Prevention-based approaches to social policy: The case of early childhood development

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Abstract

This article reviews the Australian evidence concerning interventions in early childhood aimed at promoting children's psychological well-being and preventing social and psychological dysfunction in later life. Two kinds of research are surveyed. One is the Australian social science literature that has emerged in the last twenty years from five major research programs. The other is the evaluation studies that, more recently, have assessed the effectiveness of various early childhood preventive interventions. Together these studies provide an evidentiary platform for reviewing current policy in this field. A full analysis of 'what works' would need to include relevant international evidence, which is outside the scope of this article. However, the Australian evidence does support the current policy focus on good parenting programs, while also suggesting that a number of other factors matter in promoting children's well-being.

Governments spend much of their time and money dealing with failures, and often these failures seem preventable. This is most obvious in the prosecution of crime and subsequent imprisonment of serious offenders, which, despite being very expensive, often does little to prevent reoffending. It is less obvious but at least arguable in the health field: some illness and disease is unavoidable, but much could have been avoided. In education, schools struggle to cope with a minority of children who are under-prepared even when they first arrive at school; schooling would be more successful if such children were better prepared for the school experience.

The continual need to deal with failure may tend to distort our thinking about policy strategy. Policy and practice can become merely a matter of how best to cope with a constant flow of problems. Yet there may be more effective ways to think about policy. Why not apply more thought and energy to the way problems originate, rather than leaving them to develop into almost unmanageable difficulties? Why not deal with the problems at their source? Why not apply a prevention approach – at least much more than we do at present? The flow of problems will never be cut completely, but a reduction at the source may make a large difference at the end point.

In this article, we focus on the application of a prevention approach to one particular area of social policy, namely early childhood development. Research from both health sciences and economics argues strongly for the social, educational and economic benefits of investment in children's well-being through intervention

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programs that enrich the early experience of children, especially those from disadvantaged families. What Heckman (2006) calls 'investment', others often refer to as 'early intervention' or 'prevention', on the grounds that non-intervention entails later remediation policies that are often costly and unsuccessful.

We begin by briefly describing the recent Australian policy context on prevention and early childhood development. We then assess studies which have examined the determinants of children's well-being, using large-scale social surveys. This is followed by an analysis of evaluations of several intervention programs. This evidence taken together leads to some initial conclusions of 'what works' in prevention approaches aimed at improving early childhood development.

Background

At one level, prevention is just common sense, and is adopted in many walks of life by individuals, families, organisations, and governments. Prevention is evident in many areas of public policy, such as the construction of physical infrastructure, and standards and regulations governing, for example, environmental and planning laws. Issues tend to be discussed in economic terms and debates framed primarily around how widely and assuredly costs and benefits of a particular investment can be estimated, including how much we value the future as opposed to the present. Both technical and value debates are present; arriving at an appropriate balance between paying for 'prevention' measures now, versus not investing in them and potentially having to 'rectify' them later, is a common issue for project investment and planning decisions to consider.

More recently, governments have been urged to consider prevention in the context of human services such as health, education, social welfare and crime. Again, the issue is usually put in broadly economic terms, with the argument being that prevention offers the possibility of a policy approach that does not require – unlike most things in economics – a trade-off between equity and efficiency (Heckman and Masterov 2007, 446). In other words, we can get an economic payback *and* increase social equity and human fulfilment at the same time.

There are, however, at least three key differences between standard government planning and investing, and the special case of prevention in social policy. First, the things being 'invested in' are people, who have inherent value and rights, and so there is an obligation on governments to at least protect and perhaps improve their well-being, regardless of the economic equation.

Second, in the case of planning, good policy is primarily a matter of optimal 'timing': infrastructure investment needs to strike a balance between the costs and benefits of early and late timing. In the case of prevention, 'targeting' as well as timing comes into play. The optimal target population is often not well known. If the problem is one that might affect anyone, targeting is straightforward and universal policies and programs are likely required. If the problem is one that is focused on a clearly defined subpopulation, again targeting may not be difficult. But if the problem affects an unknown fraction of a poorly defined subpopulation, targeting is difficult and good policy must solve that problem as well as the 'timing' dimension in order to maximize the effectiveness of the intervention at a reasonable cost.

Third, estimating the benefits (and costs) of early childhood interventions and attributing their causal pathways to later outcomes is often more difficult than with a

standard physical infrastructure investment. Agreeing on a reasonable 'pay-back period' is also problematic.

The prevention approach in social policy derives from the health sciences, and in particular the public health model, which distinguishes between three types of prevention: *primary, secondary* and *tertiary* (Freeman 1999, 238):

> [P]rimary prevention refers to interventions designed to stop problems emerging, secondary prevention to early interventions designed to stop them worsening and tertiary prevention to measures intended to pre-empt at least some of their damaging effects.

Using this formulation in the early childhood arena, primary prevention is usually linked to universal services delivered at an early stage in the child's life, whereas secondary services tend to target groups considered at-risk, and tertiary prevention is directed at treating those already suffering from damage or harm (Head and Redmond 2011, 7–8; see also Moore 2008 and Sanson et al. 2011b).

The rationale for a prevention approach to be adopted in early childhood development was summed up succinctly in the 2009 National Partnership Agreement on Early Childhood Education between the Commonwealth and all State and Territory Governments (COAG 2009b, 3):

> Early childhood is a critical time in human development. There is now comprehensive research that shows that experiences children have in the early years of life set neurological and biological pathways that can have life-long impacts on health, learning and behaviour. There is also compelling international evidence about the returns on investment in early childhood services for children from disadvantaged backgrounds.

A study by Bowen et al. (2009) of the factors influencing the adoption of early childhood intervention policy in South Australia and New South Wales echoes this statement. In particular, they demonstrated the importance of 'killer facts' from the 'emerging empirical science of brain development' regarding the extent to which children are 'hard-wired' by the age of three, and noted 'the perceived importance of research that demonstrated the impact of the neglect or abuse of children on brain development' (Bowen et al. 2009, 24). Combined with Heckman's work highlighting the long-term benefits of early intervention education programs in the US, most notably the Perry Pre-School Program, and work by Olds et al. (1997) on the efficacy of nurse home visiting programs, this indicated that intervention could make a positive difference, at little or no net economic cost to society (in fact, net economic benefit was likely).

With the recognition that a significant fraction of the population of children in modern societies is growing up in an unstable, tense, and impoverished family and cultural environment, and is not achieving their personal and economic potential, a prevention approach aimed at early childhood is receiving increased support.

Early childhood issues have seen much more policy activity in recent times. Several Australian State governments have established ministers and departments for early childhood education, invited international experts to advise them, sponsored research, and released policy initiatives on the subject (see Bowen et al. 2009). This culminated in 2009 when COAG adopted the *Investing in the Early Years – A National Early Childhood Development Strategy* (COAG 2009a), aimed at ensuring that 'by 2020 all children have the best start in life to create a better future for themselves and for the nation' (COAG 2009a, 4). This strategy proposes six priority areas for reform:

- Strengthening universal maternal, child and family health services
- Support for vulnerable children
- Engaging parents and the community in understanding the importance of early childhood development
- Improving early childhood infrastructure
- Strengthening the workforce across early childhood development and family support services, and
- Building better information and a solid evidence base.

Policy developments associated with the Strategy have included commitments to:

- achieve universal access to a minimum of 15 hours a week (for 40 weeks a year) of quality early childhood education, for all children in the year before school by 2013
- establish 38 new Children and Family Centres and increase access to child and family health and education services for Indigenous children and families;
- stronger quality standards in childcare and workforce initiatives to improve the quality and supply of the early childhood workforce
- preventive health measures with a focus on strategies to prevent chronic diseases that commence in early childhood, and
- the Australian Early Development Index, a population based measure of young children's physical, social, emotional, language, cognitive and communication development, taken in their first year of full-time school.

These policy developments have grown out of a relatively fragmented system, complicated by the existence of many players (Commonwealth and State governments, private and not-for-profit organisations). A focus on childcare, pre-school and assistance targeted at the most vulnerable are key features of recent reforms. There are relatively few universal elements aimed at 0–3 year olds, which contrasts with developments and debates in the UK (Allen, 2011a, 2011b). Nevertheless, a significant shift towards a prevention mentality has occurred in early childhood thinking and policy development in Australia, and it is opportune to assess the relevant evidence.

The rest of this article examines the evidence that is available from Australian research, supplemented in places by international studies, on the following two issues:

1. What do we know about the determinants of children's psychological and socio-emotional well-being? To answer this question, we summarise a number of significant studies undertaken over the past twenty years in Australia. Such analysis forms the basis for targeting and timing appropriate interventions aimed at assisting children to develop their full potential.
2. How effective have intervention programs been? To answer this question, we summarise the evaluation studies of Australian programs, in order to determine which approaches seem to work best.

The analysis provides useful findings on the efficacy of prevention approaches relating to early childhood development.

Search procedure

The aim of our article is to provide both a guide to Australian social science research on early childhood well-being, and evaluations of Australian early childhood preventive interventions. The Informit Families and Society Collection[2] (which incorporates the FAMILY database of the Australian Institute of Family Studies) provided a source of Australian publications, using a keyword search for 'childhood' and 'prevention'. A search of the Social Sciences Citation Index was also undertaken, using the same keywords. In tracking the social science literature, some of the main research programs provide their own bibliographies.[3] There is a list of Australian longitudinal studies at <www.aifs.gov.au/atp/resources.html>. Publications on the Longitudinal Study of Australian Children are accessible through <flosse.fahcsia.gov.au>. The social science literature goes back to the 1980s. By contrast, the evaluation literature goes back to about 2000. Our focus was on intervention programs that had been evaluated in the academic literature or by leading academics. A combination of government department websites and university research-based institute sites provided a list of program evaluation studies. The Australian Institute of Family Studies lists its research work at <www.aifs.gov.au/institute/pubs/researchseries.html>. Also useful is the website of the Social Policy Research centre at the University of New South Wales (<www.sprc.unsw.edu.au/publications/>).[4]

Determinants of children's well-being: Possible causal factors

In this section we summarise Australian social science evidence on factors affecting the formation of children's psychological well-being, behaviour and socialisation. This evidence is important as it should influence the design and targeting of intervention and prevention programs aimed at early childhood development. Evidence on children's physical health and early learning competence will not be explored, nor will the effects of early childhood education and care programs. These would require a separate study.[5]

Our analysis focuses on five large-scale Australian analytical social science research programs, dating from research begun in the early 1980s to programs that are ongoing.[6] These programs are summarised in Box 1.

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[2] See <www.informit.com.au/family.html>.

[3] For the Australian Temperament Project see <www.aifs.gov.au/atp/pubs/index.html>. For the Mater University Pregnancy Study, see <www.socialscience.uq.edu.au/musp-publications>. For the Raine study see <www.rainestudy.org.au/ studies/research>.

[4] We are grateful to our reviewers for pointing out four intervention evaluations that our search had missed.

[5] See Harrison et al. 2009. The E4Kids research project, investigating the effects of early childhood care on children's learning (www.edfac.unimelb.edu.au/E4Kids), will begin reporting in the near future.

[6] Children in Australian Families, a cross-sectional study of children's 'growth of competence' conducted by the Australian Institute of Family Studies in 1983, focused on children aged 8–9 and 15–16 (see Amato 1987.) This was a pioneering study, but flawed. Its sample size was not large (402) and its response rate was relatively poor (39%). Its conceptual framework was also questionable. Its analysis gathered various diverse factors into two general categories: family structure (combining family type with socioeconomic status), and family process (including parenting style, family cohesion, sibling relations, child autonomy and child's household responsibility). This somewhat heterogeneous framework has not been used in later Australian studies. For these reasons we have not included this research in this paper.

A number of other research programs were considered as potentially relevant: the Longitudinal Surveys of Australian Youth; the Personality and Total Health Through Life Project; Australian Family Strengths Research Project; International Social Science Surveys/Australia; HILDA (Household, Income and Labour Dynamics in Australia); the Western Australian Aboriginal Child Health Survey; Youth in Focus; and the Longitudinal Study of

Box 1: Australian studies on determinants of children's well-being

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The Australian Temperament Project (ATP): A longitudinal study of children's psychological development, dating from 1983, tracking a representative sample of Victorian children and their families (sample size approximately 2500). The children are still being studied at age 28. The focus has been on psychosocial adjustment in childhood and adolescence. (See Smart 2007; Smart et al. 2009).

Western Australian Child Health Survey (WACHS): A cross-sectional study of Western Australian children aged 4 to 16 (sample size 2737) conducted by the Institute for Child Health Research and the Australian Bureau of Statistics, focused on children's physical and mental well-being. The study had a special focus on 'mental health problems'. (See Zubrick et al. 1995; Zubrick et al. 1996).

Mater University Study of Pregnancy (MUSP): A long-running prospective longitudinal study, begun in 1981, of a sample of Queensland children tracked from pregnancy through to age 27. The project's aims and objectives include 'to study the causes of behaviour problems from childhood to early adulthood' and 'to monitor children's mental health and physical health over time'. (See the project's <website www.socialscience.uq.edu.au/musp>).

Western Australian Pregnancy Cohort Study: the Raine Study (Raine): A longitudinal study of women recruited during pregnancy through King Edward Memorial Hospital and private clinics in Perth, from 1989 to 1991 (sample size 2979). (See the project's website <www.rainestudy.org.au/>).

Growing Up in Australia: The Longitudinal Study of Australian Children (LSAC): A relatively recent nationally representative sample of children (sample size 10,000), begun in 2004 and conducted by the ABS, with data collected from parents, children, carers and teachers. The study analyses child development and functioning, family functioning, child health, child care, education, and the socio-demographics of families, neighbourhoods and communities. (See the project's website <www.aifs.gov.au/growingup/>).

Interventions should be grounded in strong social science research that indicates where and why interventions can be expected to work and where they are unlikely to work. In general, both the research literature and the policy literature indicate strong confidence in our understanding of the factors that account for the successful socialisation of children. Prevention advocates generally favour interventions to improve parenting skills as the best strategic focus (see for example Silburn and Zubrick 1996; Sanders et al. 2002; Sanders et al. 2003; Zubrick et al. 2005). However, even if good parenting is the most important protective factor, it is not the only one. Socioeconomic factors, family structure, family functioning and children's inborn capacities are also likely to be important.

Sawyer et al. (2000, 812) summarised the overall position as follows:

> Child and adolescent mental health problems were not equally distributed among all demographic groups. Rather, there was a higher proportion of mental health problems among children living in step/blended or sole parent families, in lower income households, with parents who were not in paid employment, and with parents who had left school at an earlier age.

While the description here seems sound, it remains at the descriptive level, and analytical studies may provide a sharper focus.

According to Silburn and Zubrick's analysis (1996) of the WACHS findings, the three key determinants of children's mental health problems are: the child's family type, parental disciplinary style, and whether there is a significant level of family discord present. They found that these three factors correctly classify 83 per cent of

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Indigenous Children. However, they either did not focus on early childhood or have not generated analytical academic research publications.

children with mental health problems. This is a neat and coherent picture, but it is based on a cross-sectional study and longitudinal research may not corroborate it.

The four Australian longitudinal research programs have issued sequential publications, and no multi-factorial summary of the findings of these programs has been attempted. Here we attempt such a summary, under six headings: children's temperament, parenting style, family structure and stability, family and parental harmony, socioeconomic status, and neighbourhood effects. We have found no Australian studies of three important potential determinants of children's well-being: genetics, parent–child attachment, and family welfare dependency.

Children's temperament

Children's temperament seems likely to contribute to their psychological well-being. The capacity to delay gratification, for example, seems to be a very important part of the emotional maturity required to participate well in social activities and in school; likewise, the capacity to self-regulate one's emotions.

Three studies confirm the importance of temperament. One ATP study found that amongst children in unstable families, temperament was one of two factors contributing to poor behavioural outcomes (Ruschena et al. 2005, 361). Another from ATP concluded that 'Children in the clusters labeled as reactive/inhibited and poor attention regulation tended to have higher levels of later behavior problems than children in clusters labeled nonreactive/outgoing and high attention regulation (Sanson et al. 2009, 26). An LSAC study of children's socio-emotional, physical and educational development found that children's persistence and reactivity were strongly related to all outcomes: '[t]he finding that the capacity to stay on task and resist extraneous distractions at both ages was related to better outcomes is consistent with much previous research, as is the link between child reactivity (easily frustrated, quick to anger) and poorer psychosocial adjustment …' (Sanson et al. 2011a, 70–71).

Parenting style

Lexmond and Reeves (2009, 54) put the case well for policy focused on fostering good parenting practices:

> [C]haracter capabilities – application, self-regulation and empathy – make a vital contribution to life chances, mobility and opportunity. The development of these character capabilities appears to be profoundly shaped by the experience of a child in the pre-school years. … Confident, skilful parents adopting a 'tough love' approach to parenting, balancing warmth with discipline, seem to be most effective in terms of generating these key character capabilities.

The Australian research includes four studies that emphasise the importance of parenting style.

The WACHS concluded that whether the parents exercise an encouraging and consistent disciplinary style is one of the three key determinants of children's mental health problems (Silburn and Zubrick 1996).

In the above-mentioned ATP study of children going through family transitions it was found that amongst those with 'poorer behavioural outcomes', the quality of parent–child relationships played a large part in determining that behaviour, 'rather than structural determinants related to the transition itself' (Ruschena et al. 2005, 361). A later ATP study (Price-Robertson et al. 2010) comparing early childhood experiences with early adulthood outcomes reached a mixed conclusion: supportive parenting in early childhood correlated with later social competence, trust and

tolerance of others and trust of authorities, but there were no significant connections with later illicit drug use, binge drinking or antisocial behaviour.

Two LSAC studies confirm the importance of parenting style. Zubrick et al. (2008, 113–14) found that even when adjusted for factors such as parental income and family structure, there was an association between poorer parenting quality and poorer child development outcomes. They add that 'The findings for the child cohort suggest that parental hostility is a particularly potent predictor of poor developmental outcomes for 4 to 5 year olds. Consistency in parenting practices, particularly around discipline …[was] an important predictor of outcome in the child cohort'. Likewise, Sanson et al. (2011a, 71) report that 'Hostile parenting … had a strong negative effect even though this was a very skewed variable, indicating that even low amounts of parental anger, rejection, and irritation impacted on children's social-emotional well-being … Consistent discipline … was associated with better adjustment, reflecting the importance of following through with rules and expectations.'

Surprisingly, however, a MUSP study by Bor et al. (2004, 365) reached a contrary conclusion. In a series of logistic regression models, they found that parenting practices were a 'relatively poor' predictor of antisocial behaviour.

Family structure and stability

Some argue that family structure plays a critical part in children's development. The presence of both biological parents in the child's family may be a protective factor in its own right, independent of the quality of parenting and the harmony of the parental relationship. Evans et al. (2001, 288) put it well: 'Raising children is a challenging task for two parents, but much harder for one parent: the exit of one parent creates a "structural deficiency" in social capital which is difficult for the remaining parent to overcome …'

The Australian evidence is somewhat complex. Six studies show strong evidence of adverse effects of growing up in sole parent or step families. As already noted, the WACHS found that one of the three main determinants of children's mental health problems is whether the child lives with both biological parents (Silburn and Zubrick 1996). This was a robust finding. A recent Raine study conclusion is less categorical: 'the absence of the biological father in the family home in pregnancy was predictive of internalising morbidity at age five in the adjusted analysis, though not significant in the adjusted models for overall behaviour' (Robinson et al. 2008, 1123).

Family structure can be further distinguished into family composition and family stability (the number of family transitions experienced by the child). A child brought up by a sole parent may never experience a family transition. Children in step families and intact biological families will have two live-in parents, so the composition of these families is the same, even though a difficult transition is involved in one but not the other.

MUSP research generally indicates that family instability has adverse consequences. Najman et al. (1997, 1357) found that, even when adjusted for confounding variables, 'Mothers who experienced no partner changes (married and single) reported the lowest rates of child behavior problems for the three syndromes used in this study'. Another study (Bor et al. 2004, 365) reported that marital instability doubled or tripled the odds of antisocial behaviour in adolescents. A study by Hayatbakhsh et al. (2006, 673) reported that 'Experience of changes in maternal marital status in mid- to late-childhood is a significant predictor of subsequent and early use of cannabis by the child. This holds true even after allowing for certain possible causes and consequences of marital breakdown'. A fourth study (McGee et

al. 2011, 5) found that antisocial behaviour in adolescence is best predicted by deficits in family structure (and in family processes).

Evidence from LSAC is somewhat equivocal. Baxter et al. (2011, 86) reported that 'children aged 6–7 years living with both parents generally had better emotional well-being than similar aged children living with one parent'. Wake et al. (2008, viii) found that family type and neighbourhood disadvantage 'did not make unique contributions to child outcomes'; their influence may be 'mediated through family variables such as income, financial stress and family functioning'. Most recently Sanson et al. (2011a, 71) found that 'Surprisingly, at 4–5 years the child living in a two-parent family, and the father not being resident, were associated [with] poorer adjustment, perhaps reflecting the presence of a step-father in these families, although further investigation is needed'.

The ATP study by Ruschena et al. (2005, 361) concluded in the negative: 'For this large Australian adolescent sample, the family transition has not necessarily negatively impacted on current social, emotional or psychological outcomes ... For those with poorer behavioural outcomes, the most prominent contributing factors were dimensions of temperament and parent–child relationship quality, rather than structural determinants related to the transition itself.'

Family and parental harmony

The quality of relationships within the family is also likely to be important, a contention universally supported by Australian studies.

The WACHS found that whether family relationships are discordant or harmonious is one of the three key determinants of children's mental health problems (Silburn and Zubrick 1996). Two MUSP studies reached the same conclusion. Najman et al. (1997, 1357) noted that mothers who described their relationship with their partner as 'poor' also reported the highest rate of child behavioural problems. McGee et al. (2011, 5) found that '[d]ysfunctional family functioning at 14 years strongly influenced the level of ASB reported. A poorer quality of relationship between the mother and her partner was significantly and negatively associated with ASB at 14 years … Young people residing in families with effective communication reported lower ASB …'

Finally, the LSAC study by Baxter et al. (2011, 86) found that 'inter-parental hostility was an important factor in explaining young children's emotional well-being. … [C]hildren whose parents had a hostile inter-parental relationship tended to have poorer emotional well-being than children whose parents did not have a non-hostile relationship, as reported by children and their parents.'

Socioeconomic factors

Another view proposes a socioeconomic causation model: children in poorer families suffer mental health problems, behave less well than others and do worse in school simply or largely because they suffer relative economic deprivation.
Evidence for this view is mixed. On the negative side, in the WACHS family income was found to be correlated with children's mental health but was not a significant explanatory factor when other factors were controlled for (Silburn and Zubrick 1996). A 2008 LSAC study (Zubrick et al. 2008, 117) reported that 'where information about other family resources (that is, human, social and psychological capital) is available, direct associations between child developmental measures or parent well-being measures and income per se substantially weaken'.

This view was supported by another LSAC study (Smart et al. 2008, vii): 'Financial disadvantage itself was not a direct predictor of these social/emotional aspects of school readiness when the other child, family and broader environmental factors were included.'

The ATP study by Price-Robertson et al. (2010) found no correlation between childhood poverty and early adulthood illicit drug use, antisocial behaviour, social competence and civic engagement – although anxiety, depression and low trust and tolerance were significantly correlated. Overall, they found that 'childhood poverty was not significantly related to the occurrence of multiple problems in early adulthood', so this is a negative finding.

Five studies argue in the affirmative. The MUSP study by Bor et al. (1997, 664) concluded that low family income was a significant factor in a variety of child behaviour problems. Likewise, Najman et al. (2004, 1147) reported that 'Children from socioeconomically disadvantaged families … begin their lives with a poorer platform of health and a reduced capacity to benefit from the economic and social advances experienced by the rest of society.' A later study (Najman et al. 2010, 538) found that 'Repeated experiences of poverty in early childhood and adolescence are strongly associated with a number of negative health-related behavior outcomes'.

One LSAC study reached similar conclusions. According to Wake et al. (2008, viii), children 'were more likely to have positive outcomes in the context of higher maternal education, higher family income, higher parental occupational status, and in the absence of financial stress.' Finally, a Raine study (Robinson et al. 2008, 1124) concluded that 'economic hardship in pregnancy was a strong predictor of total mental health morbidity at both ages two and five, and also had a significant effect on internalising behaviour at age two and externalising behaviour at both ages'.

Neighbourhood effects

The literature distinguishes between overall socioeconomic forces and 'neighbourhood effects', the idea being that certain local level characteristics might reinforce socio-emotional and behavioural problems in children.

On this hypothesis the studies reach three different conclusions: yes, no, and maybe. One LSAC study (Edwards and Bromfield 2009, 317) found that 'Children's conduct problems were found to be associated with neighborhood socio-economic status, neighborhood safety and neighborhood belonging after accounting for family demographic variables'. Additionally, 'Neighborhood cleanliness and neighborhood belonging had a direct association with pro-social behavior'. On the other hand, according to the MUSP study by McGee et al. (2011, 5), anti-social behaviour in adolescence was not related to neighbourhood factors but more to variation in individuals and families (e.g. poor school performance and deficits in family structure). In between these positions lies the LSAC evidence (Wake et al. 2008, viii) that 'neighbourhood disadvantage' did not make unique a contribution to child outcomes, 'suggesting that [its] influence is mediated through family variables such as income, financial stress and family functioning'.

Summary

Table 1 summarises the findings from these five major Australian research programs that have looked at the determinants of children's well-being. Two of the six possible determining factors – temperament and family and parental harmony – are supported without dissent. In two – parenting style and family structure and stability – the

balance of evidence is clearly positive. In the remaining two – socioeconomic status and neighbourhood effects – the picture is more mixed.

Evaluations of Australian early childhood prevention programs

In the previous section we set out some of the social science evidence on factors influencing the socialisation of children. Here we examine the literature on some recent or current Australian intervention prevention programs. Eleven programs are described briefly and their evaluations summarised.[7] The first three have a primary focus on educational and learning outcomes, while the latter eight have a primary focus on parenting, socialisation and child behaviour outcomes. The programs aim to prevent problems and to strengthen child development more generally. One of these programs, the family–home visiting program, is focused on Indigenous families, while Triple P and Exploring Together have been used with both Indigenous and non-Indigenous families.

HIPPY: Home Interaction Program for Parents and Youngsters

HIPPY is a program originating in Israel, focused on preparing children for school through an enhanced home literacy environment. It uses a structured curriculum and aims to improve the quality of parent-child verbal interactions and to enhance parents' ability to assist their children in learning. In Australia, the Brotherhood of St Laurence engages other not-for-profit organisations based in different communities to run their own HIPPY projects, with HIPPY Australia providing program materials, training and support. The Commonwealth Government has recently provided $55.7 million support for this program (Garrett and Ellis 2012).

An evaluation by Liddell et al. (2011, Figure 3.27) of the impact of HIPPY on children reported that 'on most outcomes we found no significant impact' (2011, 65). Three positives were reported:

- The gap observed in HIPPY children's early numeracy and early literacy skills at the beginning of the program, compared with the Australian norm, had closed by the end of the program.
- HIPPY children had fewer problems with their peers (one of the five measures of children's socio-emotional adjustment).
- For parents who completed more of the program rather than less of the program, their children displayed higher levels of pro-social behaviour (a second measure of the child's socio-emotional adjustment).

However, children's 'conduct problems' had increased slightly (2011, 64), even though parent–child relationships and parenting skills had improved.

Pathways to Prevention

Pathways to Prevention is a program similar to HIPPY in that it is focused on preparing children in disadvantaged communities for school. It combines preschool-based activities for children with a community-based 'family independence' program. More than 5000 children are being tracked.

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[7] The following Australian programs have to our knowledge not been evaluated in the academic literature: Families First, Best Start, Every Chance for Every Child, Western Australian Children First Strategy, The Tasmanian Our Kids Action Plan, and Good Beginnings. A Victorian home learning program, *smalltalk*, is currently being evaluated.

Manning et al. (2006, 115) found that Pathways was considerably cheaper than later remedial interventions in literacy and behavioural skills that would usually be employed. The relative effectiveness of Pathways was assessed at school entry. Pathways participation 'was associated with accelerated improvement in language proficiency' and 'had a positive impact in reducing the level of difficult and challenging behaviour … for boys but not for girls' (2006, 106). (For further studies see Leech et al. 2007; Homel et al. 2007; Freiberg et al. 2010.)

Communities for Children

Communities for Children (CfC) is a federally funded program administered by Mission Australia and focused on children aged 0–5 and their families. It is comparable to the Sure Start program in the UK, in that it allows for local variation and community input. It includes reading programs, playgroups, parenting classes, and home visits.

The Stronger Families in Australia evaluation study (Muir et al. 2009; Edwards et al. 2009; Katz et al. 2010; Edwards et al. 2011) was a three-year longitudinal survey of 2,202 families with children aged 2 to 5 years in 10 CfC communities and five non-CfC 'contrast' communities. It found (Edwards et al. 2009, 16) that the CfC program 'had small but positive effects on a number of outcomes for families, children and communities'. Benefits for children were most evident in children's early learning. Parenting practices were less hostile and harsh. Parents were more likely to be employed. Communities were seen as more cohesive and participation in community service activities increased. On the other hand, children's physical health was not improved, children's prosocial behaviour improved but only very slightly (effect size 0.08), and children's emotional and behavioural problems were reduced but again only slightly (effect size –0.04). The evaluation was only able to show short-term changes.

Nurse–home visiting programs

Australia has a long tradition of child health nurses. More recently such nurses have taken on an important role in psychosocial prevention. One example is the Australian Nurse Family Partnership Program. It supports Aboriginal and Torres Strait Islander women during pregnancy and early childhood, using trained nurses to visit families in their own homes. The aim of the program is to improve pregnancy outcomes, child health and development, and family self-sufficiency. (The program's website is <www.anfpp.com.au>). Other examples are the Maternal (Miller) Early Childhood Sustained Home-visiting (MECSH) program in NSW and the South Australian Family Home Visiting Program.

The programs are generally based on the Nurse-Family Partnership model developed by David Olds in the USA. Randomised controlled trials of this model demonstrate a range of benefits for child well-being and improvements in behaviour, lasting up to 15 years (see Olds et al. 1997; Olds et al. 2004; Kitzman et al. 2010). Only one Australian evaluation of MECSH has been carried out. Kemp et al. (2011, 1) found that 'There was no significant difference in parent–child interaction between the intervention and comparison groups. There were no significant overall group differences in child mental, psychomotor or behavioural development'. However, mothers who were assessed as having psychosocial distress prior to birth benefited

from the intervention in areas such as breastfeeding duration and (for some sub-groups) their experience of motherhood.[8]

Brighter Futures

Brighter Futures is a New South Wales program for families with children aged 0–8 years who are experiencing problems such as domestic violence, carer alcohol and drug abuse, carer mental health issues, lack of social support, carer learning or intellectual disability, child behaviour management problems, and parenting problems. The program involves a caseworker for each family and provides home visiting and parenting support. It aims to improve family resilience, promote healthy child development, and reduce child abuse and neglect, in order to prevent children and families from escalating within the child protection system.

An evaluation by Hilferty et al. (2010, 116) found that:

- Carers showed an improvement in the way they felt about themselves, their satisfaction with life, feelings of support, ability to take time out for themselves, and self esteem, however there was no corresponding improvement in their feelings related to family connections (attachment to family) and the quality of their partner relationship.
- The results for parenting practices were mixed, with small increases measured in parents' relationship with their child, prevalence of positive parenting practices, and participants' self-rating as a parent. There was a significant increase in measurement of hostile parenting.
- There was a small measured improvement in children's social and emotional development.

Brighter Futures 'has produced small/modest effects for many children, but it did not have a measurable impact for all the children referred into the program'. About half of the families who entered the program in 2007 did not complete it, and this was 'the main reason for the lack of measurable impact' (Hilferty et al. 2010, 191–93).

Triple P

Triple P (formerly Positive Parenting Program) has programs designed for each of five different developmental periods – infants, toddlers, preschoolers, primary school aged, and teenagers. Programs range from very general and educational to intensive and individualised. The program promotes five principles of good parenting: providing a safe, engaging environment, positive learning environment, assertive parental discipline, reasonable behavioural expectations, and taking care of oneself as a parent (see Sanders 2012).

An Australian evaluation by Zubrick et al. (2005, 287) found that Triple P 'was associated with significant reductions in parent-reported levels of dysfunctional parenting and parent-reported levels of child behavior problems. Effect sizes on child behavior problems ranged from large (0.83) to moderate (0.47). Positive and significant effects were also observed in parent mental health, marital adjustment, and levels of child rearing conflict'.

Level 4 of Triple P is designed for children with multiple behaviour problems and parents with poor parenting skills. A meta-analysis of 15 random controlled trials of Level 4 interventions for children aged 2 to 11 showed that the programs reduced disruptive behaviours in children (a large effect size of 0.88) and that these improvements 'were maintained well over time, with further improvements in long-term follow-up' (de Graaf et al. 2008, 714). Thirteen of these 15 studies analysed Australian samples.

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[8] See also the discussion at a forum on *Intensive nurse home visiting for disadvantaged children: what works?* held in 2011 (<www.aracy.org.au/index.cfm?pageName=aracy_2011_forum>).

Another meta-analysis (Nowak and Heinrichs 2008) involving nearly 12,000 families in 55 trials concluded that Triple P had positive effects on children's problem behaviour (a moderate effect size of 0.35) and on parenting (effect size 0.38). Follow-up studies showed small effects sizes (0.10) for child problem behaviour and large for parenting (1.01).

Toddlers without Tears

Toddlers without Tears is distinctive in that it is a universal parenting program designed to prevent early childhood behavioural problems.

A random controlled Australian evaluation of this program (Hiscock et al. 2008) showed that when the children were two years old, mothers reported improved parenting practices (though with a small effect size of 0.2). However, children's behaviour was not significantly improved. A follow-up study at age three arrived at a similar result (Bayer et al. 2010).

Exploring Together

Exploring Together is a 10-week targeted program for primary school-aged children and their parents. Developed in Melbourne, its focus is on 'children's conduct and social skills, parent-child interaction therapy and parenting management training' (Robinson et al. 2009, 20).

A 2001 study of Victorian children found that behaviour problems at home, but not at school, were reduced at the end of the program when compared to a control group. The improvements were maintained at 6-month and 12-month follow-ups (Hemphill et al. 2001, 838).

Let's Start, a pre-school version of Exploring Together provided to Northern Territory children, also produced generally positive results. There was a statistically significant reduction in the mean values of problem behaviour, with effect sizes ranging from 0.2 (small) to 0.69 (moderate) (Robinson et al. 2012, 349–50). However, the program had a high attrition rate.

Tuning in to Kids

Tuning in to Kids is a six-session group parenting program that aims to give parents skills to improve their children's emotional intelligence and self-regulation.

Havighurst et al. investigated 161 parent–child dyads (with children aged four and five) who had taken the program. They found that 'Child emotional knowledge improved, and reductions in child behavior problems were reported by parents and teachers' (2010, 1342).

Parents Under Pressure

Parents Under Pressure (PUP) is a 10-session program aimed at problem families with multiple issues such as substance misuse, depression and anxiety, family conflict and severe financial stress. It is a home-based case-managed parenting intervention designed to improve family functioning and child outcomes.

In a randomized controlled trial with families having a parent on methadone maintenance, parents taking the PUP program were compared to parents experiencing standard care. At 3-month and 6-month follow-up, PUP families 'showed significant reductions in problems across multiple domains of family functioning, including a reduction in child abuse potential, rigid parenting attitudes, and child behavior

problems ... There were no improvements found in the standard care group and some significant worsening was observed' (Dawe and Harnett 2007, 381).

Sing & Grow

Sing & Grow is a 10-week group music therapy intervention intended to improve parenting and child development. It is aimed at marginalised parents with preschool children.

Evaluations show 'positive improvements from pre to post intervention for clinician- and parent-reported measures of parenting and child development'. On the other hand, children's behaviour problems are not reduced by this program. In addition, the absence of a control group in the evaluations makes it impossible to draw conclusions about its effectiveness as an early parenting intervention (Nicholson et al. 2008, 234; Nicholson et al. 2010, 367–68).

International evidence on effectiveness

Here we summarise two Australian analyses of the wider international picture. (See also Manning et al. (2010) for an Australian analysis of the effectiveness of 11 US-based early childhood programs.)

A review of 108 intervention programs in children's cognitive education and socialisation, titled *The Efficacy of Early Childhood Interventions*, found that only 32 programs were adequately evaluated or capable of evaluation (Wise et al. 2005). Three of these 32 were Australian. Of the 32, only three measured long-term effects using a sample not damaged by attrition, and none of these were Australian. In most other cases the best that could be said is that the programs produced large or medium short-term or intermediate benefits. Of these the best performer was the Australian Triple P program, which produced a range of positive intermediate effect sizes, especially in reducing parental conflict over child-rearing. Wise et al. (2005, 19) summarised US evaluations of HIPPY as finding only 'positive short and intermediate term effects on children's cognitive skills and academic skills that ranged from negligible to medium …'

A 2009 study by Bayer et al. aimed to 'identify evidence-based preventive interventions for behavioural and emotional problems of children aged 0–8 years'. They found 50 interventions that have been evaluated in randomised controlled trials. They concluded that 'Three US programmes have the best balance of evidence: in infancy, the individual Nurse Home Visitation Programme; at preschool age, the individual Family Check Up; at school age, the Good Behaviour Game class programme'. They also highlighted three parenting programmes in England and Australia: the Incredible Years, Triple P, and Parent Education Programme. Triple P was deemed effective for 'child behaviour problems, parenting practices, parent confidence, anxiety and stress' but ineffective for 'some parent-child interaction and parent distress/conflict measures'. However, they say that the evaluations of Triple P suffer from 'their self-selected samples … and waitlist control design that provides no comparison control data beyond a few weeks on programme effectiveness' (Bayer et al. 2009, 700, 703). In their view the UK version of the Family Nurse Partnership program – a counterpart of the ANFPP – was not effective. Bayer et al. (2009) did not investigate economic issues.

Summary

In general, only one Australian program – Triple P – has robust evidence of effectiveness. In the other ten programs it may be a case of 'too early to tell', both in the sense of the need for more evaluations of these programs, and for a longer duration over which to assess outcomes for any particular intervention.

Conclusion

Social policy tends to experience mood swings. A period of optimism in the 1960s was followed by a period of 'nothing works' pessimism in the 1980s. In the 2000s optimism returned and is now leading the debate, but it is optimism tempered by a vastly larger body of research. The longitudinal studies and the intervention analyses reviewed here are far more sophisticated than anything available before 1990. With that knowledge comes a commensurate sense of the complexity of social issues and recognition that simple optimism is naïve. But simple pessimism can also be naïve. Australian social policy needs a focus on 'what works best', knowing that nothing works perfectly. Failure to act is not an option, because the costs of inaction are often greater than the costs of current attempts to ameliorate social problems.

In a speech in 2010 on *Advancing Australia's 'Human Capital Agenda'*, Productivity Commission Chairman Gary Banks (2010, 16) commented:

> There is now a substantial body of evidence that attention to early childhood education – *before* formal schooling commences – can indeed have lasting dividends, at least for disadvantaged kids.
>
> COAG's program is currently directed at achieving universal access to pre-school in the year before school-proper commences, with some additional attention to disadvantaged and low SES groups. There is now also a question as to whether policy attention needs to be extended to children in the 0–3 age bracket …
>
> This whole area would seem to warrant a more substantial research effort in Australia, in relation to the potential *net* payoffs, the types of programs that could be most effective and the extent to which they should involve targeting. The celebrated work of James Heckman in the USA has been most instructive about disadvantaged students, at least in that country, but has been spread a bit thinly in supporting early childhood policy in Australia. Local trials would seem an imperative before further large-scale programs directed at early childhood are implemented.

Our review of the evidence supports Banks' two contentions: first, that there is a substantial body of research relevant to early childhood intervention, but second, that we need to be careful about how this evidence is interpreted and that more needs to be done concerning Australian evidence.

Our aim is not to be definitive about 'what works' in early childhood prevention policy. A full critical analysis would need to include relevant international evidence, and would require analysis of the relative modifiability of the factors leading to children's psychological and behavioural problems. Policy-makers also need economic evaluations of the various intervention programs (see, for example, Wise et al. 2005; Manning et al. 2006; Mihalopoulos et al. 2007; Aos et al. 2011; Liddell et al. 2011.) In this paper we have assembled the materials for a more considered analysis of the Australian evidence on 'what works'. Substantively, both the social science evidence and the evaluation studies support the focus on good parenting. However, the social science evidence also shows that good parenting is only one among a number of factors that shape children's psychological well-being. Also clearly important are children's temperaments,

family and parental harmony, and family structure and stability. Socioeconomic status and neighbourhood effects may be important – the social science evidence on this is not clear-cut.

The evidence of the evaluation studies is that most interventions have had rather mixed success. Triple P is a clear success. One parenting program – Toddlers without Tears – seems to be unsuccessful. Some interventions have performed less well than might be expected. ANFPP has strong American evidence but is doing less well in Australia. ANFPP, Triple P and HIPPY are programs with a long history. The other eight programs reviewed here are still in their early stages, and much is still to be learned about their capabilities.

On the question of universal versus targeted policy, there is as yet no definite conclusion. For better or worse, Australian social policy has always tended to favour the targeted approach. To evaluate the merits of this approach in the early childhood field, further research is needed on the degree of co-occurrence of the key causal factors leading to children's disadvantage and on the co-occurrence of psychological and behavioural problems in individuals and families. The more concentrated these are, the more targeted policy interventions need to be; the more dispersed they are, the more universalism is suggested. Analysis of this question would require another paper.

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Table 1 Australian studies of factors influencing children's psychological well-being, socialisation and behaviour

Study	Children's temperament	Parenting style	Family structure and stability	Family and parental harmony	Socioeconomic status	Neighbourhood effects
ATP (3)						
Ruschena et al. 2005	Yes	Yes	No			
Sanson et al. 2009	Yes					
Price-Robertson et al. 2010		Maybe			No	
WACHS (1)						
Silburn & Zubrick 1996		Yes	Yes	Yes	No	
MUSP (7)						
Najman et al. 1997			Yes	Yes		
Bor et al. 1997					Yes	
Bor et al. 2004		No	Yes			
Hayatbakhsh et al. 2006			Yes			
Najman et al. 2004					Yes	
Najman et al. 2010					Yes	
McGee et al. 2011			Yes	Yes		No
LSAC (6)						
Wake et al. 2008			Maybe		Yes	Maybe
Zubrick et al. 2008		Yes			No	
Smart et al. 2008					No	
Edwards & Bromfield 2009						Yes
Baxter et al. 2011			Yes	Yes		
Sanson et al. 2011a	Yes	Yes				
Raine (1)						
Robinson et al. 2008			Maybe		Yes	
TOTAL	Yes: 3	Yes: 4 No: 1 Maybe: 1	Yes: 6 No: 1 Maybe: 2	Yes: 4	Yes: 5 No: 4	Yes: 1 No: 1 Maybe: 1

ATP = Australian Temperament Project
WACHS = Western Australian Child Health Survey
MUSP = Mater University Study of Pregnancy
LSAC = Longitudinal Study of Australian Children
Raine = Western Australian Pregnancy Cohort Study (the Raine study)

Robinson, G, Tyler, W, Jones, Y, Silburn, S, and Zubrick, SR 2012. Context, diversity and engagement: early intervention with Australian Aboriginal families in urban and remote contexts, *Children and Society*, 26: 343–55.

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Table 1 Australian studies of factors influencing children's psychological well-being, socialisation and behaviour

Study	Children's temperament	Parenting style	Family structure and stability	Family and parental harmony	Socioeconomic status	Neighbourhood effects
ATP (3)						
Ruschena et al. 2005	Yes	Yes	No			
Sanson et al. 2009	Yes					
Price-Robertson et al. 2010		Maybe			No	
WACHS (1)						
Silburn & Zubrick 1996		Yes	Yes	Yes	No	
MUSP (7)						
Najman et al. 1997			Yes	Yes		
Bor et al. 1997					Yes	
Bor et al. 2004		No	Yes			
Hayatbakhsh et al. 2006			Yes			
Najman et al. 2004					Yes	
Najman et al. 2010					Yes	
McGee et al. 2011			Yes	Yes		No
LSAC (6)						
Wake et al. 2008			Maybe		Yes	Maybe
Zubrick et al. 2008		Yes			No	
Smart et al. 2008					No	
Edwards & Bromfield 2009						Yes
Baxter et al. 2011			Yes	Yes		
Sanson et al. 2011a	Yes	Yes				
Raine (1)						
Robinson et al. 2008			Maybe		Yes	
TOTAL	Yes: 3	Yes: 4 No: 1 Maybe: 1	Yes: 6 No: 1 Maybe: 2	Yes: 4	Yes: 5 No: 4	Yes: 1 No: 1 Maybe: 1

ATP = Australian Temperament Project
WACHS = Western Australian Child Health Survey
MUSP = Mater University Study of Pregnancy
LSAC = Longitudinal Study of Australian Children
Raine = Western Australian Pregnancy Cohort Study (the Raine study)