%,  $n = 54$ ),  $\chi^2 = 4.24$ ,  $df = 1$ ,  $p < .05$ ,  $V = .14$ , but this was balanced by the fact that somewhat more of the formerly homeless than of the permanently housed adolescents were interviewed. An additional limitation on the sample, the exclusion of children not living with the mother, is discussed in Discussion and Conclusions below.

As shown in Table 1, adolescents in both groups ranged in age from 11 to 17 at the time of the interview in 1992–1993, with an average age of 13.7 years. Approximately half were female. Most were African-American or Latino, with African-Americans overrepresented among the formerly homeless group, as they are among homeless families generally. The formerly homeless adolescents had spent a median of 15 and a mean of 19.3 months living in emergency shelter facilities with their families (S.D. = 16.9, range = 1 night–56 months).

### Procedure

During 1992 and 1993, follow-up, structured interviews by trained interviewers were conducted with both the adolescents and their mothers in the respondents' preferred language, English or Spanish, and in their preferred location, ordinarily their home or the study offices. Mothers gave consent for us to examine the adolescents' academic records maintained centrally by the Department of Education, which included annual scores on standardized reading and mathematics tests from 1986 to 1994.

Table 1  
Description of adolescents who were formerly homeless and their never homeless peers

	Formerly homeless	Never homeless	Statistical test	Effect size <sup>a</sup>
Age in years	$n = 46$	$n = 87$	$t = .24$ ( $df = 131$ )	$d = .05$
<i>M</i>	13.72	13.63		
S.D.	1.91	2.03		
Range	11–17	11–17		
Gender	$n = 46$	$n = 87$	$\chi^2 = .44$ ( $df = 1$ )	$V = .06$
Female	54.3%	48.3%		
Male	45.7%	51.7%		
Race/ethnicity	$n = 46$	$n = 87$	$\chi^2 = 10.52^*$ ( $df = 4$ )	$V = .28$
Black	52.2%	31.0%		
Puerto Rican	34.8%	34.5%		
Other Latino	4.3%	20.7%		
Mixed	8.7%	10.3%		
White	.0%	3.4%		
Time spent in shelter	$n = 46$			
<i>M</i>	19.33			
S.D.	16.92			
Median	15.00			
Range	1 night–56 months			

<sup>a</sup> Cramer's  $V$  for chi-square; Cohen's  $d$  for  $t$ -tests.

\*  $p < .05$ .

## Measures

### *Interview with adolescent*

Teens were asked about their attitudes toward school and their educational plans. They were also administered the similarities subtest from the Wechsler Intelligence Scale for Children—Revised (WISC-R) (Wechsler, 1974). This subscale was chosen as a measure of cognitive ability because it is highly correlated with the full scale IQ ( $r=.71$ ) and is less dependent on schooling, and hence potential disruptions in schooling, than other subtests of the WISC-R (i.e., information, arithmetic, and vocabulary).

### *Interview with adolescent's mother*

Mothers were asked about their housing experiences since their first contact with the study in 1988 (e.g., months homeless) and their child's school experiences (current enrollment and overall quality of school experiences).

### *Reading achievement*

Reading achievement was assessed using each student's score on the annual Degrees of Reading Power Reading Test (DRP; Touchstone Applied Science Associates, 1988) administered every spring to New York City students in grades 3–8 (9 for students attending 3-year junior high schools rather than middle schools; high schools did not participate in the testing program). The DRP gauges how well students understand a series of passages that are progressively more difficult by requiring them to insert missing words into several key passages. Thus, as children move to higher grades, their scores are expected to increase. In addition to the DRP, students in grade 2 were given the Metropolitan Achievement Test—Revised (MAT-R; Harcourt Educational Measurement, 1986) through 1990. Beginning in 1991, students in grade 2 were excluded from the citywide testing program. Internal consistency estimates for the DRP range from .91 to .95 and typical correlations with other reading comprehension tests are .70–.80 (Touchstone Applied Science Associates, 1988).

Reading achievement was defined in two ways. First, it was defined in terms of normal curve equivalent (NCE) scores. NCEs are normalized standard scores based on the national percentile with a mean of 50 and a standard deviation of 21. These scores indicate how well each student's performance compares to the "norming sample" of students in the same grade in a nationally representative sample who took the same test. Since students in grade 2 had taken a different test (through 1991), their MAT scores were converted by the DOE into DRP equivalent scores (NCEs). Second, percentile ranks were used to determine the proportion of students in each group who were able to read at or above grade level (the 50th percentile). A percentile rank of 50 refers to the norm or average performance for that grade and time of year. Percentile ranks were not computed for students who took the MAT in grade 2.

Data were collected for the years 1986 (2 years before homeless families entered shelter) through 1994 (well after families were rehoused), but the years that particular students were eligible for the testing depended on their age. For example, a student who was in the 11th grade when interviewed in 1992, and who transitioned to high school in 9th grade (1990), could have been tested at most in 1986–1989 (5th–8th grade); a student

in 5th grade in 1993 could have been tested at most in 1990–1994. No child was eligible for the test throughout the 9-year data collection period. Students also had to be physically present in school on the days of the standardized testing program.

### *Mathematics achievement*

The mathematics program of the New York City public schools used the Metropolitan Achievement Test (MAT; [Harcourt Educational Measurement, 1986](#)) to assess mathematics achievement from 1986 to 1992. It assesses concepts, problem solving, and computation. In 1993, the MAT was replaced with the California Achievement Test (CAT; [McGraw-Hill, 1986](#)). In both cases, achievement in mathematics was assessed for students in grades 2–8. As with reading ability, mathematics achievement was defined using NCEs and percentile ranks. Both of these tests were standardized on a national sample of students; both instruments also meet criteria for reliability and validity. Internal consistency and alternative form reliability coefficients for the MAT are above .80 for the intermediate and advanced levels of the test, but tend to be slightly lower for the primary 2 level ([Salvia & Ysseldyke, 1991](#)). In terms of validity for the MAT, the test authors indicate that judgments about content validity need to be made by users of the test, while noting that professionals who assessed test items reported that the items measured the content of their curriculum. Reliability and validity data on the CAT are more limited, although internal consistency coefficients exceed .80. Data on validity are quite limited, although there is some support that it meets criteria for validity: the percentage of students mastering objectives has been shown to increase with age suggesting that it is a useful instrument for assessing the amount of student growth or progress over a period of time ([Salvia & Ysseldyke, 1991](#)).

### *Data analyses*

We began by using *t*-tests and chi-square analyses to examine simple differences between formerly homeless and consistently housed adolescents for all outcomes. We used two-tail significance tests with an alpha of .05. Effect sizes, Cramer's *V* for chi-square tests, and Cohen's *d* for *t*-tests provided additional information on the magnitude of the differences between the two groups ([McCartney & Rosenthal, 2000](#)). We then examined the associations of academic achievement with homelessness at three points in time using multiple regressions. The first point, 1987, before families entered shelter, shows whether children experienced deficits in achievement even before their families became homeless, as would be the case if preexisting family differences, rather than the experience of homelessness, underlay any differences in achievement. The second point, 1989, shows the short-term associations of homelessness with achievement. A typical child in a homeless family had entered shelter about a year before; many were still homeless. The third point, 1993, shows long-term associations with homelessness. A typical child had been rehoused for 3 years at this point. This year also allowed us to include information on school mobility, reported by mothers in 1992–1993, as a potential mediator of any relationship between homelessness and achievement.

We control for 1987 scores in the latter two analyses, so that the regressions are equivalent to examining the association of homelessness with changes in academic

achievement after the family became homeless. We control for age and race in all these regressions (gender was not related to outcomes); in addition, controlling for earlier achievement scores has the effect of holding constant any other family characteristics that are reflected in these scores. In these regressions, we substituted scores from adjacent years for missing data (by preference, the previous year for 1987 and 1993 scores, the subsequent year for 1989 scores) provided that, for children who became homeless, the first score was recorded before the family entered shelter, the second after the family entered shelter, and the last after the family was rehoused. Families' dates of shelter entry and exit were reported by mothers and verified using shelter records.

## Results

### *School experiences*

Overall, 44 of the 46 formerly homeless adolescents (96%) and 81 of the 87 permanently housed peers (93%) were enrolled in school at the time of their parent's interview in 1992–1993 (Table 2). The eight students who were no longer enrolled in school were ages 16 and 17, the legal age for dropping out of school in New York State. Students' grades ranged from 4 to 11, with no significant difference between the formerly homeless students and their never homeless peers ( $M=7.7$ ,  $S.D.=1.6$  vs.  $M=7.7$ ,  $S.D.=1.9$ ). The formerly homeless students had repeated more grades than their never homeless peers [ $M=.70$ ,  $S.D.=.79$  vs.  $M=.44$ ,  $S.D.=.57$ ,  $t(130)=2.13$ ,  $p<.05$ ;  $d=.38$ ]. Students who had been homeless also had a poorer overall school experience. They were less likely than their never homeless peers to have their mother report that they have had "mostly positive experiences in school" [ $M=1.69$ ,  $S.D.=.71$  vs.  $M=1.98$ ,  $S.D.=.70$ ,  $t(125)=2.20$ ,  $p<.05$ ;  $d=.41$ ].

School mobility rates were greater for formerly homeless students than their never homeless peers. On average, formerly homeless students had attended 4.2 schools since kindergarten, in contrast with 3.1 for their never homeless peers [ $t(131)=4.27$ ,  $p<.001$ ;  $d=.77$ ], and 3.0 schools (vs. 2.5) since 1988 (the point of shelter entry for the formerly homeless students) [ $t(131)=3.23$ ;  $p<.01$ ;  $d=.58$ ]. Higher rates of school mobility were associated with higher rates of grade retention ( $r=.21$ ,  $n=132$ ,  $p<.05$ ). Although age was positively associated with both the number of schools attended and number of grades retained, the relationship of housing status to both mobility and grade retention held, controlling for age.

### *Attitudes toward school and cognitive ability*

School and education were valued equally among the never homeless and formerly homeless students (see Table 3). Overall, 96% of the formerly homeless students and 99% of their never homeless peers rated school and education as being "very important." Both groups also reported high education goals, with 85% of the formerly homeless students and 96% of the never homeless students planning to pursue educational training beyond

Table 2  
School experiences for adolescents who were formerly homeless and their never homeless peers

	Formerly homeless	Never homeless	Statistical test	Effect size <sup>a</sup>
Enrolled in school	<i>n</i> = 46	<i>n</i> = 87	$\chi^2 = .35$ ( <i>df</i> = 1)	<i>V</i> = .05
Yes	95.7%	93.1%		
Grade placement	<i>n</i> = 46	<i>n</i> = 87	<i>t</i> = .01 ( <i>df</i> = 131)	<i>d</i> = .00
<i>M</i>	7.7	7.7		
S.D.	1.56	1.92		
Range	4–11	4–11		
Number of grades retained	<i>n</i> = 46	<i>n</i> = 86	<i>t</i> = 2.13* ( <i>df</i> = 130)	<i>d</i> = .38
<i>M</i>	.70	.44		
S.D.	.79	.57		
Range	0–2	0–2		
Percentage of those who repeated at least one grade	50.0%	39.5%		
Percentage of those who repeated two grades	21.7%	8.1%		
Overall quality of experiences <sup>b</sup>	<i>n</i> = 44	<i>n</i> = 83	<i>t</i> = 2.20* ( <i>df</i> = 125)	<i>d</i> = .41
<i>M</i>	1.69	1.98		
S.D.	.71	.70		
Range	1–3	1–3		
Number of schools since KG	<i>n</i> = 46	<i>n</i> = 87	<i>t</i> = 4.27*** ( <i>df</i> = 131)	<i>d</i> = .77
<i>M</i>	4.17	3.07		
S.D.	1.47	1.40		
Range	1–8	1–8		
4 or more	69.6%	33.3%	$\chi^2 = 17.42$ *** ( <i>df</i> = 3)	<i>V</i> = .36
Number of schools since 1988	<i>n</i> = 46	<i>n</i> = 87	<i>t</i> = 3.23** ( <i>df</i> = 131)	<i>d</i> = .58
<i>M</i>	3.04	2.47		
S.D.	.97	.98		
Range	1–6	1–6		
4 or more	30.4%	14.0%	$\chi^2 = 10.42$ * ( <i>df</i> = 3)	<i>V</i> = .28

<sup>a</sup> Cramer's *V* for chi-square; Cohen's *d* for *t*-tests.

<sup>b</sup> Scale ranged from 1 (mostly negative) to 3 (mostly positive).

\* *p* < .05.

\*\* *p* < .01.

\*\*\* *p* < .001.

the high-school level; however, the difference between groups was significant ( $\chi^2 = 4.47$ , *df* = 1, *p* < .05; *V* = .18).

Underlying ability did not appear to vary between the formerly homeless and never homeless groups. There was no statistically significant difference between the formerly homeless students and their never homeless peers in their performance on the similarities subtest of the Wechsler Intelligence Scale for Children—Revised (WISC-R) (Table 3). Both groups, however, scored approximately 1 standard deviation below the mean for the normative sample (*M* = 10.0; S.D. = 3.0).

#### *Associations of homelessness with academic achievement before families entered shelter*

Students who experienced homelessness, as well as their never homeless peers, scored consistently below the average national percentile score (*M* = 50; S.D. = 21) for achieve-

Table 3  
Adolescent's attitudes and toward school and cognitive ability

	Formerly homeless	Never homeless	Statistical test	Effect size <sup>a</sup>
Attitudes toward school	<i>n</i> = 46	<i>n</i> = 86	$\chi^2 = 1.37$ ( <i>df</i> = 1)	<i>V</i> = .10
“Very important”	96%	99%		
Educational goals	<i>n</i> = 46	<i>n</i> = 87	$\chi^2 = 4.47^*$ ( <i>df</i> = 1)	<i>V</i> = .18
Training > high school	85%	95%		
WISC-R: similarities subtest	<i>n</i> = 45	<i>n</i> = 86	<i>t</i> = .63 ( <i>df</i> = 129)	<i>d</i> = .04
<i>M</i> (Scaled scores)	7.33	7.65		
S.D.	2.99	2.58		
Range	1–14	2–14		

<sup>a</sup> Cramer's *V* for chi-square; Cohen's *d* for *t*-tests.

\* *p* < .05.

ment in reading and mathematics. For reading, the average mean percentile score across the entire study period was 37.22 for students who experienced homelessness and 41.44 for the consistently housed peers. For mathematics, the average mean percentile score across the years was 38.33 for students who experienced homelessness and 45.33 for the consistently housed peers. In addition, the proportion of students who were achieving at or above grade level was well below city averages for both groups of students. Across the entire study period, the average percentage of students who experienced homelessness who were achieving at or above grade level was 20% for reading and 28% for mathematics; the corresponding average for never homeless students was 31% for reading and 44% for mathematics. The citywide average was 54% for reading and 55% for mathematics.

Table 4 shows regression analyses predicting academic achievement based on DOE records for the two groups of children in 1987, before the homeless families entered shelter, controlling for age and race (gender had no zero-order associations with achievement). Neither demographic factors nor subsequent housing status explained significant amounts of variance in reading or mathematics achievement prior to the time that homeless children entered shelter.

#### *Short-term and long-term associations of homelessness with changes in academic achievement*

Table 4 also shows regressions examining the short-term and long-term associations of homelessness with changes in academic achievement, controlling for earlier achievement as well as demographic variables. Not surprisingly, earlier achievement was a strong predictor of subsequent achievement, even over the 6-year period from 1987 to 1993. This was especially true for reading achievement. Age also contributed to poorer mathematics achievement, for the intermediate period only.

Short-term changes in academic achievement were more negative for homeless than for housed children. That is, homeless children scored approximately 6 percentile points worse than housed children on both reading and mathematics achievement, controlling for earlier achievement, in 1989, about 1 year after their families entered shelter. This difference reached statistical significance at the .05 level in the case of reading,

Table 4

Unstandardized regression coefficients (and standard errors) from regressions predicting academic achievement prior to homelessness and short-term and long-term changes in academic achievement from housing status (homeless vs. housed)

Predictor	(a) Reading achievement			(a) Mathematics achievement		
	Before	Short-term	Long-term	Before	Short-term	Long-term
$N^a$	88	85	78	84	83	61
1. Control variables						
Age	3.21 (1.34)*	-.10 (.93)	1.16 (.97)	1.45 (1.46)	-2.62 (.95)**	1.55 (1.51)
Race	-1.03 (4.36)	-1.79 (2.86)	-2.38 (2.85)	-2.89 (4.74)	-2.75 (3.07)	-1.55 (3.75)
1987 Achievement	-	.69 (.07)***	.64 (.07)***	-	.61 (.07)***	.55 (.08)***
2. Housing status						
	-4.22 (4.57)	-6.08 (3.03)*	-1.62 (3.01)	-2.27 (4.97)	-6.21 (3.24) <sup>†</sup>	.02 (3.89)
Total $R^2$	.07	.58***	.59***	.02	.52***	.44***
$\Delta R^2$ for Housing	.01	.02*	.00	.00	.02 <sup>†</sup>	.00
$F$ for $\Delta R^2$	.85	4.04*	.29	.65	3.67 <sup>†</sup>	.00

Academic achievement: Percentile scores. Before scores are from 1987 before families entered shelter, Short-term from 1989, Long-term from 1993, with adjacent years substituted for missing data, provided that for children who experienced homelessness, short-term associations were assessed after the family entered shelter, and long-term associations after the family was rehoused. Race: Puerto Rican, Other Latino, White, Mixed = 0, Black/African-American = 1. Housing status: never homeless = 0, homeless = 1. Dashes indicate that a coefficient was not computed.

<sup>a</sup> Some students got reading tests in 9th grade. Mathematics tests were for students in grades 2–8 only.

<sup>†</sup>  $p < .06$ .

\*  $p < .05$ .

\*\*  $p < .01$ .

\*\*\*  $p < .001$ .

$F(1,81) = 4.04$ ,  $p < .05$ , and fell just short in the case of mathematics,  $F(1,79) = 3.67$ ,  $p < .06$ , in each case explaining 2% of the variance. This difference amounted to about a third of a standard deviation of achievement scores. There were no long-term associations of homelessness with changes in achievement assessed in 1993, whether controlling for prior achievement in 1987 (Table 4) or 1989 (not tabled). Despite its zero-order relationship with mathematics achievement, school mobility after 1988 was unrelated to either reading or mathematics achievement in 1993, after controlling for housing status and earlier achievement (not tabled). We did not have a separate measure of mobility from 1988 to the time of the test in 1989 to examine whether short-term associations of homelessness with achievement were mediated by mobility.

## Discussion and Conclusions

An estimated 1 million children in the United States will experience homelessness this year. Children who are homeless confront abject poverty and experience a constellation of risks that can have a devastating impact on their well-being. Previous research has linked

homelessness among children to hunger and poor nutrition, health problems, psychological problems, developmental delays, and academic underachievement. This study, based on the premise, derived from ecological theory (Bronfenbrenner & Morris, 1998), that variability in children's academic outcomes can be explained in terms of their housing and school experiences, as these play out over time, provides new evidence of the associations between homelessness and detrimental educational experiences. We examined school experiences and outcomes using data from youths, their mothers, and school records from before, during, and after the period in which the focal group experienced homelessness. Findings are consistent with other recent studies of homeless school-age children, which suggest an underlying continuum of risk, with homeless children experiencing greater risk than their never homeless peers (e.g., Masten et al., 1993; Schteingart, Molnar, Klein, Lowe, & Hartmann, 1995).

Both formerly homeless and consistently housed youth were nearly unanimous in rating school as being "very important." This finding is consistent with other research in this area. Masten et al. (1993), for example, also found that education was an important concern for both children and their parents. Most adolescents in both groups also planned to complete education beyond the high-school level, although the formerly homeless adolescents were less ambitious than their consistently housed peers. Sadly, these plans are in sharp contrast with the realities of New York City students. For example, more than 20% of the class of 2001 had dropped out of school prior to their scheduled graduation date (New York City Department of Education, 2002). Consistent with three earlier studies where cognitive ability was also assessed (Buckner et al., 2001; Masten et al., 1993; Rubin et al., 1996), both groups also demonstrated comparable cognitive ability based on their ability to complete the similarities subtest from the Wechsler Intelligence Scale for Children—Revised (WISC-R) but scored substantially lower than the national norms. Students who had experienced homelessness had had very different school careers than their never homeless peers. They were less likely to have had "mostly positive" experiences in school according to their mothers and more likely to have repeated one or more grades in school. Approximately half of the formerly homeless children had repeated a grade, as contrasted with 25% of all school age children in New York City (Nunez, 2001), a figure that is itself more than twice the national average (National Center for Education Statistics, 1997). In addition, 22% of formerly homeless children had repeated two or more grades in contrast with only 8% of those who had never been homeless. They had also experienced significantly higher rates of school mobility than their never homeless peers, attending one more school since kindergarten, on average. Nearly one-third had attended four or more schools in the roughly 5 years since their families requested shelter.

Both groups of students in this study came from poor families, and both groups demonstrated poor academic achievement, relative to national standards and to the performance of other New York City students. Controlling for demographic variables, future homelessness was not associated with children's achievement before their families entered shelter. However, the longitudinal analyses controlling for both demographic variables and earlier achievement show that changes in housing status between 1987 and 1989 were associated with declines in achievement, amounting to about a third of a standard deviation, on standardized achievement tests. Homelessness was not associated

with long-term declines in achievement from 1987 to 1993. These longitudinal results are an important addition to the literature. All previous studies showing problems for homeless children relative to housed children are equally consistent with two hypotheses: that homelessness is associated with negative outcomes among children or that families who become homeless, and hence their children, are worse off to begin with than families who stay consistently housed. The longitudinal analyses provide support for the first hypothesis and also evidence for children's resilience after they are rehoused. It should be noted that most formerly homeless families in the study received subsidized housing; further, formerly homeless families who received subsidized housing were just as stable as consistently housed families at the time of the interview, with 80% of both groups having been in their own place without a move for the preceding year (Shinn et al., 1998).

However, the conclusion that homelessness had little long-term effect on achievement may be too optimistic on several grounds. First, differences in academic achievement between the two groups may be underestimated because more homeless children had been retained in grade. As a result, their scores were normed against a younger set of peers. Had they been normed against their age peers rather than their grade peers, their scores would have appeared still lower. Second, the higher rates of grade retention in the formerly homeless sample may have long-term repercussions. Research suggests that holding children over not only fails to help them catch up with peers and to succeed in school, but actually contributes to academic failure and behavior difficulties. Studies comparing the academic gains of retained students with academically comparable students who were promoted indicate that retained students do not benefit academically regardless of grade level or achievement (Hess, 1987; Holmes & Matthews, 1984; Labaree, 1984; National Coalition of Advocates for Students, 1991). In addition, students who have been retained suffer poorer self-concepts, have more problems with social adjustment, and express more negative attitudes toward school at the end of the period of retention than do similar students who are promoted (Holmes & Matthews, 1984; Walker & Madhere, 1987). According to a survey of school children conducted by Byrnes and Yamamoto (1986), next to blindness and death of a parent, grade retention is rated as most stressful. Research also shows a strong connection between grade retention and dropping out of school (Hess, 1987). For example, a student who is retained once faces a 40% increase in the likelihood of dropping out. If retained twice, that likelihood increased by 90% (Mann, 1986). Being retained in grade is the single most important predictor of school dropout, even after controlling for aptitude (Feldman, Stiffman, & Jung, 1987). In addition, after controlling for student background and academic achievement, a longitudinal study of more than 12,000 students (Rumberger & Larson, 1998) concluded that being held back before the 8th grade increased the likelihood of dropping out by the 12th grade by more than 200%. Furthermore, students who were held back before the 8th grade were more than four times as likely as students who were not held back to not complete high school or receive a GED 6 years later. Although the children in the sample were, for the most part, still in school and intended to complete it, the formerly homeless children did have lower ambitions for future education than did their permanently housed peers.

A third concern is the higher rates of school mobility among the formerly homeless children. Mobility had zero-order relationships with grade retention and with mathematics achievement, but did not contribute to long-term changes in achievement controlling for

demographics and housing status with which it is highly correlated. (We did not have an appropriate measure of short-term mobility to use as a mediator for short-term changes in achievement.) Because mobility was associated with grade retention, its effects may have been masked when children who were retained in grade were normed against younger peers. It is also possible that effects may have emerged had we had greater statistical power. Although links between mobility and achievement are fairly robust in the literature, three other longitudinal studies have found no links when earlier achievement was controlled (Blane, Pilling, & Fogelman, 1985; Heinlein & Shinn, 2000; Schaller, 1976).

Finally, this study may underestimate adverse effects of homelessness on academic performance because only those children who were living with their mothers at the time of the follow-up interviews in 1992–1993 were eligible for participation. However, 44% of the mothers in the study who experienced homelessness had become separated from one or more of their children at this time, and 79% of the children were still separated at the time of the follow-up interview (Cowal, Shinn, Weitzman, Stojanovic, & Labay, 2002). To the extent that the children who remain with their families are a biased sample of all children in the population, or to the extent that separations increased disruptions to schooling, we may underestimate the total impact of homelessness on children's academic outcomes. The finding of high levels of separation in homeless families (and of high levels of parenthood among residents of shelters for single adults) has been consistent in every study that has examined this issue (see review in Cowal et al., 2002). However, the phenomenon and its implications have not generally been noted in studies of homeless children.

The findings from this study need to be viewed with other limitations in mind. First, the study took place in a single city at a specific point in historical time. Homelessness lasted longer for the students in this sample than it would have in many jurisdictions; however, the right to shelter in New York City may have made the experience less stressful than in locales where children and their families sleep outdoors. New York's City's move to more apartment-style shelters had begun, but was far from complete at the time of the study. New York's large size and the policy of paying no attention to neighborhoods of origin in shelter placement or in assignment of permanent housing may have exacerbated school mobility.

Second, the inability of the New York City Department of Education to provide any computerized school records for more formerly homeless than consistently housed students is another restriction on the representativeness of the sample. To the extent that children with higher rates of mobility or absenteeism, and hence lower performance, were harder to match, we may overestimate overall performance for the students in the population and underestimate group differences.

Third, this study does not address the educational needs of preschoolers, who comprise 51% of the children who are homeless in New York City (Nunez, 2001), and perhaps nationwide. Research has indicated that despite the 1994 federal requirement that states remove ongoing barriers to the enrollment of preschoolers who are homeless, only 15% of homeless preschoolers are enrolled in preschool programs (USDOE, 2002). Additional problems confront preschoolers with disabilities who are homeless (Rafferty, 2000a, 2000b).

Finally, this study focused on one single dichotomous variable (homeless vs. non-homeless) and does not adequately address the broad constellation of ecological factors in

which children and their families are embedded. As noted by Masten and Coatesworth (1998), risk rarely occurs alone and instead tends to cluster in the same individual. In addition, a number of studies suggest that children reared in families with a large number of negative influences will do worse than children in families with few risk factors (cf. Gutman, Sameroff, & Eccles, 2002; Sameroff, Seifer, Baldwin, & Baldwin, 1993). These studies indicate that predictions of developmental competence require attention to the broad constellation of ecological factors in which children and their families are embedded rather than concentrating on individual characteristics. Future research might facilitate a better understanding of the problems of children who are homeless by moving beyond housing status among families living in poverty and exploring the impact of multiple risk factors, including housing status, on educational and other developmental outcomes. Such studies might examine the etiology of school failure in a longitudinal, developmental, and multilevel framework, with particular attention to short-term and long-term impacts. In addition, school data could be combined with additional information obtained from teachers (e.g., ratings of school climate), parents (e.g., reported parenting practices and the home/shelter environment), and public school archives (e.g., standardized test performance on a range of academic outcomes, attendance rates, and availability of special services).

Studies that focus on increasing our understanding of the mediating mechanisms through which risk factors impact on academic failure would be particularly insightful. For example, it may not necessarily be homelessness per se that is associated with the negative outcomes that have often found to be associated with it. Rather, it may be the associated changes in the child's life that more adequately explain the observed findings. Such changes may be at the level of the family (e.g., change in parenting patterns, family disruption, negative family emotional climate, poor marital quality, family life stresses, parental depression, behavioral involvement of an adult family member in the child's schooling), socioeconomic status (maternal education, income, occupational status), and the child's schooling (poorer rates of school attendance, discontinuity in educational services, changes in curriculum, being retaining in grade, school mobility). Future research might also focus on the mediating mechanisms through which protective factors (e.g., social and personal competencies, social support) protect students from academic failure and promote academic success.

The adoption of a broad perspective has intellectual merit because it can help to identify fundamental causes of adverse outcomes, including educational failure, and provide more complete and parsimonious explanatory models. It also has practical merit because it can help to identify the loci of preventive interventions. According to Sameroff and Fiese (2000), however, it is not enough to focus on making changes at the level of the individual child without regard to the context—the child's social and family environment—that foster or impede the continuing positive developmental course of the child. Furthermore, since children in economically distressed areas are more likely to be exposed to higher levels of environmental stressors, substandard schooling, and many other negative mediators than are children in wealthier areas (Wilson, 1987), the focus of interventions might be on reducing the levels of these negative mediators as experienced by children with and without homes. As noted by Zigler (1990, p. xiii), “No amount of counseling, early childhood curricula, or home visits will ever take the place of jobs that provide decent

incomes, affordable housing, appropriate health care, optimal family configuration, or integrated neighborhoods where children encounter positive role models.”

Any list of solutions to homelessness must begin with decent, permanent, and affordable housing. Thus, one major intervention calls for a national policy that focuses both on rehousing those who are currently homeless and on preventing additional homelessness. Research also suggests that homeless families also have special needs in the areas of adequate shelter facilities, stability, and adequate services without barriers to access (Rafferty, *in press*). The data presented here suggest that a focus on school stability, which could be increased by taking neighborhood of origin into account in assigning families to shelter and permanent housing, could reduce grade retention with implications for children’s long-term success (cf. Rumberger & Larson, 1998).

In conclusion, homeless and poor housed children face truly unacceptable risks that jeopardize their future potential. Recent studies have emphasized similarities, rather than differences, between them on a variety of outcomes. In the long run, the monetary costs of neglecting children’s needs are likely to substantially exceed the costs of combating poverty and homelessness. The human costs will be much more tragic. Our cities and our nation must develop an appropriate and effective response.

## Acknowledgements

This research was supported in part by NIMH research grant #MH46116 to New York University and by the Children’s Institute, Dyson College of Arts and Sciences, Pace University. This research could not have been completed without the cooperation of the parents and teens who agreed to be interviewed and the Department of Education for providing school data. We are deeply grateful. We also thank three anonymous reviewers for their insightful comments.

## References

- Achenbach, T. M. (1991). *Manual for the teacher’s report form and 1991 profile*. Burlington, VT: Department of Psychiatry, University of Vermont.
- Anderson, L. M., Janger, M. I., & Panton, K. L. M. (1995). *An evaluation of state and local efforts to serve the educational needs of homeless children and youth*. Washington, DC: United States Department of Education (Prepared by Policy Studies Associates, Washington, DC).
- Bassuk, E. L., & Rosenberg, L. (1990). Psychosocial characteristics of homeless children and children with homes. *Pediatrics*, *85*, 257–261.
- Bassuk, E. L., & Rubin, L. (1987). Homeless children: A neglected population. *American Journal of Orthopsychiatry*, *57*(2), 279–286.
- Blane, D. C., Pilling, D., & Fogelman, K. (1985). The use of longitudinal data in a study of children’s school mobility and attainment. *British Journal of Educational Psychology*, *55*, 310–313.
- Bronfenbrenner, U., & Morris, P. A. (1998). The ecology of developmental processes. In W. Damon & R. M. Lerner (Eds.), *Handbook of child psychology: Vol. 1. Theoretical models of human development* (5th ed., pp. 993–1028). New York, NY: Wiley.
- Buckner, J. C., Bassuk, E. L., & Weinreb, L. F. (2001). Predictors of academic achievement among homeless and low-income housed children. *Journal of School Psychology*, *39*, 45–69.

- Byrnes, D., & Yamamoto, K. (1986). Views on grade retention. *Journal of Research and Development in Education*, 20(10), 14–20.
- Cowal, K., Shinn, M., Weitzman, B. C., Stojanovic, D., & Labay, L. (2002). Mother–child separations among homeless and housed families receiving public assistance in New York City. *American Journal of Community Psychology*, 30(5), 711–730.
- Dohrn, B. (1991). *A long way from home: Chicago's homeless children and the schools*. Chicago, IL: Legal Assistance Foundation of Chicago.
- Dumpson, J. R., & Dinkins, D. N. (1987). *A shelter is not a home: Report to the Manhattan Borough President's task force on housing and homeless families*. New York: Author.
- Dunn, L. M., & Dunn, L. M. (1981). *Peabody Picture Vocabulary Test—Revised*. Circle Pines, MN: American Guidance Services.
- Erickson, E. H. (1950). *Childhood and society*. New York, NY: Norton.
- Feldman, R. A., Stiffman, A. R., & Jung, K. G. (1987). *Children at risk: In the web of parental mental illness*. New Brunswick, NJ: Rutgers University Press.
- Fox, S. J., Barnett, R. J., Davies, M., & Bird, H. R. (1990). Psychopathology and developmental delay in homeless children: A pilot study. *Journal of the American Academy of Child and Adolescent Psychiatry*, 29, 732–735.
- Gutman, L. M., Sameroff, A. J., & Eccles, J. S. (2002). The academic achievement of African-American students during early adolescence: An examination of multiple risk, promotive, and protective factors. *American Journal of Community Psychology*, 30(3), 367–399.
- Harcourt Educational Measurement (1986). *The Metropolitan Achievement Test*. San Antonio, TX: Harcourt Educational Measurement.
- Heinlein, L. M., & Shinn, M. (2000). School mobility and student achievement in an urban setting. *Psychology in the Schools*, 37, 349–357.
- Hess, G. A. (1987). *Schools for early failure: The elementary years and dropout rates in Chicago*. Chicago, IL: Chicago Panel on Public School Finances.
- Holmes, C. T., & Matthews, K. M. (1984). The effects of nonpromotion on elementary and junior high school pupils: A meta-analysis. *Review of Educational Research*, 54, 225–236.
- Humke, C., & Schaefer, C. (1995). Relocation: A review of the effects of residential mobility on children and adolescents. *Psychology: A Journal of Human Behavior*, 32(1), 16–24.
- Jastak, S., & Wilkinson, G. S. (1994). *Wide Range Achievement Test*. Wilmington, DE: Guidance Associates.
- Kaufman, A. S., & Kaufman, N. L. (1990). *Kaufman Brief Intelligence Test-Manual*. Circle Pines, MN: American Guidance Service.
- Labaree, D. F. (1984). Setting the standard: Alternative policies for student promotion. *Harvard Educational Review*, 54(1), 67–87.
- Mann, D. (1986). Can we help drop-outs: Thinking about the undoable. *Teachers College Record*, 87(3), 307–323.
- Masten, A. S. (1990, August). *Homeless children: Risk, trauma and adjustment*. Paper presented at the 98th Annual Convention of the American Psychological Association, Boston.
- Masten, A. S., & Coatsworth, J. D. (1998). The development of competence in favorable and unfavorable environments: Lessons from research on successful children. *American Psychologist*, 53, 205–220.
- Masten, A. S., Miotis, D., Graham-Bermann, S. A., Ramirez, M., & Neemann, J. (1993). Children in homeless families. Risks to mental health and development. *Journal of Clinical and Counseling Psychology*, 61, 335–343.
- Masten, A. S., Sesma Jr., A., Si-Asar, R., Lawrence, C., Miotis, D., & Dionne, J. A. (1997). Education risks for children experiencing homelessness. *Journal of School Psychology*, 35, 27–46.
- Maza, J. A., & Hall, P. L. (1990). No fixed address: The effects of homelessness on families and children. *Child and Youth Services*, 14(1), 35–47.
- McCartney, K., & Rosenthal, E. (2000). Effect size, practical importance and social policy for children. *Child Development*, 71, 173–180.
- McGraw-Hill. (1986). *The California Achievement Test*. Monterey, CA: McGraw-Hill.
- Molnar, J. M., Rath, W. R., & Klein, T. P. (1990). Constantly compromised: The impact of homelessness on children. *Journal of Social Issues*, 46(4), 109–124.

- National Center for Education Statistics (1997). *The condition of education: Grade retention, by English language usage and proficiency, and disability status*. Washington, DC: National Center for Education Statistics.
- National Coalition of Advocates for Students (1991). *The good common school: Making the vision work for all children*. Boston, MA: National Coalition of Advocates for Students.
- New York City Department of Education (2002, April). *The Class of 2001: Four-year longitudinal graduation and dropout report*. Brooklyn, NY: New York City Department of Education.
- Nunez, R. D. (2001). Family homelessness in New York City: A case study. *Political Science Quarterly*, 116(3), 367–379.
- Psychological Corporation (1992). *Wechsler Individual Achievement Test Screener—Manual*. San Antonio, TX: Psychological Corporation.
- Rafferty, Y. (2000a). Educating homeless students: An overview of legal entitlements and federal protections. In R. Mickelson (Ed.), *Children on the streets of the Americas: Globalization, homelessness, and education in the United States, Brazil, and Cuba* (pp. 107–117). New York, NY: Routledge.
- Rafferty, Y. (2000b, October). *The legal rights and educational needs of homeless children with disabilities*. Paper presented at the 12th Annual Conference of the National Association for the Education of Homeless Children and Youth, Greensboro, NC (ERIC Document Reproduction Service, No. ED450167/UD 033986).
- Rafferty, Y., in press. Educating homeless children: An overview of the education for homeless children and youth program. In S. Barrow, et al. (Eds.), *Encyclopedia of Homelessness*. Great Barrington, MA: Berkshire Publishing.
- Rafferty, Y., & Rollins, N. (1989). *Learning in limbo: The educational deprivation of homeless children*. New York, NY: Advocates for Children (ERIC Document Reproduction No. Ed 312 363).
- Rafferty, Y., & Shinn, M. (1991). The impact of homelessness on children. *American Psychologist*, 46, 1170–1179.
- Raven, J. C., Court, J. H., & Raven, J. (1983). *Manual for Raven's progressive matrices and vocabulary scales—section 3—standard progressive matrixes*. London, UK: Lewis.
- Rescorla, L., Parker, R., & Stolley, P. (1991). Ability, achievement, and adjustment in homeless children. *American Journal of Orthopsychiatry*, 61, 210–220.
- Rubin, D. H., Erickson, C. J., San Agustin, M., Cleary, S. D., Allen, J. K., & Cohen, P. (1996). Cognitive and academic functioning of homeless children compared with housed children. *Pediatrics*, 97, 289–295.
- Rumberger, W., & Larson, K. A. (1998). Student mobility and the increased risk of school dropout. *American Journal of Education*, 107(1), 1–35.
- Salvia, J., & Ysseldyke, J. E. (1991). *Assessment* (5th ed.). Boston, MA: Houghton-Mifflin.
- Sameroff, A. J., & Fiese, B. H. (2000). Models of development and developmental risk. In C. H. Zeanah Jr. (Ed.), *Handbook of infant mental health* (2nd ed.) (pp. 3–19). New York, NY: Guilford Press.
- Sameroff, A. J., Seifer, R., Baldwin, A., & Baldwin, C. (1993). Stability of intelligence from preschool to adolescence: The influence of social and family risk factors. *Child Development*, 64, 80–97.
- Schaller, J. (1976). Geographic mobility as a variable in ex-post facto research. *British Journal of Educational Psychology*, 46, 341–343.
- Shinn, M., Weitzman, B. C., Stojanovic, D., Knickman, J. R., Jimenez, L., Duchon, L., James, S., & Krantz, D. H. (1998). Predictors of homelessness among families in New York City: From shelter request to housing stability. *American Journal of Public Health*, 88, 1651–1657.
- Scheingart, J. S., Molnar, J., Klein, T. P., Lowe, C. B., & Hartmann, A. H. (1995). Homelessness and child functioning in the context of risk and protective factors moderating child outcomes. *Journal of Clinical Child Psychology*, 24(3), 320–331.
- Touchstone Applied Science Associates. (1988). *Degrees of Reading Power: DRP norms*. Brewster, NY: Touchstone Applied Science Associates.
- United States Department of Education (2001). *Education for homeless children and youth program: Report to Congress: Fiscal Year 2000*. Washington, DC: United States Department of Education, Office of Elementary and Secondary Education.
- United States Department of Education (2002, October). *The education for homeless children and youth program: Learning to succeed*. Washington, DC: Elementary and Secondary Education Division, Planning and Evaluation Services.

- United States General Accounting Office (1994). *Elementary school children: Many change schools frequently, harming their education*. GAO/HEHS-94-45, Gaithersburg, MD.
- Walker, E., & Madhere, S. (1987). Multiple retentions: Some consequences for the cognitive and affective maturation of minority elementary students. *Urban Education*, 22(1), 85–95.
- Wechsler, D. (1974). *Manual for the Wechsler Intelligence Scale for Children—Revised*. San Antonio, TX: The Psychological Corporation.
- Wilson, W. J. (1987). *The truly disadvantaged: The inner-city, the underclass, and public policy*. Chicago, IL: University of Chicago Press.
- Wood, D., Valdez, R. B., Hayashi, T., & Shen, A. (1990). Health of homeless children and housed poor children. *Pediatrics*, 86, 858–866.
- Woodcock, R. W. (1984). *Woodcock–Johnson Language Proficiency Battery*. Allen, TX: Dallas Teaching Resources.
- Zigler, E. F. (1990). Forward. In S. J. Meisels, & J. P. Shonkoff (Eds.), *Handbook of early childhood interventions* (pp. ix–xiv). New York, NY: Cambridge University Press.
- Zima, B. T., Bussing, R., Forness, S. R., & Benjamin, B. (1997). Sheltered homeless children: Their eligibility and unmet need for special education evaluation. *American Journal of Public Health*, 87(2), 236–240.
- Zima, B. T., Wells, K. B., & Freeman, H. E. (1994). Emotional and behavioral problems and severe academic delays among sheltered homeless children in Los Angeles County. *American Journal of Public Health*, 84(2), 260–264.