



Effectiveness of a group-based academic tutoring program for children in foster care: A randomized controlled trial



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ABSTRACT

The consistently poor educational achievement of children in foster care has been associated with many negative outcomes including long term poor adult adjustment (e.g., higher rates of suicide, criminality, and substance abuse). The current study was undertaken to improve foster children's academic skills through academic remediation. Across this two year randomized study, 91 children in out of home foster or kinship care, between grades 1 and 8 inclusive, completed the study. One-half were randomly assigned to the 30-week direct-instruction small group tutoring condition, while the other half served as wait-list controls. A statistically significant increase in standard scores was found on reading decoding, spelling and mathematic skills for the children who received tutoring, but no differences were obtained on sentence comprehension. Significant effect sizes, in the small to moderate range, were also found in support of the tutoring condition across these three domains. The implications of these positive findings as they relate to improving educational achievement among children in foster care are discussed.

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1. Introduction

It has been well documented that children and adolescents in care are at a significant disadvantage in educational achievement relative to their same-aged community peers (Chamberlain, Moreland and Reid, 1992). Across studies, the rate of poor academic achievement has ranged from a low of 33% up to a high of 67% of children in foster care (Fanshel, Finch and Grundy, 1990; Pasztor, Clarren, Timberlake and Bayless, 1986; Zimmerman, 1982). It has been consistently noted that children in foster care exhibit higher rates of learning disabilities (Nasstrom and Koch, 1996), grade retention (Zima, Bussing, Freeman, Yang, Belin and Forness, 2000), and special education placements (Benedict and White, 1991). Importantly, children entering foster care appear to evidence deficits in basic academic skill areas such as reading, math, and writing (Evans, 2001).

Flynn and colleagues have conducted a number of studies examining the problem of low achievement among foster care youth in Canada. For example, Flynn and Biro (1998) found that children in foster care experience higher rates of suspensions and grade retention relative to same

aged peers. Another study, conducted by Flynn, Ghazal, Legault, Vandermeulen and Petrick (2004) found that 80% of youth between the ages of 10 and 15 scored within the same range as the lowest third of the general population of Canadian children on measures of reading, spelling, and math. For children between five and nine years of age, a similar high percentage of foster care children (i.e., 78%) scored in the lowest third of the general Canadian population (Flynn et al., 2004). Within the United States, similar concerns and difficulties in academic achievement have been identified. A state-wide analysis of Washington's public school system found comparable results to those reported in Canada (Burley and Halpern, 2001). Foster care youth in grades 3, 6, and 9 scored, on average, 15 to 20 percentile points below non-foster care youth on the IOWA standardized achievement test for reading, language and math (Burley and Halpern, 2001). Moreover, at both the elementary and secondary school levels, twice as many foster care youth had repeated a grade, changed schools, or enrolled in special education programs (Avery, 2001; Burley and Halpern, 2001). This is consistent with Blome (1997) who identified an increased incidence of school drop-out and reduced likelihood of pursuing post-secondary education for children in foster care.

Among the many social, mental health, and developmental needs of children in foster care, educational achievement stands out as a pivotal factor which will affect their long term psychosocial adjustment and

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success as an adult (e.g., higher rates of welfare dependency, suicide, criminality, and substance abuse; Forsman and Vinnerljung, 2012). In Ontario, only 44% of youth in care have a high school diploma compared with the 81% graduation rate for same aged peers (OACAS, 2011). It has also been found that roughly 53% of former foster care youth live below the poverty line (Cook, Fleishman and Grimes, 1991) and are significantly unprepared for an independent adult life following exit from care (Kluger, Maluccio & Fein, 1989). These unprepared youth are likely to have poor job preparation/skills, minimal work experience, and difficulties finding a job (Kluger et al., 1989). Furthermore, these unprepared youth lack self-support capabilities such as budgeting, finding and maintaining a household, accessing mental health and recreational services, and obtaining income assistance (Beyer, 1986; Cook, 1988; Kluger et al., 1989).

Some recent studies have also explored the mediating role of school achievement on psychosocial outcomes (Bjorkenstam, Dalman, Vinnerljung, Weitoft, Walder & Burstrom, 2015; Jablonska, Lindblad, Ostberg, Lindberg, Rasmussen & Hjern, 2012). Jablonska et al. (2012) found that school performance (grade point average based on National School Register in Sweden) mediated the relationship between parental socioeconomic status (SES) and the risk of engaging in non-fatal suicidal behavior, accounting for 60% of explained variance. Bjorkenstam et al. (2015) found that school performance partially mediated the relationship between childhood household dysfunction (e.g., familial death, parental substance abuse and psychiatric morbidity, residential instability, parental criminality) and psychiatric care utilization after the age of 18 years. The authors highlighted that future efforts to mitigate the negative effects of childhood adversity in the home on future psychiatric utilization may benefit from improving school performance of at-risk youth (Bjorkenstam et al., 2015).

Berlin, Vinnerljung and Hjern (2011), using national register data from Sweden found academic performance to be a unique and critical factor for successful adulthood psychosocial outcomes for children leaving long term foster care. In this study, a national cohort of children, broken into four subgroups, were followed into adulthood. When compared to the majority population (i.e., children, adoptees, or children who received in-home interventions), children in long term foster care were less educated and had a higher risk of poor psychosocial outcomes (i.e., suicide attempts, drug and alcohol abuse, serious criminality, and welfare dependency). It was found that roughly 55% of the increased risk for adult psychosocial problems for children in long term foster care could be attributed to their poor school performance (Berlin et al., 2011). Moreover, children in long term foster care who received poor grades were less likely to pursue secondary education when compared to majority population and adoptee children who had similar poor grades. Thus, foster care children appear to experience multiple disadvantages and vulnerabilities which interfere with their ability to succeed in school. While this study highlights the significant disadvantages experienced by children in long term foster care, it does provide some hope as education and educational achievement is a dynamic factor which is amenable to focused resources and intervention. Given the heightened awareness of this specific need for children in long term foster care, active and intensive interventions which target achievement have the power to help correct the poor psychosocial outcomes of children in long term foster care.

1.1. Academic tutoring interventions for children in long term foster care

There have been a number of meta-analyses completed examining the impact of remedial academic instruction for at-risk or low achieving students. For example, Lauer, Akiba, Wilkerson, Aphorpe, Snow and Martin-Glenn (2006) conducted a meta-analysis of Out-of-School-Time programs for low-achieving students. They found variability in the effectiveness of various interventions with an overall small effect size for all the interventions studied, but found the largest effect size (i.e., Hedges $g = 0.50$) for interventions using one-on-one tutoring to

improve reading skills. This result is consistent with the findings of other reviews examining the beneficial impact of tutoring on remediating academic skills in children (Elbaum, Vaughn, Hughes & Moody, 2000), and has also been found to extend to volunteer tutors as revealed in a recent meta-analysis by Ritter, Barnett, Denny and Albin (2009). Adult volunteer tutors were found to be effective in improving the academic skills of children in grades 1 through 8. Ritter et al. (2009) found small to moderate effect size improvements in global reading skills, reading letters and words, oral reading fluency, and spelling. When taken together, these results highlight the potential benefit that tutoring can play in assisting students who are at-risk for school failure.

Although there has been a recent revitalization in the implementation of Direct Instruction (DI) programming to improve academic outcomes of youth in care (e.g., Flynn, Marquis, Paquet, Peeke & Aubry, 2012; the current study) the effectiveness of DI was established decades ago in a ground-breaking study: the Follow-Through Project. Adams (2006) and Bereiter and Kurland (1981–1982) reported the Follow-Through Project to be one of the largest educational studies conducted spanning 9 years and involving over 75,000 low-income at risk children in 170 communities throughout the United States. This study evaluated 9 programs that were further categorized as behavioristic, cognitive-developmental, and psychodynamic (Adams, 2006). Results revealed that behaviorist models (i.e., DI and Behavioral Analysis) had the strongest outcomes, including improved academic performance as assessed by the Wide Range Achievement Test (WRAT). Bereiter and Kurland (1981–1982) concluded that DI-based programs can help at-risk children learn basic academic skills (i.e., reading, language, math and spelling) and develop higher-order cognitive skills necessary to perform well in reading and mathematics.

Since then, the effectiveness of DI has been replicated across studies (e.g., Cole, Dale, Mills & Jenkins, 1993; Flynn et al., 2012), and also with a meta-analysis (Borman et al., 2003), in which DI was found to be one of the top three effective models for remediating low academic performance of urban students. Several tutoring programs have been developed that incorporate the essential principles of DI, including the curriculum of *Teach Your Children Well* (TYCW; Maloney, 1998) used in the current study. Similar to the principles of DI, the TYCW is a structured and well-organized program that improves academic skills by targeting component skills, and then reinforcing achievement of target behaviors using contingency management. Using scripted lesson plans DI (and TYCW) explicitly teaches reading mastery and mathematics.

When looking more specifically at children in long term foster care, the research on tutoring interventions to remediate academic difficulties is much smaller and less developed. A randomized controlled study completed by Flynn et al. (2012), had foster parents administer tutoring instruction individually with their child (i.e., one-to-one tutoring instruction). This academic intervention was completed with 77 youth in grades 2 through 7 who were randomly assigned to an individualized tutoring intervention from their primary adult caregiver or a wait-list control group. Those in the wait-list control received the intervention the following year. The tutoring intervention condition used the TYCW academic program. The aim of TYCW is to accelerate learning of disadvantaged youth in areas of reading, language, and arithmetic by using highly structured teaching materials. Results from the Flynn et al. (2012) study provided initial support for tutoring by foster parents. Specifically, foster children made statistically significant gains in reading and math, with medium effect sizes, according to Hedge's g , of 0.46 for math and 0.38 for sentence comprehension. However, no effect was found for spelling ($g = -0.08$) or word reading ($g = 0.19$) skills (Flynn et al., 2012).

Building upon the work of Flynn et al. (2012); Harper and Schmidt (2012) used the TYCW DI program in a small group tutoring format using volunteer university students as tutors. During the first year of implementation sixty-eight foster children between grades 2 and 8 inclusive were randomly assigned to a 25 week, 2 h per week, TYCW

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