

Universal programs

6.1 INTRODUCTION

Universal programs are non-targeted services that do not require children or families to meet specific eligibility criteria and are financially accessible. This chapter explores what the research tells us about the effectiveness of ordinary community group programs for children and non-targeted parenting education programs as vehicles to promote the development of children whether or not they are deemed to be at risk.

Three key findings emerge:

- Ordinary community group programs for children promote the development of at-risk children when the program is of sufficiently high quality to provide a greater level of emotional support and developmentally-appropriate stimulation¹ than is available in the child's own home.
- Coming from a home that supports development does not protect a child from the negative effects on development associated with spending substantial periods of time in poor-quality child care.
- Parenting education programs on their own fail to promote the development of at-risk children. However, research indicates that they benefit the development of children from middle-income families where the mother's educational level is completion of high school or higher.

The different outcomes for children of low-income and middle-income mothers as a result of parenting education programs may reflect differences between the two groups of mothers in their characteristics and/or engagement in the program (see section 6.3d for a more detailed discussion).

6.2 At-risk children in ordinary community group programs

This section reviews the research that has looked at the effectiveness of ordinary community group programs for children in promoting the development and school readiness of children living in poverty or in homes with inadequate levels of stimulation. Some of the research is specific to child care centres, other research included a range of services such as family child care homes, parent-child play groups, and nursery schools. Because they are not targeted, access to universal programs cannot be restricted in order to conduct a study with random assignment of children into the program and the control groups. Some studies of the impact of ordinary community child care centres on children at risk for developmental problems do not have a matched comparison group either. Nevertheless, they are discussed in this paper because of the important policy and practice issues that they address and the convergence of the findings from all the studies as a group. This convergence increases the credibility of the findings.

6.2a Canadian research

Data from the Canada-wide *National Longitudinal Survey of Children and Youth* (NLSCY) indicate that children from low-income families who are cared for in a formal child care setting prior to school entry obtain substantially higher scores on a measure of language skills than do children from similar family backgrounds without this experience.² The greatest benefit was found for children in the lowest family income group.

6.2b Research from the United States

Children from the U.S. National Longitudinal Survey of Youth

This study examined the effect of participation in ordinary community child care centres through collecting information about and from a large group (n = 867) of five- and six-year-olds from across the U.S. who were the children of the original participants in the *U.S. National Longitudinal Survey of Youth*.³ In addition to having demographic information about variables such as family income and maternal educational level, the researchers had information about the extent to which the child's home provided emotional support and cognitive stimulation. This information had been obtained through a combination of observation in the home using a standard instrument⁴ and interview with the parent. As a result, the researchers were able to broaden the concept of vulnerability beyond socio-economic status to include the extent to which the home was a supportive learning environment.

Children whose homes were relatively non-supportive of cognitive development and socialization and who attended ordinary community child care centres during the first three

years of life obtained significantly higher scores on tests of mathematical and reading skills as five- and six-year-olds than did children from similar homes who had not participated in child care.⁵ However, initiation of child care before the child's second birthday was *negatively* associated with academic readiness for children from more optimal home environments.⁶ The key to whether the child care was beneficial or not was the extent to which the home environment was supportive of children's development, not family income.

The researchers were not able to measure the quality of the programs that the children had experienced. They hypothesize that their findings may indicate that the ordinary community child care centres experienced by children from the least supportive homes were more supportive of learning than the child's home but that the reverse was true for children from the more supportive homes.

The finding of a negative effect of participation in a child care centre on children from more advantaged homes echoes findings from other research studies linking poor-quality child care and poor outcomes among children from two-parent, middle-income families.⁷ As noted by one group of researchers who report such findings, *"We found no evidence for the hypothesis that children from more advantaged backgrounds are buffered from the potentially harmful effects of poor quality care by the influences of the family."*⁸

At-risk children from a single U.S. community

As noted in Chapter 3, the children in the Abecedarian Project's participant and control groups were randomly assigned from a single pool of potential subjects all of whom were individually identified as being at-risk. Subsequently, 41 of the children in the control group were enrolled by their parents in ordinary child care centres. A subgroup of these community child care centres was classified by the researchers as high quality on the basis that they maintained a staff-to-child ratio of one-to-four for children under age two, one-to-five for two- and three-year-olds, and one-to-seven for preschoolers. They also had directors with specialized training in child development.

The researchers compared children's cognitive development at age four-and-a-half across three groups of children:

- Those who had participated in the Abecedarian centre program.
- Those who were in the control group but attended one of the 'high quality' community child care centres for at least 12 months (control children who had attended other child care centres were excluded).

- Control group children with minimal or no child care experience.

The children who attended the high quality community child care centres for at least a year had an average level of cognitive development that was roughly mid-way between that of the children who attended the Abecedarian centre and those with no or minimal child care experience. This finding is very positive considering that the Abecedarian project children received 59 months of centre programming in comparison to the average of 24 months received by the children in the community child care centres.⁹ The difference in cognitive development between the control group children who had or had not attended a community child care centre was statistically significant in favour of the child care group.¹⁰ The researchers concluded that the high quality community child care centres provided similar, though less intense, positive effects as had been provided by the Abecedarian centre. The less intense benefit may reflect the substantially lower amount of exposure to a centre-based program among the children who attended the community child care centres.

6.2c Studies from other countries

The potential of ordinary community group programs for children to support the development of preschool-aged children from low-income homes is illustrated by two national longitudinal studies, one conducted in the United Kingdom and the other in France. A third study conducted in Turkey also attests to the ability of ordinary but high quality community child care centres to enhance the development of children deemed to be at risk of developmental problems.

The U.K. Child Health and Education Study

This study involved *all* children born in the U.K. in a one-week period in 1970. The sample included 4,863 children who had some form of experience with an ordinary community children's group, such as participation in child care, nursery school or a regular formal play group prior to school entry and 3,380 children who did not have such experience.¹¹ The sheer size of the sample, and the fact that it included children from all socio-economic backgrounds, makes this a very important study.

At age five, the researchers collected school readiness data and information on the social and family circumstances of each child, for example, family income, whether the family was two-parent, and the mother's educational level. The children with regular experience in a children's group prior to school entry obtained higher scores on all school-readiness tests. At age 10, the children's abilities in mathematical concepts and processes, listening comprehension, expressive language, and reading were assessed using standard tests used in the British school system. The researchers found a statistically significant difference in each ability in favour of the children who had regular experience in a children's group prior to school entry.

These differences were maintained even after statistical controls for a host of family variables were introduced.¹² In other words, children from all socio-economic backgrounds benefited from having had a formal group experience with other children prior to school entry.

Some children in the study were considered to be 'disadvantaged' on the basis of the data collected on their social and family circumstances at age five. Disadvantaged children who had some sort of regular experience in a children's group prior to school entry obtained better scores on measures of school-readiness and on the tests of achievement given at age 10 than children from similar backgrounds who lacked this experience. On the basis of the age 10 test results, the researchers concluded that the disadvantaged children gained more from having had a regular group experience prior to school entry than did children from more advantaged homes.¹³ Again this finding may reflect the difference between the extent to which experiences in the home and in the children's group supported the children's development.

The French Ministry of Education study

The French *école maternelle* provides full school-day centre-based child care for children between age two-and-a-half and age six. In 1980, the Ministère de l'Éducation Nationale examined grade retention rates for 20,000 children from all socio-economic backgrounds to determine the effect, if any, of having had the *école maternelle* experience.¹⁴ The study found that, controlling for father's occupational status, pupils with such experience were significantly more likely to pass grade one and to be promoted from sixth to seventh grade. The likelihood of passing grade one increased with each year of *école maternelle*, regardless of social class. The benefit of the *école maternelle* experience was found to be greatest for the children from the homes where the father had the lowest occupational status.

At-risk children from a single Turkish community

The subjects in the Turkish Early Enrichment Project¹⁵ were from low-income families living in a single neighbourhood in Istanbul. The mothers, on average, had only primary school education (five years or less). At the time of entry, the children were between age three and five. The study examined the effects of two approaches intended to enhance the children's development:

- Participation in one of six community child care centres on a full-day basis, five days a week.
- Training the mothers to do activities at home with the children that would stimulate the children's development.

Three of the centres were rated as providing an educational program while the other three were rated as providing solely custodial care.¹⁶ The mother training was delivered through bi-weekly home visits supplemented by bi-weekly group meetings.

At follow-up five years after the conclusion of the project:

- Children who had attended a child care centre with an educational program had higher school grades and overall higher academic averages for each of the five school years than did children who had attended centres that provided solely custodial care or children who did not attend a child care centre but whose mothers received training.
- Children whose mothers received the training component but did not attend a child care centre performed better at school than the control children who neither attended a centre nor had mothers who received training.
- Children who had attended child care centres with an educational program and whose mothers also received training performed the best on all measures of school achievement.

6.2d Discussion

Summary of the research

The research discussed above clearly indicates that:

- Ordinary community group programs for children can promote the development of children who are vulnerable to developmental problems as the result of environmental circumstances when the program offers a greater degree of support and developmentally-appropriate stimulation than is available in the child's own home.
- The quality of the children's program matters. As noted by a committee of the U.S. National Research Council/Institute of Medicine: *"The positive relation between child care quality and virtually every facet of children's development that has been studied is one of the most consistent findings in developmental science."*¹⁷
- Coming from a home that supports development does not protect a child from the negative effects of poor-quality child care.

The U.S. National Research Council/Institute of Medicine Committee has observed that when children's home environments fail to offer them consistent, sensitive care and stimulating experiences: *"Child care environments that do provide it can protect and promote their early development. By the same token, poor-quality child care can compound the consequences of problem parenting."*¹⁸

Requirements for high quality child care

The conditions required for high quality child care that protects children's health and safety and promotes their development are well-documented. The most important condition is the availability of warm, supportive, responsive adults who have the time and knowledge to provide individualized attention and ample levels of developmentally-appropriate verbal and cognitive stimulation.¹⁹ Such care is associated with:

- Adults who have specialized training in early childhood development.²⁰
- Caregivers who have responsibility for a reasonable number of children given the children's ages.²¹
- Appropriate group sizes given the children's ages.²²
- Mechanisms to provide support for centre teachers²³ and family child care providers²⁴
- Appropriate levels of remuneration.²⁵

Unfortunately, as clearly documented in recent Canada-wide studies of child care centres²⁶ and family child care homes,²⁷ these conditions do not exist in the majority of Canadian jurisdictions.

6.3 Universal parenting education programs and at-risk children

Most parent-focused programs have targeted the parents of children considered to be at risk. The research on these programs is discussed in Chapter 4. An exception is the U.S. "Parents As Teachers" (PAT) program. This is designed for voluntary participation by any parent of a child under age three whether or not the child is deemed at risk. This very structured program is implemented in exactly the same way across all sites using standard curriculum materials produced by the Parents As Teachers National Centre (PATNC). Standard training is

provided for the home visitors by certified PATNC trainers, and home visitors must complete a minimum of 10 hours in-service education each year and undergo annual re-certification. Home visitors make monthly visits to the child's home where they provide the parent with information on child development and good parenting practices, suggest activities for the parent to do with their child, and may model appropriate interactions with the child. The home visits are supplemented by periodic group meetings open to all participating parents.

6.3a The Missouri Parents as Teachers pilot project ²⁸

This pilot project has published the longest follow-up of a PAT program to date (to the end of grade one). Recruitment into the study was limited to first-time parents in four different school districts. A random sample comparison group was selected from each community's first-born three-year-olds whose parents had not participated in PAT. Statistical analysis of the characteristics of the participant and the comparison groups showed that the parents in the PAT group had a higher average level of education (fourteen years in comparison to thirteen years) and a higher socio-economic status than those in the comparison group. The researchers used a statistical procedure to adjust for these differences.

At the end of the program the children whose parents had received the PAT program scored significantly higher than the comparison children on three of four subscales of a measure of cognitive skills, on both receptive and expressive language skills, and on a measure of social development. There was no difference between the two groups on sequential processing ability. At the end of grade one, children whose parents had participated in PAT obtained higher scores on standardized tests of mathematics and reading and were rated by their teachers as having made better progress in school.

The participants in the Missouri pilot project, with an average of 14 years of formal education, were not typical of the parents targeted by programs for children deemed to be at risk. However, two researchers report on other studies that have examined the effectiveness of PAT with low-income families, many of whom were headed by lone-parents.

6.3b The Northern California Parents as Teachers project ²⁹

Participants in this research study were randomly assigned to the program and control groups. Most of the families were low-income, with one in five receiving social assistance. Nearly half of them were headed by single mothers. At the end of the two years of the program data were collected on:

- The children's health status, e.g. immunization history, use of emergency services.
- The children's physical, cognitive, communication, social, and self-help skills.
- The parent's knowledge of child development.
- The parent's sense of competence.
- The overall environment of the home using the *Home Observation for Measurement of the Environment* (HOME) ³⁰ scale.

Only two significant differences were found between the program and the control groups. Children whose parents had received PAT had significantly better self-help skills while the parents in the control group obtained higher scores on the acceptance of the child's behaviour subscale of the HOME scale.

The researchers note that more than 40% of the families that completed the program had gaps of up to three months in their home visits each year. As a result, instead of the monthly visits for up to three years received by the participants in the Missouri pilot discussed above, the participants in this project had, on average, only 20 visits even if they did not drop out early. Furthermore, less than 15% of the participant families attended even one of the parent group meetings.

6.3c The Teen Parents as Teachers demonstration ³¹

This research study involved random assignment of low-income teenagers who were pregnant or had a child under age six months into one of four groups;

- PAT program alone.
- PAT program and case management services.
- Case management services alone.
- A control group.

Almost one third of the teenagers was receiving social assistance and over 85% were unmarried. The four groups were equivalent on all major characteristics, for example, ethnicity, socio economic status and marital status, except for one. The PAT only group was significantly more likely to have dropped out of school.

This project lasted for two years with PAT-trained home visitors implementing the standard PAT program. Case management services focused on improving the teen mother's life, for example, encouraging further education. This involved face-to-face meetings as often as needed by the teen but at least quarterly. Case managers made referrals or arranged for services to address a range of needs from basic physical care to vocational or mental health services. In the combined PAT and case management group, both a case manager and a PAT parent educator worked with the teenager and contacts with the case manager were separate from PAT program visits. Thus, a teen mother in the combined program group received many more in-person contacts than one in the PAT program only group.

The outcomes for both the PAT only and the PAT plus case management groups were disappointing with PAT appearing to have no effect on participants' parenting knowledge, attitudes towards their children, parenting behaviours, child health status or child development. In contrast, the case management only program did have some beneficial results. Children whose parents received case management on its own had significantly higher rates of immunization and fewer incidents of requiring treatment for an injury. Children whose mothers had received either case management only or case management and PAT had significantly higher scores on a measure of cognitive development than did children in the comparison or the PAT only group.

Instances of the parent not being at home when the home visitor arrived for a scheduled appointment resulted in the participants in both the PAT only and in the PAT plus case management groups receiving, on average, only 10 home visits. Participation at group meetings was also low, averaging two meetings for the PAT only group and three for the group who received both case management and the PAT program.

6.3d Discussion

The failure of the universal Parents As Teachers (PAT) program to promote the development of at-risk children is consistent with the findings discussed in Chapter 4 regarding targeted programs that focus solely on the parent. Such failure has been attributed to a lack of synchronization between the child's emerging developmental needs and changes in parenting practices in those instances where such changes occur. Important aspects of child development occur on their own timetable. Optimal development requires that both emotional support and appropriate environmental stimuli be available when the child is primed to achieve new skills. For example, key neural pathways associated with language and dependent for their development on language stimulation are laid down in the first year of life. The child's need for positive social experiences and language stimulation cannot simply be put on hold to wait for the parent's behaviour to change.

However, the children of the middle income mothers who had an average of 14 years of formal education benefited from their mother's participation in the Missouri PAT pilot project. What might explain the differences in outcomes when the same, very structured, program is provided to mothers who have different characteristics? First, the mothers in the Missouri project sought out the program rather than being approached by researchers to participate in a study. This seeking out suggests an awareness of the importance of parents doing activities with their children and may reflect parents who already had positive parenting styles. As a result, fewer changes may have been required in the parents' behaviour to make it consistent with promoting children's development.

Second, the Missouri parents remained in the program for its duration and participated fully in its activities. Both the Northern California Parents As Teachers and the Teen Parents as Teachers projects report a high proportion of missed home visits. Drop-out rates were also high, 43% for the Northern California project ³² and 58% for the Teen Mothers As Teachers project. ³³ Such lack of engagement suggests that either low-income parents do not perceive instruction on how to stimulate their child's development as a priority when faced with the more immediate challenges of trying to make ends meet or they find the requirements of the program too stressful or demanding. Whatever the reason, lack of engagement reduces the parent's exposure to the program and thereby the possibility of benefit for the child.

6.4 Conclusions

The research findings discussed above lead to two primary conclusions:

- Ordinary community group programs for children promote the development of at-risk children when the program provides a greater level of emotional support and developmentally-appropriate stimulation than is available in the child's own home. As noted in Chapter 3, full-day rather than part-day child care centre programs, and programs starting before age three, are more effective.
- Programs that focus solely on the parent do not promote the development of at-risk children, although, as discussed in Chapter 4, they may benefit the children's parents.

The research findings discussed in this chapter related to the ability of group programs to enhance the development of at-risk children are consistent with the findings related to child care centres discussed in Chapter 3. As noted in Chapter 3, the quality of the program matters and there is evidence that full-day rather than part-day programs starting before age three are more effective.

Notes

1. The term 'developmentally-appropriate stimulation' refers to the provision of activities that take into account the child's developmental level and existing knowledge and skills and uses these to promote further development.
2. Kohen and Hertzman, 1998, p. 2.
3. Caughy, DiPietro and Strobino, 1994.
4. The *Home Observation for Measurement of the Environment* (HOME) Scale (Caldwell and Bradley, 1984). In addition to assessing several aspects of parent behaviour, such as responsiveness, the HOME scale assesses the home's provision of materials and activities that support and promote children's development.
5. Caughy, DiPietro and Storbino, 1994, p. 466.
6. *Ibid.*, p. 467.
7. Howes, 1990; Peterson and Peterson, 1986; Peisner-Feinberg and Burchinal, 1997; Vandell, Henderson and Wilson, 1988.
8. Peisner-Feinberg and Burchinal, 1997, p. 471.
9. Campbell et al. 1998, p. 148.
10. Burchinal, Lee and Ramey, 1989.
11. Osborn and Milbank, 1987.
12. *Ibid.*, pp. 214-226.
13. *Ibid.*, p. 226.
14. Richardson and Marx, 1989.
15. Kagitcibasi 1991; 1995.
16. Custodial care is care that protects the children's health and safety but lacks adequate language and cognitive stimulation to promote the children's development.
17. National Research Council and Institute of Medicine, 2000, p. 213.
18. *Ibid.*, p. 326.
19. *Ibid.*, pp. 316-317.
20. Arnett, 1987; Berk, 1985; Doherty et al., 2000a; Dunn, 1993; Fosburg, 1981; Galinsky et al., 1994; Goelman et al., 2000; Howes, 1983; Howes and Norris, 1997; Howes, Smith and Galinsky, 1995; Kontos, Hsu and Dunn, 1994; NICHD Early Child Care Research Network, 1996; Ruopp et al., 1979; Whitebook, Howes and Phillips, 1990.
21. Goelman et al., 2000; Howes, 1983; Howes and Rubenstein, 1985; Howes, Smith and Galinsky, 1995; Howes et al., 1988; Palmerus, 1991; Smith and Connolly, 1986; Smith et al., 1989; Whitebook, Howes and Phillips, 1990;

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22. Allhusen and Cochran, 1991; Howes, 1983; Howes and Rubenstein, 1985; Kontos and Fiene, 1987; Ruopp et al., 1979; Stith and Davis, 1984.
 23. Goelman et al., 2000.
 24. Doherty et al., 2000a; Pence and Goelman, 1991; Pepper and Stuart, 1992.
 25. Doherty et al., 2000a; Goelman et al., 2000; Helburn, 1995; Whitebook, Howes and Phillips, 1990; Whitebook, Sakai and Howes, 1997.
 26. Goelman et al., 2000.
 27. Doherty et al., 2000b.
 28. Pfannenstiel and Seltzer, 1989, Winter, 1999.
 29. Wagner and Clayton, 1999.
 30. Caldwell and Bradley, 1984.
 31. Wagner and Clayton, 1999.
 32. Ibid., p. 98.
 33. Ibid.

