

## SCHOOL READINESS

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# Role of Early Childhood Education Intervention Programs in Assisting Children With Successful Transitions to School

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### Introduction

The transition between early childhood and elementary school is widely considered a crucial period in children's development.<sup>1</sup> Early childhood education programs are valuable interventions to assist children in developing appropriate school-readiness skills to facilitate the transition to formal schooling. Some of these programs are targeted at disadvantaged children while others are provided for all children. There are important questions concerning the benefits of early childhood education programs for assisting children's transition to formal schooling and the level of quality required to produce these benefits.

### Subject

Many reading specialists believe that early skills in reading and writing are essential precursors to later success at learning to read, and becoming a fluent reader is central to academic achievement in elementary school and beyond. Prior to kindergarten, the majority of kindergartners today have had at least one experience in out-of-home group care environments, which vary from centre-based classroom settings, operating either full-time or part-time, to private family daycare homes.<sup>2,3</sup> Some programs are universally provided in states or provinces while others are targeted at needy children and their families. Variations in children's emergent literacy skills when they enter kindergarten may be related to the types of programs they experienced prior to entry. Centre-based early childhood learning environments may be beneficial for the development of all children, but especially for those from higher-risk family environments.<sup>4</sup>

## **Problems**

School readiness is a multi-faceted phenomenon comprising development in the physical/health, social and emotional domains, as well as language acquisition, literacy and cognition.<sup>5</sup> New perspectives on school readiness recognize that schools also need to be ready to meet the varied needs of children and their families.<sup>6</sup> Several demographic trends within the past decade may account for the proliferation of early childhood education programs, particularly those targeted at low-income families. More families are now living at or below the poverty line, come from minority groups and are less likely to be two-parent households. There is substantial evidence that low-income families provide less intellectual stimulation to their young children compared with higher-income families.<sup>6,7</sup>

## **Research Context**

Most studies employ longitudinal designs, in which samples of children are followed from early childhood through first or second grade. To help separate the effects of early education programs from the normal increase in skills that comes with children's maturation, some studies randomly assign children to participate in a preschool program and assign other children to a control group that does not receive the program in question. This procedure compensates for possible biases that may be introduced when program participation is left wholly up to parents or program administrators. Families that choose to have their children take part in one kind of early education program usually differ in important ways from families that select other kinds of programs or no program at all. Factors related to parents' selection of an early childhood education program may well influence children's outcomes. Along with the lack of adequate controls for selection factors, many studies do not include a representative sample of parents, thereby reducing the generalizability of the results. Finally, studies have primarily looked at the role of centre-based early childhood education programs, but have not adequately included other forms of non-parental care, such as family child care.

Child outcomes for most studies are based on direct assessment of the children before program entry and then at either program exit or at regular time intervals using age cohorts of children. Follow-up involves testing the same children either at kindergarten entry or in the spring of their kindergarten year. Most child assessments consist of a variety of tests of verbal, quantitative or psychomotor skills that can be compared to scores from a larger population of children or based on criteria for what children should know at different ages. It is desirable for tests to have sound measurement properties, be easily administered and scored, and have been used in previous large-scale studies.

An important distinction in comparing research studies is whether the programs under investigation are expensive, small, targeted research and demonstration efforts, or whether the evaluations involve large-scale, government-funded, community-based programs. Many of the known effects of early childhood education programs may be attributed to the intensity and control available in model programs. In the few long-term studies that compared model programs with large-scale public programs, model programs were found to be more effective.<sup>8</sup>

## **Key Research Questions**

The most important research question is whether early childhood education programs are effective at preparing

children for entry into formal schooling. Related but still critical questions include whether the quality of the preschool program contributes to children's school readiness, the factors that make a difference in producing a higher-quality program, and the key quality ingredients, such as curricula. Some curricula focus more on instructional activities, such as teaching children letters and numbers, while others encourage more play-oriented and discovery-learning activities and still others focus on whole-language and language-rich environments. Finally, the underlying mechanisms in which children's program participation is linked to improved outcomes are not fully known, although direct instruction, socialization experiences and increased involvement of parents in their child's education have been strongly implicated.

The benefits of early childhood education programs for disadvantaged children have been reported in studies of the United States' Head Start program, which is designed to bring these children closer to their middle-class peers upon entry to formal schooling. While studies found that Head Start produced immediate, meaningful gains in cognitive development, social behaviour, achievement motivation and health status, some gains appeared to fade over time. However, the validity of the "fade out" effect has been challenged for weaknesses in research methods, such as selective loss of test scores for children in the comparison group who have been retained in grade.<sup>8</sup>

### **Recent Research Results**

In general, high-quality more intensive centre-based programs have shown the strongest and most consistent effects.<sup>8,9</sup> Randomized, controlled trials of high-quality programs have yielded significant benefits for children, often extending through adolescence and into young adulthood.<sup>10,11</sup> There is a strong body of research pointing to the importance of early, intensive language and literacy instruction in a language-rich environment that spans developmental domains and that focuses on both expressive and receptive vocabulary, literacy and numeracy.<sup>12</sup> Early childhood education programs that also provide family support services appear to improve both child and family outcomes.<sup>13,14</sup> However, it would appear that no single curriculum model or philosophy stands out as the most successful prototype of early childhood interventions.<sup>15</sup>

Some studies that have included measures of children's social development reported that children in high-quality preschool settings showed higher levels of peer engagement, positive relationships with teachers, more frequent pretend play and secure attachment.<sup>16</sup> Other research has shown that Head Start produced immediate positive gains in social behaviour and achievement motivation<sup>17,18</sup> as well as growth in social skills and reductions in hyperactive behaviour.<sup>26</sup>

The contribution of quality in early childhood education classrooms to raising children's school readiness is significant but relatively modest.<sup>19</sup> High quality in community child-care settings has been related to better child outcomes in the short term, after controlling for child and family background factors.<sup>2,20,21,22</sup> There have also been some notable exceptions in which quality was not related to children's developmental outcomes,<sup>23</sup> but this finding could be due to small samples of classrooms, a relatively restricted range of quality across centres in the study, or both.<sup>24</sup> Recently, there has been promising evidence that, despite some modest immediate effects for quality, there are long-term effects that extend into the second grade, and that these effects are strongest for children living in the most at-risk family backgrounds.<sup>24</sup>

Results from the Head Start Family and Child Experiences Survey (FACES) show that children from

disadvantaged families do make gains in Head Start, and that the quality of the Head Start programs in general is higher than other centre-based preschool programs.<sup>25,26</sup> Although Head Start children make gains, particularly in vocabulary and early writing skills, they still trail their peers nationally when they leave the program. Higher teacher salaries, use of an integrated, developmentally appropriate curriculum such as High/Scope, higher teacher educational qualifications and full-day programming were factors linked to these gains.<sup>26</sup>

In general, the majority of studies that have looked at age of entry (three vs. four years of age) and duration (one vs. two years of the program) find that starting an intervention program earlier is better for children, and that children with longer exposure also do better.<sup>27</sup> Although one recent study reported no effects from two years compared to one year of the intervention on reading and mathematics achievement in grades one to three,<sup>28</sup> recent results from a national probability sample of Head Start children revealed that children who spent two years in the program showed stronger gains and higher scores at graduation, compared with those who spent one year.<sup>29</sup>

## Conclusions

In general, there is sufficient evidence from both model demonstration programs and large-scale studies to suggest that early childhood education can assist children to enter school ready to learn. While studies of model programs show greater effects than do those of publicly-funded, large-scale programs, there is still evidence that these latter programs are beneficial, particularly for children from disadvantaged families. However, early childhood programs also boost the achievement of children from more advantaged families. The evidence also supports the importance of quality in early childhood education programs, the use of better-qualified teachers, and full-day programs where children enroll at younger ages and stay in the program longer. Finally, the methodological strengths and weaknesses of studies in research design, sampling and measurement are often related to the strength of the reported findings.

## Implications

With the increased participation of all families in early childhood education programs, rivalling the move of families a decade ago towards greater use of kindergarten, it appears that “all boats are lifted,” that is, children from both advantaged and disadvantaged families benefit. Despite greatly expanded investment in preschool programs, the achievement gap between advantaged and disadvantaged children remains. Although the benefits of early childhood education programs may last beyond initial entry into formal schooling, to obtain similar results, programs must be of high quality and focused on didactic learning activities, such as teaching children letters and numbers, while encouraging play-oriented and discovery-learning activities in a language-rich and emotionally-supportive environment. Efforts to improve early childhood education programs should encourage the use of an integrated curriculum, bolstering program quality through adding resources to lower-quality programs and upgrading teacher training and qualifications.

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