# HOW CHILDREN'S FOSTER CARE EXPERIENCES AFFECT THEIR EDUCATION

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## Executive Summary

Child welfare agencies in the United States are responsible for the well-being of more than half a million children in foster care. Each day, child welfare officials make decisions about what types of homes to place children in, whether they should be moved to new homes, and whether and when they should be returned to their families. This report indicates that several of these choices influence children's educational outcomes and calls attention to children in foster care who show a marked change in certain school outcomes after they enter care.

At the request of the New York City Administration for Children's Services (ACS), and in collaboration with the city's Board of Education, we examined the relationship between children's foster care experiences and their performance in school. Using a combined database of school and child welfare records on more than 16,000 foster children, we compared children's attendance rates, school transfers, and third through eighth grade test scores according to their foster care experiences, including length of stay in care, type of foster home, runaway history, placement history, reason for placement, and year of entry into care.

Foster care experiences had the strongest effect on attendance and school transfers but only minor effects on children's reading and math exams. Additionally, although we expected school transfers to harm attendance rates and exam scores, a school transfer slightly *increased* attendance, had no effect on reading scores, and reduced math scores by a very small amount. In light of the weak evidence in our study that school transfers reduce test scores or attendance rates, we placed greater weight on the attendance findings than the school transfer findings in drawing our conclusions about how foster care experiences influence school performance.

We found that while foster children have very poor attendance rates compared to students in the general population, several groups of children improved their attendance after they entered foster care, including those who were young, entered care because of abuse or neglect, remained in care for at least the entire school semester after they entered, had stable placements, and were placed in family-like homes. These children's foster care experiences appear to increase this aspect of school stability, which in turn promotes learning and achievement.

Other children's attendance dropped after foster care placement. In particular, attendance declined for children who had short stays in foster care or who returned home during the school semester. This finding suggests that discharge planning conferences should consider the possible risks associated with returning children home during the school session and that they ensure sufficient aftercare services to help families maintain their children's school stability.

A combination of experiences common among adolescents—entering because of a status offense, being placed in a congregate care setting, and running away from placements—greatly reduced attendance rates. Independent of these events, being older upon entering care

was also a risk factor for poor attendance, indicating the potential for special services to adolescents.

Overall, foster children's attendance has improved over the past five years—an indication that ACS reforms may be benefiting some children. Further planning and research on children who return home early and on adolescents in foster care could lead to greater improvements.

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## Introduction

Child welfare agencies work towards three goals for the children in their jurisdictions: safety, permanency, and well-being. Of these three goals, improving child well-being is the most difficult. Children's overall functioning is influenced not only by the services and efforts of the child welfare agency, but also by the services provided by other family-serving agencies, such as the mental health and school systems. Additionally, child well-being is a concept that includes many important outcomes in children's lives (e.g. academic achievement, self-esteem) and is consequently difficult to define, measure, and track over the long-term.

Most of the prior research on the well-being of youth in the child welfare system has focused on whether maltreatment affects children's development, with little attention to policies and programs designed to mediate these effects. For instance, we know that most children enter care because of abuse or neglect and that they suffer from cognitive, behavioral, and emotional problems.[1] Further, children in foster care have worse education and employment prospects than children in the general student population.[2] Yet we know very little about how decisions, such as with whom children will live and for how long, affect foster children's life chances, and in particular, their educational outcomes.

To address this gap in our knowledge and to improve the well-being of children in its care, the Administration for Children's Services (ACS), New York City's child welfare agency, partnered with the Board of Education and asked the Vera Institute to study foster children's educational outcomes. Using an interagency database of foster care and education records, we explored the relationship between children's foster care experiences and their school performance after entry into foster care. This study includes four indicators of school performance: attendance rates, school transfers, reading exams, and math exams. We compared children on these educational outcomes according to their foster care experiences, including length of stay in care, type of foster home, runaway history, transfer history, reason for placement, and year of placement.

Our report is divided into four parts, a conclusion, and several appendices. Part one provides a review of the existing research on the relationship between foster care experiences and school performance as well as between school transfers and other educational outcomes. Part two explains our methods, including design, research questions, data sources, variables, and analytic techniques. The last sections of this report are the results of our analyses, a discussion of those results, and a conclusion. In addition, our appendices include an in-depth review of the literature on foster children's educational outcomes, a detailed description of our interagency data match, and the complete results of our analyses.

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[1] John S. Wodarski, David P. Kurtz, James M. Gaudin Jr., and Phillis T. Howing, "Maltreatment and the School-Age Child: Major Academic, Socioemotional, and Adaptive Outcomes," *Social Work* 35, no. 6 (1990):507-513; Martha F. Erickson, Byron Egeland, and Robert Pianta, "The Effects of Maltreatment on the Development of Young Children," in *Child Maltreatment: Theory and Research on the Causes and Consequences of Child Abuse and Neglect,* ed. D. Cicchetti and V. Carlson (Cambridge: Cambridge University Press, 1989).

[2] Appendix A contains a review of this literature.

# Literature Review

## Foster Care and Educational Outcomes

Few studies have investigated the relationship between foster care experiences and educational outcomes. Those that do rely on self-reports from foster children and suffer from inadequate controls for educational performance prior to foster care placement. The available evidence indicates that children in congregate care have lower educational attainment than children in more family-like settings, and that there are no such differences between children who are placed in foster homes with their relatives and those who are placed with strangers. Additionally, foster children and social workers report that transfers to new foster homes harm school outcomes, but the one study that explores this relationship with some rigor finds no such effects. We found no studies that examined the effect of other foster care experiences, including the reason for placement, length of stay, and whether children run away from their placements, on educational outcomes. A thorough review of literature on foster children in comparison to children not in foster care and the possible explanations for foster children's poor school performance can be found in Appendix A.

### Type of Placement and Placement Restrictiveness

Foster care homes are commonly grouped into three categories—kinship, foster boarding, and congregate. Kinship homes, as the name suggests, are placements with relatives, while foster boarding homes are placements with families that are unknown to the children. Children in congregate settings live with several other children, and are supervised by professional child care staff. Although most child welfare agencies use all three types of placements, the Adoption Assistance and Child Welfare Act of 1980 calls for preferential placement in the "least restrictive" or most family-like setting. Restrictiveness is considered lowest in kinship homes and highest in congregate or institutional settings, such as hospitals and residential treatment centers. Foster boarding homes rank low in restrictiveness, but are considered less family-like than kinship homes.

The small body of research that compares children in congregate and family settings on educational indicators lends support to the preference for family-like homes. Surveys of foster children reveal that they feel less safe and stable in congregate than in kinship and foster family homes.[3] In addition, a longitudinal study of a sample of children discharged from foster care in the New York metropolitan area found that regardless of race, boys who had lived in congregate care settings completed fewer years of education than boys raised in foster family settings.[4]

Despite the consensus against congregate care homes, there is less agreement on which of the two family-like settings is best for children's education. The very small body of literature

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[3] Eliana Gil and Karen Bogart, "Foster Children Speak Out: A Study of Children's Perceptions of Foster Care," *Children Today* January/February (1982): 7-9.

[4] Trudy Festinger, *No One Ever Asked Us: A Postscript to Foster Care* (New York: Columbia University Press, 1983).

comparing foster boarding homes to kinship homes has yielded mixed findings, and a clear preference has not emerged.

The available studies indicate differences in the characteristics of foster parents in the two types of home and differences in children's foster care outcomes, such as number of placement changes and whether children are adopted. On the one hand, kinship parents tend to be single, of poorer health, older, and less educated than nonkinship foster parents, all of which are usually risk factors for children's educational attainment (years of school completed) and academic achievement (grades and exam scores).[5] In addition, children in kinship homes spend more time in foster care and are less likely to be adopted than children in other placements.[6] On the other hand, children living with relatives have more contact with their parents, fewer movements between placements, and are less likely to reenter the foster care system once they have left.[7]

Although the two types of homes differ on these indicators, the one study that compared the later adult functioning of children who had been in kinship versus foster boarding homes revealed no differences between the two groups. Benedict, Zuravin, and Stallings (1996) found that children in foster boarding homes had worse behavior than children in kinship homes prior to placement. Yet they found no differences in the proportions of students from the two types of homes who completed their high school diploma or GED after placement.

Mech and Che-Man Fung (1999) examined the relationship between educational outcomes and a continuous measure of placement restrictiveness, rather than by the three common placement types.[8] In their design, placement restrictiveness ranged from a low of one to a high of 12 depending on the types of homes in which children lived and the duration of stay in each type of home. Among the congregate placements, for example, mental hospitals had a higher level of restrictiveness than small congregate homes. The study revealed that children who spent most of their foster care experience in highly restrictive settings completed fewer years of school and had lower educational aspirations at age 21 than did children in less restrictive settings. Forty-one percent of the children in the most restrictive settings failed to complete high school, compared to approximately one quarter of children in the least restrictive settings.

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[5] Barbara Needell and Neil Gilbert, "Child Welfare and the Extended Family," in *Child Welfare Research Review*, vol. 2, ed. J.D. Berrick, R.P. Barth, and N. Gilbert (New York: Columbia University Press, 1997); Jill Duerr Berrick and Richard P. Barth, "Research on Kinship Foster Care: What do we Know? Where do we Go From Here?" *Children and Youth Services Review* 16, no.1 (1994):1-5.

[6] Mark F. Testa, "Kinship Foster Care in Illinois," in *Child Welfare Research Review*, vol. 2; Courtney and Needell, "Outcomes of Kinship Care: Lessons from California." in *Child Welfare Research Review*, vol. 2; Fred H. Wulczyn, Allen W. Harden, and Robert M. Goerge, *Foster Care Dynamics 1983-1994: California, Illinois, Michigan, Missouri, New York, and Texas. An Update from the Multistate Foster Care Data Archive* (Chicago: The Chapin Hall Center for Children at the University of Chicago, 1997).

[7] Daniel Webster, Richard P. Barth, and Barbara Needell, "Placement Stability for Children in Out-of-Home Care: A Longitudinal Analysis." *Child Welfare* 75, no. 5 (2000): 614-632; Testa, "Kinship Foster Care"; Jill Duerr Berrick, Richard P. Barth, and Barbara Needell, "A Comparison of Kinship Foster Homes and Foster Family Homes: Implications for Kinship Foster Care as Family Preservation," *Children and Youth Services Review* 16, no.1 (1994): 33-63.

[8] Edmund V. Mech and Carrie Che-Man Fung, "Placement Restrictiveness and Educational Achievement among Emancipated Foster Youth," *Research on Social Work* 9, no. 2 (1999): 213-228.

### Placement Transfers

The number of homes in which a child is placed may also be a disruptive factor, but very few studies actually examine the effect residential transfers have—independent of school transfers—on foster children. We know that foster children typically come from low-income families that are characterized by maltreatment and high rates of residential mobility. One study of such families found that between 15 and 33 percent of the effect of maltreatment on children's academic achievement was due to high rates of school transfers and residential changes.[9] Yet this study was not restricted to children in foster care, nor did it separate residential from school transfers.

Among foster children, anecdotal evidence indicates that placement transfers harm schooling, but the one empirical test of this theory lends little support. Children in foster care report that moving causes disruptions and delays that make schoolwork difficult.[10] Social workers agree, reporting that returns to school in the middle of the year cause many disruptions for the foster child and the school.[11] Contrary to these reports, Runyan and Gould (1985) found no differences in the school failure rates of children who moved around a lot compared to those who remained in the same home for the duration of foster care.

### Reason for Placement

Children enter foster care for three reasons: abuse or neglect, voluntary placement, or as a Person in Need of Supervision (PINS). A voluntary placement occurs when families experience unusually stressful circumstances, such as financial hardship or other family crises, and request that the child welfare system provide temporary care for their children. A PINS placement usually occurs when parents feel they can no longer handle troubled teenagers and are referred to the foster care system by the school system or the police. We found no research that distinguished school performance among these three groups; however, the psychological literature examining maltreatment's effect on educational outcomes often differentiates by the type of maltreatment—neglect, physical abuse, and sexual abuse.

There are at least two theories in this literature about how maltreatment affects school performance. Child development theorists suggest that neglected children suffer from cognitive deficits acquired during the developmental stages of life, and that these deficits contribute to later academic failure. Social learning theorists hypothesize that abused children develop learned violent behaviors, which contribute to problematic school behavior and lower performance.[12]

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[9] John Eckenrode, Molly Laird, and John Doris, "School Performance and Disciplinary Problems among Abused and Neglected Children," *Developmental Psychology* 29, no.1(1993): 53-62.

[10] Barbara Fletcher, *Not Just a Name: The Views of Young People in Foster and Residential Care* (London: National Consumer Council and Who Cares? 1993).

[11] Sandra J. Altshuler, "A Reveille for School Social Workers: Children in Foster Care Need Our Help!" *Social Work in Education* 19, no. 2(1997):121-127.

[12] for a review of these theories, see Jeffrey Leiter and Matthew C. Johnsen. "Child Maltreatment and School Performance," *American Journal of Education* 102 (1994):154-189.

Direct tests of these theories look for associations between type of school performance and type of maltreatment. For example, if the theories are correct, neglected children should have the lowest academic achievement and physically abused children should have the greatest number of behavior problems. The empirical tests of these theories offer mixed results. In some studies, physically abused children exhibit more aggressive behavior than neglected children.[13] In other studies there is no difference or an opposite trend.[14] Some researchers attribute the failure to verify these psychological hypotheses to the artificial distinctions between types of maltreatment; physically abused children are in many cases also neglected.[15]

## School Mobility and Educational Outcomes

Although the intuitive relationship between attendance and achievement has never been examined among foster children, studies of other disadvantaged populations overwhelmingly find a positive relationship.[16] In contrast, studies of how school mobility affects children's achievement are somewhat mixed. Most of this research suffers from methodological limitations, most importantly, lack of controls for children's performance prior to the school transfer or for student socioeconomic status. The available studies also rarely distinguish between school movements that occur for educational reasons, such as graduating from a school, and those that occur for noneducational reasons, such as moving to a new home.

Most of the studies that have been conducted to date indicate that when children change schools, their performance suffers because they must adjust to new classmates, teachers, and curricula. Several of these studies do not control for achievement prior to the transfer, and report that school transfers are associated with lower performance on standardized exams, measures of classroom adjustment, grades, and parent reports of student achievement.[17] Additionally, the

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[13] Eckenrode et al., "School Performance and Disciplinary Problems among Abused and Neglected Children."; David P. Kurtz, James M. Gaudin Jr., John S. Wodarski, and Phillis T. Howing, "Maltreatment and the School-Aged Child: School Performance Consequences," *Child Abuse and Neglect* 17 (1993):581-589.

[14] Leiter and Johnsen, "Child Maltreatment and School Performance."

[15] ibid

[16] see, for example, Richard J. Murnane, *The Impact of School Resources on the Learning of Inner City Children* (Cambridge: Ballinger Publishing Company, 1975); David E. Wiley, "Another Hour, Another Day: Quantity of Schooling, a Potent Path for Policy," in *Schooling and Achievement in American Society*, eds. W.H. Sewell, R.M. Hauser, and D.L. Featherman (New York: Academic Press, 1976).

[17] Gerald P. Benson, Janine L. Haycraft, James P. Steyaert, and Daniel J. Weigel, "Mobility in Sixth Graders as Related to Achievement, Adjustment, and Socioeconomic Status," *Psychology in the Schools* 16, no.3 (1979):444-447; Patricia Cohen, Jim Johnson, Elmer L. Struening, and Judith S. Brook, "Family Mobility as a Risk Childhood Psychopathology," in *Epidemiology and the Prevention of Mental Disorders*, ed. B. Cooper and T. Helgason (New York: Routledge, 1989); Robert D. Felner, Judith Primavera, and Ana M. Cauce, "The Impact of School Transitions: A Focus for Preventive Efforts," *American Journal of Community Psychology* 9, no.4 (1981):449-459; Barbara L. Goebel, "Mobility and Education," *American Secondary Education* 8, no. 4 (1978):11-16; Gary M. Ingersoll, James P. Scamman, and Wayne D. Eckerling, "Geographic Mobility and Student Achievement in an Urban Setting," *Education Evaluation and Policy Analysis* 11, no.2 (1989):143-149; Murray Levine, John C. Wesolowski, and Frank J. Corbett, "Pupil Turnover and Academic Performance in an Inner City Elementary School," *Psychology in the Schools* 3 (1966):153-156; United States General Accounting Office, *Elementary School Children: Many Change Schools Frequently, Harming their Education*, (Washington: Health, Education, and Human Services Division, 1994).

transition from middle school to high school—an educational transfer—has been found to associate with lower grade point averages and attendance rates.[18]

Two studies have departed from the bulk of the findings. One detected that school mobility had a positive effect on attendance rates and math achievement for 11th graders.[19] A recent study of children in the New York City public school system found that the detrimental effects of school mobility on 6th grade reading and math test scores did not hold once controls for achievement in the 3rd grade were introduced into the model. While 3rd grade achievement was influenced by earlier mobility, the authors were unable to include controls for prior achievement since testing begins at grade three. This study did not examine the relationship between school mobility and attendance rates.[20]

## How this Research Contributes to the Literature

Our investigation builds on previous work in several ways. First, we examine children's school performance after the date they entered foster care, controlling for important differences between children at the time of foster care placement. Second, we examine the effect of each foster care experience (or characteristic), independent of the others, which may have been confounded in earlier work. To determine whether placement type affects children's educational outcomes, for example, we control for other variables, such as length of stay and age, that might also play a role. Third, we study comparisons that have not previously been made. We explore differences between children who enter care on PINS, voluntary, and maltreatment petitions, and differences among children in foster boarding, kinship, and congregate homes. We also investigate educational outcomes among children who go AWOL (Absent Without Leave) from their placements, and among children according to their length of stay in foster care. Finally, the research examines attendance rates and school transfers, indicators of school performance that have not previously been studied in relation to foster care experiences.

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[18] Robert D. Felner, Judith Primavera, and Ana M. Cauce, "The Impact of School Transitions: A Focus for Preventive Efforts," *American Journal of Community Psychology* 9, no.4 (1981):449-459.
[19] James E. Greene Sr. and Shirley Lanier Daugherty, "Factors Associated with School Mobility," *The Journal of Educational Sociology* 35 (1961):36-40.
[20] Lisa Melman Heinlein, and Marybeth Shinn, "School Mobility and Student Achievement in an Urban Setting," *Psychology in the Schools* 37, no. 4 (2000):349-57.

# Methods

## Design and Research Hypotheses

The primary purpose of this research was to examine the influence of different foster care experiences on children's educational outcomes. In the attendance analysis, for example, we compared the change in attendance rates after foster care placement for children with different experiences in care. We did not attempt to determine *whether* foster care placement itself produces these changes.

We had a few expectations for the analyses based on existing literature. One hypothesis was that foster children in more restrictive placements (congregate homes) would have worse educational outcomes than foster children in less restrictive placements (kinship and foster boarding homes). We also expected that children who had multiple placements or who ran away from their foster homes would perform poorly in school since the disruption associated with moving could affect the learning experience. We hypothesized that children who entered care more recently would show greater improvements than earlier cohorts since ACS has undergone several changes in the five years since it became an autonomous agency in 1996.[21]

Given the paucity of existing research, we were less certain about the relationship between several other foster care variables and educational outcomes. For example, children who remain in care for a long time could show an improvement in school performance due to the benefits of foster care. Conversely, these children could suffer a decline in achievement as a result of being away from their families for such a long time. Finally, we had no hypotheses about whether children who entered care due to maltreatment, on a PINS petition, or on a voluntary petition would differ from one another in terms of their educational outcomes before and after placement. While we might have expected differences by the type of maltreatment children experienced, we did not investigate this question because we were unable to distinguish between abuse and neglect in the child welfare data.

Since attendance and school transfers can be affected by immediate circumstances, while changes in test scores likely result from accumulated cognitive improvements, we anticipated that foster care experiences would have larger effects on attendance and school transfers than on exam scores. We also expected, however, that attendance and school transfers would affect both one another and indicators of academic achievement. Specifically, school transfers should reduce attendance and exam scores, while high attendance rates should improve exam scores. We also expected that some effects of foster care on school performance would operate through their influence on other school performance indicators. For example, living in a congregate home may decrease exam scores directly, or indirectly by reducing attendance (for a diagram of the causal model, see Appendix C).

[21] See 1996 Administration for Children's Services Reform Plan.

## Data Sources and Sample

The data were produced by matching the records of New York City foster children in New York State's Child Care Review Service (CCRS) database to students' records in Automate The Schools, the New York City school system's primary student database. Using combinations of name and date of birth, this match located educational records for 81 percent of the children who entered care between 1995 and 1999; the analytic database includes the combined educational and foster care records of 17,422 school-age children (see Appendix B for details on the data match and how the final group of children we included in the study differs from those located in the data match). We produced several statistics from this data match, including attendance rates, exam scores, and other educational indicators for all five cohorts (children who entered care between 1995 and 1999), which can be found in ACS's *Progress on ACS Reform Initiatives: Status Report 3*.[22]

## Variables

From the foster care records, we created several variables to reflect the "foster care experience," and included controls for demographic and school-related factors. The foster care variables are time in care, placement type, placement transfers, AWOLs, year of placement, and the reason for placement. *Time in care* does not refer to the total time spent in care because many children were still in foster care at the time of our data collection. Instead, time in care is restricted to the particular time frame in the analysis. In the attendance analysis, time in care is measured as the proportion of time during the school semester after foster care placement that the child was in foster care. For the school transfers analyses, time in care is measured as the proportion of time in the year after foster care placement that the child was in foster care. In the exam analysis, time in care is measured as the percent of time between the two exams that the child was in foster care. *Placement type* is categorized into the three groups mentioned earlier: kinship homes, foster boarding homes, and congregate homes. *Placement transfers* and *AWOLs* are measures of whether a child experienced the event within the first year after placement. *Reason for placement* categories are abuse/neglect, PINS, and voluntary.

Demographic variables include children's ethnicity, age, and gender. Four education variables are also controlled in all the models: performance on school outcome prior to placement, school district, time enrolled in school after placement, and whether the semester after placement is in the fall or the spring.

Our educational outcomes include attendance, school transfers, reading scores, and math scores. Attendance rates were calculated according to a standard board of education formula—as the number of school days present divided by the number of school days enrolled in each semester. The exam data include elementary school children's reading and math scores on

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[22] For a copy of this report, contact Sara Workman, Deputy Director of the Management Analysis Unit in ACS's Office of Management, Development, and Research. Ms. Workman can be reached by mail at 150 Williams Street, 17th floor NY, NY 10038 or email at KK7024@acs.dfa.state.ny.us.

citywide standardized tests. The exam data are measured in z-scores,[23] which represent how each child performed relative to all other test-takers in New York City. Changes in children's z-scores over time indicate how their performance changed relative to the changing average ability. In the school transfer analysis, we examined only "noneducational" transfers—transfers for which we could find no explanation in the board of education database. We excluded transfers that occurred for educational reasons, including placements into or out of special education or an alternative high school, or graduation from a school. A list of all variables and further explanation of how they were created is provided in Appendix C.

### Analytic Technique

We used multivariate analysis to examine the influence the foster care variables had on educational performance. This technique makes it possible to isolate the influence of each factor on the outcome being measured, controlling for the others. In all of our analyses, we modeled the educational score after foster care entry, controlling for the score just prior to foster care entry.

We used two multivariate techniques that were appropriate for our outcome variables. We modeled our continuous outcomes—attendance, reading scores, and math scores—with a Weighted Least Squares (WLS) regression model. This technique corrected for the nonconstant variance identified in both the attendance and exam analyses. For example, our model corrected for the substantial difference in the variance of attendance rates among children in congregate versus family-like homes. To predict whether a child experienced a noneducational school transfer we employed logistic regression analyses. In all models, we examined the magnitude of each coefficient in combination with the statistical test of significance, using the conventional cutoff of $p<0.05$ to indicate statistical significance. We also report results that yield statistical significance of $p<0.10$ for readers interested in less strict criteria. Further detail on the regression models can be found in Appendix C.

[23] z-score =(student score – mean score for all test-takers)/ standard deviation for all test-takers.

# Results

## Study Group Characteristics

Our study group included 17,422 children who were placed in care between 1995 and 1999 (see Table 1). More than half of the children were placed in foster boarding homes and the majority (65 percent) entered care on findings of abuse or neglect.[24] Half the children in the sample were still in foster care one year after placement; we are unable to provide an average length of stay because some children remained in care until after our data were collected. Thirteen percent of the children in our study ran away from their placements at least once in the year after foster care placement, and 37 percent were transferred to a new home at least once.

[24] We could not identify reason for placement for roughly eight percent of our sample. Record keeping for the early cohorts was less than perfect and the electronic records for many children who entered foster care showed no legal activities (reason for placement) associated with their entry. While this remains a problem for our later cohorts, record keeping appears to have improved. For further discussion, see Appendix C.

**Table 1: Foster Care Characteristics**

| | Study Population (N=17,422) | |
|---|---|---|
| | *N* | *%* |
| **Facility Type**[a] | | |
| Congregate Home | 6,244 | 35.8% |
| Foster Boarding Home | 8,842 | 50.8% |
| Kinship Home | 2,335 | 13.4% |
| **Time in Care** | | |
| Up to 1 month | 3,968 | 22.8% |
| 1 to 2 months | 948 | 5.4% |
| 2 to 3 months | 668 | 3.8% |
| 3 to 6 months | 1,349 | 7.7% |
| 6 to 9 months | 1,140 | 6.5% |
| 9 months to 1 year | 1,033 | 5.9% |
| 1 year or more | 8,316 | 47.7% |
| **AWOLS** | | |
| No | 15,098 | 86.7% |
| Yes | 2,324 | 13.3% |
| **Placement Transfers** | | |
| No | 10,944 | 62.8% |
| Yes | 6,478 | 37.2% |
| **Reason for Entry**[b] | | |
| Abuse/Neglect | 10,511 | 65.2% |
| PINS | 2,402 | 14.9% |
| Voluntary | 3,198 | 19.8% |
| **Year of Admission** | | |
| 1995 | 2,570 | 14.8% |
| 1996 | 3,816 | 21.9% |
| 1997 | 4,341 | 24.9% |
| 1998 | 3,481 | 20.0% |
| 1999 | 3,214 | 18.4% |

[a] This refers to the facility type 30 days after placement to exclude temporary placements. The initial placement types are as follows: congregate home, 35.6%; foster boarding home, 53.5%; kinship home, 10.9%.
[b] For 1,311 children, ACS records did not indicate a reason for entry.

As shown in Table 2, the children are mostly African-American and Latino, with small percentages of Whites, American Indians or Alaskan Natives, and Asians or Pacific Islanders.[25] Almost half (43 percent) of the children were between the ages of eight and 13 at the time of placement, with close to a quarter in both the five to seven and 14 to 15 age groups. Our study included roughly equal proportions of girls and boys. Most (72 percent) of the children were in middle, elementary, and high schools when they entered foster care. Over 6 percent were in the

[25] We used the ethnicity data from the Board of Education database because they were more complete than the records maintained on ethnicity in the CCRS.

special education district, in comparison to approximately 2 percent of all students in the public school system. Less than one percent were schooled in the Chancellor's district, which consists of low-performing schools.

**Table 2: Demographic and School District Characteristics**

| | Study Population (N=17,422) | |
|---|---|---|
| | *N* | *%* |
| **Ethnicity** | | |
| American Indian or Alaskan Native | 113 | 0.6% |
| Asian or Pacific Islander | 404 | 2.3% |
| Latino | 5,955 | 34.2% |
| African-American | 9,712 | 55.8% |
| White | 1,220 | 7.0% |
| **Age Upon Placement** | | |
| 5-7 | 4,029 | 23.1% |
| 8-13 | 7,523 | 43.2% |
| 14-15 | 4,265 | 24.5% |
| 16-17 | 1,605 | 9.2% |
| **Mean Age (in years)** | 11 | |
| **Gender** | | |
| Female | 9,145 | 52.5% |
| Male | 8,277 | 47.5% |
| **School District**[a] | | |
| Elementary or Middle School | 12,107 | 72.4% |
| High School | 3,409 | 20.4% |
| Special Education | 1,054 | 6.3% |
| Chancellor's District | 141 | 0.8% |

[a] For 725 children, school district information was missing.

The children in our study group performed poorly on all three educational indicators before the date they were placed into foster care, and improved only modestly as a group after placement (see Table 3). The average attendance rate in the semester before placement was 76.2 percent. This is quite low in comparison to the attendance rates published by the board of education for students in the general population, which exceed 80 percent across all school districts (see board of education school reports). This is not surprising since some of the children entered care on charges of educational neglect, and on PINS petitions and these groups include children who have been chronically absent from school. The average attendance rate for the foster care group as a whole increased by 1.6 percentage points to 77.7 percent in the semester after placement.

Twenty-seven percent of the children in the sample experienced a noneducational school transfer during the year before placement. This proportion increases to 57% in the year after placement, with 31% percent having only one transfer and 26% with two or more. While this

sharp increase may be due to placement in foster care, it may also be a function of the number of days children were enrolled in school during the two time periods. Children who entered care at the age of five or six, for example, may have only been in school for a few months prior to foster care entry and had a shorter time in which to transfer than they would in the entire year after foster care placement.

Foster children's 3rd through 8th grade exam scores were noticeably lower than the scores of all children taking the exams even before they entered foster care. The average reading score before placement was almost one-half of a standard deviation (-0.47) below the average test-taker in New York City. Foster children's math scores were even further below the citywide mean before foster care placement (-0.54).

Children in foster care remained below average in reading and math after they entered care. A change of one-quarter of a standard deviation or more in exam scores is commonly thought of as a substantial change in cognitive performance, while anything smaller is less notable.[26] While foster children's overall performance improved between the two exams—0.02 in reading and 0.01 in math—the changes are quite modest and never exceed 0.25.

**Table 3: Educational Outcomes**

| | **Statistic** |
|---|---|
| **Attendance** | **(n=16,183)[a]** |
| Average rate semester before placement | 76.2% |
| Average rate semester after placement | 77.7% |
| *Average percentage point difference* | 1.5 |
| **School Transfers** | **(n=16,737)[b]** |
| Percent with one or more transfers in year before placement | 27.5% |
| Percent with one or more transfers in year after placement | 56.9% |
| **Reading Exam** | **(n=3,391)[c]** |
| Average z-score before placement | -0.47 |
| Average z-score after placement | -0.44 |
| *Average difference* | 0.02 |
| **Math Exam** | **(n=3,442)** |
| Average z-score before placement | -0.54 |
| Average z-score after placement | -0.53 |
| *Average difference* | 0.01 |

[a] This analysis includes children with attendance rates in the semester before and/or the semester after placement. Using the grand mean, we imputed values for children who had data in only one of the two semesters.
[b] This analysis was restricted to the 16,737 children who were enrolled in school during the year before and after placement. Most of the children excluded were young and had not yet enrolled in school or older and had left the school system upon placement into care.
[c] Exam analyses were restricted to the 3rd through 8th graders in the study who took the exams in at least one of the two time periods.

[26] Henry M. Levin, "Educational Performance Standards and Economy," *Educational Researcher* 27, no. 4 (1998): 1333-1381.

## What Affects Educational Outcomes?

The following three sections provide the results from our analyses of attendance, school transfers, and exam scores. For each analysis, we provide the simple bivariate relationships (without controls) and the results of our multivariate models (with controls). These comparisons show the relationships before other factors are included, and how these relationships change once other variables are introduced. In the interest of simplicity, we report only the coefficients from our multivariate models in the tables. We also omit from the tables the statistics on the effects of demographic and education-related variables. Readers who are interested in full results, including standard errors, intercept values, and explained variance, can find them in Appendix D. Several implications of our findings for policy and research are included in the discussion that follows the results.

### Attendance

Our first analysis examined the attendance rates in the semester after foster care entry, controlling for attendance in the semester prior to entry. Table 4 shows the mean attendance rates before and after placement, as well as the difference in the rates according to foster children's different experiences in care. For example, children in kinship homes had an average attendance rate of 80 percent prior to placement, which increased to 87 percent in the semester following placement. In contrast, children in congregate care entered with a far lower attendance rate (69 percent) and that rate declined by almost five percentage points by the semester after foster care placement. In between these two extremes, children who lived in foster boarding homes, whose attendance prior to placement was about the same as children in kinship homes, improved their attendance, but by slightly less than the children in kinship care, four versus seven percentage points. While these statistics illuminate the stark differences among the groups both in their performance before entry and in their changes between the two semesters, they do not control for the influence of other factors. For instance, the relative declines in attendance among the children living in congregate homes could be due to the fact that older children tend to be placed in congregate settings and older children have worse attendance.

The multivariate analyses, shown in the last column of the table, control for the effect of factors such as age and isolate the independent association of placement type and, continuing down the table, the other variables listed in the first column.[27] The coefficients indicate the amount by which being a member of a given group, such as being a child that lives in a congregate home, increases or decreases one's attendance relative to the other groups (as indicated by two dashes in the table). For example, children in congregate homes had an average

[27] The following variables were included in the attendance analysis: placement type, AWOL, placement transfer, time in care, reason for placement, year of placement, school district, attendance rate prior to placement, semester after entry into care, days between entry and start of next semester, transferred school during semester after foster care entry, length of time enrolled in school in semester after placement, race, age, and gender. All regression results are reported in Table D1, Model 2 of Appendix D.

decline in attendance of 2.68 percentage points from the semester before to after entry, once we controlled for other relevant characteristics.

**Table 4: Attendance by Foster Care Characteristics and School Transfer**

| | Bivariate Analyses (N=16,183) | | | Multivariate Analyses (N=15,064) |
|---|---|---|---|---|
| | *Rate Before Placement* | *Rate After Placement* | *Percentage Point Difference* | *Coefficient* |
| **Placement Type** | | | | |
| Congregate Home | 68.9% | 64.1% | -4.8% | -2.68** |
| Foster Boarding Home | 80.0% | 84.4% | 4.4% | -- |
| Kinship Home | 80.4% | 87.4% | 7.0% | -- |
| **Portion of Semester in Care** | | | | |
| None | 75.9% | 73.9% | -2.0% | -2.75** |
| Part | 74.5% | 69.4% | -5.1% | -4.58** |
| All | 76.6% | 81.1% | 4.5% | -- |
| **AWOLs** | | | | |
| No | 77.7% | 80.9% | 3.2% | -- |
| Yes | 65.9% | 56.8% | -9.1% | -11.26** |
| **Placement Transfers** | | | | |
| No | 76.5% | 78.0% | 1.5% | -- |
| Yes | 75.6% | 77.2% | 1.6% | -1.32** |
| **Reason for Placement** | | | | |
| Abuse/Neglect | 79.0% | 84.1% | 5.0% | 1.12** |
| PINS | 67.2% | 60.2% | -7.0% | -3.88** |
| Voluntary | 73.7% | 71.2% | -2.5% | -- |
| **Year of Placement** | | | | |
| 1995 | 74.2% | 72.2% | -2.0% | -2.46** |
| 1996 | 74.1% | 75.7% | 1.7% | -1.35** |
| 1997 | 75.3% | 77.8% | 2.5% | -0.82* |
| 1998 | 78.3% | 81.1% | 2.8% | -0.78* |
| 1999 | 79.3% | 80.8% | 1.5% | -- |
| **School Transfer** | | | | |
| Yes | 77.4% | 81.5% | 4.2% | 0.67** |
| No | 75.9% | 73.2% | -2.4% | -- |

* p<.05 ** p<.01

The asterisks (*) beside the coefficients indicate whether and to what degree the differences among the groups were statistically significant in the multivariate analyses: the greater the number of asterisks, the higher the level of statistical significance. In the analysis of placement type, the asterisks beside the congregate home estimate indicate that the difference between children in congregate homes and the other two groups was statistically significant. Once we

controlled for relevant factors, we found no statistically significant differences in the attendance rates after foster care entry of children in kinship homes compared with children in foster boarding homes. Thus, despite the observed difference in the bivariate analyses (it appears that children in kinship homes improve more), children in the two types of homes experience statistically equivalent changes in attendance. Due to the very high correlation between the kinship and foster boarding home variables, our final model does not distinguish between the two, which is why both groups have dashes in the table.

Children who remained in care for at least the entire semester after foster care placement—the "all" group in the table—experienced an increase of four and one-half percentage points in their attendance rate between the two semesters. In contrast, children who were in care for part, but not all, of the semester after placement showed the biggest decline in attendance. Children who left care relatively early and spent no time in care during the semester—for example, children who entered foster care in June and left in July—showed a slightly smaller decline than those in the middle group. The multivariate analyses show that these differences, while a little smaller in magnitude once we held other factors constant, remain statistically significant.

Unauthorized absences from foster care had a large negative correlation with children's attendance, as indicated by the difference in the rates of change between children who ran away from their placements at least once in the year after entering foster care and those who did not run away. The attendance of children with an AWOL declined by nine percentage points, while the attendance of children with no AWOLs improved by three percentage points. This difference remains large and statistically significant in the multivariate analysis.

The data also revealed that a placement transfer led to worse attendance rates, although the effect was very modest and not revealed in the bivariate relationships. The average attendance of children who experienced a placement transfer dropped by 1.32 percentage points more than those who did not transfer.

Children who entered foster care because of abuse and neglect had higher average attendance rates upon entry into care and gained once they entered. In contrast, children going into care as a result of PINS petitions entered care with a far lower attendance rate (67 percent) and declined by seven percentage points by the semester after foster care placement. The children who were placed voluntarily showed a smaller decline in attendance—two percentage points from before to after placement. The multivariate analyses reveal that the differences among all three groups were statistically significant even after controlling for the influence of other variables, most importantly age.

Children who entered care in 1995 experienced a decline in attendance from the semester before to the semester after placement, while all successive cohorts improved their attendance. The multivariate analyses reveal that the observed improvements were statistically significant for each year. Children in the later cohorts also entered care with higher average attendance than those in earlier cohorts.

The last row in the table shows the relationship between our indicator of school mobility and changes in attendance. Contrary to our expectations, children who transferred schools during the

semester after placement had slightly better attendance than children who did not transfer.[28] The reader should note, however, that the large difference found in the bivariate relationships—a decline of two percentage points for those who do not transfer versus an improvement of four percentage points for those who do—becomes quite modest when we control for children's age. This is because older children are both less likely to transfer to a new school and to show large declines in attendance. In addition, a comparison of this model to one without the school transfer variable shows negligible differences in the coefficients on the foster care factors, lending no support to the mediator hypothesis (see Table D1 for results of both models). That is, although foster care factors can influence school transfers as will be discussed below, the effect of these experiences on attendance rates are largely direct and do not operate through their effect on school transfers (see Appendix C, Figure C1 for more explanation of direct and indirect effects).

Although not shown in the table above, we conducted the same multivariate analyses of the difference in attendance *two* semesters after placement, again controlling for attendance prior to placement. This analysis revealed the same findings, with two exceptions. First, there was no statistically significant difference between the 1997 and 1998 cohorts. Second, a school transfer had no relationship to attendance rates two semesters after foster care placement. The similarity of the findings from the two analyses suggests that the attendance patterns we found hold at least an entire year after foster care placement.

### School Transfers

Children placed in foster boarding homes were far more likely to transfer to a new school for noneducational reasons than those in kinship or congregate homes. The first column in Table 5 shows the proportion of each group that experienced one or more transfers in the year after foster care placement. Seventy percent of children in foster boarding homes experienced a transfer, compared with 49 percent of children in kinship homes and 41 percent of children in congregate homes. The second column of the table provides the results of our logistic multivariate analyses, where we control for other factors.[29] The adjusted probability is the probability that a child from one group (such as children placed in foster boarding homes) experienced a transfer, all else equal. The probability that a child in a foster boarding home transferred to a new school was almost 69 percent, compared with a probability of 49 percent for children in kinship and congregate homes. While the difference between children in foster boarding homes and the other two groups was statistically significant, children in kinship and congregate homes did not differ from one another.

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[28] We also tested a model with a continuous measure of the number of school transfers that occurred during the semester and found a positive, yet statistically insignificant, coefficient.

[29] The following variables were included in the school transfer analysis: placement type, AWOL, placement transfer, time in care, reason for placement, year of placement, school district, school transfer prior to placement, semester after entry into care, length of time enrolled in school in semester after placement, race, age, and gender. All regression results are reported in Table D2, Model 2 of Appendix D.

Our findings also reveal that the longer children remained in care, the more likely they were to be transferred to a new school. Just under half of the children who left care within the first three months of placement transferred schools, versus 63 percent of those who were in care for the entire year. Children who spent between three and 11 months in care fell in between these two groups; 57 percent of them transferred to a new school. The difference between the group that left within three months and the other two groups was highly significant—those who leave care early are at least 11 percentage points less likely to be transferred than those who stay for at least three months. However, the difference between children in the middle group—those who stayed care in care between three and 11 months—and those who stayed the full year was negligible.

**Table 5: School Transfers by Foster Care Characteristics**

| | **Bivariate Analyses (N=16,737)** | **Multivariate Analyses (N=15,041)[a]** |
|---|---|---|
| | *Percent with School Transfer* | *Adjusted Probability of School Transfer* |
| **Placement Type** | | |
| Congregate Home | 40.9% | 48.5% |
| Foster Boarding Home | 69.8% | 68.5%** |
| Kinship | 49.2% | 48.5% |
| **Months in Care During Year** | | |
| Under 3 months | 46.6% | 50.9% |
| 3 to just under one year | 58.4% | 62.8%** |
| The whole year | 63.3% | 62.3%** |
| **AWOLs** | | |
| No | 58.5% | 58.4% |
| Yes | 46.6% | 64.4%** |
| **Placement Transfers** | | |
| No | 51.3% | 53.9% |
| Yes | 66.3% | 67.4%** |
| **Reason for Placement** | | |
| Abuse/Neglect | 65.2% | 57.4% |
| PINS | 43.1% | 66.0%** |
| Voluntary | 46.0% | 59.4% |
| **Year of Placement** | | |
| 1995 | 52.4% | 58.2% |
| 1996 | 58.4% | 59.8% |
| 1997 | 57.4% | 58.4% |
| 1998 | 58.8% | 59.8% |
| 1999 | 56.0% | 59.5% |

* p<.05 ** p<.01

[a] 211 influential points were removed from the logistic regression producing slightly smaller coefficients.

Note: we tested these same relationships with continuous and ordinal measures of school transfers and found similar results.

Children who ran away from their placements or who were transferred to a new foster home also had a greater probability of transferring to a new school than children who did not experience these events. Further, a placement transfer had a stronger effect on school transfers than an AWOL did; a placement transfer increased the probability of school transfer by 13 percentage points (67.4% less 53.9%), while an AWOL increased the probability by approximately six percentage points (64.4% less 58.4%). Notice that the rate of school transfer for the AWOL population is lower than the rate for the non-AWOL group, yet the multivariate analyses reverse this relationship. The reason is that there are a high number of older children in the AWOL group and older children are *less* likely to be transferred to a new school. Once the effect of age is controlled, however, an AWOL actually increases the likelihood of school transfer, as expected.

A similar discrepancy between the bivariate and the multivariate analyses was found when we examined reason for placement. Although a higher proportion of abused and neglected children were transferred to new schools than children in the other two groups, the multivariate analyses revealed that children placed on PINS petitions were actually most likely to transfer of all three groups. Again, age explains this finding. The children who enter on abuse or neglect charges are primarily younger and at high risk of transfer. However, once age is controlled, the PINS children are at highest risk. As indicated by the absence of an asterisk, there was no statistically significant difference in the school transfers experienced by children who enter care on charges of maltreatment versus children who enter on voluntary petitions.

We also found that despite a higher proportion of school transfers among the 1995 cohort, the probability of school transfer did not differ by cohort.

#### Reading and Math Exams

In contrast to the attendance and school transfer analyses, where we found that a number of foster care factors were influential, when we examined academic achievement among elementary and middle school children—reading and math scores—only a handful of the foster care variables played a role. For simplicity, we provide only the results of our multivariate analyses on the reading and math exams in Table 6.[30] The complete results can be found in Appendix D.

As shown in the table, there was no relationship between exam scores and placement type, AWOLs, or placement transfers. There were, however, modest associations with the three other variables—reason for placement, year of placement, and percent of time in care—although the latter effect was very small and only marginally statistically significant. Children who were abused or neglected showed a slight improvement in their math scores, while children placed voluntarily and through PINS petitions did not. And children placed in 1998 showed a small

[30] The following variables were included in the exam analyses: placement type, AWOL, placement transfer, time in care, reason for placement, year of placement, school district, attendance rate after placement, school transfer between exams, exam score before entry, length of time enrolled in school between exams, race, age, and gender. All regression results are reported in Table D3 and Table D4, Model 2 of Appendix D.

decline in reading scores relative to the 1999 cohort. The more time children spent in care between the two reading exams, the larger their scores, but the relationship was marginally statistically significant ($p<0.10$) and small in magnitude.

**Table 6: Reading and Math Exams by Foster Care, Attendance, and School Transfers**

| | Reading Coefficient (N=3,128) | Math Coefficient (N=3,161) |
|---|---|---|
| **Placement Type** | | |
| Congregate Home | 0.004 | -0.006 |
| Foster Boarding Home | 0.004 | 0.017 |
| Kinship Home | -- | -- |
| **Percent Time in Care Between 2 Exams** | 0.001~ | 0.000 |
| **AWOLs** | | |
| No | -- | -- |
| Yes | -0.042 | 0.050 |
| **Placement Transfers** | | |
| No | -- | -- |
| Yes | -0.033 | -0.014 |
| **Reason for Placement** | | |
| Abuse/Neglect | 0.040 | 0.130** |
| PINS | 0.038 | -0.020 |
| Voluntary | -- | -- |
| **Year of Placement** | | |
| 1995 | 0.064 | -0.046 |
| 1996 | -0.013 | -0.038 |
| 1997 | 0.006 | -0.011 |
| 1998 | -0.070* | -0.046 |
| 1999 | -- | -- |
| **Attendance Rate** | 0.004** | 0.005** |
| **School Transfer** | -0.027 | -0.053** |

~ p<.10 * p<.05 ** p<.01

The last two rows of the table show the relationships between attendance and school transfers and reading and math scores. Three of the four coefficients are statistically significant and show that a higher attendance rate correlated with improvements in reading and math scores, while a school transfer between the two math exams correlated with lower scores. Additionally, the positive effect attendance had on reading and math scores is greater than the negative effect school transfers had on the math scores. This relative effect is not demonstrated through the coefficients shown in the table since each captures a different measurement unit: a one percentage point change in attendance cannot be compared to having a school transfer or not. The standardized estimates reveal the relative importance of different factors in the same model,

and these estimates show that the effects of attendance on reading and math are more than double those of school transfers.[31]

We also found that while foster care experiences influenced attendance rates and school transfers, they did not influence exam scores indirectly through their effect on these other school indicators. In other words, there were no direct or indirect effects of foster care factors on exam scores (see Tables D3 and D4 for models without the school transfer and attendance variables).

Although there was tremendous attrition in the number of children taking their second set of exams after foster care entry, we tested for relationships between foster care factors and these round of exams in search of longer-term effects. In these analyses, not reported here, we found no relationships between any of the foster care experiences and reading or math exam scores.

[31] In the reading analysis, the standardized estimates are 0.06 for attendance and –0.02 for a school transfer. In the math analysis, the standardized estimates are 0.08 for attendance and –0.03 for a school transfer. These are also shown in Appendix D Tables D4 and D5.

## Discussion

Our research found that children's experiences in foster care had the greatest relationship to their attendance and school transfers, while those same experiences had negligible associations with elementary and middle school children's test scores. Future research should replicate and expand this investigation to incorporate other measures of school performance, such as grades, classroom behavior, and attitudes about school.

We also found that some foster care experiences influenced attendance and school transfers in inconsistent ways. For example, while children in congregate homes showed worse attendance after entry into care, they were also far less likely to transfer to a new school than children in more family-like settings. To draw conclusions from these mixed effects, we turned to the findings on the relationships among all our school indicators. We found that higher attendance increased reading and math scores, while school transfers slightly reduced math scores only. Between the two indicators, attendance had a stronger influence on both reading and math scores than did school transfers. Moreover, school transfers appeared to have a small *positive* influence on attendance rates in the semester following placement, contrary to expectations that school transfers would result in long periods of unenrollment and disruptions that would reduce attendance rates. As mentioned earlier, this finding departs from most of the previous research showing harmful effects of school mobility on most educational outcomes, with the exception of two studies.[32] One possible explanation for this finding is that for some children, particularly those from troubled homes, moving to a new school allows for a fresh start and can actually improve their attendance rates and other indicators of school performance.[33]

Given the consistently positive influence attendance had on exam scores and the relatively modest effect school transfers had on these scores, the remainder of our discussion places greater weight on attendance than school transfers in interpreting our findings. Only when two groups were equivalent on attendance did we use school transfers to differentiate between the two.

Several of our findings confirm previously unexamined assumptions about differences in the educational outcomes of some children, such as those who run away from their placements. We also offer new evidence about the magnitude of these differences. In addition to confirming some expectations, our findings suggest that more careful attention and further research be devoted to groups of children that have received less attention in research and policy, such as those who return home relatively quickly.

### Placement Type

The 1980 Adoption and Child Welfare Act urges child welfare agencies to place children in foster boarding and kinship homes rather than congregate homes. Similarly, the principles of the

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[32] Greene and Daugherty, "Factors Associated with School Mobility."; Heinlein and Shinn, "School Mobility and Student Achievement in an Urban Setting."

[33] It is also possible that school transfers in the semester *during* which the placement occurred reduced attendance in that semester. However, since we were unable to measure attendance changes within a semester we could not explore this question and instead focused on the semester *after* placement.

New York City Administration for Children's Services strongly prefer kinship and family settings as placement options. Our research supports the preference for placing children in less restrictive settings, showing clear improvements in attendance rates for children who are placed in kinship or foster boarding homes, rather than congregate homes. In fact, children living in congregate homes were the only ones to experience an average decline in attendance after foster care placement.

The harmful effects of congregate homes have been documented in the research literature and nationwide, and correspondingly, several efforts have been undertaken to decrease their use. Encouraged by positive evaluation results, many child welfare agencies—including ACS—are also increasing their use of therapeutic family homes (family-like homes with highly structured environments and well trained parents) or supervised independent living programs.[34] Our research suggests that increased use of these types of homes may help to improve the school attendance of children in foster care.

We also found one difference between the two family-like settings. Children in kinship and foster boarding homes had statistically equivalent changes in attendance in the semester after placement. But children in foster boarding homes had a far greater likelihood of being transferred to a new school in the year after placement. Indeed, being in a foster boarding home was the strongest predictor of whether a child was transferred to a new school, holding all else constant. Although we were unable to include accurate neighborhood variables in our model given the discrepancy between community district and school district boundaries, we expect that children living in foster boarding homes move to new schools because they are often placed in homes outside their school district.[35] Statistics from ACS confirm that a greater proportion of children in kinship homes are placed in their home community districts than children in foster boarding homes, 26 percent versus 14 percent, respectively in 2000.[36]

One possible implication of these findings is that although kinship families tend to be less educated and of poorer health, and more likely to be single-parent families than foster boarding home families, these potential risk factors do not harm children's attendance.[37] Living with a relative, or perhaps in a home neighborhood, may in fact reduce the risk of school transfer when compared to living with families outside of the kin network or the neighborhood of origin.

Although this report does not provide strong evidence that school transfers harm foster children's schooling, the majority of research and intuition suggests that they should be avoided.

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[34] Patricia Chamberlin, "The Effectiveness of Group Versus Family Treatment Settings for Adolescent Juvenile Offenders," (paper presented at the Society for Research on Child Development Symposium, Washington D.C. April 3, 1997).

[35] The child welfare data include the community districts from which the children were removed and to which they were placed. Due to time and funding limitations, however, our study did not determine the overlap of school and community districts.

[36] New York City Administration for Children's Services, Office of Management, Development, and Research (ACS OMDR). "Realizing Reform: ACS Strategic Planning Conference – Using Data to Achieve Continuous Improvements," (data presented at the ACS Strategic Planning Conference, New York City March 26, 2001).

[37] Needell and Gilbert, "Child Welfare and the Extended Family."; Berrick and Barth, "Research on Kinship Foster Care: What do we Know? Where do we Go From Here?"

Two of ACS' priorities regarding placement decisions—placing children with relatives and in their home neighborhoods—are likely to move closer to this goal. Locating kinship homes for foster children has been a top priority for ACS and other child welfare agencies for decades. In more recent years, child welfare officials at ACS and in a few other cities have also been working towards placing foster children in their own neighborhoods.[38] Neighborhood-based placement, one of the key initiatives launched by ACS in the past year, is expected to maintain stability for children and promote their rapid return to their natural families. Given some concerns about the possible damaging consequences of remaining in home neighborhoods—which may be characterized by high poverty, crime, and unemployment rates—ACS will monitor their policy by tracking indicators of child and family well-being.

In summary, our findings suggest that with respect to attendance, kinship and foster boarding home families are equally beneficial to children, relative to congregate homes. Thus, despite evidence that kinship parents tend to be less educated and located in worse neighborhoods than foster boarding home parents, we find no evidence that these factors harm children's school attendance. The latter finding concurs with most of the research on the effects of neighborhoods, which finds strong family influences and far weaker neighborhood influences on children's life chances.[39] We also find that while children in foster boarding homes are more likely to transfer to a new school, this does not harm their attendance rates. Neighborhood-based placement may reduce the risk of school transfer, but the effect is too early to assess in New York City.

### Time in Care

Children who are removed from homes where they experienced maltreatment, especially those from major urban areas, can spend significant amounts of time in their foster homes. Nationwide, the median length of time spent in foster care ranges from a low of under eight months in Missouri to more than two years in states with large metropolitan areas, such as Illinois and New York.[40] During the early 1980s, in response to reports of children languishing in foster care, the concept of "permanency" emerged as a major concern—creating a permanent living situation for children became a priority. The most recent legislation designed to minimize the amount of time children spend in care, the Adoption and Safe Families Act of 1998, calls for expediting decisions about whether children should be returned to their families or adopted into new homes.

Our research does not challenge the permanency approach, but offers new evidence that both the timing of children's return home and the level of services provided to families whose children are returned home early can affect their school attendance. Children who remain in care for the entire semester after placement show a substantial improvement in their attendance rates

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[38] Douglas W. Nelson, "National Leaders' Meeting on Rebuilding Family Foster Care and the Reform of Child Welfare," A speech delivered in Baltimore, Maryland on September 25, 1996. On-line. April 20, 2000. http://www.aecf.org/speeches/f2fsep.htm.

[39] Brooks-Gunn, Jeanne, Greg J. Duncan, and Lawrence J. Aber. *Neighborhood Poverty Volume I and II* (New York, NY: Russell Sage, 1997); Ellen, Ingrid G. and Mary A. Turner. "Does Neighborhood Matter? Assessing Recent Evidence." *Housing Policy Debate* 8, no. 4 (1997):833-66.

[40] Wulczyn et al., *Foster Care Dynamics*.

compared to those who return home earlier in the semester or who return before the semester begins. There is also a small difference between the two groups of children who leave before the end of the semester; children who leave before the semester begins fare better in attendance than those who leave during the semester.

One explanation for this finding is that returning home during a school session causes a disruption that affects attendance rates, regardless of time in foster care. Alternatively, children who leave during the middle of the semester may be from families that are the most in need of after care services. Unfortunately, the strong correlation between length of time in foster care and whether a child was returned home in the middle of a school session did not permit us to separate these two influences. However, comparing the two groups of children who did not experience disruptions—those who left before the semester began and those who remained throughout—shows that the children who spent a longer time in foster care increased their attendance most.

Concern for the well being of children with short stays in foster care is not completely new. In analyses of their own data, ACS analysts have found other evidence that children who leave early may be at risk: children with shorter stays in foster care (90 days or less) are twice as likely to re-enter care as those who stay longer their first time in care.[41]

In short, our study suggests that efforts to establish permanency should place greater emphasis on educational disruptions and aftercare services. In particular, discharge planning conferences could focus on how to achieve family reunions when school attendance is not at risk, such as on vacations and long holiday weekends. Additionally, in combination with high reentry rates among early leavers, these findings suggest more discussion of aftercare services for parents to maintain children's attendance rates upon their return home.[42] Finally, although we found higher rates of school transfers among children who remained in care longer, there was insufficient evidence to suggest that these transfers greatly harmed other school outcomes.

### Placement Transfers

Related to the permanency movement is the belief that children should experience as few placement transfers as possible during their time in foster care. Child welfare experts contend that many transfers can be avoided if congregate home staff or foster families are properly trained and supported to manage children with behavioral problems or other issues that lead to placement difficulties. Most of the concern about placement transfers stems from evidence that upon moving to new foster homes, children feel that the situation is temporary, which affects their ability to concentrate on schoolwork.[43]

Our data lend support to this consensus against placement instability, showing that placement transfers increase the likelihood of school transfers and modestly reduce attendance rates. The

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[41] Unpublished statistics from the New York City Administration for Children's Services, Office of Management, Development, and Research (ACS OMDR), 2001.
[42] Edith Fein, and Anthony N. Maluccio, "Permanency Planning: Another Remedy in Jeopardy?" Social Service Review September (1992): 335-348.
[43] Fletcher, *Not Just a Name*.

modest effect on attendance may be due to the fact that some placement transfers benefit children who have been placed initially in homes that do not meet their needs. Although we found that placement transfers had no effect on verbal and math test scores, they might have stronger effects on other educational indicators, such as grades and disciplinary actions.

### AWOLs

Although we have no official information about where children go when they run away from foster homes, service providers often report that children leave their foster homes to visit their biological parents and siblings or to stay with friends, but that few are homeless or living on the streets. There is also anecdotal evidence that some children leave their foster homes because they feel unsafe.

Our findings strongly suggest that although they may be with friends or family members, children who run away from their placements suffer from far worse attendance and a higher risk of school transfers than children who do not run away. Child welfare agencies and researchers could look more closely at children who run away from placements—at the reasons they run away, whether adequate parental visitations have been arranged, at where they go, and at the way the child welfare system responds—to help address this problem. More in-depth study of the AWOL population may help to identify ways to make them feel more safe and secure in their foster homes, thereby preventing runaways and truancy. Additionally, case managers could call the schools attention to the problem by taking immediate steps to contact school officials when children leave their foster care placements without permission.

### Reason for Placement

While ACS is unable to influence the reasons children enter foster care, our study suggests that some children are at a greater risk for school instability than others and could be targeted for educational attention. The group that appear to be most at risk both before and after they enter care are children who enter on PINS petitions. These children enter care with extremely low attendance rates and show large declines in the semester after placement. In addition, they are more likely to be transferred to a new school upon entry into care than other children.

The implications of these findings are better understood when placed in the context of the PINS process. Most children referred to juvenile probation as PINS are sent to programs designed to support families and prevent further problems. Of the roughly five to six thousand PINS children in New York City each year, less than 15 percent are actually remanded to the custody of child welfare.[44] Preliminary observations of hearings on these cases, conducted by Vera researchers, suggest that when PINS children are placed in care it is usually at their own or their parents' request. What appears to happen in many cases is that parents are willing to regain custody of the children soon after placement, resulting in extremely short lengths of stay for

[44] These preliminary estimates come from a Vera Institute project to examine the PINS population in New York State. Sources include ACS records and Department of Probation data on PINS cases.

children who enter on PINS petitions. In New York City, more than half of the children with such petitions leave foster care within two months.

The fact that most PINS children are only remanded temporarily implies that foster care may be serving a "cooling off" function for troubled families. Many practitioners and children's rights advocates have challenged the appropriateness of both juvenile court intervention and the use of foster care placement in status offense cases (cases where juveniles have not committed criminal acts, but their behavior has prompted their parents to seek government intervention). Some contend that rather than allowing families to relinquish responsibility for their children, juvenile justice and child welfare agencies should enforce parental accountability.[45]

Our research is unable to compare children with PINS petitions who enter foster care to those with PINS petitions who do not end up in care. Yet, it does indicate that the children with PINS petitions who enter foster care have much worse attendance after entry than they did before, while children who enter on abuse or neglect charges show improvements in attendance. This deterioration in performance among PINS children suggests that juvenile justice and child welfare professionals may be in need of more alternatives to foster care placement for this highly vulnerable group of children. Alternatively, if children must be placed in foster care on PINS petitions, child welfare professionals may want to target more services to them and their families to increase school stability.

### Year of Placement

As discussed earlier, we expected that children who entered care in 1995 would differ from children who entered in later years due to major reforms of the city's child welfare agency. Our findings provide evidence that at least in terms of attendance, children who entered in 1996 and later years showed greater improvements than those who entered in 1995. We also found that improvements grew larger for each successive cohort (with the exception of the group that entered in 1999), suggesting that the increasing changes within the child welfare system, such as higher salaries for caseworkers and better collaboration with the school system, may be having beneficial effects on children.

Without data on children who entered care before 1995, we cannot be certain that 1995 was not a year in which children performed at atypically low rates and that earlier cohorts showed higher attendance rates after placement. We have no reason to suspect that this is the case; nonetheless, because we do not have a complete time series, the findings should be interpreted with caution.

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[45] Robin Russel and Ursula Sedlak, "Status Offenders: Attitudes of Child Welfare Practitioners toward Practice and Policy Issues," *Child Welfare* 72, no. 1(1993):13-24.

## Conclusion

This research has attempted to answer several questions about how children's foster care experiences affect their school performance. Relying on administrative records from both the child welfare and school systems, we examined certain educational outcomes of children placed in foster care between 1995 and 1999, according to their experiences in care. Our study highlights differences among children who receive foster care services, and in doing so, seeks to inform child welfare agencies about which children may be in most need of attention.

We discovered that while foster care experiences can influence attendance rates and school transfers, they have almost no effect on reading and math scores within the year after placement. Surprisingly, having a school transfer slightly increased children's attendance rates, had no effect on reading scores, and only modestly decreased math scores. Thus, our discussion draws attention to how various foster care factors influence attendance rates since attendance is consistently important to academic achievement.

In comparison to children in the general student population, foster children have very low attendance rates. Yet, many foster children's attendance rates improved from before to after entry into care. Younger children, those who remain in care for at least the entire semester after placement, children with stable placements, children in foster boarding homes or kinship homes, and those who entered care on charges of abuse or neglect show greater gains than other children. This finding indicates that these foster care experiences may improve an important aspect of school stability.

Other foster care experiences contributed to declines or smaller gains in attendance. Children with short stays in foster care do not progress as well as children who stay longer, suggesting room for improvement during discharge planning conferences. These discussions could place greater importance on the consequences of educational disruptions and ensure that aftercare services are sufficient to help families provide for their children's educational needs.

Several of our findings can be grouped into one theme: the conditions of adolescents in foster care. Adolescents in the foster care system are more likely to enter on PINS petitions, be placed in congregate settings, and run away from their placements. All of these factors, in addition to the mere fact of being older, serve to reduce their attendance. The need for specialized services to adolescents is even more pressing considering the recent growth in their share of the foster care population. As of June 2000, children 12 and older made up 35.7 percent of children in foster care, versus 30.8 percent in December 1995.[46] Given the unique troubles of adolescents and their growing share of the foster care population, an accompanying emphasis on services targeted toward adolescents and their specific needs may be warranted.

Our data suggest that the past five years of reforms may have already contributed to improvements in attendance rates for some foster children. Furthermore, ACS has launched additional reforms that should address several of our findings. The recent increased use of

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[46] New York City Administration for Children's Services (ACS). *Progress on ACS Reform Initiatives: Status Report 3,* New York: ACS, March 2001.

therapeutic foster boarding homes and supervised independent living programs may help to reverse the drop in attendance rates for adolescents. ACS's initiative to increase neighborhood-based placements could reduce placement transfers and running away from placements. With further reforms targeted toward adolescents and children with short stays in foster care, as well as research on services to these populations, ACS could make greater strides towards improving the educational outcomes of children in foster care.

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# Appendix A: Literature Review on Foster Children and Education

## Comparison of Foster Children to Other Low-Income Children

Recognizing the potential influence of foster care, several researchers have examined the educational outcomes of foster children in comparison to children not in foster care. McDonald, Westerfelt, and Piliavin (1996) conducted a review of 29 studies published between 1960 and 1992 examining the long-term effects of foster care on children. Fifteen of these studies focused on educational attainment or academic achievement. Only one study examined foster care's effect on children who had been maltreated by including an appropriate comparison group. Seven of the studies used no comparison group, five compared children to published indicators on the general student population, and two compared children in foster care to similar children with regard to socioeconomic status but not maltreatment history, thereby confounding the influences of maltreatment and foster care.

Despite these limitations, the research to date has drawn attention to the educational needs of children in foster care. Most of the papers in McDonald and his colleagues' review, and research conducted since then, concur that compared to the general student population and, where available, compared to children of similar family incomes, foster children enter and leave care with poor educational outcomes. Specifically, they have lower high school graduation rates, fewer years of schooling, lower levels of participation in college, and correspondingly, higher rates of participation in vocational, job training, and special education programs than other children. The findings are not as strong when foster children are compared to other low-income children on measures of school performance, such as grades, tests, and disciplinary actions.

### High School Graduation and Years of Schooling

The proportion of foster children who completed high school ranged from 44 percent to 66 percent in the studies reviewed and in each study, the rate was at least 10 percentage points below the graduation rate of comparison students in the same age group.[47] Only one study by Cook (1994) found no difference between foster and other poor children in high school completion rates. Most of the other studies also found that foster children completed a median of 9 to 11 years of schooling, at least one year less than the chosen comparison group children.[48]

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[47] Wendy Whiting Blome, "What Happens to Foster Kids: Educational Experiences of a Random Sample of Foster Care Youth and a Matched Group of Non-Foster Care Youth," *Child and Adolescent Social Work Journal* 14, no. 1(1997): 41-53; Mary Ann Jones and Beth S. Moses, *West Virginia's Former Foster Children: Their Experiences in Care and their Lives as Young Adults* (New York: Child Welfare League of America, 1984); Rosalie B. Zimmerman, "Foster Care in Retrospect," *Tulane Studies in Social Welfare* 14 (1982): 1-119; Festinger, *No One Ever Asked Us*; S. Frost and Anthony P. Jurich, *Follow-Up Study of Children Residing in The Villages* (Unpublished report, the Villages, Topeka, KS, 1983). This excludes one study that found a high school completion rate of 92%, but this study had a sample size of only 13 and the findings should be viewed with caution. Rest, E.R. and K.W. Watson, "Growing Up in Foster Care," *Child Welfare* 63, no. 4 (1984):291-306.

[48] Jones and Moses, *West Virginia's Former Foster Children*; Festinger, *No One Ever Asked Us*; Zimmerman, "Foster Care in Retrospect."; S.E. Palmer, *Children in Long Term Care: Their Experience and Progress* (Canada: Family and Children's Services of London and Middlesex, 1976).

### College Credits

Studies that tracked students after high school found that fewer foster children pursued postsecondary education than other children their age, however the magnitude of this difference may decrease as children spend more time out of foster care. The proportion of foster children receiving any college credit ranged from a low of 7 percent (Jones and Moses, 1984) to a high of 34 percent (Festinger, 1983).[49] With the exception of Festinger's study, these rates are far below the rate of 19 percent reported in Current Population Survey (CPS) data for all American 25 to 34 year-olds in 1987.[50] In one study, foster youth's participation in college grew closer to that of the other low-income students as they aged out of foster care.[51] Four years after their sophomore year in high school, 13 percent of young adults who had been in foster care and 29 percent of the comparison group youth were taking college courses. Two years later, this gap narrowed, with 45 percent of youth who had been in foster care and 54 percent of other youth receiving college credits.[52]

### Vocational Education and Job Training

Foster children may also be more likely than other low-income children to participate in vocational education and job training both before and after high school. Rates of foster children's participation ranged from seven percent (Frost and Jurich, 1983) to 59 percent (Festinger, 1983), in comparison to an estimated 2.3 percent of all U.S. students in 1987 from CPS data (McDonald et al., 1996). Blome (1997) found that among teens who did not finish high school, youth in foster care were less likely to be enrolled in a GED program than those not in foster care. In the year that would have been their high school graduation, 75 percent of the comparison group were in a GED program, compared to only 27 percent of the foster youth. Instead of pursuing a GED, the foster youth were enrolled in government job training programs at much higher rates than their matched, low-income, nonfoster counterparts.

### Special Education

Although not necessarily an indication of academic failure but perhaps a sign of educational need, foster children were also more likely to receive special education services. Most studies find foster children's rates of placement in special education ranging from 11 percent (Zimmerman, 1982; Fox and Arcuri, 1980) to one-third of the children sampled (Sawyer and Dubowitz, 1994). In studies with comparisons, the foster children's rates were significantly higher than those of children not in foster care.

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[49] Again, this range excludes the study by Rest and Watson, which found that 61 percent of the foster children had received college credits. This proportion was so far out of the range of other studies that findings are attributed to the sample selection.
[50] McDonald et al., *Assessing the Long-Term Effects of Foster Care*.
[51] Blome, "What Happens to Foster Kids."
[52] ibid.

### School Performance

The studies that compared foster children's school performance to that of other low-income children yielded mixed results. For example, the foster children in Blome's (1997) study had more school disciplinary actions and spent less time studying than their matched comparisons. In contrast, Dubowitz and Sawyer (1994) found comparable rates of suspension and expulsion among the foster care students and the general school population, 1.6 and two percent, respectively. Another study found that more than one-quarter of foster children in middle and high school earned a grade point average of "D" or lower and 67 percent repeated at least one grade, although no comparison was provided.[53] Blome (1997) found no differences in grades between foster and nonfoster children and Fox and Arcuri (1980) found no differences in standardized reading and math tests between foster children and other low-income children living in urban areas.

In short, the available research on the school performance of foster children suggests that they have lower educational attainment and participate more frequently in vocational and special education than other low-income children. Whether they have poorer academic achievement (as measured by grades or test scores) and worse behavior in school is unclear. Also unknown is whether they differ significantly from other low-income children who have also been maltreated. A handful of studies have attempted to answer this question.

#### Controlling for Maltreatment Status

To our knowledge, only three studies have been conducted that compare maltreated (abused or neglected) children placed in foster care to similar children who remained at home. In addition to one French study reviewed by McDonald et al. (1996), there are two American studies.

The first of the three by Dumaret, examined the IQ and school failure of children born to 28 low-income mothers in France.[54] Each mother had at least one child that was adopted and one child that was placed in foster care or remained in the home, thus allowing for a comparison among the children, controlling for the influence of their previous home environments. The study included 35 adopted children, 21 foster children, and 46 children who remained at home. School failure was categorized as slight (repeating a grade), serious (repeating the same grade twice or being placed in special education), and exclusion from the school system (being placed in a separate school for mentally retarded children). The adopted children demonstrated increases in IQ and reductions in school failures, while the other two groups showed opposite trends. The children who lived in foster homes and residential institutions had the highest rates of school failure and lowest IQ of the three groups. Dumaret notes, however, that the assignment of children to the three groups was not likely to have been random. The children's characteristics, particularly mental retardation, may have been factors in placement decisions. When the most

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[53] Zimmerman, "Foster Care in Retrospect."

[54] Annick Dumaret, "IQ, Scholastic Performance, and Behaviors of Sibs Raised in Contrasting Environments," *Journal of Child Psychology and Psychiatry and Applied Disciplines* 26, no. 4 (1985):553-580.

mentally deficient foster children were taken out of the analysis, Dumaret found no differences on any measures between the poor children who remained at home and those who were placed in foster care.

Runyan and Gould (1985) conducted a historical cohort study comparing maltreated children who were placed in care to those who remained at home. Ninety-six middle-to-high school age maltreated children who had been in foster care for at least three years were included in the study to ensure that students were old enough to have school data and that they had spent enough time in foster care to measure its effects. The comparison group consisted of 69 maltreated children who remained in their homes, matched on race, sex, age at follow-up, and date of maltreatment report. Comparisons of the two groups prior to and after the foster care children were removed from the home indicated that foster care had a favorable influence on attendance, but no such influence on classroom grades.[55] Additionally, the study could not provide change scores on standardized test data, special education placement, and maintaining grade level because these data were only collected at one point in time.

Heath, Colton, and Aldgate (1994) conducted a longitudinal study of children in foster care (n=49) compared to a sample of children who received preventive services but remained at home (n=58). Most of the children were given standardized tests in reading, vocabulary, and math over three years and their teachers and foster care providers responded to questionnaires about the children's behavior. Because the children's status changed over the three years, the authors presented the findings separately for three groups of children—those that returned home, remained in care, or were adopted. Once they did this, the subgroups were too small to draw any reliable conclusions; however, the data suggest that the children who remained in foster care showed no improvement in their test scores over the three years while those who returned home improved their scores.

In sum, the research is extensive on foster children's educational attainment, but only three papers have attempted to control for maltreatment status. These studies also suffer from some of the same problems mentioned earlier, namely insufficient sample sizes within subgroups and inadequate designs. Ignoring these limitations, the three studies seem to suggest that foster care placement has no impact on maltreated children's educational outcomes.

## Explanations for the Impact of Foster Care on Education

There are several possible explanations for foster children's poor school performance. In addition to experiencing maltreatment and family separation, children in foster care may experience adversity from low teacher expectations, little foster parent engagement, and poor interagency coordination.

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[55] Although the study reports that the foster care children's grades did not change from the year prior to the year after placement and the stay-at-home children's grades dropped by one-half during this same time period, the reported sample size changes and it is unclear from the article whether this refers to the same children.

**Poor Treatment by Teachers**

Low teacher expectations have been identified as a source of low confidence and achievement among modest-income students, although the magnitude of this influence is a subject of debate.[56] Even when teachers' reduced demands come from good intentions, students can react with more disengagement or resentment towards teachers for not expecting the most of them.[57] Some social workers suggest that foster children suffer from additional educational disadvantage due to teachers' low expectations.[58] Foster parents have complained that when school administrators know that a child is in care, they respond with such comments as "it's just a foster kid," suggesting that no amount of resources would be able to overcome the extent of the child's problems.[59] Attempting to test this theory, Heath et al. (1994) found that although teachers had low expectations of foster children, the students' achievement did not necessarily deteriorate over the course of involvement with the teachers. They consequently rejected the notion that teachers' expectations influenced foster children's achievement.

In addition, some exploratory research suggests that foster children are humiliated in school. Carlen, Gleeson, and Wardhaugh (1992) found that many foster children in residential homes in England did not attend school because they felt humiliated by teachers and harassed by fellow students. One student in residential care reported, "They pick on me for being in here [residential care]. They say, 'At least I'm with me mum and dad, and you're in a home.'"[60] In another study conducted in England, foster children reported being teased and bullied by their peers in school and believing that teachers had low expectations of their academic abilities.[61] Similarly, in another study that asked adolescents why they dropped out of high school, 25 percent of the foster teens said they left because of the teachers, compared to only 5 percent of the teens in the comparison group.[62] This study selected the comparison group by matching on test scores, thereby reducing the possibility that teachers responded differently to the foster children based on their levels of ability.

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[56] Judith L. Alpert, "Teacher Behavior and Pupil Performance: Reconsideration of the Mediation of Pygmalion Effects," *Journal of Educational Research* 69, no. 2 (1975):53-57; Robert Rosenthal and Lenore Jacobsen, *Pygmalion in the Classroom* (New York: Holt, Rinehart and Winston, 1968).

[57] Mary Metz, "Classroom Interaction: Principled Conflict," reproduced in *The Structure of Schooling: Readings in the Sociology of Education*, ed. R. Arum and I.R. Beattie (Mountain View, CA: Mayfield Publishing Company, 2000).

[58] Sonia Jackson, "Educating Children in Residential and Foster Care." *Oxford Review of Education* 20, no. 3 (1994): 267-279.

[59] Susan Kellam, "New School, New Problems: Foster Children Struggle in U.S. Schools," On-line, p.5. March 15, 2000. http://www.connectforkids.org/content1552/content show.htm?attrib id=308&docid=23300.

[60] p. 143

[61] Fletcher, *Not Just a Name*.

[62] Blome, "What Happens to Foster Kids."

### Low Foster Parent Engagement in School

While foster parents and children may blame teachers for students' academic failure, school staff sometimes blame foster parents. In one study, teachers were asked to rate the level of caregiver involvement in the foster children's schoolwork compared to engagement among parents of other children in their classes. Teachers rated forty-one percent of the foster children's caregivers as less than moderately involved.[63] Similarly, Blome (1997) found that foster parents spent less time monitoring their foster children's homework than the comparison group's parents did monitoring their children's homework. In another study involving Scottish foster children, all of the children placed in care left school by the age of 15, the legal age at which they are allowed to end their education. The authors suggest that foster parents' expectations may have been responsible for this behavior.[64]

Foster children who have been interviewed also report low foster parent involvement in their schoolwork. Bullock, Little, and Millham's (1993) study of children who left foster care to return home to their families revealed a widespread neglect of children's academic needs. One child said of her foster and group home parents, "Nobody seemed to care about me, they never asked me what I wanted or what I felt, never showed any interest in what I did, either in school, in sport or in anything. Unless, of course, you nicked something or kicked up rough, and then there was hell to pay and everyone put their nose in."[65] In Festinger's (1983) landmark study of foster children in New York, another child divulged similar feelings: "They should have demanded more of me…I was capable of doing much better in school, but no one seemed to care much about that."[66]

Foster children may also experience financial constraints that other children do not face because child welfare agencies and foster parents are less willing or able to invest in their college education. Blome (1997) found that during the years that foster children would have been in college (18 to 24 years old), only one-fifth received financial assistance from their families, while 38 percent of the young adults in the comparison group did. Moreover, the median amount loaned to foster children was $600, while children in the comparison group received a median loan of $2,000.

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[63] Howard Dubowitz and Richard J. Sawyer, "School Behavior of Children in Kinship Care," *Child Abuse and Neglect* 18, no. 11 (1994):899-911. There is a discrepancy in the paper. In an earlier sentence the authors report that 64 percent of the caregivers were rated by teachers as moderately to highly involved in children's schooling, implying that 46 percent are less than moderately involved.

[64] John Triseliotis, "Growing Up in Foster Care and After," in *New Developments in Foster Care and Adoption*. ed. J. Triseliotis (London: Routledge and Kegan Paul, 1980).

[65] Roger Bullock, Michael Little, Spencer Millham, *Going Home: The Return of Children Separated from their Families (*England: Dartmouth Publishing Company Limited, 1993:126).

[66] p. 114

### Lack of Coordination between School and Child Welfare Systems

Another explanation for foster children's academic failure could stem from the lack of coordination and communication between the child welfare and school systems. Research on interagency collaboration suggests that many child-serving agencies fail to ensure consistent and coordinated services to shared populations.[67] In contrast to the theory stated above, that teachers' awareness of children's foster care status may harm children, this theory suggests that schools need to be informed of children's foster care experiences and pay special attention to their unique needs. Yet most schools do not record foster care or maltreatment status. For example, Runyan and Gould (1985) found that the maltreatment status of children in foster care was indicated in the children's school records in only 16 percent of cases. This failure to record maltreatment status could be related to concerns on the part of both child welfare and school personnel that if foster children are labeled as such, they may suffer consequences.

Even when they are aware of a child's status in care, guidance counselors and teachers have little understanding of the foster care system and the differing legal and custodial responsibilities of biological parents, foster parents, and caseworkers. Confusing lines of parental authority—shared legally and practically among caseworkers, foster care guardians, and biological parents—create obstacles in planning for foster children's education and addressing school-related problems. For example, obtaining parental consent can be so complicated that foster children miss out on opportunities such as school-sponsored trips and afterschool programs.[68] As a result, foster care providers can be ignored and rarely invited to multidisciplinary and special education conferences, school functions, and parent-teacher associations.[69] These misunderstandings may inhibit foster children's integration into the school community.

On the child welfare end, caseworkers may be so focused on delivering the most basic services to foster parents and biological parents, such as arranging parental visitation meetings and investigating foster homes, that the children's school performance is of relatively minor importance.[70] While caseworkers must visit schools, their heavy caseloads and paperwork responsibilities can limit their ability to work with the school and the foster parents on children's academics. Paperwork and lack of coordination may also result in gaps in schooling, when children who move into foster care or between foster homes are forced to transfers schools. New York City child welfare workers and school personnel have reported concern over long periods of unenrollment for foster children transferring to schools near their foster homes.

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[67] H.D. Fredericks, "Integrated Service Systems for Troubled Youth," *Education and Treatment of Children* 1, no. 3 (1994): 387-413.

[68] Altshuler, "A Reveille for School Social Workers."; Robert H. Ayasse, "Addressing the Needs of Foster Children: The Foster Youth Services Program," *Social Work in Education* 17, no. 4 (1995): 207-216; Jackson, "Educating Children in Residential and Foster Care."

[69] Altshuler, "A Reveille for School Social Workers."

[70] Jackson, "Educating Children in Residential and Foster Care."

# Appendix B: Data Matching

## Technique and Results

Vera worked closely with Board of Education (BOE) programmers to develop a matching technique that would maximize the number of foster children located in the BOE system. Based on an earlier match of a sample of foster children, we expected to locate 95 percent of the foster children.[71] To reach this goal, we used a number of combinations of name and birth date as the basis for the algorithm. We began by matching the full name, date of birth, and gender of each child to locate the "definite" matches. We then used various combinations of name and date of birth to generate a list of "near" matches. As shown in Table B1, for each of the eight matching criteria after full name and date of birth, we shortened the number of characters in the first and last name and/or we required only two out of the three components of birth date (month, day, and year) to match. For example, match criteria number six is the first three characters of the first name and the first three characters of the last name and only two out of the three components of the birth date. With each pass, we made the matching criteria less stringent to incorporate as many additional children as possible. In addition to name, date of birth, and gender, each BOE and ACS record also included the names of up to ten relatives, which we used to identify the correct matches among the several near matches.

Most of the records that matched on anything less than full name, date of birth, and gender required further examination. In matches two and three, we individually examined the records of all children who did not have the same gender coded in the BOE and ACS databases. If the first names were also slightly different and implied a different gender (for example, Erik versus Erika), we searched the Child Care Review Service (CCRS) to determine whether these two children were twins; if not, we assumed that the gender was recorded in error. We also closely examined the records of children whose relatives' names did not match. In some of these cases, we were able to locate a match on a relative's name that was not picked up because of spelling errors. In other cases, the relatives' names did not match because the board of education had recorded the name of a foster care agency, not an individual. Other records had no data for relative names listed and in several instances, we determined that the ACS and BOE child matched because the first and last name were very unusual and/or the birth year was exactly ten years off, which is a common error in entering dates.

We also obtained several duplicate records, that is, cases where the ACS child would match with more than one BOE record, and vice versa. In these cases, we employed several of the techniques mentioned above—investigating gender, possible twins, relative names, common date errors, and unique names—to determine which of the two or three duplicate records was the correct match.

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[71] In the summer of 1999, Vera and researchers from ACS's Office of Management, Development, and Research manually searched for the BOE records of a sample of 500 children from the 1997 entry cohort. We located 493 of these children in the system. For more information about this report, see *Reform Plan Indicators: Status Report 2* or contact Vera for a copy of the report.

As shown in Table B1, there were records for 29,982 school-age foster children—five years old and older at the time of our first round of matching in December 1999—contained in the file that was sent to the BOE.[72] The second column in the table provides a list of the final number (after we examined the "near matches" and duplicate records) of school-age children that were located in the BOE system using each matching criteria. For example, 2,198 children were located using the first five characters of the first and last name, the full date of birth, and gender. Sixty-four percent of the school-age children were located using full name, date of birth, and gender; another 17 percent were located with these various combinations, yielding a match rate of 81 percent and a total of 24,299 school-age children with BOE records. As shown in the table, match criteria two and three yielded the highest number of children after full name, date of birth, and gender, with the remaining six matches yielding much smaller numbers of children.

The last column in the table provides the match results when all children, including those under five years old, are included in the foster care file. The match rate declines in this case to 63 percent, which is what we would expect since the overwhelming majority of children under five years old have not been registered with the BOE.

**Table B1: Results of Data Match**

| Matching Criteria | School-Age Foster Children (N=29,982) | | All Foster Children (N=43,396) | |
|---|---|---|---|---|
| | **N** | **%** | **N** | **%** |
| 1. Name, DOB, and gender | 19,084 | 64% | 21,415 | 49% |
| 2. Last name (1st 5 characters), first name (1st 5 characters), DOB, and gender | 2,198 | 7% | 2,536 | 6% |
| 3. Name, DOB (matching 2 out of 3 dates), and gender | 2,066 | 7% | 2,371 | 5% |
| 4. Last name (1st 3 characters), first name (1st 3 characters), DOB, and gender | 528 | 2% | 606 | 1% |
| 5. Last name (1st 5 characters), first name (1st 5 characters), DOB (matching 2 out of 3 dates), and gender | 306 | 1% | 379 | 1% |

[72] We used the time of our data match as our determination of age because any child that was not of school age at that time would be unlikely to have any records in the BOE database.

| Matching Criteria | School-Age Foster Children (N=29,982) | | All Foster Children (N=43,396) | |
|---|---|---|---|---|
| | **N** | **%** | **N** | **%** |
| 6. Last name (1st 3 characters), first name (1st 3 characters) and DOB (matching 2 out of 3 dates) | 95 | 0.3% | 124 | 0.3% |
| 7. DOB and first name and last names sound alike | 18 | 0.06% | 22 | 0.05% |
| 8. Last name, first name (1st 2 characters) and DOB | 3 | 0.01% | 3 | 0.01% |
| 9. First name, last name (1st 2 characters) and DOB | 1 | 0% | 1 | 0% |
| **TOTAL** | **24,299** | **81%** | **27,457** | **63%** |

For the analyses provided in this report, we used a final study group of 17,422 children. This excludes four groups of children from the matched database: 1) those who did not have any BOE data; 2) those who were not of school age (under 5 or over 17) at the time of placement into foster care; 3) those with records in the foster care system but actually placed on a juvenile delinquency charge, with the Division for Youth paying for the bed; and 4) those whose cases are no longer accessible by ACS, most likely because they were moved to another county and out of the ACS system's jurisdiction.

### Differences between Matched and Nonmatched

The 19 percent of school-age foster children that were not located in the data match totaled 5,684. As shown in Table B2, the children who were located did not differ much from those who were not located on gender and ethnic background. For both populations, there was an equal proportion of girls and boys. About 60 percent of both groups were African-American, 30 percent Latino, and five percent white. A small proportion of both groups (three and five percent) were considered "other" race. This includes those of Asian and mixed descent. Although the differences between the groups on gender were statistically significant, the large number of children in both groups is likely to be driving this result, rather than a true difference. The very fact that the gender breakdown yielded a statistically significant difference when the proportions are only one percentage point off verifies this conclusion.

There were two notable differences (both statistically significant and large in magnitude) between the matched and the nonmatched children: their age and facility type. The nonmatched

group tended to be younger than the matched group at the time we collected the data, as shown in the percentages of children in the highest and lowest age ranges. This difference is due to varying practices among parents and caretakers as to when they enroll their children in the public school system. While most parents enroll their children at the age of five, some parents do not enroll children in public schools until the children are six or seven years old. Some of these parents continue to school their children at home or in private schools. Indeed, the percentages of five- and six year-olds in the two groups confirm this explanation: 26 percent of the nonmatched children were five or six years old in comparison to only 14 percent of the matched group. Because the nonmatched group had a larger proportion of five- and six-year-olds than the matched group, they also had a slightly lower mean age of entry into foster care, 8.3 versus 9.6 years old.

This age difference also explains the difference in placement type between the two groups. A higher proportion of the nonmatched (and slightly younger) children were placed in foster boarding homes than matched children, 65 percent and 57 percent, respectively. Correspondingly, a lower proportion of the nonmatched children were placed in congregate homes in comparison to the matched group (24 percent versus 32 percent). Since younger children tend to be placed in foster boarding and kinship homes, while group facilities are reserved for older children, the age differences account for this discrepancy.

**Table B2: Characteristics of Children Located and Not Located in the BOE System**

| | **Children located in BOE System (N=24,298)** | **Children *not* located in BOE System (N=5,684)** |
|---|---|---|
| **Gender** | (n=24,298) | (n=5,684) |
| Female | 49% | 51% |
| Male | 51% | 49% |
| **Race** | (n=15,518) | (n=3,631) |
| African-American | 60% | 59% |
| Latino | 32% | 30% |
| White | 5% | 6% |
| Other | 3% | 5% |
| **Age at Time of Data Collection** | (n=24,297) | (n=5,679) |
| 5 to 7 | 22% | 35% |
| 8 to 13 | 34% | 31% |
| 14 to 15 | 12% | 9% |
| 16 and over | 32% | 25% |
| **Mean Age upon Entry** | 9.6 | 8.3 |
| **Facility Type** | (n=24,298) | (n=5,684) |
| Foster boarding home | 57% | 65% |
| Congregate home | 32% | 24% |
| Kinship home | 11% | 11% |

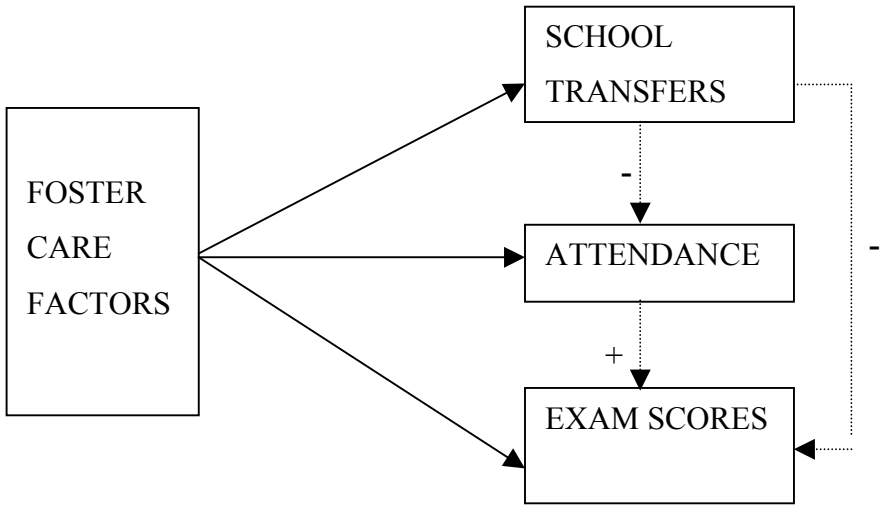
In short, the three differences in the two groups—age upon data collection, age upon entry, and placement type—can be primarily explained by the delayed entry of some five- and six–year-olds into the public school system. While children who do not enter public school upon turning five years old could differ in important ways from those who do, there is no clear bias in this difference. Both high- and low-performing children could be experiencing this delay and we have no reason to suspect that they differ in educational attainment from those who are enrolled at the age of five, and who consequently were located in the data match. Overall, the high match rate of 81 percent and the relatively minor differences between the matched and nonmatched groups are encouraging; these findings give us confidence in our matching technique.

# Appendix C: Model, Variables, and Analytic Technique

## Causal Model

The following diagram represents our expectations of the relationship between the foster care variables and the educational outcomes. We expect that foster care factors can have *direct* effects on all three educational outcomes (grouping reading and math exams together as one outcome). The direct effects are shown through the first three bolded arrows that link foster care factors to each outcome. We also assume that the effects of foster care factors can be *indirect* because the educational outcomes will affect one another. Specifically, school transfers should reduce attendance and reduce exam scores. Conversely, attendance should increase exam scores. Thus, a foster care factor (such as living in a congregate home) can negatively affect exam scores directly (bolded arrow) or indirectly by reducing attendance (bolded arrow to attendance plus dashed arrow from attendance to exam scores).

**Figure C1: Causal Model**



## Variables

Dependent and independent variables are described in Table C1.

**Table C1: Variables**

| Category | Variables |
|---|---|
| Dependent variables | Attendance (number of days present/number of days enrolled)<br><br>Exam z-score (individual scale score-mean scale score for all test-takers/standard deviation for all test-takers.)<br><br>School transfers (whether a non-educational school transfer occurred in the year after placement; 0=none, 1=one or more) |
| Foster Care variables | Placement transfer in year after placement (1=yes, 0=no)<br><br>AWOL during year after placement (1=yes, 0=no)<br><br>Reason for placement (dummy variables for PINS, abuse/neglect, and voluntary)<br><br>Time in care<br>a. attendance analysis: dummy variables for percent of semester in care—no time, some time, all time;<br>b. school transfer analysis: dummy variables for number of months in care during year after placement —3 months or less, more than 3 months but less than one year, and one full year.<br>c. exam analysis: dummy variables for proportion of year between two exams in care;<br><br>Year of placement (dummy variables for 1995, 1996, 1997, 1998, 1999) |
| Demographic variables | Age upon placement (in years from five to 17)<br><br>Female (1=female, 0=male)<br><br>Ethnicity (dummy variables for black, Hispanic, and white) |
| Educational variables | School outcome prior to placement (same as above)<br><br>School district (dummy variables for elementary/middle, high school, special education, and Chancellor's district)<br><br>Time in school<br>a. attendance: portion of semester after placement (1=in school entire semester, 0=in school part of semester);<br>b. school transfer: days enrolled in school in year after placement<br>c. exam: time between two exams in school (1=entire time, 0=part of the time)<br><br>Indicator of whether school semester after placement (1=fall, 0=spring) |

## Analytic Technique

A weighted least squares (WLS) regression model is used to examine the relationship between the demographic and foster care factors listed above and attendance and exam rates. The models were weighted to correct for heteroskedasticity and took the following form:

$$YAFTER_i = \alpha + \beta_1 X_i + \beta_2 W_i + \beta_3 YBEFORE_i + \varepsilon_i$$

where YAFTER is the exam or attendance score after foster care entry; X is a set of demographic characteristics (such as gender and ethnicity); W is a set of foster care factors (such as placement type); YBEFORE is the attendance or exam score prior to placement; and subscript *i* identifies the individuals in the analysis. This type of model examines changes in performance over a given time period and allow for controls of unobserved time-invariant child characteristics that can affect school performance.

The effects of X and W variables on whether a child experienced a noneducational school transfer were estimated using a standard logistic regression in the following form:

$$\ln[p/(1-p)]_i = \alpha + \beta_1 X_i + \beta_2 W_i + \beta_3 Z_i$$

where p is the probability of being transferred and X, W, refer to the same groups of characteristics listed in the linear regression model above. In this model, Z refers to whether the child experienced a school transfer in the year prior to foster care entry.

The estimated impact for each of the sets of independent variables in both models is represented by $\beta_1$, $\beta_2$ and $\beta_3$. The researchers' hypothesis is that each of the independent variables will have coefficients with a high magnitude, suggesting a strong influence on the outcome of interest. This hypothesis could also be confirmed using statistical tests of significance. Although the sample is not randomly drawn from the larger population of foster children, statistically significant coefficients would suggest that were it drawn in such a way, the differences identified would not have been due to chance. Thus, both the magnitude and the statistical significance are examined to determine which factors influence educational outcomes in the analysis.

## Missing Data

Since our analysis relied primarily on administrative records, we had some missing data. Fortunately, ACS has taken great steps to make its administrative data available and reliable for research purposes. In 1996, the agency joined with the Chapin Hall Center for Children at the University of Chicago to reformat its administrative data and make them into analytically useful tables. Officials at ACS advised us on the integrity of variables and aided in the selection of the most reliable variables for the proposed study. Similarly, officials at the Board of Education confirmed the reliability of the attendance, exam, and transfer data maintained for all students.

Nevertheless, some of the data elements in these two systems are less reliable than others. Our primary concern is with children's recorded reason for placement. We created reason for

placement information using the portion of the ACS database that records all legal activity on a case. We were unable to determine reason for placement for eight percent (1,311) of the children in our file either because no legal activities had been entered near the date of entry into foster care or because no legal activities were recorded at all.

As shown in Table C2, the children without a reason for placement tend to be older, are less likely to be placed in a kinship home, and less likely to be in care one year after foster care entry. On these criteria, children without a reason for placement look very much like children who enter care on PINS petitions or voluntary placements. Yet, we did not find strong evidence that a large majority of children missing reason for placement were placed on PINS petitions when we merged our data with the PINS database kept by the Department of Probation. We found 19 percent of our children missing reason for placement in the PINS database, which is exactly the proportion of PINS children in our study group and not high enough to suggest that the majority of those with no reason for placement are PINS. We, therefore, have no reason to suspect that our data underrepresent the PINS population, but the fact that the omitted observations differ on age and length of stay suggests that there may be a small bias in the sample.

**Table C2: Characteristics of Children With and Without Reason for Placement**

| | Children with reason for placement (N=16,111) | Children without reason for placement (N=1,311) |
|---|---|---|
| **Age at Time of Placement** | | |
| 5 to 7 | 22% | 18% |
| 8 to 13 | 44% | 37% |
| 14 to 15 | 24% | 30% |
| 16 and over | 9% | 15% |
| **Facility Type** | | |
| Foster boarding home | 50% | 57% |
| Congregate home | 35% | 41% |
| Kinship home | 14% | 2% |
| **In care 1 year after placement** | 51% | 13% |

## Appendix D: Regression Results

The following tables provide the results of our regression analyses. For the attendance and exam analyses, two models are included in each table to reflect our causal model shown in Figure C1. The base model (Model 1) excludes the school performance characteristics that could be mediating the relationship between foster care factors and the outcome of interest. The mediator model (Model 2) includes the mediator variable(s). School transfers serve as the mediator in the attendance analysis (excluded form the first model and added to the second) since foster care factors could affect attendance through their affect on school transfers. Attendance and school transfers serve as mediators in the exam analyses. As shown by the very modest changes in the coefficients on the foster care factors once mediators are included (comparison of Model 1 to Model 2), the mediator models are not supported.

The attendance and exam analyses were weighted to correct for the nonconstant variance in several variables, however, these weights did not substantially change the magnitude of the coefficients. Nor were any tests of statistical significance reversed.

**Table D1: WLS Regression Predicting Attendance**

| | Model 1 | | Model 2 | |
|---|---|---|---|---|
| **Variable** | **Coefficient** | **Standard error** | **Coefficient** | **Standard error** |
| Congregate home | -2.74** | 0.496 | -2.684** | 0.500 |
| AWOL | -11.194** | 0.660 | -11.256** | 0.662 |
| Placement transfer | -1.217** | 0.240 | -1.318** | 0.243 |
| In care part of semester after placement | -4.558** | 0.428 | -4.584** | 0.427 |
| In care none of semester after placement | -2.830** | 0.288 | -2.754** | 0.291 |
| Abuse or neglect | 1.136** | 0.385 | 1.124** | 0.386 |
| PINS | -3.838** | 0.705 | -3.876** | 0.705 |
| Placed in 1995 | -2.469** | 0.411 | -2.457** | 0.413 |
| Placed in 1996 | -1.352** | 0.343 | -1.354** | 0.347 |
| Placed in 1997 | -0.813** | 0.314 | -0.815* | 0.317 |
| Placed in 1998 | -0.792* | 0.318 | -0.779* | 0.315 |
| | | | | |
| High school | -4.178** | 0.535 | -4.068** | 0.538 |
| Chancellor's District | -1.095 | 1.054 | -1.022 | 1.053 |
| Special education | -4.174** | 0.645 | -4.063** | 0.650 |
| Attendance rate before entry | 0.361** | 0.009 | 0.360** | 0.009 |
| Semester after entry – Fall[a] | 2.328** | 0.276 | 2.296** | 0.275 |
| Transferred school before end of semester after foster care entry | | | 0.671** | 0.247 |
| In school whole semester after placement | 1.642** | 0.361 | 1.695** | 0.367 |
| | | | | |
| African-American | 0.260 | 0.235 | 0.256 | 0.235 |
| White | 1.100* | 0.431 | 1.175** | 0.432 |
| Age upon placement | -0.602** | 0.046 | -0.586** | 0.047 |
| Female | 0.294 | 0.222 | 0.282 | 0.222 |
| | | | | |
| Intercept | 60.802 | | 60.298 | |
| N | 15,064 | | 15,064 | |
| Adjusted R-square | 0.2381 | | 0.2389 | |

[a] This variable indicates that the semester just after foster care placement was in the fall. We included this because we expected children's attendance rates to differ in the fall and the spring.

~ p<.10 * p<.05 ** p<.01

**Table D2: Logistic Regression Predicting Noneducational School Transfers**

| Variable | Coefficient | Standard error |
|---|---|---|
| Foster boarding home | 1.217** | 0.056 |
| Congregate home | 0.872** | 0.077 |
| AWOL | 0.169** | 0.058 |
| Placement transfer | 0.510** | 0.041 |
| In care three months to under a year | 0.539** | 0.055 |
| In care full year after entry | 0.607** | 0.049 |
| Abuse or neglect | 0.152** | 0.057 |
| PINS | 0.183** | 0.065 |
| Placed in 1995 | -0.063 | 0.066 |
| Placed in 1996 | -0.000 | 0.059 |
| Placed in 1997 | -0.058 | 0.058 |
| Placed in 1998 | 0.004 | 0.060 |
| | | |
| High school | -0.739** | 0.058 |
| Special education | -0.505** | 0.079 |
| School transfer before entry into care | 0.144** | 0.042 |
| Semester after entry – Fall | -0.036 | 0.041 |
| | | |
| African-American | 0.086* | 0.039 |
| White | -0.404** | 0.077 |
| Age upon placement | -0.120** | 0.008 |
| Female | 0.015 | 0.038 |
| | | |
| Intercept | -1.062 | |
| N | 15,041 | |
| Chi square | 3036.47 | |
| Adjusted R-square | 0.2463 | |

~ p<.10 * p<.05 ** p<.01

**Table D3: WLS Regression Predicting Reading Scores**

| | Model 1 | | Model 2 | |
|---|---|---|---|---|
| **Variable** | **Coefficient** | **Standard error** | **Coefficient** | **Standard error** |
| Foster boarding home | -0.005 | 0.028 | 0.004 | 0.029 |
| Congregate home | -0.031 | 0.050 | 0.004 | 0.051 |
| AWOL | -0.084 | 0.051 | -0.042 | 0.053 |
| Placement transfer | -0.044~ | 0.025 | -0.033 | 0.025 |
| Percent of time in care in year between exams | 0.001~ | 0.000 | 0.001~ | 0.000 |
| Abuse or neglect | 0.033 | 0.036 | 0.040 | 0.037 |
| PINS | 0.019 | 0.061 | 0.038 | 0.061 |
| Placed in 1995 | 0.057 | 0.039 | 0.064 | 0.039 |
| Placed in 1996 | -0.027 | 0.036 | -0.013 | 0.036 |
| Placed in 1997 | -0.003 | 0.034 | 0.006 | 0.034 |
| Placed in 1998 | -0.074* | 0.035 | -0.070* | 0.035 |
| Attendance rate semester after placement | | | 0.004** [a] | 0.001 |
| School transfer between exams | | | -0.027 [b] | 0.024 |
| Exam score year before entry | 0.702** | 0.013 | 0.695** | 0.013 |
| In school full year between reading exams | 0.083** | 0.028 | 0.077** | 0.029 |
| African-American | -0.045~ | 0.024 | -0.041~ | 0.024 |
| White | 0.013 | 0.045 | 0.010 | 0.045 |
| Age upon placement | -0.014~ | 0.007 | -0.009 | 0.008 |
| Female | 0.066** | 0.023 | 0.065** | 0.023 |
| | | | | |
| Intercept | -0.047 | | -0.439 | |
| N | 3,155 | | 3,128 | |
| Adjusted R-square | 0.5158 | | 0.5150 | |

~ p<.10 * p<.05 ** p<.01

[a] The standardized coefficient (β) for attendance is 0.064.

[b] The standardized coefficient (β) for school transfer is –0.023.

**Table D4: WLS Regression Predicting Math Scores**

| | Model 1 | | Model 2 | |
|---|---|---|---|---|
| **Variable** | **Coefficient** | **Standard error** | **Coefficient** | **Standard error** |
| Foster boarding home | 0.002 | 0.028 | 0.017 | 0.028 |
| Congregate home | -0.046 | 0.050 | -0.006 | 0.051 |
| AWOL | -0.016 | 0.051 | 0.050 | 0.054 |
| Placement transfer | -0.032 | 0.024 | -0.014 | 0.024 |
| Percent of time in care in year between exams | 0.000 | 0.000 | 0.000 | 0.000 |
| Abuse or neglect | 0.124** | 0.036 | 0.130** | 0.036 |
| PINS | -0.042 | 0.061 | -0.020 | 0.063 |
| Placed in 1995 | -0.060 | 0.040 | -0.046 | 0.041 |
| Placed in 1996 | -0.053 | 0.035 | -0.038 | 0.035 |
| Placed in 1997 | -0.016 | 0.033 | -0.011 | 0.033 |
| Placed in 1998 | -0.046 | 0.037 | -0.046 | 0.034 |
| | | | | |
| Attendance rate semester after placement | | | 0.005** [a] | 0.001 |
| School transfer between exams | | | -0.053* [b] | 0.024 |
| Exam score year before entry | 0.726** | 0.013 | 0.715** | 0.013 |
| In school full year between math exams | 0.001 | 0.037 | -0.022 | 0.038 |
| | | | | |
| African-American | -0.020 | 0.024 | -0.023 | 0.024 |
| White | 0.076~ | 0.043 | 0.071~ | 0.043 |
| Age upon placement | -0.020** | 0.007 | -0.013~ | 0.008 |
| Female | 0.007 | 0.022 | 0.007 | 0.022 |
| | | | | |
| Intercept | -0.014 | | -0.514 | |
| N | 3,193 | | 3,161 | |
| Adjusted R-square | 0.5158 | | 0.5194 | |

~ p<.10 * p<.05 ** p<.01

[a] The standardized coefficient (β) for attendance is 0.084

[b] The standardized coefficient (β) for school transfer is –0.029