

Matching parenting to child

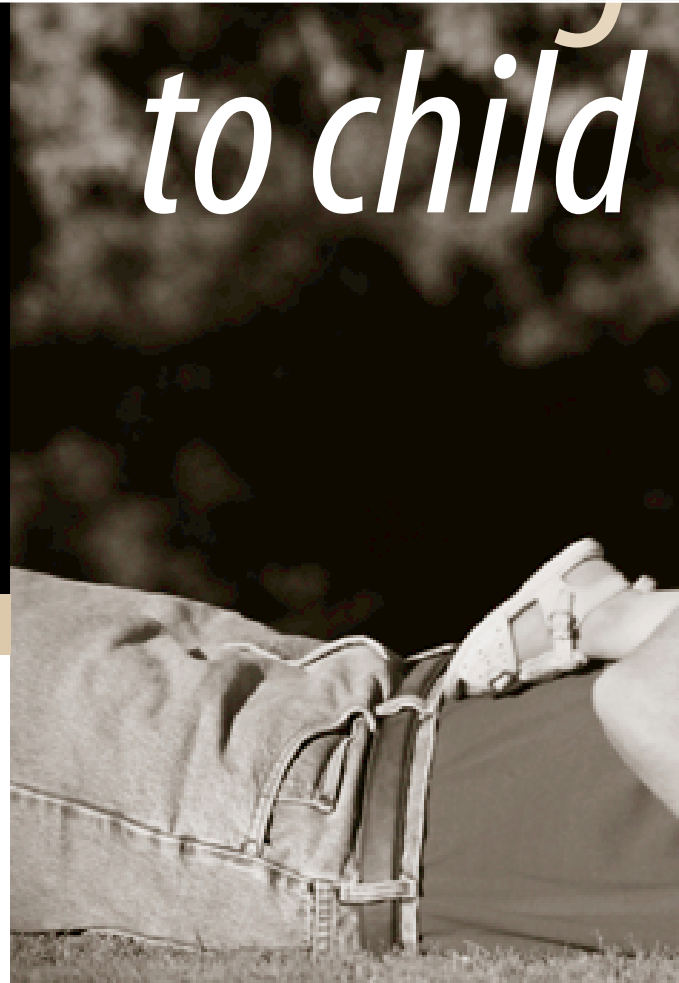
What role do child temperament and parenting style play in the development of later behavioural and emotional problems? Recent findings from the Social Development Project suggest that both factors are important influences on child adjustment, and that the “best” style of parenting may differ for children with different temperaments.

SHERYL HEMPHILL AND ANN SANSON

Childhood behavioural problems have been defined in many different ways, but in the context of this article, they refer to “acting-out” behaviours such as aggressive behaviour and noncompliance. The prevalence of children’s behavioural problems is concerningly high, with rates of about 15-20 per cent being recorded (Prior et al. 2000; Zubrick et al. 2000). Rates of problems seem to vary by gender, particularly in middle childhood to adolescence, with boys exhibiting more behavioural problems than girls. Once entrenched, behavioural problems are likely to continue through childhood and adolescence and into adulthood. For example, aggressive behaviour in childhood is associated with adolescent delinquency and criminality (Loeber et al. 1991; Prior et al. 2000).

Behavioural problems have been notoriously difficult to treat and there is an increasing emphasis on prevention (that is, intervening before problems are detected) and early intervention (that is, intervening at early signs of difficulties) to avoid the development and entrenchment of such problems.

In order to identify children at risk of difficulties, and to intervene effectively, an understanding of the factors influencing the development of children’s behavioural problems is vital. Two of the main factors implicated in the development of behavioural problems are child temperament and parenting. Most research has investigated the influence of child temperament and parenting separately but there is increasing evidence that the interaction between the two may be particularly important. In the section that follows, these key constructs are defined and their role in children’s development outlined.



INFLUENCES ON EA

Child temperament

Child temperament refers to constitutionally-based individual differences in behavioral style that are visible from early childhood (Rothbart and Bates 1998). Three broad aspects of temperament are gaining wide acceptance. *Negative reactivity* refers to high-intensity negative reactions such as irritability, whining and whingeing. *Approach/inhibition* describes the tendency of a child to approach novel situations and people, or conversely to withdraw and be wary. *Persistence* refers to the ability to stick at one task for some time and sustain organised play.

The aspects of child temperament that seem to be risk factors for the development of childhood behavioural problems are high negative reactivity and low persistence (Azar 1995; Prior et al 2000; Rothbart and Bates 1998). Inhibition (a tendency to withdraw from novelty) may reduce the likelihood of the development of childhood aggressive behaviour (Rothbart and Bates 1998). In the study reported here the focus is on the influence of negative reactivity and inhibition on the development of behavioural problems.

temperament



RELEVANT CHILDHOOD BEHAVIOURAL PROBLEMS

Parenting

Three key aspects of parenting relevant to child behavioural problems are punishment, warmth, and inductive reasoning.

Punishment refers to the use of harsh, high-intensity disciplinary strategies, with the parent attempting to assert power over the child through direct commands and threats, or physical punishment. This style of parenting has been associated with later child aggressive behaviour and noncompliance (Booth et al. 1994; Patterson et al. 1989; Pettit and Bates 1989).

Parental warmth includes the expression of verbal and physical affection towards the child, as well as praise and acceptance. Low parental warmth (criticism, disapproval and rejection of the child) has also been associated with childhood aggressive behaviour and noncompliance (Booth et al. 1994; Chamberlain and Patterson 1995; Patterson et al. 1989). In contrast, high warmth has been linked to positive adjustment (Baumrind 1966; Booth et al. 1994).

Inductive reasoning refers to parents explaining consequences of misbehaviour to a child, setting limits on behaviour, and allowing child input into disciplinary decisions. High levels of inductive reasoning also have been associated with children's positive social adjustment (Chamberlain and Patterson 1995; Hart et al. 1992), whereas low levels might be expected to predict behavioural problems such as aggressive behaviour and noncompliance.

Match between temperament and parenting

Research has shown that both a child's temperament and the parenting s/he receives are important in the development of behavioural problems. However, little research has examined whether a particular parenting style has the same effect on all children, or whether it differs according to the child's temperament. The concept of "goodness of fit" (Thomas et al. 1968) suggests, for example, that a child with a negative, reactive temperament whose parent uses harsh punishment may be more likely to develop behavioural problems than the same child with a parent who uses inductive reasoning. For example,

Crockenberg (1987) found that irritable infants with angry and punitive adolescent mothers were more likely than less irritable infants to be angry and non-compliant at two years of age. And in a study of five to six year-olds, Paterson and Sanson (1999) found that temperamental inflexibility (including negative reactivity) and punitive parenting predicted parent-reported behavioural problems.



Three key aspects of parenting relevant to child behavioural problems are punishment, warmth, and inductive reasoning.

There is continuing debate about the optimal ways of measuring temperament and parenting. Many studies have relied on parental report of their style of parenting and also of their child's temperament. There are obvious opportunities for bias in such reports. Fine-grained observations of parents and children in situations which elicit a range of reactions from both of them offer valuable insights into the processes of parent-child interaction. In this study, questionnaire and detailed observational data were used.

Social Development Project

This article describes the results of a study that investigated the influence of the match between child temperament and parenting assessed at two years on child behavioural problems at four years of age. It was expected that the combination of high negative reactivity and high parental punishment would predict behavioural problems such as aggressive, noncompliant behaviour. Also explored were other possible combinations, including negative reactivity with low parental warmth and with low inductive reasoning, and low inhibition with high punishment.

Data reported here come from a longitudinal community study of young children's social development, known as the Social Development Project (funded by the Australian Research Council), which began in 1996. In contrast to the Australian Temperament Project (Prior et al. 2000) which collects more "broad-brush" data on a large sample of children, this

study looks intensively at a smaller sample, with the aim of elucidating developmental processes and providing richer data on the children themselves, as well as their interactions with their parents and peers.

The Social Development Project aims to investigate the role of temperament, parenting and social context in the development of behavioural and emotional problems (for example, social withdrawal from peers). A total of 112 two-year-old children (58 boys and 54 girls) and their primary caregivers (110 mothers, 2 fathers) were recruited from the general community through child care centres, maternal and child health centres, kindergartens, playgroups, and responses to advertisements in local newspapers.

At the time of enrolment into the study, the average age of the children was two years and two months, and the average age of the participating caregiver was 35 years. Participants' scores on measures of socioeconomic status, parental daily hassles, stressful family life events, availability of social support to parents, and other measures of family stress indicated that in general the participants were well functioning. The children and their caregivers were followed up again at four years of age.

Multiple methods of data collection have been used, including laboratory observations conducted at a playroom (the Social Development Laboratory) at the University of Melbourne, and parent-completed questionnaires. The laboratory visits were designed to challenge the child by presenting a range of novel situations.

In one session at both two and four years of age, the child and his/her caregiver attended, and the child encountered situations including the entrance of a clown, unusual and noisy toys, and a brief separation from the parent. The second session at two years involved parent-child same-sex pairs, who did not know each other, attending the playroom at the same time. In this session we observed how the children played with toys, whether and how they approached the other child and adult, and how they responded when asked to do things like tidy away the toys. In the second session at four years, four children of the same sex who did not know one another attended together and played with toys, were asked to give a speech in front of the other children about their last birthday, were asked to do various other tasks, and then pack up the toys.

Each session in the playroom was videotaped and later coded to indicate how the parents interacted with their children (for example, comforts, encourages, controls, plays), as well as the child's style of behaving (for example, mood, activity level, how long the child sticks to one activity, how strongly the child reacts to events, how close the child stays to parent, how long it takes the child to play with a novel toy), and adjustment (for example, how often the child disobeys parent, how often the child hurts another child, whether the child watches other children play without joining in). From the playroom sessions and parent report questionnaires, measures of child temperament (negative reactivity, inhibition, and persistence), parenting style (warmth, punishment, inductive reasoning and overprotectiveness), and child adjustment (behaviour problems, social withdrawal) were obtained.

This article focuses on the match between those aspects of temperament and parenting style most likely to be associated with behavioural problems. For child temperament these are negative reactivity and inhibition, and for parenting style these include warmth, punishment, and inductive reasoning. The article examines how the temperament and parenting measures drawn from the parent-child session at two years relate to measures of problems at four years of age, as observed with peers and as reported by parents. The behavioural problem measures include evidence of the child hitting others, damaging objects, disobeying instructions, and having temper tantrums.

Levels of adjustment problems and parent-child match

In general, the levels of behavioural problems in this sample were relatively low. Boys showed more behavioural problems than girls, both as reported by parents and observed in the laboratory. Figure 1 shows scores on parent-reported behavioural problems; the pattern of scores was similar for observed behavioural problems.

Children were divided into those with and without behavioural problems at four years. Eight children (seven of them boys) had behavioural problems by observation at four years, and 21 (16 of them boys) showed behavioural problems by parent report. Because there were so few girls who showed behavioural problems by parent-report and observation, it was not possible to analyse by sex, and the results for the entire sample are described here. However, from inspection of the data it appears that somewhat different patterns might emerge for girls if a large enough group was analysed.

The main questions of interest were: for each type of child temperament, did the type of parenting style at two years differ for those with and without behavioural problems at four years? In particular, we were interested in the impact of parenting on those with temperament characteristics (high reactivity and very low inhibition) which might predispose them to the development of problems. Children were therefore divided into groups on the basis of their temperament scores when observed at two years (no or some negative reactivity, and low, moderate or high inhibition). There were 74 children (44 boys, 30 girls) showing some negative reactivity in the observation session with their parents at two years. Thirty-eight children (22 boys, 16 girls) were highly inhibited in the parent-child observation session at two years. Thus there were more highly reactive boys than girls and slightly more inhibited boys than girls.

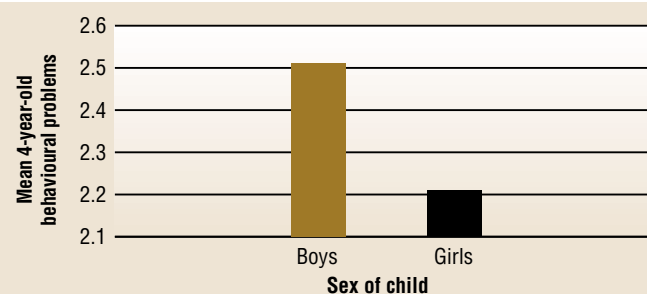
The average levels of each parenting style in the parent-child laboratory session were then examined for each of the sub-groups formed. The findings are presented in Figures 2-5. Note that the bars indicate levels of parenting, not numbers of children; the numbers of children are indicated by the numbers inside the bars. Results for behavioural problems as assessed by questionnaire and observation were often similar, so graphs of only one method of assessment are presented here for each combination of parenting and temperament.

Warmth and reactivity: It can be seen in Figure 2 that six of the eight children who were observed to

have behavioural problems by four years were reactive, and these children received much lower warmth at two years than the other 64 reactive children, and the 35 non-reactive children without behavioural problems. However, it is also notable that only two non-reactive children developed behavioural problems but these had high levels of parental warmth. Thus, for reactive children only, lower levels of parental warmth at two years predict later behavioural problems.

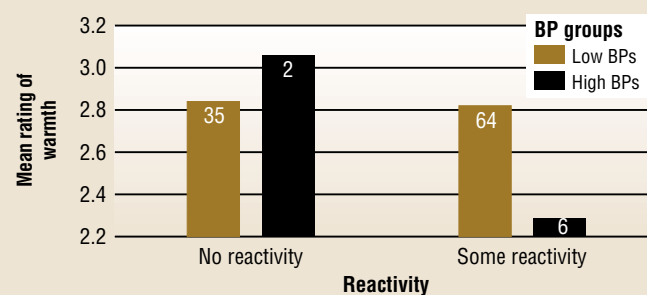
Punishment and reactivity: Figure 3 shows that the six reactive children who were later observed to have behavioural problems had experienced more punishment than the 64 other reactive children without such problems, and the 35 non-reactive children without behavioural problems. Again, the two non-reactive children who developed behavioural problems

Figure 1 Sex differences in behavioural problems



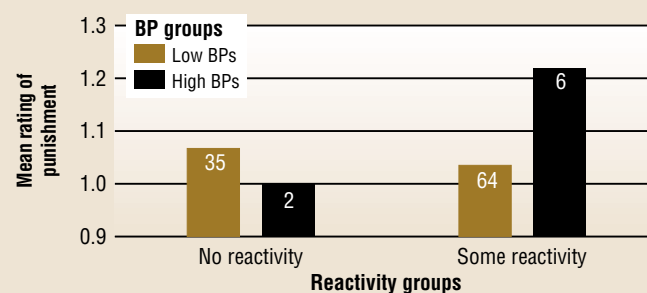
Note: * $p < .05$
Source: Social Development Project, 2001.

Figure 2 Warmth and reactivity with observed behavioural problems (BPs)



Note: The bars indicate levels of parenting, not numbers of children; the numbers of children are indicated by the numbers in the bar.
Source: Social Development Project, 2001.

Figure 3 Punishment and reactivity with observed behavioural problems (BPs)



Note: The bars indicate levels of parenting, not numbers of children; the numbers of children are indicated by the numbers in the bar.
Source: Social Development Project, 2001.

were receiving low levels of punishment at two years. However, in general these results show that the combination of reactivity and high levels of punishment at two years was the most common precursor to behavioural problems at four years.

Inductive reasoning and reactivity: Of the 21 children who had parent-reported behavioural problems at four years, 19 were highly reactive at two years and had experienced lower levels of inductive reasoning than the other 55 reactive children without behavioural problems and the 35 non-reactive children without problems (Figure 4). Again, the two non-reactive children who developed behavioural problems showed a different pattern, with high levels of inductive reasoning. With these exceptions, the most common pattern for children whose parents reported behavioural problems at four years of age was for them to be reactive and to receive lower levels of inductive reasoning as toddlers.

Punishment and inhibition: Figure 5 shows that six of the 21 children with parent-rated behavioural problems at four years were low on inhibition (highly uninhibited or outgoing), and they received more punishment in the parent-child session than the other 32 low-inhibited children who did not develop behavioural problems. The other 15 children with four-year-old parent-rated behavioural problems did not differ from their non-behavioural counterparts in the levels of punishment. These results show that for uninhibited toddlers, higher levels of punishment at two years appear to contribute to later behavioural problems. However, levels of punishment did not appear to have different

effects for children who were moderate or high on inhibition. A similar pattern was found for observed behavioural problems.

Implications for parenting education

In summary, it appears that parenting, in some circumstances, has a different impact on child adjustment depending on the temperament of the child. A highly reactive child is at risk of developing behavioural problems if the parenting s/he receives is higher on punishment, but is protected from this outcome if parents do not use high levels of punishment. A highly reactive child is also more likely to develop behavioural problems if the parent shows lower levels of warmth during interactions with him/her. Parental inductive reasoning seemed to interact with temperament less often than punishment and warmth, however it appeared that low levels of inductive reasoning posed a risk specifically for reactive children.

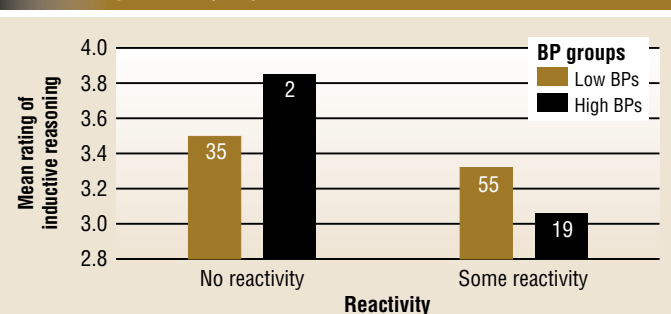
A highly outgoing child who experiences high parental punishment appears more likely than other children to develop behavioural problems. But if the same highly outgoing child receives parenting which channels the child's energy and exuberance in positive ways, the child is likely to be well-adjusted. A more inhibited child is unlikely to develop "acting-out" behavioural problems of the sort assessed here, irrespective of parenting, although this study and others (Rubin et al. 2001) suggest that they can be susceptible to social withdrawal and later anxiety and fearfulness, given exposure to particular parenting styles such as overprotectiveness.

Of course, a highly sociable (possibly risk-taking) child and a highly reactive, intense, and irritable child are more demanding to parent, and may elicit exactly the sort of parenting that appears worst for them. Patterson et al. (1989) have argued that children with particular temperamental traits are more likely to have parents who use high levels of punishment, and have shown that the parent-child interactions in such cases often develop into "coercive cycles" of mutually antagonistic behaviour, with the longer-term result that children develop aggressive behaviour (Patterson et al. 1989). Similarly, Scarr and McCartney (1984) have postulated "evocative" gene-environment interactions, where temperamental traits (which are partly genetically determined) elicit a particular style of parenting, which then results in particular outcomes.

A major implication of these findings is that parents need help in understanding the unique nature of their child, and in finding appropriate ways of parenting that child. It should be noted that the majority of children in the present study, whatever their temperament (high or low reactivity, high or low inhibition), did not have behavioural problems. Therefore it is inappropriate to regard high reactivity and uninhibited styles as necessarily "difficult" traits – the challenge is to find the best fit between these traits and parenting style. Levels of child negative reactivity observed in the laboratory were also relatively low, which is not surprising for this sample.

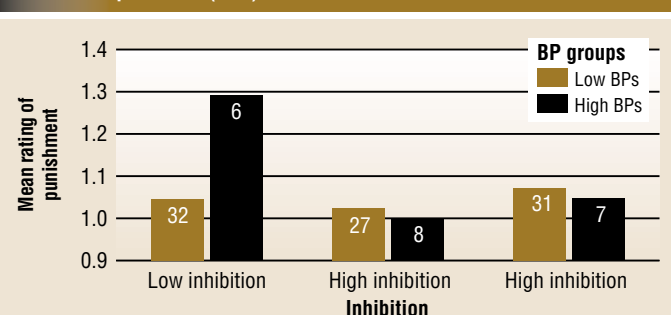
It should also be noted that most children in this study had experienced fairly positive parenting.

Figure 4 Inductive reasoning and reactivity with reported behavioural problems (BPs)



Note: The bars indicate levels of parenting, not numbers of children; the numbers of children are indicated by the numbers in the bar.
Source: Social Development Project, 2001.

Figure 5 Punishment and inhibition with reported behavioural problems (BPs)



Note: The bars indicate levels of parenting, not numbers of children; the numbers of children are indicated by the numbers in the bar.
Source: Social Development Project, 2001.

This means that we do not know whether the pattern of results found here would hold for very high negative reactivity and high levels of parental punishment. But the detailed observational data reveals that relatively small differences in the levels of warmth, punishment and inductive reasoning have a significant impact for children who are temperamentally at risk. The implication remains that "recipe book" approaches in parenting programs, promoting "the right way" to parent, may miss the mark for many children, and parents need to be given the confidence and the skills to adapt their parenting as appropriate.

A research implication from this study is that a fine-grained approach to research, using painstaking coding of observational data which necessitates smaller samples than surveys, is very useful for increasing understanding of the actual processes of child development.

The children will continue to be followed to seven years of age to see whether the trends are consistent with those described here.

References

- Azar, B. (1995), "Timidity can develop in the first days of life", *Monitor*, vol. 26, no. 23, November.
- Baumrind, D. (1966), "Effects of authoritative parental control on child behaviour", *Child Development*, vol. 37, pp. 887-907.
- Booth, C. L., Rose-Krasnor, L., McKinnon, J. & Rubin, K. H. (1994), "Predicting social adjustment in middle childhood: The role of preschool attachment security and maternal style", *Social Development*, vol. 3, pp. 189-204.
- Chamberlain, P. & Patterson, G. R. (1995), "Discipline and child compliance in parenting", in M.H. Bornstein (ed.) *Handbook of Parenting: Vol. 4: Applied and Practical Parenting*, Lawrence Erlbaum, NJ.
- Crockenberg, S. (1987), "Predictors and correlates of anger toward and punitive control of toddlers by adolescent mothers", *Child Development*, vol. 58, pp. 964-975.
- Hart, C.H., DeWolf, M., Wozniak, P. & Burts, D. C. (1992), "Maternal and paternal disciplinary styles: relations with preschoolers' playground behavioural orientations and peer status", *Child Development*, vol. 63, pp. 879-892.
- Loeber, R., Stouthamer-Loeber, M. & Green, S. M. (1991), "Age of onset of problem behaviours in boys, and later disruptive and delinquent behaviours", *Criminal Behaviour and Mental Health*, vol. 1, pp. 229-246.
- Paterson, G. & Sanson, A. (1999), "The association of behavioural adjustment to temperament, parenting and family characteristics among five-year-old children", *Social Development*, vol. 8, pp. 293-309.
- Patterson, G.R., DeBaryshe, B. & Ramsey, E. (1989), "A developmental perspective on antisocial behaviour", *American Psychologist*, vol. 44, pp. 329-335.
- Pettit, G.S. & Bates, J. E. (1989), "Family interaction patterns and children's behaviour problems from infancy to four years", *Developmental Psychology*, vol. 25, pp. 413-420.
- Prior, M., Sanson, A., Smart, D. & Oberklaid, F. (2000), *Pathways from Infancy to Adolescence: Australian Temperament Project 1983-2000*, Australian Institute of Family Studies, Melbourne.
- Rothbart, M.K. & Bates, J. E. (1998), "Temperament", in W. Damon (series ed.) & E. Eisenberg (volume ed.) *Handbook of Child Psychology: Vol. 3. Social, Emotional and Personality Development*, (5th edn), Wiley, New York.
- Rubin, K. H., Cheah, C. S. L., & Fox, N. (2001), "Emotion regulation, parenting and display of social reticence in preschoolers", *Early Education and Development*, vol. 12, pp. 97-115.
- Scarr, S. & McCartney, K. (1984), "How people make their own environments: a theory of genotype-environment effects", *Annual Progress in Child Psychiatry and Child Development*, pp. 98-118.
- Thomas, A., Chess, S. & Birch, H.G. (1968), *Temperament and Behaviour Disorders in Children*, New York University Press, New York.
- Zubrick, S.R., Silburn, S.R., Burton, P. & Blair, E. (2000), "Mental health disorders in children and young people: scope, cause and prevention", *Australian and New Zealand Journal of Psychiatry*, vol. 34, pp. 570-578.

Sheryl Hemphill is a Research Fellow in the Department of Psychology at the University of Melbourne. **Ann Sanson** is Deputy Director (Research) at the Australian Institute of Family Studies.

Some of the data in this article were presented at a colloquium at the School of Psychology, La Trobe University in August 2000. The research described here has been funded by two Australian Research Council grants to Associate Professor Ann Sanson. The authors would like to thank the participants and staff of the Social Development Project who have made this study possible.

Future directions

Social Development Project

The data reported in this *Family Matters* article came from a community sample in which both parents and children were generally functioning well. The risk for the development of adjustment problems among children is much higher if parents have difficulties of their own.

In 1999, the authors, along with Jordana Bayer, received a VicHealth grant to replicate the procedures of the Social Development Project with a sample of 50 children whose parents reported having difficulties with anxiety and/or depression. So far, two-year-old data have been collected and analysed, and results suggest that these children are indeed showing higher levels of adjustment difficulties. There is also some suggestive evidence that the pathways to the development of behavioural and emotional problems in this group differ from those for the community sample. These children are currently attending the lab for their four-year-old sessions.

In another extension of the study, the authors are collaborating with Professor Ken Rubin from the University of Maryland, USA, in conducting cross-cultural comparisons between groups of Canadian, Chinese, Italian and Australian children, on all of whom similar observational and parent-report data have been collected.

Analyses of data on the two-year-olds suggests that the Italian children are the most outgoing, followed by the Australians, and then the Canadians. The Chinese children are the most shy. Parenting behaviour in each country differs, with Australian parents exhibiting the most warmth and protectiveness.

As the children are followed forwards, the authors hope to unravel further the influence of culture on both the children's and the parents' behaviours.