Overlooked: Children with Disabilities in Residential Care

Alexandra L. Trout, Kathryn Casey, M. Beth Chmelka, Catherine DeSalvo, Robert Reid, and Michael H. Epstein

While estimates suggest that 10% to 31% of children in residential care are identified as with a disability, little is known about their characteristics or functioning as compared to nondisabled peers. This study evaluated data of 123 children with (n = 34) and without (n = 89) disabilities in residential care to determine demographic, behavioral, mental health, and educational characteristics. Data included demographic, behavior checklist, and standardized mental health and academic measures. Results indicated that both groups presented elevated risks; however, scores for children with disabilities revealed even greater levels of need. Primary risks were found on indicators of behaviors (e.g., social functioning), mental illness (e.g., anxiety), and academic performance (e.g., general knowledge and reading). Implications, limitations, and recommendations for future research are discussed.

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Annually, nearly 200,000 children and youth reside in residential care (Child Welfare League of America [CWLA], 2006), and anywhere from 10% to 31% are diagnosed with a disability (e.g., learning disability and attention deficit hyperactivity disorder; Trout, Hagaman, Casey, Reid, & Epstein, 2008; Vincent, Kramer, & Shriver, 1995). Moreover, due to factors such as histories of family instability; substance, sexual, and physical abuse; neglect; high-crime neighborhoods; poor social supports; and frequent out-of-home placements, many of these children present significant behavioral, mental health, and educational problems that require treatment while in care (Baker, Kurland, Curtis, Alexander, & Papa-Lentini, 2007; Baker & Purcell, 2005; CWLA, 2006; Dale, Baker, Anastasio, & Purcell, 2007; Wells & Whittington, 1993). Although services and approaches vary across settings, treatment is typically addressed through a variety of intensive therapeutic approaches, including medication management, behavior therapy, psychoeducational and psychoanalytic approaches, and group therapy (Burns, Hoagwood, & Mrazek, 1999; CWLA, 2006), in unlocked, supervised settings (Asarnow, Aoki, & Elson, 1996; Busch, 2003; CWLA, 2006). While some facilities are available within the child’s community, for many, placement in residential care requires upheaval from the home and school setting (Frensch & Cameron, 2002). For children with disabilities in residential care, the stressors associated with this upheaval and subsequent placement (e.g., change in schools and educational programming, new rules and expectations, and different social norms) may have a greater cumulative effect, adding increased vulnerability to negative short- and long-term behavioral, mental health, and academic outcomes.

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Children with Disabilities in Residential Care

In risk research, it is generally accepted that the more risks, the greater the likelihood of negative outcomes (Kauffman, 2005). In the case with children with disabilities in residential settings, this theory may hold especially true. Although few researchers have investigated the special needs of this population (Bauer, 1993; Weinberg, 1997), children with disabilities are particularly vulnerable and bring to these settings additional problems that increase their likelihood of negative outcomes (Goerge, Van Voorhis, Grant, Casey, & Robinson, 1992; Van Wingerden, Emerson, & Ichikawa, 2002; Zetlin, 2006). For example, as a prerequisite for diagnosis, children with disabilities present sensory disorders (e.g., visual impairments), physical and neurological disorders (e.g., attention deficit hyperactivity disorder and traumatic brain injury), or developmental disabilities (e.g., specific learning disabilities and emotional disturbance) that negatively affect their ability to make satisfactory progress in the educational environment (Hallahan & Kauffman, 2006; U.S. Department of Education, Office of Special Education and Rehabilitative Services, 2002). Embedded in these disorders are a host of child characteristics that affect learning and school performance including problems maintaining attention, sustaining effort, modulating motor activity, organizing and finishing tasks, following rules, understanding consequences, comprehending directions and written or verbal tasks, processing tasks, and completing assignments (Hallahan & Kauffman, 2006; Lyon, Fletcher, & Barnes, 2003; Lyon, Fletcher, Fuchs, & Chhabra, 2006). These

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characteristics make learning and adapting to social norms difficult for the child with disabilities in the typical school setting; however, for children in care, these factors are likely exacerbated by life events (e.g., multiple school and home placements) that add additional stress to the already at-risk child.

Surprisingly, while research suggests that this subset of the residential care population is at heightened risk for short- and long-term negative outcomes, few researchers have studied this population. Studies that have been conducted on children with disabilities in care have primarily focused on children in the broader categorization of out-of-home settings—foster care, kinship care, shelters, and group homes—and have largely investigated behavioral and environmental factors affecting their educational performance. Specifically, previous studies have focused on individualized education plan (IEP) violations (Weinberg, 1997), curricular and assessment policies of residential agencies for children with IEPs receiving services in care (Gagnon & McLaughlin, 2004), the involvement of foster parents in the special education process (Advocates for Children of New York, Inc., 2005), mobility of foster children and the effects of mobility (Advocates for Children of New York, Inc., 2005; Malmgren & Meisel, 2002), caseworkers’ awareness about special education students in care (Goerge et al., 1992), school-related problems (Smucker, Kauffman, & Ball, 1996), foster parent/teacher collaboration about the educational needs of adolescent students with disabilities (Palladino, 2006), and overall school performance (e.g., Courtney, Roderick, Smithgall, Gladden, & Nagaoka, 2004; Evans, 2004; Greenen & Powers, 2006; Smucker et al., 1996). While these studies have brought awareness to the field about the difficulties of educating children with disabilities in out-of-home care, they have not provided information on the specific emotional and behavioral functioning, academic needs, and educational characteristics of children with disabilities in residential settings. In particular, very little is known about the demographic, behavioral, mental health, and academic characteristics of children with disabilities in this setting, or about their characteristics in comparison to their nondisabled peers.
To provide appropriate services and supports to children with disabilities in residential care, it is essential to understand the specific characteristics and needs of children as they enter these settings. Moreover, given the likely lifetime risks specific to this subset of the residential population, and the additional provisions for support provided to children with identified disabilities outlined in the Individuals with Disabilities Education Act (IDEA) of 2004 (P.L. 108-446), it is important to determine if differences that warrant differentiated treatment between children with and without disabilities exist. Thus, to begin to address these questions, we sought to evaluate the characteristics of children with and without disabilities at entry into residential care to determine if differences exist; and if so, in which areas and to what extent. Specifically, it was hypothesized that (1) given the cumulative effects of risks on functioning, children with disabilities in care would reveal greater levels of behavioral, mental health, and academic risks than their peers without disabilities, and (2) these risks would be most prominent in school-related behaviors such as attention to tasks, learning difficulties, and educational achievement.

Method

Setting

This study was conducted at the Boys Town Treatment Family Home (BT) program in Omaha, Nebraska. Annually, BT serves over 740 abused, abandoned, and neglected children. Adolescents are referred to BT for a variety of reasons from abandonment and neglect to abuse, and they enter as state wards, court wards, or as private placements.

Participants

The first 123 children (50 girls and 73 boys) entering the BT program from October 2006 to May 2007 participated in this study. The average age was 15.32 ($SD = 1.53$) with a range of 10.9 to
18.3 years. The average grade was 9.1 \((SD = 1.52)\), ranging from 5th to 12th. Participants averaged 5 prior school placements (range = 1 to 10), and overall, scored within the average range on measures of IQ \((M = 95.34, SD = 11.78)\). Of the children, 36 (29%) were formally school identified with a disability and were receiving special education services. Demographic characteristics specific to children identified with and without disabilities are presented in Table 1.

### Table 1

<table>
<thead>
<tr>
<th>Demographics</th>
<th>WITH DISABILITIES</th>
<th>WITHOUT DISABILITIES</th>
<th>(T)</th>
<th>(x^2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minority</td>
<td>10 (29%)</td>
<td>48 (54%)</td>
<td>5.94*</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>8 (24%)</td>
<td>42 (47%)</td>
<td>5.71*</td>
<td></td>
</tr>
<tr>
<td>Court Involved</td>
<td>14 (41%)</td>
<td>48 (54%)</td>
<td>1.75</td>
<td></td>
</tr>
<tr>
<td>Family Reunification</td>
<td>20 (59%)</td>
<td>58 (65%)</td>
<td>.53</td>
<td></td>
</tr>
<tr>
<td>Public Funding</td>
<td>18 (53%)</td>
<td>44 (49%)</td>
<td>.12</td>
<td></td>
</tr>
<tr>
<td>State Ward</td>
<td>10 (29%)</td>
<td>32 (36%)</td>
<td>.47</td>
<td></td>
</tr>
<tr>
<td>Medicated</td>
<td>8 (24%)</td>
<td>16 (18%)</td>
<td>.48</td>
<td></td>
</tr>
<tr>
<td>(M (SD))</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IQ(^1)</td>
<td>92.50 (13.04)</td>
<td>96.84 (11.04)</td>
<td>1.56</td>
<td></td>
</tr>
<tr>
<td>Age at Admission</td>
<td>14.86 (1.78)</td>
<td>15.44 (1.42)</td>
<td>1.91</td>
<td></td>
</tr>
<tr>
<td>Age at First Placement</td>
<td>13.41 (2.54)</td>
<td>13.21 (3.86)</td>
<td>.28</td>
<td></td>
</tr>
<tr>
<td>(N (%))</td>
<td></td>
<td></td>
<td>9.93*</td>
<td></td>
</tr>
<tr>
<td>Court</td>
<td>2 (6%)</td>
<td>24 (27%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mental Health</td>
<td>20 (59%)</td>
<td>29 (33%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>School/Church</td>
<td>2 (6%)</td>
<td>9 (10%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parent/Guardian</td>
<td>10 (29%)</td>
<td>27 (30%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>34 (28%)</td>
<td>89 (72%)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^*p < .05.\)

**Note:** \(^1\)IQ data were missing for 42 (35%) of the participants.
Data Sources

Data were collected from two sources: child files created during intake interviews with the child’s parent/guardian, and intake data completed at the end of a two-day orientation for the BT program. Four categories of information were collected: (1) child demographics, (2) behavioral functioning, (3) mental health functioning, and (4) academic performance.

Demographics

Eleven demographic variables were obtained from child files and coded for analysis. Variables included (1) race, (2) gender, (3) court involvement (e.g., adjudicated), (4) family reunification (i.e., whether children planned on returning to their families after treatment), (5) funding source (i.e., public or private), (6) ward of the state, (7) medication status, (8) intelligence quotient (IQ), (9) age at admission, (10) age at first out-of-home placement, and (11) referral source (e.g., court, school, or parent).

Behavior

Data related to the behavior of participants were collected from parent or primary caregiver scores on the child behavior checklist (CBCL; Achenbach & Rescorla, 2001) at time of admission. The CBCL assesses both competencies and problem behaviors of children ages 4 to 18. The 120 items provide a total problem score, eight narrow-band scores consisting of specific syndrome scales (i.e., anxious/depressed, withdrawn/depressed, somatic complaints, social problems, thought problems, attention problems, rule breaking, and aggressive behavior), and two broad-band scores (i.e., internalizing or externalizing). The CBCL is widely used with children and youth in broad educational, residential, and child welfare settings (e.g., see Baker et al., 2007; Baker, Archer, & Curtis, 2005) and has demonstrated satisfactory levels of reliability and validity (i.e., reliability coefficients ranging from 0.38 to 0.97; Achenbach & Rescorla, 2001).

Mental Health Functioning

The mental health functioning of children at entry was evaluated using clinical cutoff scores from the National Institute of Mental Health...
Diagnostic Interview Schedule for Children IV (NIMH DISC-IV; Shaffer, Fisher, Lucas, Dulcan, & Schwab-Stone, 2000). The DISC-IV is a widely used self-report measure of more than 30 psychiatric disorders that occur in children and adolescents. The NIMH DISC-IV was designed for use with children and adolescents age 9 to 17 years and evaluates a broad range of psychiatric disorders including anxiety disorders, mood disorders, schizophrenia, disruptive behavior disorders, substance use disorders, and miscellaneous disorders (e.g., pica, anorexia, etc.). For the purposes of this study, the disorders were grouped into one of five categories (i.e., substance abuse, disruptive behaviors, anxiety, depression, and other) using a modified grouping method we have used in previous research with this population (see Larzelere, Daly, Davis, Chmelka, & Handwerk, 2004). The psychometric qualities of the instrument, including test-retest reliability (kappa = 0.42 to 0.92) and content validity are adequate (Shaffer et al., 2000).

Academic Performance
The Woodcock-Johnson Test of Achievement, third edition (WJ III; Woodcock, McGrew, & Mather, 2001) was used to assess the academic achievement of children at intake. The WJ III is a psychometrically sound, norm-referenced assessment that is widely used and individually administered. For the purpose of this study, seven subtests from the WJ III were administered: (1) reading fluency, (2) calculation, (3) spelling, (4) writing fluency, (5) passage comprehension, (6) applied problems, and (7) academic knowledge. These subtests were selected to provide a comprehensive and concise measure of individual student’s academic achievement. These subtests also extend beyond basic academic areas (i.e., reading and math) and give a broader indication of participant’s academic ability. The seven subtests administered report reliability coefficients ranging from 0.77 to 0.94.

Data Collection
Prior to data collection, procedures were approved by the University’s and BT’s Internal Review Boards. Data were collected for each
participant at two points. The first sets of data were gathered during the referral and student entry process to BT. Just prior to entry, as part of the initial screening for referral, parents/guardians were asked to complete the CBCL. Upon entry, an intake counselor met with the child’s family or guardian to collect information on the child’s placement history, physical and mental health status, and basic demographic information. Finally, during the youth’s first week of stay, each child was asked to complete the NIMH DISC-IV self-assessment. The second data collection point was completed after the intake interview process, and following the completion of a two-day orientation to the BT program. At this time each child was referred to one of four data collectors to begin academic assessment. Participants were first informed of the purpose of the study and asked to sign an assent form. Eight possible participants did not assent to participation. For the assenting 123 students, once assent was established, they were administered the WJ III in one of four conference rooms. Scores were entered into a database and calculated using the WJ III NU Compuscore and Profiles Program (Woodcock et al., 2001). A second data collector verified all data.

Training

Training was specific to each data collection period. Because collection of data at intake is part of the standard practice for all children entering BT (and completed by BT staff), the established training protocol developed by the program was enforced. However, because the academic data were collected as a supplement to typical procedures for the purposes of this study, methods for collecting these data were established separately.

Intake Data

Intake personnel completed a weeklong training seminar conducted by human resources personnel. Training consisted of information about the BT program as well as family and child confidentiality issues. After this initial training, personnel completed a one-day orientation session where specific intake procedures were discussed and modeled. Once orientation was complete, personnel shadowed
an experienced intake counselor for three weeks to learn data collection procedures. Finally, the program supervisor reviewed all data gathered by new personnel for a 30- to 90-day period until 90% agreement was reached.

**Academics**

Prior to collecting academic data, four data collectors completed a weeklong training seminar on participant confidentiality, administration procedures, and scoring of the WJ III. Experienced data collectors who modeled all procedures conducted training. Following training, the data collectors observed an administration and scoring of the WJ III by an experienced data collector. The data collectors then practiced administering and scoring the WJ III independently and were required to meet a 90% fidelity criterion of both administration and scoring. To ensure fidelity levels remained high, an outside evaluator conducted fidelity checks three months into data collection.

**Data Analysis**

Data were analyzed to compare youth with and without disabilities at the time of admission to BT schools. Independent samples \( t \)-tests (\( t \)) were conducted on continuous demographic variables (e.g., IQ and age) to establish mean differences between groups. Chi-square (\( \chi^2 \)) analyses were conducted on nominal variables (e.g., race and gender) to assess the differences between groups. To determine significant differences between children with and without disabilities on academic and mental health variables, one-way analyses of covariance (ANCOVAs) were conducted. Covariates were chosen if significant differences were found between the groups on demographic variables. To control for the number of comparisons that were performed, the Bonferroni correction method was used. The adjusted alpha for the academic and mental health variables was 0.007. Hedge’s \( g \) effect sizes were calculated to assess the magnitude of the difference between groups. To test for differences on ratings of child behavior (i.e., CBCL), logistic regression was conducted. The special education status of the youth was the dependent vari-
able and dichotomized CBCL scores (i.e., youth presenting in the clinical/nonclinical range) were entered as the predictor variables.

**Results**

Table 1 presents the intake data for children with and without disabilities. The number of children for each demographic variable and percent of the sample represented by that variable is also reported. In cases where differences between groups were found (i.e., minority status, gender, and referral source) these variables were used as covariates.

**Demographics**

When children with disabilities were compared to their nondisabled peers, few demographic differences were found; standouts were race/ethnicity, gender, and referral source (see Table 1). Children with disabilities were more likely to be male Caucasians who were mental health referred. The remaining variables, such as number of children previously involved in the legal system (court involved), those who have future plans of being reunited with their families, who are considered wards of the state, who take medication for mental health purposes (e.g., bipolar, depression and attention disorder), and who receive public or private funding to attend BT, did not vary significantly between groups. Further, mean differences were not statistically significant between groups on full-scale IQ, age at admission, and age when first placed in an out-of-home setting.

**Behavioral**

Table 2 presents means, standard deviations, and the percent of youth in the clinical range for each CBCL subscale. Across narrow- and broad-band characteristics, children with and without disabilities revealed several behavioral risks. Children with disabilities were rated in the clinical range by their parents/caregivers on four subscales (rule breaking, aggressive behavior, externalizing, and total problems) and borderline risk across three (social problems, attention problems, and internalizing). Children without disabilities
were rated clinical across three subscales (rule breaking, externalizing, and total problems), and borderline risk across two (aggressive behavior and internalizing). The results from the logistic regression found that when the covariates (i.e., gender, race, and referral source) were entered, only gender was significant (Wald = 12.59, \( p < .001 \)). After controlling for gender, youth with disabilities were more likely to present in the clinical range for social problems (Wald = 10.48, \( p = .001 \)). Of the youth with disabilities (\( n = 25 \)), all presented in the clinical range for externalizing behavior.

### TABLE 2

Means and Percent Clinical on the CBCL

<table>
<thead>
<tr>
<th>CBCL Subscale</th>
<th>MEAN (SD) T Scores</th>
<th>% Clinical Range</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>WITH DISABILITIES</td>
<td>WITHOUT DISABILITIES</td>
</tr>
<tr>
<td></td>
<td>( N = 25 )</td>
<td>( N = 75 )</td>
</tr>
<tr>
<td>Narrow Band</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anxious/Depressed</td>
<td>62.88 (9.73)</td>
<td>59.37 (9.42)</td>
</tr>
<tr>
<td>Withdrawn/Depressed</td>
<td>63.84 (8.52)</td>
<td>63.57 (10.87)</td>
</tr>
<tr>
<td>Somatic Complaints</td>
<td>57.64 (9.38)</td>
<td>59.79 (9.08)</td>
</tr>
<tr>
<td>Social Problems</td>
<td>66.88 (9.76)(^1)</td>
<td>60.48 (8.66)</td>
</tr>
<tr>
<td>Thought Problems</td>
<td>59.44 (9.16)</td>
<td>60.41 (8.39)</td>
</tr>
<tr>
<td>Attention Problems</td>
<td>67.32 (11.81)(^1)</td>
<td>64.17 (10.54)</td>
</tr>
<tr>
<td>Rule Breaking</td>
<td>69.36 (5.66)(^2)</td>
<td>70.35 (8.75)(^2)</td>
</tr>
<tr>
<td>Aggressive Behavior</td>
<td>70.68 (8.54)(^2)</td>
<td>66.91 (10.98)(^1)</td>
</tr>
<tr>
<td>Broad Band</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internalizing</td>
<td>62.24 (9.48)(^1)</td>
<td>60.96 (10.50)(^1)</td>
</tr>
<tr>
<td>Externalizing</td>
<td>70.72 (4.80)(^2)</td>
<td>68.32 (9.77)(^2)</td>
</tr>
<tr>
<td>Total Problems</td>
<td>68.56 (7.06)(^2)</td>
<td>65.16 (9.73)(^2)</td>
</tr>
</tbody>
</table>

Note: CBCL data were not available for 23 participants. \( M = 50, SD = 10 \). General scores for narrow band measures are: Normal T below 65; Borderline T between 65 and 69, inclusive; and Clinical T above 69. Scores for broad band measures are: Normal T below 60; Borderline T between 60 and 63, inclusive; and Clinical T above 63. \(^1\)Scores are within the Borderline range. \(^2\)Scores are within the Clinical range. \(^*\)\( p < .05 \), \(^{**}\)\( p < .01 \)
reason, the externalizing variable was left out of the logistic regression and a chi-square analysis was conducted. From this analysis, youth with disabilities were more likely to present externalizing behavior ($\chi^2 = 6.35, p < .05$).

**Mental Health**

The psychiatric disorders evaluated by the NIMH DISC-IV are organized into seven categories: any diagnosis, disruptive behavior disorders, anxiety disorders, depression, substance abuse, other, and comorbid diagnoses (see Table 3). Overall, NIMH DISC-IV self-assessment results indicate several mental health risks across children with and without disabilities. Specifically, the majority of children with disabilities self-reported at least one disruptive behavior disorder (33%) or anxiety disorder (24%), followed by depression disorder (21%), other (19%), and substance abuse (10%). Many children without disabilities also self-reported at least one disruptive behavior disorder (41%); however, these diagnoses were followed

<table>
<thead>
<tr>
<th><strong>Table 3</strong></th>
<th>Mental Health Differences as Reported on the NIMH DISC-IV</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Category</strong></td>
<td><strong>WITH DISABILITIES</strong></td>
</tr>
<tr>
<td>Any Diagnosis</td>
<td>13 (62%)</td>
</tr>
<tr>
<td>Disruptive Behavior Disorders</td>
<td>7 (33%)</td>
</tr>
<tr>
<td>Anxiety Disorders</td>
<td>5 (24%)</td>
</tr>
<tr>
<td>Depression Disorders</td>
<td>4 (19%)</td>
</tr>
<tr>
<td>Substance Abuse</td>
<td>2 (10%)</td>
</tr>
<tr>
<td>Comorbid Diagnoses</td>
<td>8 (38%)</td>
</tr>
<tr>
<td>Other</td>
<td>4 (19%)</td>
</tr>
<tr>
<td>Total</td>
<td>21 (21%)</td>
</tr>
</tbody>
</table>

*$p < .05$.

*Note: NIMH DISC-IV data were not available for 21 participants.*
by substance abuse (33%), anxiety disorder (32%), other (21%), and depression disorder (10%). When statistical comparisons were made between children, no significant differences were found at the adjusted alpha level.

**Academic**

Table 4 presents means, standard deviations, effect size ($g$), and $F$ values on each WJ III subtest. With the exception of calculation and applied problems, significant differences at the adjusted alpha level were found between children with and without disabilities across all specific academic areas. The most significant differences were found in the areas of reading fluency, spelling, writing fluency, passage comprehension, and academic knowledge. Although the range of effects varied from 0.14 to 0.59, more than half of the academic areas revealed a medium effect (i.e., $>.50$).

| Table 4 |
|-----------------|-----------------|-----------------|-----------------|---------------|-------------|
| Academic Differences as Reported on the Woodcock Johnson Tests of Achievement III | WITH DISABILITIES | WITHOUT DISABILITIES | $F$ | $ES (g)$ |
| **WJ III SUBSCALE** | $M (SD)$ | $M (SD)$ | |
| Reading Fluency | 85.85 (11.43) | 92.90 (13.49) | 10.86** | .57 |
| Passage Comprehension | 86.32 (14.02) | 92.46 (10.08) | 11.74** | .43 |
| Writing Fluency | 87.71 (14.12) | 96.48 (15.60) | 11.63** | .58 |
| Spelling | 92.35 (16.74) | 90.84 (12.69) | 12.79** | .59 |
| Calculation | 87.26 (15.07) | 92.81 (10.68) | 5.48* | .51 |
| Applied Problems | 90.00 (11.07) | 91.30 (8.00) | 4.09* | .14 |
| Academic Knowledge | 82.15 (13.24) | 87.79 (11.44) | 14.13** | .46 |
| **Total** | $N = 34$ | $N = 89$ |

* $p < .05$, ** $p < .007$.

Note: $M = 100$, $SD = 15$. 
Discussion

We sought to investigate the demographic, behavioral, mental health, and academic characteristics of children at intake to residential care to determine if children with and without disabilities differ on these characteristics. We found that children with disabilities did differ on a few key demographic indicators and overall, tended to evidence additional risks. However, consistent with previous studies noting the high rates of problem behaviors in children served in residential settings (e.g., Baker et al., 2005; Baker et al., 2007), risks were high for all youth, to the extent that in some categories, including behavior and mental health, few differences between groups were found. These results suggest that children with disabilities entering residential settings do demonstrate areas of elevated behavioral and academic risks, and when compared to their peers without disabilities, present academic difficulties that may warrant differential services.

Demographic data on the children in care revealed few differences between children with and without disabilities. However, while some of the demographic differences that were found may be as expected (i.e., males are more commonly identified with disabilities and are more likely to be served in out-of-home care), other findings were not. For example, in the 25th Annual Report to Congress (U.S. Department of Education, 2003), approximately 38% of the population of school-aged children was reported to be of minority status. In the present study, only 29% of the sample of children identified with disabilities were of minority status, markedly lower than the national averages. These findings are in contrast to the rates of children in the sample that are of minority status in the nonidentified group (54%), and to prevalence rates of minorities in typical residential and out-of-home care settings (approximately 48% to 50%; Baker et al., 2007; Barth, 2002).

The differences across behavior, mental health, and academic functioning were as one might expect. For example, while few differences were found between groups on the CBCL or the NIMH
DISC-IV, both groups presented significant levels of problem behavior and mental illness. Specifically, CBCL and NIMH DISC-IV scores for both identified and nonidentified children were most elevated on externalizing indicators (e.g., rule breaking, aggression), characteristics commonly identified in previous studies of children in residential care (e.g., Baker et al., 2007; Larzelere et al., 2004). However, when behaviors associated with children identified with disabilities were examined separately, elevated levels of social and attention problems were evident. These findings are also as one might expect given the high rates of social skill deficit (Gresham, Sugai, & Horner, 2001) and co-occurring attention problems (Schnoes, Reid, Wagner, & Marder, 2006) in the general population of children served in special education programs.

Finally, while more is known about the behavioral and mental health functioning of children in care, little research has been conducted on the academic functioning of children in residential care, and even less on children with disabilities in this population (Trout et al., 2008). This study sought to begin to address some of the limitations in the literature, specifically addressing academic subject areas and determining the magnitude of the deficit. The present findings demonstrate that, as one might expect, when children identified with disabilities were compared to their nonidentified peers, children with disabilities revealed elevated risks across all subject areas. Areas most impacted were basic reading and academic knowledge, indicating deficits across both core academic areas and broader subjects such as science and social studies. While these areas were also areas of risk for the nondisabled peers (i.e., nearly two-thirds of a standard deviation below normal), when effects were calculated we found that with the exception of applied problems, children identified with disabilities were functioning at an even greater deficit of half or nearly half a standard deviation below their nondisabled peers. When these significant academic deficits are combined with the risks identified across the other indicators of functioning (i.e., social problems, aggression,
poor attention skills, and disruptive behaviors), one might suspect that the likelihood of positive outcomes is even less likely for children with disabilities in care.

**Limitations**

Three primary limitations should be noted and addressed in future research investigating children with disabilities in residential care. First, all participants were from one residential setting located in the Midwest. Due to the variance across residential settings and the populations they serve, it is possible that the children served in this residential center may differ from those in other programs across the country. For example, the lower than expected number of minority students with disabilities may be the result of the location of the residential center. Further replication of this study across settings and populations of children with disabilities in residential care should be conducted to provide additional external validation. Second, previous investigations of children in care have found that due to the high mobility rates of this population, many children begin the special education process but are not diagnosed with a disability because they change educational settings prior to formal identification or to the start of special education services (National Center for Children in Poverty [NCCP], 2006). As we did not have access to school files, we were unable to determine how many children had begun the screening process, and how many may have qualified for special education had they not left the school setting. We suspect that with access to school files, we may have been able to identify a third group of children in care, those who qualify for special education but are not formally identified. Because these children have not received special education services, it is possible that this subgroup may present even more risks and worse outcomes than either those in residential care without special needs or those with disabilities who have received services in special education programs. Finally, because children identified with disabilities are diverse, we suspect that there are differences
between categories of disabilities (e.g., specific learning disabilities and emotional and behavioral disorders). However, limitations in our sample size precluded us from conducting these analyses.

**Future Research**

Although the present findings provide a basic overview of the characteristics, strengths, and deficits of children with disabilities in residential care, several areas warrant further investigation. As noted earlier, because children with disabilities are heterogeneous and demonstrate a range of behaviors that impact behavioral, mental health, and academic functioning, additional research is necessary to evaluate the intake characteristics of children in care across disability categories. For example, previous studies have found that children with emotional and behavioral disorders are more likely to be retained, present lower grade point averages, and drop out of school at higher rates than children with other high-incidence disabilities, including mild mental retardation and learning disabilities (Wagner, 1995). Because of the risks common to the overall population of children in residential settings (e.g., elevated problem behaviors and multiple school placements), it is unclear if this pattern would hold true. Specific characteristics common to children across disability categories may help service providers and educators decide where to better screen for risk at program entry (e.g., school functioning behaviors, strategy use, and academic functioning), and target resources and interventions during care (e.g., dropout prevention, career counseling, and life-skills education).

Research investigating other areas of risk for children with disabilities in residential settings is also warranted. For example, previous studies have found that children with disabilities present elevated levels of language problems (for review, see Benner, Nelson, & Epstein, 2002) and difficulties with functional academic reading and math skills (see Cronin, 1996; Patton, Cronin, Bassett, & Koppel, 1997) that may hinder their ability to perform basic life-skills tasks such as reading maps, managing banking and checking
accounts, and other general skills necessary for independent living, such as making change and using public transportation. We suspect that for children in care, these skill deficits may be even greater as children and youth in residential settings are frequently moved from placement to placement, and may miss the exposure to these skills and opportunities to practice them to mastery prior to aging out of the system. Future studies using psychometrically sound, standardized measures to evaluate these skills—like the Kaufman functional academic skills test (Kaufman & Kaufman, 1994) or the clinical evaluation of language fundamentals (Semel, Wiig, & Secord, 2004)—would allow for a better understanding of the risks of this population and would benefit practitioners designing interventions for this population.

An investigation of the short- and long-term outcomes of children with disabilities in care and at departure is another area warranting future investigation. Reevaluations of children’s functioning during their time in care (e.g., after a period of six months or one year), at departure, and after discharge (e.g., six month, one year, and five year follow-up evaluations) would provide information on the effectiveness of these programs for children with special needs, resources to promote the maintenance of gains made while in care, and data on possible predictor variables that may indicate which characteristics tend to influence positive or negative outcomes.

Finally, given the diversity of services available across residential settings, future research is necessary to evaluate how the educational needs of children identified with disabilities are served across residential settings. Specifically, while some residential agencies provide educational services on campus and have more control over the types of educational supports provided, for other agencies, the educational services are not on campus or part of the residential setting. For these agencies, research is necessary to determine the possible roles of the practitioners in the residential setting and to determine what additional supports or services may
be needed to ensure that the youth receive the supports necessary for academic success.

**Implications**

Although much is still unknown about children with disabilities in residential care, the findings from this study begin to reveal important implications for research and practice. First, these findings suggest that additional screenings at program entry may be necessary to identify child strengths and limitations important for program planning. Specifically, academic screenings should be added to the behavioral and mental health measures that are commonly administered to these children and youth at intake. Given the amount of screenings and testing that is often part of the intake process, we recommend that agencies consider the inclusion of psychometrically sound measures that would provide a comprehensive assessment of youth skills (e.g., academic, school functioning) in a timely, efficient manner; for example, the mini-battery of achievement (Woodcock, McGrew, & Werder, 1994) or the academic competence evaluation scales (DiPerna & Elliott, 2000). Knowledge of youth strengths and risks at entry would be beneficial to determine what skills are in need of remediation and what services (e.g., tutoring, accommodations) or strategies (e.g., time management, organization, and work completion) should be implemented to promote school success. We also recommend that school files be reviewed at program entry. A review of files may help the care providers and school personnel to determine if the child has begun the special education process in a previous setting, gaps that may be missing in the child’s education (possibly due to frequent changes in schools), and past school-related behaviors (e.g., truancy, incomplete homework) that may need to be monitored and addressed during care.

Second, although one goal of residential care is to provide broad emotional and behavioral supports, the present findings indicate that specific areas of mental health and academic intervention may be warranted. For example, results from the CBCL
indicate that children with disabilities present the highest level of need on measures of attention, aggression, rule breaking, and social problems. Moreover, specific areas of academic functioning, such as reading fluency and comprehension also revealed significant delays. Targeted interventions that have demonstrated success at remediating these skills, including the intense social skills instruction (Gresham, Van, & Cook, 2006) and self regulation (Reid, Trout, & Schartz, 2005), may be helpful in addressing the needs specific to children with disabilities and warrant consideration for treatment.

Third, given the potential need for additional services for children with disabilities served in residential care, service agencies may want to consider including special educators on their teams who are well trained in behavior management, learning supports and strategies, and special education law. These professionals may play an important role in the seamless continuation of special education services as youth enter and depart residential and other out-of-home care settings.

Finally, results from this study highlight the need for open lines of communication between service providers. Because children with disabilities in care demonstrate broad risks across behavioral, emotional, and academic domains, it is critical that the professionals providing services to these youth develop systems to ensure comprehensive treatment plans are created and implemented seamlessly. Although several factors inherent to multiple-agency collaboration may hinder communication (e.g., clear definition of roles/responsibilities, organization regulations, and staffing shortages), we recommend that agencies work to create systems to make certain school files are transferred in a timely fashion, IEPs are reviewed and implemented to ensure appropriate academic and behavioral services are provided in the new setting, and professionals working with these children and families are given opportunities to attend in-service trainings on the characteristics and unique needs of this population as well as opportunities to work together to develop comprehensive treatment
plans that address this population’s broad behavioral, mental health, and academic needs.

**Conclusion**

To address the broad needs of children in residential care, screenings and services must be comprehensive to provide a complete picture of the child’s strengths and limitations. Agencies may need to continue to expand their focus beyond behavioral and mental health to address the educational struggles that often impact the youth’s functioning in and out of the educational setting. To accomplish this task, the fields of special education and child welfare will need to come together to evaluate how the current special education and child welfare laws and regulations help or hinder agencies as they attempt to provide more effective and efficient comprehensive services and to reevaluate policies so that special education services may be seamless for these youth who present such elevated levels of risk.

**References**


Schnoes, C., Reid, R., Wagner, M., & Marder, C. (2006). ADHD among students receiving special education services. Exceptional Children, 72, 483–496.


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