

7 Temperament and psycho-social adjustment



Children of older mothers

These days many people are delaying beginning a family, sometimes because parents wish to develop their careers before giving time to raising children. Many are interested in whether having an 'older mother' affects the development of the child or the family in any particular way. We selected out from the sample all mothers who were 32 years or more, when their first child was born. This gave us a total of 79 families. We compared the children of these mothers with a group of 79 first-born children whose mothers were 25 years or younger when they were born. Children from the two groups were matched for gender, and families were matched on socio-economic status.

There were minimal differences between the two groups of children in temperament, or in behavioural development, suggesting that there is no particular effect on the child's psycho-social development, or on the mother's perception of the child, if the first pregnancy occurs in the over-30 age range. Hence our answer to the questions raised about older mothers is that, once you allow for the influences related to parental socio-economic status (for example, older mothers tended to be of higher socio-economic status in our sample and this influences many aspects of health), and to child gender, the children do not differ at all from those of younger mothers in their temperament and their psychological health.

Rural versus city families

There is some literature suggesting that rural children may be at greater risk for adjustment problems than are those living in cities. Defining what is 'rural' and what is 'city' is not a simple task. We compared four groups of children; those who lived in the metropolitan area, outer metropolitan area, provincial cities, and rural areas, on our temperament and behavioural measures. We found virtually no differences between children from these differing geographical areas. So, at least in our sample and in the 1980s and 1990s, we could say that rural or non-metropolitan children were not disadvantaged in terms of any of our measures of temperament, family characteristics, or child adjustment.

Infant temperament and other factors as predictors of adjustment at the pre-school age

To what extent are a child's emotional and behavioural problems predictable from their temperament when they are infants? How does temperament operate in combination with other significant influences in a child's early development to increase risk for problem outcomes? We examined these questions in children with serious behavioural difficulties when they were 4–5 years of age. Fourteen per cent of children were in this category according to parent ratings from the Pre-school Behaviour Questionnaire.

As our measure of temperament in infancy, we used our Easy Difficult Temperament Scale which allowed us to identify children with temperament characteristics of low cooperation, irritability, and high shyness. Around 15 per cent of children were rated as having a 'difficult' temperament on this scale. Other possible risk factors included in this study were:

- infant developmental problems including colic, sleep problems, and excessive crying;
- prematurity, perinatal stress, and male sex (because we know that boys are at greater risk than girls for problems in the early years);
- relationship factors including the mother's overall rating of the child on a scale of perceived difficulty; the Maternal and Child Health nurse's overall rating on infant difficulty, and her assessment of the level of adjustment of the mother-baby pair;
- aspects of the family environment, such as family socio-economic status, parental country of origin.

Factors which increased the likelihood of pre-school behaviour problems beyond that found in the whole sample (more than 14 per cent), were called 'risk factors'. Difficult temperament by itself was only a small risk for a problematic outcome at 4–5 years (23 per cent of 'difficult' infants had behaviour problems at 4–5 years). Indeed, most of our risk factors, by themselves, conferred a very small risk. The strongest single risk factor was the mother's overall rating of infant difficulty (26 per cent had later problems), which we take to reflect how easy or difficult the mother finds it to relate to her child. Other factors found to be risks were developmental problems, prematurity, perinatal stress, being male, a more problematic mother-baby relationship, nurse's overall rating of child difficulty, lower family socio-economic status and non-Australian parent, with rates of later problems ranging from 15 per cent to 19 per cent for these individual factors. Thus, these single factors in infancy were not very predictive of 4–5 year outcome.

However, when several risk factors co-occurred, the level of prediction was much more powerful. Rates of later problems ranged from 29 per cent to 45 per cent when two infancy risks were present, and from 33 per cent to 68 per cent when 3 or 4 risk factors co-occurred. Interestingly, difficult temperament or mother's overall rating of infant difficulty always featured as one of the co-occurring risks that were highly predictive of maladjustment in the child four years later.

This study illustrated the fact that it is temperament in context, or as part of a range of child and family features, which affects development, through its influence on a range of other factors, especially mother-child interactions.

Stability of behaviour problems

The early developmental years are especially important in the learning of patterns of social behaviour. We know that once a child reaches the age of 7 or 8 years with a history of consistent and serious adjustment difficulties then it is quite difficult to make substantial changes to entrenched problem behaviours. We need to understand more about the ways in which things can go wrong, in order to improve our capacity to help children and families with difficulties.

We looked particularly at the stability of problem behaviours from infancy to school age by comparing three groups of children.

Group A: stable behaviour problems (defined as having problems, as rated by mothers, two or more times since infancy);

Group B: temporary or transient problems (rated as having problems only once since infancy), and

Group C: never rated as having problems.

We were looking for indicators in the children's developmental histories, which might assist us to identify those who could be at risk for entrenched problems.

Mothers of children in Group A had consistently found them more temperamentally difficult over the years, and this group had also shown more aggression in the toddler and pre-school period compared with Group C. Group B generally were rated somewhere between A and C on most measures of behaviour. There was also a trend for Group A to be rated by teachers as having greater difficulties, including a poorer relationship with teachers. An additional trend was for Group A to be of lower socio-economic status. The most salient characteristic of the children with stable behaviour problems was the greater severity of their difficulties. The transient group had shown difficulties but these were much less severe.

In an extension of this study we assessed the influence of family factors within a smaller sub-sample of children. Here, we found that mothers of children in Group A reported themselves to be more stressed, to have poorer life satisfaction and wellbeing, and a lower level of social support. There were no differences reported by the fathers of children across the three groups, and no clear associations with reported child-rearing practices. Temperamental difficultness, a lower level of positive adaptive behaviour, and teacher-reported problems including hyperactive-distractible behaviour characterised the Group A children in this study. Characteristics of the mothers' positive or negative life adjustment were clearly important in relation to child adjustment, once again emphasising the mix of influences which are associated with the development of problems.

Gender differences

In infancy there were very few differences between boys and girls on any of our measures. However, with each year of development, more and more differences began to emerge, most of them in the direction of girls being advantaged. It is important to remember that when we talk about gender differences, we are talking about average figures across a very large group of children, and our conclusions will not hold for each and every child. Looking at averages does not tell us much about any individual child; hence when we say, for example, that boys are more aggressive on average, this does not mean that every boy is more aggressive than every girl. But, for example, looking across the scores on aggression for the whole sample, boys as a group tend to have more problems than do girls as a group.

On average, girls tended to be more socially mature at younger ages than boys, that is, they were more skilled (or practised) at taking responsibility, such as doing small chores. This may be because parents expect and encourage their little girls to be responsible more than they do with their little boys, although we had no measures of this possible source of difference. There were no cognitive and learning ability differences between the sexes on the tests that we gave to 300 children from the project who completed full assessments during home visits between 3 and 7 years. But teachers reported that the boys had more difficulties adjusting to school. They showed poorer task orientation, were less socially competent, were more prone to hyperactivity and aggression, and some seemed less 'ready' for the demands of the classroom in the early years of school. Their ability to control or regulate their own behaviour was seen as somewhat behind that of girls.

In comparing the pathways across time which related to adjustment difficulties at age 8, we found that temperamental inflexibility was the best predictor for both boys and girls. In other ways the pathways were very different. Throughout development, temperamental inflexibility and poor persistence predicted behaviour problems for boys. However for girls, a more complex mix of factors was predictive, with child-rearing factors such as punishment and lower child-centredness being important. This suggested greater sensitivity to family variables for girls in their psycho-social development.

The study of pathways to different types of disorders in middle childhood, which is described below, also found that boys with adjustment problems tended to have a greater number of risk factors in their developmental histories, than had girls with adjustment problems. This indicated somewhat greater vulnerability to difficulties for boys.

Differences between boys and girls have persisted over the late-childhood period and into adolescence. Parents, teachers, and the children themselves have rated boys as having higher levels of aggression and hyperactivity. In terms of temperament characteristics, boys as a group have consistently been reported to be less persistent and more active than girls. We have found no differences between boys and girls on anxiety, but from 13–14 years onwards, girls have reported higher levels of depression than boys, and this difference appears to be increasing as the teenagers move through the adolescent years. Ratings from parents, teachers and children show that girls tend to have closer friendships and to be more cooperative, responsible and empathic than boys. Boys and girls were reported to participate equally as often in organised peer group activities such as sports clubs or community groups.

Prediction of externalising and internalising behaviour problems

Although we have plenty of evidence that adverse temperamental characteristics are associated with the development of behavioural and emotional difficulties in general, we also needed to question whether there are specific connections with particular kinds of problems.

In this study we examined the influence of early temperament and other factors on the development of *externalising* problems, such as aggression, oppositional behaviour, hyperactivity and attention problems. These are the so-called ‘acting out’ disorders which bring the child into conflict with the environment. We similarly investigated the precursors to the development of *internalising* problems. These problems include anxiety, depression, and social withdrawal, that is, problems which are internally troubling for the child. We looked at the degree to which these problems could be predicted by child-related attributes such as temperament, behaviour, school readiness, school achievement, and health, as well as by family factors such as the mother-child relationship, socio-economic status and family stress.

In general, we could predict outcome at 11–12 years quite well from as early as 3–4 years. Some risk factors were similar for internalising and externalising problems and this should not surprise us since one third of the sample had problems in both categories. But we also found some distinct patterns of risk factors for internalising and externalising problems. Boys and girls with externalising problems in late primary school had been more hyperactive from 3–4 years of age. Boys and girls with internalising problems had been more anxious-fearful from the same time period. Around 50 to 60 per cent of children with both externalising and internalising problems had shown these difficult behaviours in the earlier years, whereas for children with only one of these problems the rate of difficulties at any particular earlier time point was generally around 30 per cent.

Some gender differences were evident. For girls, but not boys, lower socio-economic status and lower reading skills at 7–8 years were risk factors for externalising problems (although relatively weak). Teachers rated externalising boys as being lower on task orientation, whereas there were no such differences for externalising girls. For boys, the internalising group had more problems on temperament dimensions such as Approach (shyness) at 1–3 years, Persistence at 3–4 years, Inflexibility at 5–6 and 7–8 years and Emotionality 9–10 years, perhaps indicating a more ‘difficult’ temperament profile overall.

The development of aggressive and anti-social behaviour

One group of children who are at considerable risk for maladjustment, continuing on into adolescence and adult life, are those who show serious levels of aggressive and anti-social behaviour such as destructiveness, fighting, lying, and defiance when they are young. Of course, most children will show some of these behaviours at some time. For example, we are familiar with the problems of the ‘terrible twos’ when children are especially likely to have tantrums, and to test out their parents’ patience about rules, and acceptable behaviour. They may also try hitting parents, siblings, and other children just to see what sort of a reaction they get. This is part of learning what is permitted and what is not. There are some children who are rather aggressive in the early stages but who improve as they mature. But there are also those children who are notably aggressive and uncooperative from early in life who do not grow out of it and who may become worse. There is abundant evidence in the developmental literature that this group is at risk for difficulties at school age and in later life.

At 9-10 years of age (usually Grade 4 stage), we followed up some of the children who had been reported to have aggression problems in toddlerhood and during pre-school and Preparatory Grade. Those children whose patterns of aggressive, anti-social behaviour had persisted were:

- more likely to be boys;
- likely to have histories of difficult temperament and difficult mother-child relationships;
- likely to show more hostile interactions with brothers and sisters;
- subject to more severe parental disciplinary practices than comparison children. (The latter, of course, should not be surprising, since they are difficult to manage);
- more likely to get into trouble at school and to have difficulties with learning and with getting along with other children. A few of the boys in the study were reporting some pre-delinquent behaviours by the time they were in Grade 4, and their problem-solving and verbal abilities were below average.

In a further investigation of this particular problem, we looked again at a group of children who had shown high levels of aggression in Grade 6 (usually 11-12 years), and also in the first year of secondary school (about age 12–13). We measured anti-social behaviour, including fighting, destructiveness, lack of respect and rudeness, bullying other children, and lying. Looking back across development we found that:

- these children had early patterns of aggression which were very predictive of persistent anti-social behaviour at the early adolescent stage. These findings were true according to reports from all informants: parents, teachers, and the children themselves;
- most of the children with anti-social problems were boys;

- in general, aggression was not the only problem for these children, as they often had a combination of behavioural difficulties, and many had learning difficulties as well. They did not get on well with other children and their problems had been evident for many years;
- temperament differences were also evident on the Activity, Reactivity, Persistence, and Sociability dimensions;
- these children were less socially competent according to all three raters (parent, teacher and child); and also differed from non-aggressive children on mother's overall rating of child difficulty. Mothers and teachers reported them to have school problems and difficulties with peer relationships.

The early onset and persistence of anti-social behaviours which we have demonstrated so clearly in this project is consistent with findings from international research. It is clear that we should be attempting to intervene with the children and families early in development, before these kinds of problems become entrenched and difficult to modify.

Attention deficit hyperactivity problems

Hyperactive, impulsive, distractable behaviour along with difficulties in focusing and sustaining attention combine in a syndrome known as Attention Deficit Hyperactivity Disorder (ADHD). This set of problems attracts a good deal of attention in the community and is seen as a rather common problem in school-aged children in Australia. We have carried out a number of studies looking at various facets of the development of children in the project who developed symptoms of ADHD. As is commonly reported in international studies, many of these children also have learning difficulties and sometimes aggression and/or anxiety problems as well. In a study of the early signs or precursors to hyperactivity and aggression at the age of 7–8 years, we looked at the earlier histories of children who scored high on either our hyperactivity scale or our aggression scale, or on both scales, at several time points in the study. We compared these groups with children who were problem free.

Looking back at the histories of the children who had aggression problems (with or without co-occurring hyperactivity) indicated that in infancy and toddlerhood they had shown difficult temperament characteristics such as low cooperation-manageability, high activity-reactivity, and irritability. At 3–4 and 5–6 years mothers had rated them as more inflexible and less persistent in their temperament. The group with the most negative temperament attributes early in development was the one where the children had both hyperactivity and aggressive behaviours.

In addition to these temperamental differences, we identified other risk variables which appeared to contribute to their poor adjustment. These included parental perceptions of difficulty in the child from infancy onwards, greater socio-economic disadvantages in the family, more negative life events, and poorer self-perceived coping skills in the parents. The combination of difficult temperamental characteristics and adverse family factors seemed to produce children with problems in regulating their behaviour, that is, hyperactivity and aggression problems. Non-compliant behaviour was a strong feature of the histories of these children.

For the children with hyperactivity only, there was a trend for them to have suffered from some pre and peri-natal disadvantage in early life. They had been less problematic in behaviour in the early years of development by comparison with those children who were also aggressive.

Teacher data tended to confirm the reports by parents, although they reported an overall lower level of problem behaviour than did parents. They too found the children with

both sets of difficulties much more problematic, illustrating the cross-situational nature of their difficulties. In general, this study showed that it was the aggressive behaviour of the children which distinguished them from other children from early in life, rather than hyperactive behaviour. All three problem groups however, were reported to have academic difficulties.

Cheryl Clarke, in her PhD research at LaTrobe University, assessed a number of children from our study who had histories of aggressive and/or hyperactive behaviour, when they were 13–14 years of age. She used some neuropsychological tests, which tap into different brain functions and attention processes. She found that adolescents with both current and previous ADHD problems, whether they had additional anti-social behaviour or not, had many difficulties with planning and organising their approaches to the cognitive tasks and problems she asked them to complete. They were poorer than non-problem children in developing strategies for goal setting and problem solving, and in monitoring their performance. These cognitive tests showed in a more formal way some of the everyday problems children with ADHD have in managing their daily life, their school work and their homework, and we know this leads to great frustration for the children, their parents and their teachers.

In our most recent study of the series focusing on attention deficit hyperactivity problems, we were able to combine our data with that from the Dunedin Multi-disciplinary Study of Health and Development which has been going on in New Zealand now for more than 25 years. This group has followed almost 1000 children from the age of 3 years, and the members of their sample are now adults and establishing their own families. This research group too has measured behavioural and learning problems throughout childhood. We used data from both studies to investigate outcome in adolescence for children who had hyperactive behaviour and reading problems at 5–8 years of age. We found that early hyperactivity was associated with later behaviour problems of the anti-social type, and with persisting literacy difficulties and attention deficits, as well as with lower socio-economic status. If these children also showed anti-social behaviour and reading problems, they fared worse in adolescence than did those with just hyperactivity. This suggests that it is the reading problems and anti-social behaviour which frequently co-exist with hyperactivity, which most strongly predict a poor social and academic outcome.

Temperamental shyness

Shyness is an important dimension of individuality in childhood. Our temperament dimension of Approach measures this characteristic. We have carried out some studies of the stability of this trait and its effects on adjustment in children, from infancy to 7 years and onwards. These studies have shown that shyness is moderately stable for the first 6–7 years of life, especially for children at the extremes of this dimension. That is, very shy children tend to stay that way, and very outgoing, sociable children also tend to stay that way. Children in the middle range of this dimension are more likely to show some change. More girls than boys showed a pattern of consistent shyness.

We looked at the effects of parenting behaviours on the stability of shy behaviour. In this study we assessed the children's behaviour through home observation of a small sample of 7-year-olds, to see whether parent ratings of shyness/approach were consistent with how the children actually behaved when observed at home. Observational data matched well with the parents' ratings, adding confidence to the findings based on parent reports. For example, shy children were observed to talk less, to make fewer spontaneous comments, and to be slower to respond to a stranger, compared with non-shy children.

We found that some family factors such as the experience of stressful life events and some parenting practices did influence shyness and its stability. Late-onset shyness and stable shyness were associated with particular child-rearing practices, including lower child-centredness, greater use of physical discipline, and control through guilt and anxiety. Children who had been shy as infants but were no longer shy tended to have parents who did not make them feel guilty or anxious, were warm and nurturing, and who did not push them to be independent too soon. These findings serve to remind us of the importance of the ‘fit’ between a child’s temperamental style and a parent’s child-rearing style. However, there were no effects on the child’s propensity for shyness of socio-economic status, birth order, family size, maternal shyness, or ethnicity.

Shyness and the development of anxiety

One question of interest to developmental and clinical researchers is the extent to which having a shy-inhibited kind of temperament in early childhood predisposes a person to develop anxiety problems in later life (Kagan 1994). We looked at this pathway by tracing the development of children in our sample who had much higher than average levels of shyness in the early years. We could do this in two ways: looking forward from infancy to adolescence to see how many shy children had developed anxiety problems in adolescence; and looking backwards to see to what extent anxious adolescents had a history of shy-inhibited temperament. We based our analyses on temperament ratings from mothers throughout childhood, and on both parent and adolescent ratings of anxiety symptoms at 13–14 years of age.

Being shy earlier in life, especially from the age of 9 years onwards, did increase a child’s chances of having a clinical level of anxiety problems in adolescence. In fact, 42 per cent of children who were frequently rated as having a very shy temperament had anxiety problems at 14 years. However, of those children who had a clinical level of anxiety problems at 14 years, only 20 per cent had been consistently shy in early childhood. So the answer to the question differs depending on whether you look forwards or backwards in time. In general, we can say that persistent shyness is a risk factor for later anxiety, but most shy children do not become anxious adolescents.

Clinical diagnoses in early adolescence

In an in-depth study covering the period of transition into adolescence (11–14 years), we followed the progress of a group of project children considered to be ‘at risk’ for psychological problems. They were selected in Grade 6 because they had higher-than-average scores on our behaviour problem measures, as reported by two or more informants (parent, teacher, self). They were assessed at 11–12 years and then followed up in Year 8. This group was compared with children from the study who did not have any significant problems according to the same rating scales.

Trained psychologists visited the children at home where they completed some cognitive and academic assessments, and an individual interview designed to explore behavioural and emotional difficulties in greater depth. Parents also provided information about the family environment, and about the child’s temperament at this pre-adolescent stage. Analyses showed that:

- almost half of our selected ‘at risk’ children received a clinical diagnosis (such as anxiety disorder, or conduct disorder); this was more common for boys than for girls;
- just under half of the diagnosed children had more than one kind of disorder;

- the most common diagnosis at 11–12 years was anxiety disorder. This was the only category to show a slight preponderance of girls;
- almost all the children with ‘acting out’ problems, such as ADHD, oppositional and conduct disorders, were boys;
- among comparison (not at risk) children, we found very few (9 per cent) who on interview turned out to have a diagnosed disorder, most often an ‘internalising’ type (anxiety, phobia, depression);
- the ‘at risk’ group of children was different from the non-problem group on the temperament dimensions of Reactivity, Persistence, Activity, and Sociability. In addition, they were less socially skilled, and less well adjusted in their peer relationships.

The boys (but not girls) tended to come from families of lower socio-economic status. Overall, the problem group also differed from the non-problem group on mother’s reports of family and parent adjustment measures, with the former group characterised by more reported parental personal and family difficulties, along with less perceived coping ability, parental report of more use of punishment, and less warmth towards their children. These family differences applied predominantly to the problem boys.

For the most part, ‘at risk’ children who met criteria for a formal clinical diagnosis based on the child interview did not differ from those who did not warrant a diagnosis, either at 11–12 years, or in their earlier histories. This suggested that the rating scales we used were very efficient and economical in identifying children with significant adjustment difficulties.

We conducted a further series of analyses of the histories of these same children to identify predictors from our earlier measures of their adjustment at 11–12 years of age. The best predictor of current problems was the existence of earlier adjustment difficulties; that is, difficulties had been persistent over time and they predicted ongoing problems. As an example, if a child had behavioural difficulties at 3–4 years of age, that child was five times as likely to have such problems at 11–12 years, compared with a child without problems at 3–4 years.

While the problem and non-problem groups differed in terms of their earlier temperamental styles, those differences were less powerful predictors than earlier behavioural and emotional difficulties. The most important temperament factors in our prediction analyses were self-regulation characteristics, such as inflexibility, and poor task persistence, and also negative emotionality.

The limited measures of family factors used in this study had rather weak predictive power for pre-adolescent problems, with the only significant predictor being parent report of family life stress and coping. The child’s temperament and behavioural characteristics were more powerful predictors, and this was the case using both parent-reported, and teacher-reported information. Several additional measures provided by the teachers were predictive of problems for boys in particular. These were lower school-readiness as rated in the first year of school, temperamental task orientation, and reading and academic skills in Grade 2.

The majority of ‘at risk’ children had consistent histories of adjustment difficulties going back to their early developmental stages. Mothers of these children had usually rated them as more difficult than average. The findings were mirrored in the school-based information and painted a picture of early emerging, widespread, and enduring differences on school adjustment and learning measures in those children showing significant adjustment difficulties at 11–12 years of age. This study using detailed assessments and interviews confirmed that for some children, problems can be identified early in life; they are persistent and they are predictable from pre-school age onwards.

Follow-up in adolescence

The children in this same study were visited and interviewed again two years later to assess stability and change in adjustment over this important adolescent transition period. During these two years they had moved from the relatively sheltered environment of the primary school into the secondary level of education, where more independence is required. For many children, this also represents a significant transition period in development, with the onset of puberty. An important question was whether the children who had clinical diagnoses at 11–12 years remained in the risk range for psychological problems, or had improved; and also whether the pattern of disorders in the group had changed across the two-year transition period.

Among the group originally selected as ‘at risk’ for disorder in 1994, there were some changes in the types of disorders found two years later. There was a lower level of anxiety disorders and a higher level of externalising disorders at 13–14 years. Very few children were depressed, although the number was slightly higher than at 11–12 years. We have summarised and simplified these results by grouping problems as ‘externalising’ (hyperactive, oppositional, anti-social), ‘internalising’ (anxiety, phobias, depression), or ‘both types’ when children had an externalising and internalising problem. Thus among ‘at risk’ children, we found:

Of those who were problem-free at 11–12 years, at 13–14 years

- 78 per cent remained problem free
- 19 per cent had an externalising diagnosis
- 2 per cent had an internalising diagnosis
- 1 per cent had both types of diagnoses

Of those with an externalising diagnosis at 11–12 year, at 13–14 years

- 31 per cent were now problem-free
- 61 per cent still had an externalising diagnosis
- 4 per cent had an internalising diagnosis
- 4 per cent had both types of diagnoses

Of those with an internalising diagnosis at 11–12 years, at 13–14 years

- 55 per cent were now problem-free
- 14 per cent had an externalising diagnosis
- 24 per cent still had an internalising diagnosis
- 7 per cent had both types of diagnoses

Of those with both types of diagnoses at 11–12 years, at 13–14 years

- 31 per cent were now problem-free
- 15 per cent had an externalising diagnosis
- 15 per cent had an internalising diagnosis
- 39 per cent still had both types of diagnoses

One way of looking at these results is to ask (ignoring type of diagnosis for the moment), if a child did, or did not, have a diagnosis at 11–12 years, how likely was that child to be in the same situation two years later? Our answer to this is there seems to be high stability, since almost 80 per cent of those who did not have a diagnosis were still in this category two years later. Seventy per cent of those children who had ‘externalising’ or ‘both types’ of diagnoses at 11–12 years still had a diagnosis of some kind two years later. A smaller proportion, but still a majority, of children with an earlier ‘internalising’ disorder were also diagnosed two years later.

However when we look at stability in type of diagnosis, we find greater variability: 60 per cent of ‘externalising’, 24 per cent of ‘internalising’ and 39 per cent of ‘both types’

showed the same pattern of diagnoses two years later. Thus we found a high level of 'sensitivity' in diagnosis (good ability to identify children with, or without, ongoing significant problems), but a low level of 'specificity' (ability to accurately identify specific, stable types of diagnoses), since children often moved from one category of problem to another. There were no differences between boys and girls in terms of stability or change.

How did the children who were not considered 'at risk' for diagnosis at 11–12 years fare two years later? We found a very similar picture to their earlier state, since only 9 per cent of comparison children had a diagnosis at follow-up. Thus among comparison children too, there was high 'sensitivity' of status (that is, stability of 'diagnosis' or 'no diagnosis').

In summary, there was considerable stability in whether or not a child had a diagnosis across the two years, but notable change in types of disorders for those who had a diagnosis at both 11–12 and 13–14 years.

Further reading

See items 23, 28, 30, 38, 39, 44, 47, 48, 53, 55, 56, 59, 64, 67, 73 and 78 in the list of Australian Temperament Project publications and Cann (1991) in the References at the end of this book.