Preparing Children from Disadvantaged Communities for School: Recent Australian Research[*]

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ABSTRACT

The arguments for strategies which prepare children from disadvantaged communities for school are now clear, given research which clearly indicates such children will often commence school behind their peers, a deficit which becomes increasingly difficult to address and leads to longer term economic and social disadvantage. Various countries are attempting a range of strategies to assist these children and their families, including the HIPPY program which addresses the pre-school child's educational disadvantage as well as assisting the parents in their role as the child's first teacher. Australia and Turkey are amongst the countries to implement programs utilizing HIPPY principles. This paper reports on recent Australian research which demonstrates that, compared with Australian norms and a comparison group, HIPPY closes the literacy and numeracy gap between disadvantaged children and their peers by the time they enter school. Children utilizing HIPPY had fewer problems in relating to their peers. Parents felt more comfortable in their role, and their parenting style became significantly less angry or hostile. Activities jointly involving parents with their children increased, both in the home and outside in the community. School teachers reported that children who had completed HIPPY were more involved with the school and with their child's learning than other parents, and the children were performing well at school.

Keywords: Pre-school child education, HIPPY program, Disadvantaged children

INTRODUCTION

In recent decades many developed countries have been grappling with the fact that traditional methods of preparing children for school are not always successful, particularly with children who are disadvantaged and/or from disadvantaged communities. This disadvantage is likely to hamper children's transition to school, school achievement, and employment and other opportunities later in life. In response to greater recognition of these longer-term consequences many countries have introduced new and alternative strategies to address the problem. Turkey has shown concern with this issue for the past three decades, including increased attention to research and new programs.

HIPPY (Home Intervention Program for Parents and Youngsters), which originated in Israel in 1969 and has now spread to several countries, combines home and centre-based strategies to assist parents in their role as their child's first teacher. It primarily targets communities that are disadvantaged in various ways, especially economically. Home tutors recruited from the family's community work with parents, the intention is for two years spanning the period before and during the child's introduction to school. Tutors coach parents on structured written materials which focus on areas such as numeracy and literacy, and parents then work through these materials with the child. Home tutoring is accompanied by group meetings of parents which provide further learning and support. The program provides additional assistance as needed, such as referral to other services required by the family and advice to parents on handling both their own behaviours and children's behaviours which may inhibit the learning process. The program aims to assist disadvantaged children to start school on an equal footing with their more advantaged peers. Supplementary aims are to enhance the parent-child relationship and parent and child social inclusion (Liddell et al. 2011). Turkey introduced the Mother Child Program following a pilot in early 1980. Given this and other programs are based on principles similar to HIPPY there is relevance for Turkey for the research reported on in this paper, as well as for other countries.

A number of evaluations of HIPPY have been conducted (see HIPPY International website) and these indicate that HIPPY shows great promise in addressing the disadvantages outlined. The evaluations conducted to date have, however, usually involved small samples, for the most part lacked comparison groups, and have usually had a limited scope. A recent Australian evaluation on which this paper reports (Liddell et al. 2011), while not entirely escaping some of these limitations, is one of the more

comprehensive. Consequently it will be of interest both to a Turkish audience and to others because in general results confirm and add substance to the promise held by HIPPY-type programs.

HIPPY was introduced in Australia in 1998 in a single-site trial by the non-government agency the Brotherhood of St.Laurence. The program was gradually extended to additional disadvantaged communities. Small evaluations were conducted initially (see HIPPY International website for examples). An evaluation of seven sites was completed in 2009, funded by the Victorian Department of Education, and it confirmed the encouraging results from other research (Liddell et al. 2009). The Australian Government has expanded the program nationally since 2008, and fifty sites are now operating around Australia. The Australian Government funded this evaluation, which enabled a more robust research design than previously possible.†

The evaluation framework included review of

1. Appropriateness – the identified need for the program, alignment with Australian Government priorities, and alternative response options
2. Effectiveness – the degree to which the intended benefits or outcomes were achieved
3. Efficiency – the cost-effectiveness of the program
4. HIPPY and Indigenous Australians – the appropriateness and acceptability of the program among indigenous Australians
5. Governance – whether HIPPY's governance arrangements have been appropriate and sufficient.

In this paper we will concentrate on key aspects of effectiveness, and briefly consider efficiency and HIPPY's responsiveness to the needs of Indigenous Australians. The identified need for the program will be outlined as will alternative response options. In particular we will concentrate on direct impacts of HIPPY on parents and children.

† Following receipt of the final evaluation report (Liddell et. al. 2011) the Australian Government committed itself to doubling the number of HIPPY sites in Australia.

Need and Program Options

The evidence is clear from studies in Australia and elsewhere that children from poorer and more socially excluded families do worse at entry to school, both behaviorally and cognitively, than children from families that financially and socially are better off.

An estimated 500,000 Australian children (12% of the total) are growing up in poverty, and the Australian Early Development Index shows that 23 % of Australian children in their first year of full-time school have been assessed as developmentally vulnerable on one or more of five school readiness developmental measures. A higher proportion of these are living in the most socio-economically disadvantaged communities (DEEWR 2009). The numbers of children growing up in poverty place Australia roughly in the middle of the range of all OECD countries (OECD 2011). While this 'average' rating might imply a degree of comfort with the existing situation, the total number of disadvantaged children is still alarming. It is also of concern that while the proportion of children in disadvantaged communities who are disadvantaged is higher than in other parts of the country, the total number of children in Australia who are disadvantaged is higher in communities rated as socio-economically average than those communities assessed as disadvantaged. This has significant implications for future policy and program development, but that issue is beyond the scope of this paper.

If the numbers who are disadvantaged suggest a significant social problem, the evidence supporting intervention is clear. Investment in the early years, a strategy both developmental and preventive, is undoubtedly more cost-effective than investing in programs later in life that attempt to reduce the adverse effects of poverty, social exclusion and gaps in achievement (Karoly 2001). Children from disadvantaged families typically do not start school on an equal footing with their peers from more affluent families, and this sets them on course for outcomes later in life that are poorer and difficult to alter (Brookes-Gunn 2003). The social, psychological and moral arguments in favour of early intervention are supported therefore by the productivity and economic arguments, which suggest that the economic benefits to society may be three or four times the program costs (Duncan, Ludwig & Magnuson 2007).

These arguments do not automatically resolve the question of which program or programs governments should support. However our analysis justified the Australian Government's support for HIPPY (Liddell et al. 2011) because, more than other available programs in Australia, it contains more

of the design features and evidence-based ingredients which have been identified as constituting the effective features of such programs. These features are

Table 1: Features of effective early childhood parenting programs

Program variables	Research evidence on effectiveness
Location	• The program operates at both the home and childcare settings. • New parenting skills must be actively rehearsed and parents must practise these skills at home.
Target	• Includes quality education and direct teaching of child plus support for parents and teachers.
Timing & Extensiveness	• Begins in the preschool period and extends into the early school years.
Intensity	• Programs are intensive in nature (i.e. a weekly program over a two year period.)
Curriculum	• Programs includes curricula children can meaningfully connect with. • Parenting programmes must teach principles, not just prescribed techniques. • Programmes need to include both sanctions for negative behaviour as well as strategies to build positive relationships through play and praise.
Comprise multiple components	• Programmes need to include quality early childhood education plus a family support strategy. • If difficulties exist in the relationships between adults in the family, they should be addressed.

Based on Brooks-Gunn (2003) and Sutton, Utting and Farrington (2004); adapted from Liddell et al. (2011).

HIPPY addresses these components. How effectively it does is addressed next.

HIPPY's Effectiveness

The effectiveness questions posed in this research concerned whether HIPPY

- enhanced the child's school readiness, and to what extent
- impacted on parenting style and the home learning environment, and whether these are enhanced
- impacted on parent's and home tutors' sense of wellbeing and social inclusion
- adhered to key elements of the program design
- design elements, implementation and outcomes were affected by contextual factors and whether change is needed to ensure adherence to the design.

Methodology

The study of effectiveness involved a two-year longitudinal quasi-experimental research design. A randomized controlled trial was not feasible, but a matched control group was derived from the Longitudinal Study of Australian Children (LSAC) using a propensity score matching technique.

LSAC commenced in 2004, is funded by the Australian Government, and studies two cohorts of over 10,000 children, one of which included infants and the other children age 4-5. LSAC investigates the development of this current generation of children, their social, economic and cultural environments, and the impact of these on adjustment and well-being, including impact on school. The cohort involving 4,983 families with 4-5 year olds is the cohort of particular relevance to our study.

Data were obtained from six groups: HIPPY parents, their children, home tutors, HIPPY site coordinators, school teachers, and a matched group from LSAC. Fourteen HIPPY sites were included; 13 of these from the first round in 2009 of the new national program expansion plus one (La Perouse, in Sydney) which was in operation prior to 2009 and was added to enhance knowledge about how HIPPY works with indigenous people and communities. The sites were from the Australian Capital Territory (1), New South Wales (3), Northern Territory (1), Queensland (2), South Australia (1), Tasmania (4), and Western Australia (2). Three of these sites (in Alice Springs, Northern Territory; Inala, Queensland; and La Perouse, New South Wales) had substantial indigenous populations. Additional reports from two other significantly indigenous sites, Mt. Isa, Queensland and Katherine, Northern Territory, were utilized to provide further information, though data from the latter two were not used in the overall evaluation.

Parents and children enrolled in the program were invited to be involved in the research. Initial interviews were conducted as close as possible to the first week of HIPPY and during mid-2009. From a total of 266 families the baseline sample included 197 parent-child parents for whom full data could be obtained. Of these 146 were available for interviews a year later and 131 two years later. Full details on reasons for attrition rates are not available; though there were refusals - a total of 18 declined to be interviewed after the initial interview - and 46 could not be contacted for follow-up. It is assumed that mobility is an explanation for many of the latter. A total of 106 HIPPY participants were able to be matched with 2,473 LSAC controls, giving the study sufficient power to detect a small impact of HIPPY.

The sample also included 27 home tutors at the start of the evaluation (some of whom were also enrolled in HIPPY as parents). Due to some exiting the program 22 were interviewed at the end of the evaluation. All 14 site coordinators were interviewed during the last four months of the program. Where children had entered school by the end of the research period reports from schoolteachers were sought, and 57 teacher assessments of HIPPY children were obtained, of whom 32 were in the matched sample with LSAC.

It is not possible to include all details of the methodology, statistical analysis and results in this paper. Full details are available in Liddell et al. 2011, which can be accessed at the Brotherhood of St. Laurence website.

Characteristics of Parents and Children

In brief, analysis shows that on most indicators HIPPY, compared with LSAC controls, did reach more at-risk or relatively disadvantaged families. For example

- There were 16% less couple families and ten times as many other family forms in the HIPPY sample
- 19% more of the HIPPY group spoke a language other than English as the main language at home
- The HIPPY parents had significantly less educational attainment – 10% fewer completed Year 12 at school, 2.5 times as many only completed Year 8 or below, half as many had a university degree or above, and almost 50% more completed only a vocational certificate or diploma as their highest level of tertiary education

- The LSAC group had five times as many parents in full-time employment, and 35% more HIPPY parents were either not working or not looking for a job.

Results – child's numeracy and literacy

It is normal to see improvement in cognitive skills at this age and results from the 'Who Am I?' test (de Lemos & Doig 1999), an assessment of young children's cognitive development, showed a statistically significant improvement at the $p<.001$ level. Since comparative analysis with the LSAC group was not possible as Who Am I? was not used by LSAC, we made comparisons with Australian norm data. This showed that before HIPPY the HIPPY sample scored significantly below the norm, while after the two years of HIPPY the gap had closed with regard to numeracy and literacy scores. Interestingly, HIPPY parents were 81% more likely to think their children's mathematical ability was better than the child's classmates, though the data do not support this view, suggesting that parents may believe that HIPPY had a positive impact.

Regarding language development, using the Peabody Picture Vocabulary Test (Dunn & Dunn 1997) and parent reports, we found again that at the end of HIPPY there was no difference between the HIPPY and LSAC groups on child's language and vocabulary skill. However HIPPY parents were nearly 66% less concerned about the way their child made speech sounds, and 85% less concerned about the child's ability to understand what they said, suggesting that HIPPY may lower parental anxiety about their child's verbal communication skills.

Child's socio-emotional adjustment

This area was measured using parent reports based on the Strengths and Difficulties Questionnaire (SDQ) developed by Goodman (1997). The SDQ is a brief behavioural screening questionnaire for children and adolescents used to assess positive and negative behaviours. At the start of the HIPPY program there was no difference between the HIPPY and LSAC groups on problem behaviours reported by parents and the level of problems reported by both groups was relatively minor. By the end of the program mean scores for both groups declined into the no significant problem range, though the LSAC group's score declined more than the HIPPY group. Similar results occurred with regard to peer problems except that in the case the HIPPY group parents perceptions were that their children's issues with peers declined to a greater extent than the LSAC group's did.

A further comparison between HIPPY children and Australian norms showed that HIPPY children started HIPPY with a total difficulties score which was worse than the Australian norm, but by the end of the program the HIPPY group's scores were somewhat better than the Australian norm.

These results can be regarded as being encouraging for HIPPY interventions, while suggesting further research into these issues is needed.

Children's approach to learning

This area was assessed using teacher reports on items from the Social Skills Rating Scale. While no significant difference emerged between the HIPPY and LSAC matched groups there were other positive results. Teachers stated that on average HIPPY parents had more contact with their child's school (a difference of 0.4 of a standard deviation) and were three times more likely to be involved in their child's learning and development. Parents reported the program helped in preparing the child for school. For example

> It has helped when the child sees the same things at school that she has done with HIPPY.

> The teachers are surprised…because he hadn't been to preschool and he does well at school. He's taken prizes at school, a principal's award in the very first term.

> She got a bit more confident about lots of things, even with swimming. Her confidence has gone through the roof.

Teachers suggested

> The child had an excellent start to primary school. He has achieved particularly well in the area of literacy, technology and visual arts. He is a polite and friendly member of our class.

> The child is doing extremely well with school; she is an absolute delight to have in the classroom.

> The child is a very well adjusted five-year-old who enjoys all we do and participates fully.

Parent-child relationship

The three main dimensions of parenting found to have important impacts on the child's physical and emotional health and later life and academic outcomes are parental warmth, hostile parenting and consistent parenting (Zubrick et al. 2006).

At program beginning there was no significant difference between the HIPPY and LSAC matched groups on parental warmth, and warmth remained high and stable over the evaluation period.

Regarding hostile parenting there was no difference between the two groups at program commencement but while the LSAC group's scores remained stable there was an improvement in the HIPPY group's scores with HIPPY parents scoring an average of 0.2 of a standard deviation better than their LSAC counterparts (p = 0.3) at the end of the program.

With regard to consistency the LSAC parents initially recorded a small but statistically significantly better score, but by the end of the program this difference had disappeared.

Together these results suggest encouraging impacts of HIPPY on parenting. Parental reports reinforced this, suggesting improvements in patience, calmness and tolerance, better communication and negotiation skills, and better ability to see what the child was or was not learning:

> *I've learned to be more patient, less negative with feedback.*

> *Being patient with him. Before I was a 'nut-cracker', always upset with little things.*

> *I'm more calm, I know how to encourage the kids now and not put them down.*

> *I would smack her. Now we talk things out before there's punishment.*

> *HIPPY helped me see what she was capable of.*

HIPPY also had an impact on the home learning environment, particularly in parental ability to use skills learned in new situations and to generalize their learning to interactions with other children and adults. There was also greater parent- child involvement in out-of-home activities such as going to

movies, playgrounds, swimming pools, and cultural activities. In these areas there were no differences between LSAC and HIPPY groups at program commencement but significantly better outcomes for the HIPPY group at the end of the HIPPY program

Efficiency

Analysis of this area provided challenges since there were no similar Australian programs with which comparisons could be made or for which there was sufficient cost and effectiveness data available (Wise et al. 2005). However the following observations can be made:

- The Australian HIPPY program was considerably more efficient and cost less than international programs with similar design features (Liddell et al. 2011)
- . Benefits related to costs were less impressive but the analysis was limited due to the paucity of Australian data. Projections suggest that benefits considerably outstrip costs by a ratio of approximately 2.5:1 but this estimate is likely to considerably underestimate long-term benefits which accrue from such programs.

HIPPY and Indigenous Australians

Evaluation of this area is a work in progress and there is insufficient data at present to form firm conclusions.

The sites included in the study are diverse in terms of geography, people and cultures, but the overwhelming theme reported was about the need to adapt the program in order to engage Indigenous communities, parents and children. For a variety of reasons parents were frequently unwilling to invite tutors into their homes and centre-based strategies were increasingly used as a result. This will pose continuing challenges since the evidence strongly suggests that parent-child involvement in both home and centre-based programs leads to better outcomes. As well the materials and strategies used by HIPPY can be fairly described as being derived from developed countries and need adaptation to be responsive to traditional cultures. An associated factor is the length of time required to develop a trusting relationship with Indigenous peoples and communities. While it was not a subject of this research it is fair to say that Indigenous people have developed a cautious attitude towards western-style research and programs, and towards various inquiries into Indigenous issues, which they have frequently concluded are not responsive to the characteristics of their particular communities.

That said, reports from site coordinators, tutors, and parents themselves indicate that as these issues are progressively addressed the findings appear to be encouraging in terms of outcomes for both parents and children.

Summary

The evaluation reached the following conclusions: Many of these are a result of the comparisons with the LSAC sample or with relevant Australian norms.

- There is a clear need to respond to the educational deficits of Australian children who live in disadvantaged circumstances , and considerable cost for not doing so
- The HIPPY program contains the elements required of such an early childhood program, and more so than other available Australian programs
- HIPPY parents felt more confident, support and respected in their role as their child's first teacher.
- Their parenting style was significantly less angry or hostile
- HIPPY parents engaged in significantly more in-home and out-of-home activities with the child after involvement in HIPPY
- Teachers reported HIPPY parents to be more involved in their child's learning, development, and contact with school than non-HIPPY parents
- Gaps in the HIPPY child's early numeracy and literacy skills at the beginning of the program had closed by the end of the program
- HIPPY children had fewer problems with peers
- For families who completed more of the program the child displayed higher levels of pro-social behaviour; and the more HIPPY parents engaged both in in-home and centre based activities the better the results
- HIPPY showed favourable cost-effectiveness compared with international programs
- Long-term projections also suggested that the long-term benefits from investment in HIPPY are substantial.

Larger samples, more sites and site diversity, and longer-term research will doubtless add further insights and either surface new issues or clarify issues whose nature and impact did not become clear-cut during this research and require longer-term study. Nevertheless the research adds to the growing

evidence that greater investment in the early years for disadvantaged children is of benefit to parents, children and the community, both in the short and long term.

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