



The Australian temperament project: the first 30 years

AUTHOR(S)

B Edwards, Mary Hawkins, P Letcher, K Little, Jacqui Macdonald, F Oberklaid, M O'Connor, C Olsson, M Prior, A Sanson, Diana Frances Smart, John Toumbourou, S Vassallo

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Australian Government
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The Australian Temperament Project

The first 30 years



Edited by Suzanne Vassallo
and Ann Sanson

AUSTRALIAN TEMPERAMENT PROJECT

A study of development from infancy to adulthood

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About the authors

Dr Ben Edwards (BA, BA(Hons), PhD) is Executive Manager (Longitudinal Studies) at the Australian Institute of Family Studies. He manages *Growing Up in Australia: The Longitudinal Study of Australian Children* (LSAC) and, since 2010, has been involved in the Australian Temperament Project (ATP). Ben has undertaken evaluations of large-scale government programs focused on child wellbeing, as well as research on child and adolescent development, families caring for a person with a disability, and the effects of drought on families. He has also undertaken consultancies for a range of government and non-government agencies. Ben has used ATP data to examine the long-term effects of adolescent bullying, and in an Organisation for Economic Co-operation and Development (OECD) project on the influence of temperament on social progress in adulthood.

Dr Mary Hawkins (BA(Hons), PhD) is a Research Fellow working for Deakin University, specialising in the measurement and analysis of positive outcomes. Mary has an interest in wellbeing over the lifespan and worked as part of the ATP team on positive development from 2007 to 2012, covering the period from late adolescence to adulthood. She also co-authored papers on school bonding and alcohol-related harms and worked as Project Manager for the ATP during 2012.

Dr Primrose Letcher (BA(Hons), MPsych(Clin), PhD) is a clinical psychologist with a long history of project management and research with the ATP. Her PhD examined precursors of anxiety in adolescence, using the ATP dataset. Her main research interests include individual, family and social processes in child and adolescent development, developmental psychopathology of emotional problems and positive development across the lifespan. Primrose is currently Project Manager for the ATP Generation 3 Study, which is following the health and development of children born to ATP study members. With two young children of her own, she is keen to contribute to our understanding about intergenerational pathways and processes.

Keriann Little (BA(Hons)/BSc) has been a research assistant on the ATP since 2007 and is currently undertaking a Masters in Psychology (Clinical Child)/PhD. Her work on the ATP has included making telephone contact with many ATP study members, and undertaking research on the causes and consequences of alcohol consumption in adolescence and early adulthood. Her other areas of interest centre around the contributions of genetics and environmental factors to adolescent mental health.

Jacqui Macdonald (BA(Hons)) is a lecturer in the School of Psychology at Deakin University and a researcher and former Project Manager with the ATP Generation 3 Study. Her research focuses on the emotions and behaviours associated with caregiving. Using ATP data from three generations, she is exploring the factors in a person's life history that might predict the way in which they relate to their children. Specifically, she is examining the quality of the relationships that ATP study members have had with family and friends, from childhood through to early adulthood, and how that might affect the relationships study members develop with their own children.

Professor Frank Oberklaid (AOM, MD, FRACP, DCH) is the Foundation Director of the Centre for Community Child Health, Royal Children's Hospital Melbourne, and a Professor within the University of Melbourne Department of Pædiatrics. Frank is a pædiatrician who maintains an active clinical practice in developmental/behavioural pædiatrics, in addition to his interests in research, training and advocacy for children. He has authored two books, numerous book chapters and over 150 scientific papers on various aspects of pædiatrics. Frank was one of the instigators of the ATP and was a chief investigator on the project in its early years.

Dr Meredith O'Connor (BA(Hons), DEdPsych, MAPS) is an educational and developmental psychologist specialising in the interface between education and healthy development over the life course, with an emphasis on practice- and policy-relevant research. Her doctoral research used ATP data to explore pathways to positive development and the relationship between healthy functioning and mental health problems during the transition to adulthood. She was part of the ATP team from 2008 to 2012, and continues to work with the team in research on healthy development. She is currently the Positive Education Research Fellow at Geelong Grammar School and a Senior Research Officer at Murdoch Childrens Research Institute.

Associate Professor Craig Olsson (PhD) is a developmental psychologist based at the Royal Children's Hospital Melbourne, with joint appointments at the Deakin Centre for Mental Health and Wellbeing Research, Murdoch Childrens Research Institute, and the Department of Pædiatrics at the University of Melbourne. He has worked on the ATP since 2009 and now leads the ATP Generation 3 Study. His work addresses the many factors, both within and across generations, that affect development from childhood to adulthood. He is the National Convenor of the Australian Research Alliance for Children and Youth (ARACY) Longitudinal Studies Network, which brings together over 20 longitudinal studies of child health and development. In 2013, he was awarded an Australian Research Council Discovery Outstanding Researcher Award (DORA) for his contribution to life course research.

Professor Margot Prior (AO, FASSA, FAPS) is Professor of Psychology at the University of Melbourne. She has been a lecturer, clinician and researcher in the field of family and child development for more than 35 years, at several universities. Her special research focus has been on autism spectrum disorders, and children with learning and behavioural difficulties. Between 1994 and 2002, she was Professor/Director of Psychology at the Royal Children's Hospital Melbourne. She was one of the original leaders of the ATP and has published many papers and given many talks on this research. She is currently involved in a longitudinal study of language and literacy development in Victorian children across the age span of 8 months to 13 years.

Professor Ann Sanson (BA, PhD, FAPS) is a developmental psychologist and Honorary Professorial Fellow in the Department of Pædiatrics at the University of Melbourne. Her research expertise is in longitudinal studies of child and adolescent development and wellbeing. She has been involved in the ATP since the start, and is the Principal Scientific Advisor to *Growing Up in Australia: The Longitudinal Study of Australian Children*. Ann also advises national longitudinal studies in Norway, New Zealand and Ireland, and is on the Steering Committee for the Longitudinal Study of Indigenous Children. She has also worked with the Australian Research Alliance for Children and Youth.

Diana Smart (BA(HHons), MA, DipEd) is a psychologist with extensive experience in research on child and youth development and is currently a Senior Research Fellow at the Australian Institute of Family Studies. She has a longstanding interest in the development of positive attributes, and strengths such as social competence, social responsibility and civic engagement. She has led influential research on developmental pathways to adolescent problem behaviours, the identification of sensitive transition points, and risk and protective factors. She has been involved in the ATP since 1988 and sees this as the highlight of her career.

Professor John W. Toumbourou (BA(Hons), MA, PhD, MAPS) is the Chair in Health Psychology within the School of Psychology at Deakin University, and an Associate Director of the university's Strategic Centre for Mental Health and Wellbeing Research. John has been Principal Investigator on the ATP since 1996, when the study members reached adolescence. John has been influential internationally and nationally in the fields of prevention science and health psychology, where he has received international awards for his contributions, and has helped reshape Australian health policies to more effectively address adolescent alcohol misuse and related problems.

Suzanne Vassallo (BAppSci, GradDipPsych, MClinPsych) is a Research Fellow at the Australian Institute of Family Studies. She has worked on the ATP since 2001, including four years as Project Manager (from 2008 to 2012). Over her career, Suzanne has been involved in the development and implementation of a number of large-scale cross-sectional and longitudinal studies, including the ATP and the Longitudinal Study of Separated Families. Besides longitudinal studies, her research interests include the development of risk-taking behaviour in adolescents and young adults, and relationships between young people and their parents.

Acknowledgements

First and foremost, the Australian Temperament Project (ATP) would not be celebrating the important milestone of 30 years without the ongoing support of the study's families. The authors of the report would like to express their heartfelt thanks to the young people and their parents and teachers who have participated in the ATP over all these years, for their wonderful loyalty and interest in the study.

The enthusiasm and commitment of the many researchers and postgraduate students who have worked on the ATP has been another key factor in its longevity and success. While we cannot name them all individually here, many have contributed to writing this report, and we cite some publications of others who have worked on the ATP within the report. We gratefully acknowledge the contributions of these people and all others who have helped to collect and analyse the massive ATP dataset.

We would also like to acknowledge the support of the many organisations that have provided funding over the life of the ATP. These include: the Australian Institute of Family Studies, the Australian Research Council, Deakin University, Financial Markets for Children, La Trobe University, Murdoch Childrens Research Institute, the National Health and Medical Research Council, the R. E. Ross Trust, the Royal Automobile Club of Victoria, the Royal Children's Hospital Research Foundation, the Transport Accident Commission of Victoria, the University of Melbourne, the Victorian Department of Education (now Department of Education and Early Childhood Development), the Victorian Department of Justice, and the Victorian Health Promotion Foundation.

Foreword

As each new life begins, processes of development commence that are evident in the emergence of capacities to perceive, think, communicate, manage feelings, and form and maintain key social relationships. Improving the life chances of Australian children requires a better understanding of the factors that hinder or promote healthy development.

This report provides a brief and accessible account of some of the key learnings about human development from the Australian Temperament Project (ATP), a groundbreaking longitudinal study that, to date, has followed a large group of Victorians from their birth to age 30 years. This publication follows the earlier report on the first 18 years of the study, *Pathways From Infancy to Adolescence: Australian Temperament Project 1983–2000*, also published by the Australian Institute of Family Studies.

The release of *The Australian Temperament Project: The First 30 Years* coincides with a major milestone—the study’s 30th birthday celebrations. The editors, Suzanne Vassallo and Ann Sanson, sought to provide a clear account of some of the highlights of the study for the study members, whose loyalty over three decades has been both commendable and vital to the ongoing success of this landmark longitudinal study. As well as being a “thank you” to the study participants, the report also provides a concise overview of the ATP for researchers, policy-makers, practitioners and others who are interested in reading more about the study.

The report includes chapters authored by many of the researchers who have worked on the study over the years. Since its commencement, the ATP has been a multidisciplinary study, involving researchers from La Trobe, Melbourne and Deakin universities, as well as the Royal Children’s Hospital. The Australian Institute of Family Studies is proud to have played a leading role in the project since 2000. I look forward with enthusiasm to researchers from the Institute being involved in the next phases of this flagship study. The ATP has, in so many ways, emerged as one of Australia’s major research resources in the field of human lifespan development.

I congratulate all those who have contributed to this superb publication and applaud those who, 30 years ago, had the foresight to initiate such a groundbreaking study.

Professor Alan Hayes AM
Director
Australian Institute of Family Studies

Preface

This publication tells the story of the first 30 years of the famous and influential Australian Temperament Project (ATP), which has followed a large representative sample of Australians from their first months of life into adulthood. It is unique in its design and its outputs.

At the time the ATP was established in the early 1980s, there were few longitudinal studies tracking the psychosocial development of Australian children. The ATP filled a void by providing data on multiple aspects of development—from colic and sleep problems (in infancy), to learning and behavioural difficulties (during the school years), to mental health problems and substance use (in adolescence and adulthood), to name a few. As well as examining the influence of family, school, peers and community on children’s development, a distinctive feature of this study has been its focus throughout on the contribution of an individual’s temperament to their development, something that had been virtually ignored previously. I believe that apart from this classic Australian study, still too little attention is paid to this important aspect of child development and wellbeing.

Back in 2000, I wrote the preface to *Pathways From Infancy to Adolescence: Australian Temperament Project 1983–2000*, which told the story of the first 18 years of the ATP. I noted then that the ATP had been recognised as a flagship study, nationally and internationally, for its outstanding contribution to our knowledge about how children develop into adults from a psychosocial perspective. The subsequent years have capitalised on these achievements, providing important insights into development, from adolescence into early adulthood, focusing particularly on pathways to positive development.

One reason the ATP has had such an impact has been the researchers’ focus on areas where research evidence was desperately needed to guide policy-making and practical interventions. This has led to fruitful collaborations with agencies such as Crime Prevention Victoria (investigating pathways into and out of antisocial behaviour), and the Royal Automobile Club of Victoria and Transport Accident Commission (on factors associated with risky driving). The ATP team’s ability to move beyond focusing solely on the things that can and do go wrong in development, to also look at what contributes to a person becoming a well-adjusted, healthy and resilient young adult, able to contribute productively to their society, has been another admirable achievement. This work has great relevance for our attempts to promote resilience in our families, communities, and as a nation.

I am delighted to learn that ATP researchers intend to follow this cohort further into adulthood, so they will be able to identify how an individual’s childhood and adolescence influence their adult adjustment and relationships, educational and work trajectories, and even physical health. The commencement of the ATP’s Generation 3 Study is another exciting development. Very few studies in the world can hope to match the depth of information that the ATP has collected on its study members (Generation 2) and their parents (Generation 1), collected over 15 survey waves. Now that the Generation 2 participants are in their peak years for having children, there is potential for garnering valuable new learnings about how grandparents and parents influence the development of these Generation 3 children. These influences may be both biological (through genetics and the child’s prenatal and even pre-conception environments) and social (through the behaviour, attitudes and relationships of the adults around the child).

I congratulate and thank the ATP team for their vision, tenacity and passion for providing data to improve the ways in which our society can enable both the healthy development of children and to intervene effectively with those at high risk of poor outcomes. The ATP is a shining beacon to guide us as a nation to improve the outcomes for our children across the generations.

Professor Fiona J. Stanley AC

Patron, Telethon Institute for Child Health Research

Distinguished Research Professor, University of Western Australia

Vice-Chancellor’s Fellow, University of Melbourne

1

The Australian Temperament Project

Suzanne Vassallo and Ann Sanson

Tracking lives through time

Commencing 30 years ago, the Australian Temperament Project (ATP) is a unique study that has followed the development of a large group of Victorian children from their first year of life to their late twenties, and is now following *their* children. With detailed information collected so far from 15 waves of data collection, the ATP is one of the longest running studies of its kind in Australia, and one of only a few in the world with information on three generations of family members (i.e., the young people, their parents, and now the young people's children). Findings from the study have provided important guidance to parents, policy-makers, teachers and others with an interest in human development.

By following the same group of individuals over time, longitudinal studies such as the ATP can identify patterns and pathways of development: how they differ between individuals, what experiences and qualities lead to healthy development, how problems arise for some people but are avoided or resolved by others, and the many influences that shape development for good or for ill.

Over the last 30 years, the ATP has produced over 130 papers for scientific journals and reports about study findings for government and other agencies. These are listed at the end of the report (starting on page 20) and are also available on the ATP website <www.aifs.gov.au/atp>. This report highlights a small selection of the areas that have been investigated across the years. First, we provide a brief overview of the study design. Subsequent sections focus on research that has been undertaken at different stages of the young people's development—during infancy and early childhood, the primary school years, early and mid/late adolescence, and early adulthood.

ATP study members and data

The ATP commenced in 1983 with the recruitment of 2,443 families with infants aged 4–8 months from both rural and urban areas of Victoria, Australia (for more details, see our 2000 publication, *Pathways from Infancy to Adolescence*,^{63*} which summarised the first 18 years of the study). Over two-thirds of these families are still taking part.



* Superscript numbers are used throughout the remainder of the report to indicate published papers or reports that contain more detail about the summarised research. These numbers correspond with the numbers in the publications list starting on page 20. For instance, in this example, the reader is directed towards reference number 63 in the publication list.

The ages of the study members at each of the 15 surveys to date are shown in Table 1.1, and Table 1.2 shows the people who have taken part at each wave. As can be seen, parents have been surveyed at every time point, and maternal and child health nurses and primary school teachers have given their perspectives at relevant ages. From 11–12 years onwards, the young people themselves have increasingly become the key informants on their own development, experiences and wellbeing. Mail surveys have almost always been used, but an online option was added for the latest survey wave (in 2010–11).

Table 1.2 also shows the major areas of development that have been assessed at each time point. At the start of the study in 1983, the researchers' main interest was in understanding how children's temperament—the individual personality style of each child—affected their later development. This has remained a keen interest, but as the young people have progressed through various life stages, our interests have broadened to cover such topics as educational progress, mental health, relationships, risky behaviours and social competence.

Table 1.1: Age of study members at each survey wave 1983 to 2010–11, by stage of development

Infancy and early childhood		Primary school years		Early adolescence		Mid/late adolescence		Adulthood	
Wave	Age	Wave	Age	Wave	Age	Wave	Age	Wave	Age
1	4–8 months	5	5–6 years	9	12–13 years	11	15–16 years	13	19–20 years
2	1–2 years	6	7–8 years	10	13–14 years	12	17–18 years	14	23–24 years
3	2–3 years	7	9–10 years					15	27–28 years
4	3–4 years	8	11–12 years						

Table 1.2: Major areas of development studied, by stage of development and informant

Major areas studied	Infancy and early childhood	Primary school years	Early adolescence	Mid/late adolescence	Adulthood
Temperament/personality style	P	P	P, C	P, C	P, C
Behavioural and emotional problems	P	P, T, C	P, C	P, C	P, C
Family socio-demographic characteristics	P	P	P	P	P, C
Physical health	P, N	P			P, C
Social competence		P, T, C	P, C	P, C	P, C
Eating attitudes and behaviours			P, C	P, C	
Peer relationships		P, T, C	P, C	P, C	P, C
Parent–child relationships and family climate	N	C	P, C	P	P, C
Parenting style			P	P	
School adjustment and achievement		T	P, C	P, C	
Substance use and antisocial behaviour			C	P, C	P, C
Risky driving					P, C
Civic mindedness and positive development				P, C	P, C
Workforce participation				P, C	P, C
Couple relationships, marriage and parenthood				C	P, C

Note: Informants are: P = parents; C = children; T = primary school teachers; and N = maternal and child health nurses.

In addition, specific developmental issues have been examined in a number of in-depth studies in which smaller groups of children and families have been visited in their homes. And, as many of the young people in the ATP are now starting their own families, the ATP Generation 3 Study is now beginning to track this new generation (see Section 7, on page 18).

The ATP researchers

The ATP began as a collaboration between psychologists at La Trobe University and paediatricians at the Royal Children's Hospital Melbourne. Over time, the collaboration has expanded to include the University of Melbourne, the Australian Institute of Family Studies and Deakin University. We have also partnered with various organisations—such as the Royal Automobile Club of Victoria (RACV), the Transport Accident Commission of Victoria (TAC), Crime Prevention Victoria, and other universities—to investigate specific issues. Numerous Honours year and postgraduate students have also conducted research using the ATP data. The continuity provided by the ongoing involvement of the original researchers is a major strength of the study, while younger researchers have brought new energy and expertise to the team. Short biographies of the researchers can be found in the About the Authors section (see page ii).



Infancy and early childhood

Ann Sanson and Frank Oberklaid

What is temperament?

Temperament refers to differences between individuals, visible from birth, in how they typically behave and react to their social surroundings. When the ATP began in 1983, there was virtually no Australian research on child temperament. The initial aim of the ATP was to study temperament in a large representative sample of Victorian infants, and to understand how it affected their social and emotional development through childhood.

In the early years of the study, we developed simplified questionnaires (now widely used in child development research both in Australia and overseas) to assess temperament in infants, toddlers and young children.^{4,12,13,42} We identified several important aspects of temperament, including: *sociability*—the tendency of a child to be shy or outgoing in new situations and when meeting new people; *reactivity*—how strongly a child reacts to experiences and to frustration; and *persistence*—the extent to which a child can stay on task and control their attention, despite distractions and difficulties (see Table 2.1 on page 5). These dimensions also reflect the capacity of an individual to manage, or self-regulate, their own feelings, attention and behaviour. Other aspects of temperament that were somewhat less important included rhythmicity (e.g., regularity of eating and sleeping patterns) and activity level. We found that children tended to remain fairly stable in their temperament from infancy to childhood, with few changing radically (e.g., from being very sociable to very shy) but many changing a little.³⁷

The role of temperament in social and emotional adjustment

We have investigated links between early temperament and a number of aspects of later development and adjustment. For example, we examined whether having a “difficult” temperament (being irritable, shy, uncooperative) as an infant posed a risk for emotional and behavioural problems as preschoolers.³¹ We also looked at other infant factors, such as prematurity, colic and sleep problems, the mother’s ease of relating to her infant, and the influence of family socio-economic status.^{14,15} No single infancy risk factor was strongly predictive of problems at 3–4 years. But when two or more of these occurred together, rates of problems increased. A “difficult” temperament, and/or the mother having difficulty relating to her child, were always among the combinations of risk factors that predicted later problems. This work showed that temperamental characteristics may not directly lead to adjustment problems, but can create vulnerability when there are other risk factors in a child’s life.

In several studies of children in the ATP who were born prematurely (before 37 weeks’ gestation), we found that prematurity per se was not associated with having a difficult temperament or behaviour problems,^{3,5,15} which is reassuring for parents, as it had previously been held that premature children were more difficult. In a series of studies we also found differences in the temperament style of infants born to families from differing cultural backgrounds, including

Table 2.1: Dimensions, definitions and age-specific names of aspects of temperament studied in the ATP, by stage of development

Temperament dimension and definition	Infancy and early childhood	Primary school years	Adolescence	Adulthood
Sociability: tendency to be shy or outgoing in new situations and when meeting new people	Approach/ sociability	Approach Sociability Shyness	Approach	Approach/ sociability
Reactivity: strength of emotional reactions to positive and negative experiences	Irritability Cooperation	Inflexibility Reactivity Emotionality	Negative reactivity	Negative reactivity Positive emotionality Flexibility
Persistence: capacity to maintain attention, despite distractions	Persistence Distractibility	Persistence Task orientation	Persistence Task orientation	Persistence Distractibility

families of Greek, Italian and Chinese heritage.^{8,11,16} Other research during the toddler and childhood period revealed gender differences, with boys generally being rated as being more difficult and challenging for parents.^{38,39}

Shyness

One aspect of temperament that we investigated in some detail from infancy to childhood was shyness (or low sociability).⁴⁸ We visited a small sample of 6–7 year old ATP children and their families at home and found that observers’ ratings of children’s shyness matched well with their parents’ ratings, showing that parents were accurate and valid reporters of their children’s behaviour. We found that some parenting practices were linked to whether children who were shy as infants remained shy or became more outgoing, and whether non-shy infants developed shyness later. If parents were less child-focused, used physical punishment or used parenting methods that made their child feel guilty or anxious, children were more likely to remain shy or develop shyness. Those who had been shy as infants were more likely to overcome their shyness if parents were warm and nurturing, did not make them feel guilty or anxious, and did not push them to be independent too soon. These findings reinforce the importance of adapting parenting to a child’s particular temperament style, and also show that parenting can help to modify temperament traits.

Summary

- The ATP has demonstrated how individuals differ in temperament from birth, and how these differences matter for later development and adjustment.
- From being virtually ignored in the early 1980s, temperament is now routinely included in studies of children’s development. ATP questionnaires are now widely used in research on child development in Australia and internationally.
- Important aspects of temperament include sociability (tendency to approach or avoid new situations and people), reactivity (self-regulation of emotional reactions) and persistence (self-regulation of attention).
- Temperament is relatively stable over time, with many children showing small changes but very few children changing radically in their temperament.
- More “difficult” infant temperamental characteristics can lead to behavioural and emotional adjustment problems in early childhood and beyond, particularly if there are other risks in a child’s life. Temperament is important for multiple outcomes throughout childhood and adolescence and even into early adulthood.
- Temperament can be modified through experiences such as the style of parenting a child receives. Shy infants were more likely to overcome their shyness if parents were warm, positive and understanding of their child’s temperament.

3

The primary school years

Margot Prior and Diana Smart

The primary school years are a very important stage in young people's lives, during which they develop social and academic skills that will influence all aspects of their future lives. One of the major areas of interest for the ATP has been children's progress through their years at school. We focused particularly on learning and behaviour at Grade 2 (age 7–8 years), and then followed this with further studies at secondary school age (13–14 years) and in early adulthood (19–20 years).

Learning in the primary school years

Although most children progressed well at school, some had problems with literacy and numeracy, and some also had problems with behaviour and social adjustment. Around 16% of children had reading difficulties at 7–8 years, according to a reading test administered by teachers on the study's behalf.⁴⁵ We found that a number of factors were related to early literacy problems. These included aspects of early temperament (e.g., poorer capacity to focus and stay on tasks), as well as behavioural problems which, especially for boys, tended to persist across time and seemed to hinder recovery from a poor start with reading.^{29,71}

Later progress of children with early reading problems

When the children were 13–14 years old, we visited 133 of those young people who had experienced early reading problems. Of these, almost half still had reading difficulties and two-thirds also had spelling and/or maths problems.⁴⁰ In total, nearly 80% of this group had one or more of these problems (see Figure 3.1 on page 7). We also looked back at the children's earlier histories to try to understand why some children recovered while others continued to struggle. We did not find any factors that explained why some girls recovered and others did not, but among boys, those who had more problems—such as poorer reasoning or thinking skills or early behaviour problems—or whose families were less well off, were more likely to have ongoing problems.

By young adulthood, some young people with early reading problems had dropped out of the study, although over two-thirds (68%) were still taking part and providing valuable information on their progress. Encouragingly, 71% of these young people had completed Year 12, achieving an average Tertiary Entrance Score of 59 (out of a possible 100). At 19–20 years of age, about half were working, a quarter were studying, and one-fifth were combining work and study. Only 5% were not working or studying, a rate that was similar to that found for young people who did not have early reading problems, showing that perseverance despite early problems can pay off.

Behaviour in the primary school years

Most children showed good adjustment over the primary school years, but some experienced behaviour problems. These problems could be classified into two main types: those that

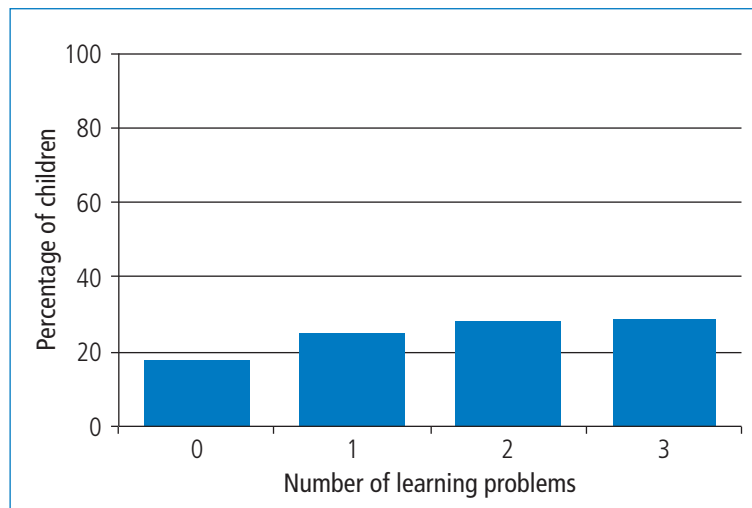


Figure 3.1: Percentage of study members with early reading difficulties who had learning problems in 0, 1, 2 or 3 areas (reading, spelling or maths) at 13–14 years

involved emotional problems such as fears, worries, and sadness; and those involving poor self-management of behaviour that affects other people as well as the child, such as hyperactivity or oppositional, aggressive and disruptive behaviour. We found strong links between these types of problems and the child’s temperament style (especially intensity and volatility, poor attention skills, and shyness).⁴⁰

We took a close look at behavioural and emotional problems at the end of primary school in a study of 11–12 year old children whose scores on questionnaires completed by parents and teachers indicated that they could be at risk for mental health problems.⁵⁷ Using clinical interviews, we found that almost half of these children did in fact have a mental health problem, most commonly anxiety or attention deficit hyperactivity disorder (ADHD). Mental health problems were more common among boys than girls, and nearly half of the children showing problems had more than one type. A substantial proportion of these had a long history of behaviour problems and “difficult” temperament characteristics, showing that the path to mental health problems started early in life for these children.

In later studies, we have shown that childhood behavioural and emotional problems are risk factors for a range of adolescent and adult problems, such as antisocial behaviour (e.g., stealing, violence), drug use, depression, and risk-taking when driving.

Summary

- While most children do well at school, some struggle in certain areas, whether it be in managing their behaviour and social interactions, or successfully mastering necessary academic skills such as reading, spelling and maths.
- A major contribution from these studies of ATP children at school was to confirm the extreme importance of identifying those children who are having difficulties in the early years as soon as possible, and to provide the help they need to master both literacy and social adjustment skills early on, to prevent these difficulties persisting across development.
- The seeds for many school-aged problems could be seen in toddlerhood and the preschool years. Children with difficult temperament traits or early emerging behaviour problems were particularly vulnerable to later difficulties.
- These studies show that it is possible for children to recover from early learning problems. Boys were more likely to recover if they did not have co-existing behaviour problems, had good thinking skills and had families that were reasonably well off.

4

Early adolescence

Primrose Letcher and Craig Olsson

During the early adolescent period (12–14 years), we continued to track many aspects of young people's development. Two particular areas we looked at were anxiety and depression, which are serious problems that can emerge during early adolescence and continue into adulthood. We also collected DNA from a sample of study members, to look at genetic links to anxiety, depression and other aspects of behaviour.

Anxiety and depression

Anxiety is an unpleasant emotional state characterised by fearfulness, distress and/or worry. Depression refers to feelings of sadness or unhappiness. Anxiety and depressive symptoms often occur together, and they may be mild and short-lived, or more persistent and severe.

The ATP has collected detailed information on anxiety and depression. Across childhood (from 3–4 years), parents reported on their child's emotional health, and across adolescence (from 11–12 years), study members reported on their own emotional health. This provides a rich picture of the development and effects of anxiety and depression across childhood and adolescence.

Using these data, we have been able to track levels of anxiety and depression from ages 3 to 16.¹³⁰ We found that we could classify children into one of five main groups, based on their levels of depression and anxiety over childhood and adolescence:

- those with very low levels of these problems over the age span;
- those who were just a little anxious/depressed over this period;
- those whose symptoms were low at first but became higher over time;
- those whose symptoms were high at first but decreased over time; and
- those who had high levels most of the time.

We found that teenagers with higher levels of anxiety and depression were more likely to have been shy and irritable as babies and toddlers, and to have had more difficult relationships with parents and friends as children and teenagers. Anxiety and depression were also more likely to increase over time among girls than boys.

Then we looked at what helped those who started out with high anxiety and depression in childhood to become less anxious and depressed as teenagers.¹¹⁵ We found that having good social skills, better parent and peer relationships, and more positive school experiences were all important in attaining better outcomes. Findings further suggest that encouraging better relationships and building more supportive school climates may help young people to deal successfully with anxiety and depression.

In other work, we tracked anxiety levels from ages 11 to 18 years, as reported by young people.¹³² We found that most young people tended to have low levels of anxiety, some had moderate anxiety, while a worrying 15% of girls and 9% of boys had high and increasing levels of anxiety.

These findings suggest that anxiety problems should be addressed early on, because it may not be “just a stage” that will pass in time. Early determinants of high anxiety differed for boys and girls. Highly anxious girls had more relationship difficulties with their parents over adolescence. Parents of boys with high anxiety symptoms over adolescence had tended to report such problems from early childhood, but this was not the case for girls. It is possible that parents are more likely to notice shyness and anxiety in young boys because these traits are less common among boys, or because they are considered more “normal” and less worrisome in girls. In any case, our findings highlight the importance both of parent reports in signalling the need for early support, and of parents’ relationships with their children for their future wellbeing.

In subsequent work, we have shown that high anxiety between the ages of 11 and 18 years increased the risk of having anxiety, stress and depression six years later (at 23–24 years of age).^{*} Overall, findings confirm that anxiety and depression are related and tend to persist. Early treatment of these problems during childhood or early adolescence could substantially improve the mental health and wellbeing of young people and their families.

Genetic influences

There has been considerable debate about the causes of anxiety and depression. While some have argued that they are mostly a reaction to adverse life circumstances, others believe that biological differences make some people more susceptible than others to developing emotional difficulties if they experience such adverse life events. To explore these questions, we collaborated with researchers at the Australian National University in Canberra to collect DNA samples via cheek swabs from around 680 ATP study members at 16 years of age. We also used these data to investigate genetic influences on other problems, such as substance misuse and self-harming behaviours. To date, the findings from this research suggest that genetic differences between people may work in two ways: first, by increasing their susceptibility to challenging life events; and second, by affecting their ability to recover or bounce back after experiencing difficult circumstances.^{61,73,103} Scientific understanding of genetic factors is increasing rapidly, and we plan to collect DNA from children born to ATP study members to look at the ways in which parents’ life histories and events during pregnancy (e.g., social bonds, mental health, substance use) may “program” their children’s genes in ways that may either enhance or hinder healthy child development. These unique findings will further our understanding of biological links between generations and suggest new directions for enhancing child health and wellbeing.

Summary

- Anxiety and depression are common problems in adolescence, and parents may notice symptoms from early childhood.
- Shyness and irritability and troubles with peers or parents may increase the risk of young people experiencing ongoing problems with anxiety or depression. Females are more likely than males to experience anxiety and depression over adolescence and early adulthood.
- Early identification and treatment of children with anxiety or depression may reduce the likelihood of such problems becoming entrenched. Children with high anxiety or depression may be more likely to overcome their symptoms if they develop good social skills, have better parent and peer relationships and have more positive school experiences.
- Genetic factors appear to increase the risk of anxiety and depression for some people, along with a range of other influences. This may happen by increasing their susceptibility to challenging life events or by affecting their ability to recover after experiencing difficult circumstances.

^{*} Letcher, P., Smart, D., Olsson, C., O’Connor, M., Hawkins, M., Sanson, A., & Toumbourou, J. W. (2011). *Young adult outcomes of differing patterns of adolescent anxiety: Findings from an Australian longitudinal birth cohort*. Paper presented at the 17th Biennial Conference of the Australasian Human Development Association, Dunedin, New Zealand.

Mid/late adolescence

Diana Smart, John W. Toumbourou, Ann Sanson and Keri Little

In the period of mid/late adolescence (15–18 years), some young people start experimenting with certain behaviours that may have harmful consequences. Although only a minority of adolescents engage in these behaviours, this can have a serious effect on their current and future lives, as well as on their families and communities. Two such behaviours are engagement in antisocial behaviour (delinquency, violence and crime), and the use (and misuse) of substances (including alcohol, tobacco, marijuana and other drugs). The ATP was well placed to study these behaviours, how they developed and changed over time, and their links to other aspects of adolescents' lives.

Antisocial behaviour

Work completed in partnership with Crime Prevention Victoria led to the publication of three reports^{79,85,101} that examined the development and effects of antisocial behaviour. This research found that most study members had engaged in some antisocial activity during their teenage years, but few did so often, or engaged in multiple types (i.e., few were “highly” antisocial). Because involvement in some antisocial behaviour was so common, we focused on “high” antisocial behaviour in our work.

Rates of high antisocial behaviour increased from early adolescence, peaked in mid/late adolescence, and then reduced in early adulthood (see Figure 5.1). Risk factors included personal characteristics (e.g., a volatile temperament style, acting-out behaviour problems in

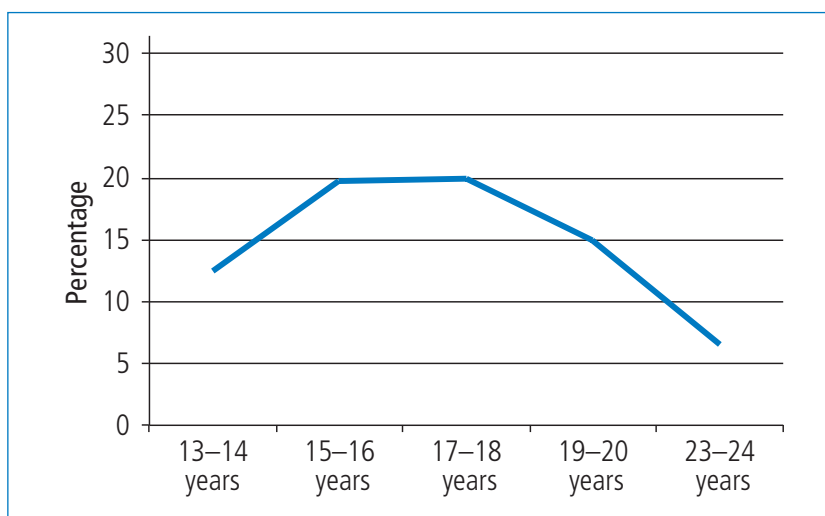


Figure 5.1: Engagement in high levels of antisocial behaviour by study members aged 13–14 to 23–24 years

childhood, and lower social skills), and family, peer and school issues (e.g., lower parental supervision and warmth, friendships with antisocial peers, and lower valuing of school experiences).

We looked at factors that might have protected vulnerable children with a history of acting-out behaviours during their primary school years from progressing to involvement in antisocial behaviours in adolescence.⁹⁴ We found that many of these young people had matured as they moved through their teenage years, becoming easier in temperament style and showing fewer behaviour problems. Importantly, they tended to avoid friendships with peers who engaged in antisocial behaviour and they were more tuned in to school.

We also looked at the reverse question: Which factors may have altered the pathways of children who were progressing well in primary school but who unexpectedly became highly antisocial in adolescence?⁸⁵ We saw that the profiles of these young people began to change in early adolescence, with friendships with antisocial peers, aggressive behaviour, lower social skills and poorer school attachment and achievement being especially evident. In mid/late adolescence, their parents tended to supervise them less, they were more attracted to risk-taking, and they tended to cope with stress less effectively.

Finally, we looked at the effects of teenage antisocial behaviour on wellbeing in early adulthood.¹⁰¹ We found that those who had been only transiently involved in teenage antisocial behaviour (i.e., were highly antisocial at only one point during early to mid-adolescence) were progressing similarly at 19–20 years to those who had never been highly antisocial. However, young people who were persistently highly antisocial in adolescence were doing more poorly in many areas of life, including secondary school completion, substance use and misuse, social skills, relationships with parents and friends, and attitudes towards police and courts. We also identified a new group who only became highly antisocial once they reached early adulthood. This group tended to be faring worse than individuals who had never, or only transiently, been involved in antisocial behaviour as teenagers, especially in their interpersonal relationships, mental health, social skills and temperament style.

Overall, these findings provide important directions for crime prevention in Australia.

Firstly, we were able to identify several important periods—the start of primary school, the start of secondary school and the period immediately after secondary school—when pathways seemed to change. These may be developmental crossroads, suggesting that efforts to help young people would be particularly beneficial at these ages. Secondly, we were able to identify a set of personal factors and home, peer and school environments that may increase the risk of developing antisocial behaviour, providing valuable pointers to the areas in which intervention efforts may be most useful.

Alcohol use and alcohol-related problems

From the age of 13–14 years, we asked young people and their parents about their attitudes and behaviour regarding alcohol (as well as other drugs). In early adolescence, a quarter of study members had drunk alcohol within the last month, and this had increased to 85% at 17–18 years (see Figure 5.2 on page 12). A substantial number (38% at 15–16 years and 67% at 17–18 years) reported being intoxicated at least once in the last month, and 30% and 56% respectively reported binge drinking (drinking a large number of drinks in one session). Heavier use of alcohol, tobacco and other drugs in adolescence was predicted by the characteristics of the individuals in early adolescence (involvement in antisocial behaviour, being more outgoing and thrill-seeking, and being male), their families (mothers' smoking and drinking) and their relationships (lower attachment to family, poorer quality friendships).⁶³



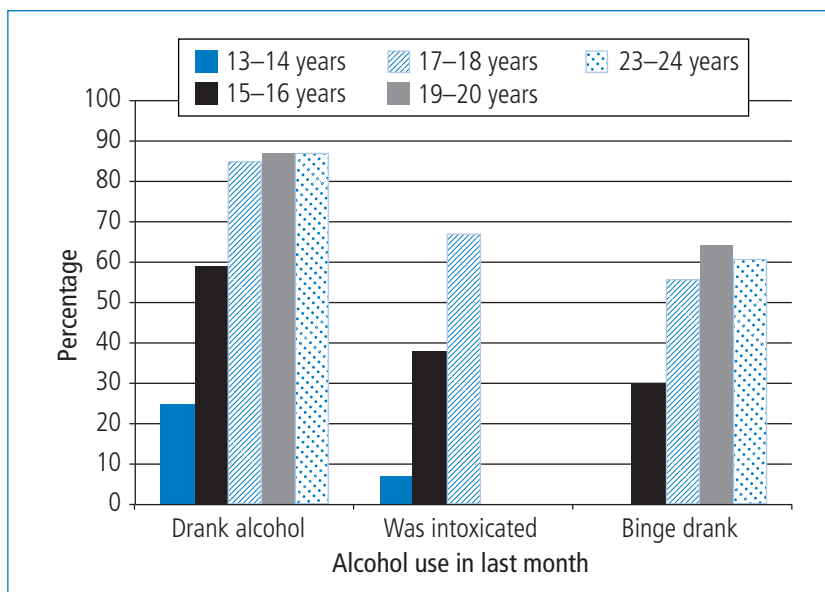


Figure 5.2: Engagement in alcohol use in previous month, study members aged 13–14 to 23–24 years

One major focus of the ATP research on alcohol use was on the role of parents.⁸⁷ By the time the children were aged 17–18 years, almost all parents allowed them to drink at home, and 60% allowed them to drink outside the home. Many parents underestimated their children’s level of alcohol use. However, adolescents who abstained from alcohol at 17–18 years were more likely to have parents who did not permit them to drink at home. The ATP was among the first research studies in Australia to suggest that parental attitudes towards alcohol affect adolescent alcohol use.

Another stream of ATP research, supported by the Ross Trust, examined pathways to young adult alcohol use and the problems that can subsequently arise.^{133,136} This showed that at 19–20 years, about three-quarters of young people (74%) had experienced during the previous 12 months at least one serious negative consequence as a result of drinking, such as being sick or passing out (53%), suffering memory loss (45%), becoming violent and getting into a fight (8%), or feeling irritable or depressed when alcohol wasn’t available (7%). As might be expected, we found that those who engaged in more frequent binge drinking were also more likely to experience these alcohol-related harms. Further, one of the strongest predictors of alcohol-related harms in young adulthood was being frequently drunk in adolescence, suggesting that an early start to risky drinking may lead to later problematic alcohol use. In addition, individuals who were more impulsive, had a history of antisocial behaviour, lived away from their parents, or had friends who drank heavily were also more likely to experience negative consequences after drinking alcohol.

Summary

- The ATP has provided a major data source for understanding the frequency and predictors of risky behaviour in adolescence.
- ATP findings show that there is a diversity of patterns of antisocial behaviour and alcohol use across adolescence. Most adolescents do not engage in high levels of antisocial behaviour, and for those who do, it is often only for a short time. Heavy alcohol use is quite common. For many, but not all, heavy use results in a range of short-term harms. The extent of longer term harms will be revealed as the ATP follows study members into later life.
- The ATP findings have yielded major insights into factors that can be targeted to prevent antisocial behaviour and problematic substance use, including individual characteristics (e.g., social and emotional resiliency), and family, peer and school factors.

6

Early adulthood

Mary Hawkins, Meredith O'Connor, Suzanne Vassallo,
Craig Olsson and Diana Smart

In the early adult period (19–28 years), three particular areas of interest in the ATP have been positive development, the development of driving behaviours, and changes in parent–child relationships.

Positive development

What is positive development?

Many studies collect data about what goes wrong in young people's lives. This information is very important, but is only part of the picture. The ATP has always had a keen interest in what is going *right* in young people's lives. From late adolescence onwards, this has become an increasing focus, with much of our research devoted to looking at young people's successes and skills, and evidence that they are thriving. We called this “positive development”.

Positive development is not simply the absence of problems, but involves achieving optimal development and wellbeing. In measuring positive development, we are looking for attributes and behaviours in young people that enable them to:

- take an active role in the community, and connect and interact with other community members;
- be trusting and tolerant of people in society, especially those from different backgrounds;
- have confidence that important organisations in society would generally behave ethically, consistently and fairly;
- be responsible and empathetic in their relationships with others; and
- feel satisfied with their life and where it was heading.

Young people high in these qualities are considered to be developing positively and functioning well. Most young people in the ATP had high levels of these strengths, but some were struggling to gain or maintain them.^{114,124}

Childhood and adolescent experiences that promote positive development

We wanted to know which experiences earlier in life helped people to develop these strengths and thrive as young adults. To answer this, we looked back to the data the young people and their families had provided when they were children and adolescents.¹²⁷ We found that young people who thrived later on in life tended in childhood and adolescence to have experienced:

- strong family relationships;
- strong relationships with their peers;
- better adjustment to life at school;
- better control over their emotions;

- a less emotionally reactive temperament style; and
- an interest in working for and being involved in the community.

All of these experiences are likely to be assets in helping young people to flourish as they become adults.

Positive development and mental illness

Some young people experience a mental illness in early adulthood, and we wanted to know how this affects their opportunities for success and wellbeing later in life. To explore this, we identified six groups of young people within the ATP based on their experiences of positive development and of mental health problems when they were 19–20 years old.¹³⁴

- One group of around a third of the young people (34%) were very high in all aspects of positive development and lower than average in symptoms of mental illness.
- The largest group, with almost half (48%) of the young people, were average in their levels of positive development and symptoms of mental illness.
- A small group (5%) were relatively untroubled by mental health problems, but very low in all aspects of positive development.
- Another small group (6%) had average levels of positive development, but were struggling with symptoms of depression, anxiety and stress.
- A fifth group (7%) had low levels of positive development and had some problems with alcohol use, marijuana use, and antisocial behaviours such as breaking the law.
- A very small number (1%) had very few positive strengths and had very severe difficulties with alcohol and marijuana, and antisocial behaviour.

This shows the great diversity in young people's levels of positive development and symptoms of mental illness. As these groups illustrate, being free of mental illness doesn't ensure that a young person is reaching optimal development, and on the flip side, experiencing symptoms of mental illness doesn't mean that a young person has no positive strengths or assets.

Outcomes of late-adolescent positive development

We looked at the effect of having positive strengths at 19–20 years on important aspects of young people's lives when they were in their mid-20s (23–24 years).¹³¹ We found that positive development among 19–20 year olds was an asset in helping them to do better as young adults, including achieving better emotional health, physical wellbeing, positive development, and stronger relationships with their parents and friends, and avoiding problem behaviours such as breaking the law.

Driving behaviour

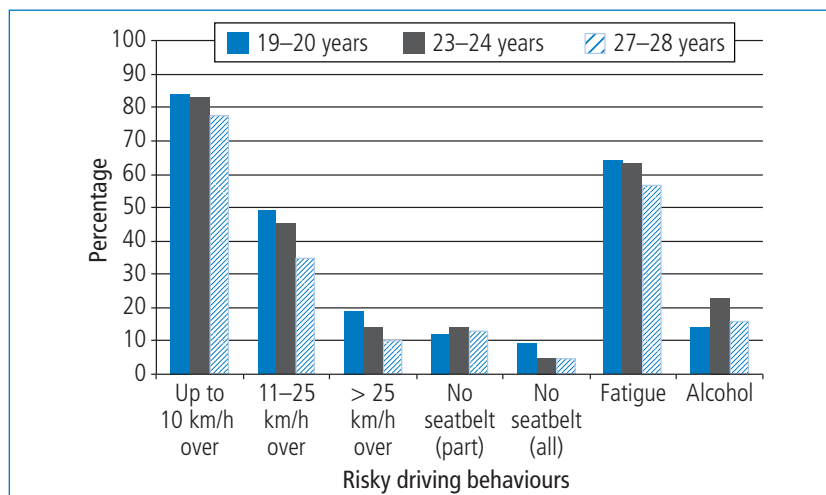
Learning to drive a car is a common milestone of late adolescence but also, potentially, a time of great risk. Both in Australia and abroad, the first years of driving are a peak period for the occurrence of crashes and detection for speeding. Together with two Victorian agencies, the Transport Accident Commission and Royal Automobile Club of Victoria, the ATP has sought to understand why this may be so, as well as the extent to which young people's driving styles change over time. The ATP is one of only a few studies in the world that has been able to show how attributes and experiences early in life may affect later driving behaviour.

In the last three survey waves (at 19–20, 23–24, and 27–28 years), the ATP collected information on young people's driving behaviours and experiences. Our findings, published in a number of influential reports,^{99,123,137} included:

- Occasional risky driving was common among study members in their late teens and mid-20s, but only a few (6–7%) frequently drove in a risky manner.
- Factors linked to a risky driving style could be seen from childhood, and included temperament characteristics (lower persistence, greater volatility), acting-out or hyperactive behaviour problems, lower social skills, engagement in antisocial behaviour, drug use,

school problems, more difficult relationships with parents in adolescence, and friendships with peers who were engaging in antisocial behaviour.

- Rates of risky driving were fairly stable between 19–20 and 23–24 years, but decreased in the late twenties (see Figure 6.1).
- Young people who took risks on the road were more likely to engage in other types of risk-taking, such as drug use or antisocial behaviour.



Notes: Up to 10 km/h over = driven up to 10 km/h over the limit; 11–25 km/h over = driven 11–25 km/h over the limit; > 25 km/h over = driven more than 25 km/h over the limit; no seatbelt (part) = not worn a seat belt (or helmet if riding a motorcycle) for part of a trip; no seatbelt (all) = not worn a seatbelt (or helmet if riding a motorcycle) for entire trip; fatigue = driven when very tired; alcohol = driven when affected by alcohol.

Figure 6.1: Engagement in different risky driving behaviours during past ten trips, study members aged 19–20 to 27–28 years

This research highlighted the important influence of young people’s personal attributes and styles on their behaviour behind the wheel. It also indicated that for some young people, risky driving may be part of a risk-taking lifestyle.

How does parenting change as young people move into adulthood?

The transition from adolescence to adulthood is generally accompanied by major changes in relationships between parents and their children. Surprisingly little is known about this process, in particular from parents’ perspectives. When the young people in the ATP were in their mid-20s, we asked their parents how they saw their parenting role at this stage of life, and the level of financial and emotional support they were giving young people.¹¹⁹ We found that:

- Most parents thought that passing on their values and/or life philosophy was still part of their role, as was caring for their sons or daughters when they were sick, and providing advice (see Figure 6.2 on page 16).
- The majority did *not* believe that it was their role to provide food or clothing or other everyday needs, or help with household tasks.
- Almost two-thirds of parents had provided some form of financial assistance to their sons or daughters during the past year.
- While many parents felt their 23–24 year old valued their emotional support to some extent, parents tended to underestimate how important this actually was to their sons and daughters (as revealed by young people’s reports on the same question).

These findings suggest that most parents still had a close involvement in the lives of their adult children. However, there appeared to be a shift underway, with many moving away from providing practical, day-to-day support to being less hands-on and more of an advisor or emotional back-up.

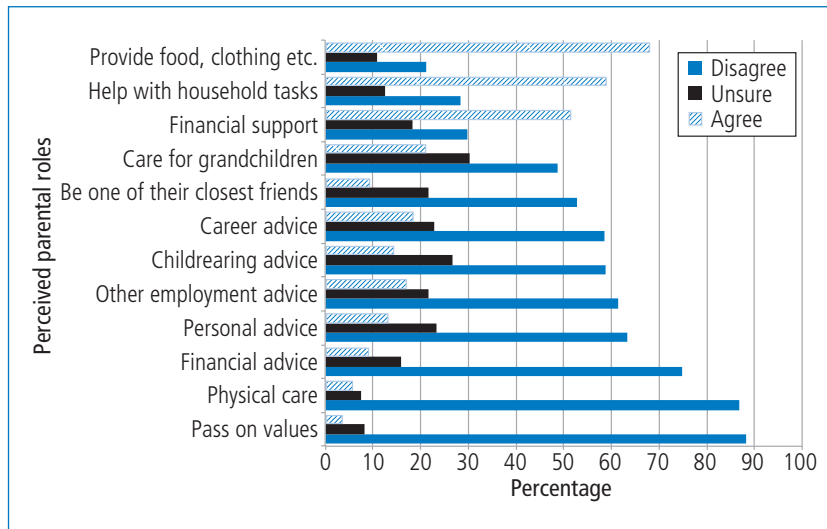


Figure 6.2: Level of study parents' agreement about aspects of parenting provided to their 23–24 year olds

Summary

Positive development

- Young people show evidence of positive development when they are well adjusted to society, are responsible and empathetic in their social relationships, and feel satisfied with the direction that their life is taking.
- Many experiences in childhood and adolescence, such as strong relationships, help young people to achieve these successful outcomes when they become adults.
- Most young people experience high positive development and few symptoms of mental health problems.
- Experiencing symptoms of mental illness does not mean that a young person has no positive strengths or assets.
- Positive development helps young people to achieve better emotional, behavioural and physical health as they move through adulthood.

Driving

- Many young adults engage in risky driving on an occasional basis, but only a small number frequently take risks when driving. This group can be distinguished from other drivers, from mid-childhood on, by their display of more difficult temperament characteristics, higher rates of behaviour problems, and lower social skills.
- Findings suggest that what a person is like off the road (their personal attributes and experiences) influences their behaviour behind the wheel.
- Risky drivers are more likely to engage in other risky behaviours, such as antisocial behaviour and drug use.

Changes in parent–child relationships

- Most parents share close relationships with their sons or daughters over the transition from late adolescence to early adulthood.
- However, parents' perceptions of their roles seem to change over this period, with many moving away from providing practical support to taking on a more advisory role.

7

Future directions and opportunities: Adulthood and the third ATP generation

Ann Sanson, Suzanne Vassallo, Jacqui Macdonald,
Ben Edwards and Craig Olsson

This report has provided a snapshot of some of the key findings from the ATP over its first 30 years. As the project enters its fourth decade, there are many opportunities for it to continue to contribute to our understanding of child and adult development over the life course. For a start, there are many questions about childhood and adolescence that we have not yet fully explored with existing ATP data, which we plan to examine further. Secondly, there are many aspects of adult development that have roots in earlier life, where ATP data will be invaluable. Tracking changes through study members' adult years—in relation to personality, relationships, occupations, aspirations and mental health—will also continue to be a major focus. Thirdly, we have the excitement of following the third generation of study members, which will keep us very busy over the coming years. And finally, as the ATP study becomes more and more known, more and more opportunities to use ATP data to help shape public policy and practical interventions are opening, and we will continue to welcome these opportunities to “make a difference”. In this section, we provide a few examples of our planned future work.

Some areas of focus for the future

In contrast to previous generations, when long-term relationships, careers and lifestyles were often established by the age of 30, there is now more fluidity in the lives of people in early and mid-adulthood. The ATP will attempt to understand the factors underlying stability and change, both for better and worse, in all these aspects of life.

Relationships—with parents, friends, romantic partners and children—will continue to be a major focus of the ATP. The changing nature of relationships between the original ATP study parents and their adult children, as both generations grow older, is one area of continuing interest. The factors that contribute to the formation of successful intimate relationships will also be examined, along with those that are associated with relationship breakdowns. With many study members now having children, the ATP has an excellent opportunity to examine grandparenthood as experienced by the original ATP parents, and the roles they play in the lives of their grandchildren.

There is growing recognition that a person's temperament and their skills in relating to others are as important as their IQ in influencing their capacity to obtain employment, earn a good income and complete education. Given the ATP's rich data on these topics over the life course, study members' workforce participation will be a key focus of future ATP research.

Finally, the way in which any problems of childhood and adolescence play out in adulthood will be a continuing focus. We know that many people overcome early difficulties, while others continue to suffer longer term effects. The ATP is well placed to examine factors associated with these different life trajectories. We will also be following on with our recent focus on positive development: How does “thriving” in adolescence and early adulthood affect later personality and success in life?



The ATP Generation 3 Study

The year 2012 marked the beginning of a new phase of the ATP, with the launch of the ATP Generation 3 Study. Having followed the development and wellbeing of study members since birth, the project now has the opportunity to investigate how the experiences of one generation affect the next, from grandparent to parent to child. There are few studies like the ATP anywhere in the world that have the capacity to do this.

The ATP team was recently awarded a large grant and prestigious research award from the Australian Research Council to support this project, which will include three main areas of work:

1. *Identification of ATP pregnancies*—The average age at which women in Victoria have their first baby is now about 32 years, and we expect about 100–150 pregnancies per year from among ATP study members and their partners. Our first and most important task is to continue to identify ATP study members and their partners who are expecting a baby. This will involve contacting study members twice yearly to enquire about new pregnancies (as well as plans for becoming pregnant).
2. *Telephone interviews during and after pregnancy*—We will then conduct short telephone interviews with expecting study members (or their pregnant spouses/partners) during the last trimester of pregnancy (around 32 weeks), and then with the ATP parent when the child is 1 year old. Questions asked about these infants at age 1 will be similar to those we asked the parents of study members when they were about the same age in 1983.
3. *Visits to the Royal Children's Hospital*—In the third phase, study members (and/or partners) and children will be invited to the Royal Children's Hospital for a one-hour session, when we will observe the ways in which parents and their 1-year-old children relate and play with one another. We will also collect a small sample of saliva from both parents and children in order to study hormonal and genetic influences on early behaviour.

We will continue to collect information from new parents for about 5 years, as new births occur, aiming for 1,000 “third generation” study members. The ATP Generation 3 Study will then be the largest of its kind internationally, and so will have great potential to contribute to our understanding of intergenerational health.

Contributing knowledge for science and public policy

As this report has shown, information from the ATP not only contributes to scientific understanding, but is increasingly being used to guide public policy in Australia and internationally. These will continue to be key goals of the ATP.

The questionnaires developed by the ATP and the knowledge we have gained have been used in numerous other studies in Australia and overseas. For example, *Growing Up in Australia: The Longitudinal Study of Australian Children*, which is tracking 10,000 children over time, and *Footprints in Time: The Longitudinal Study of Indigenous Children*, which is following about 1,800 Aboriginal and Torres Strait Islander children, have benefitted from our experience on how to run longitudinal studies and are using many of the ATP questions in their interviews. The ATP is also working with other studies in Australia and internationally to strengthen our understanding of many aspects of human development, and is a key member of various research partnerships, including the Longitudinal Studies Network.*

* For further information about the Longitudinal Studies Network, please visit the ARACY website: <www.aracy.org.au/networks/longitudinal-studies-network>.

The ATP's influence on policy and practice in various fields (such as education, health, justice, road safety and parent education) will continue into the future. For instance, we have been invited to participate in an international study being run by the OECD that is examining the role of cognitive skills and temperament in fostering wellbeing and social progress, and how such skills can be better developed in formal and informal learning settings (e.g., family, schools, the broader community). We will also continue to welcome opportunities to work with other organisations to address specific issues of concern for policy and practice in Australia.

Conclusion

Thanks to the loyalty of the study families over the past 30 years, the ATP has collected rich data covering many aspects of life from infancy to adulthood, and is now poised to become a major three-generation study. This unique study is highly regarded both in Australia and overseas, and has made significant contributions to scientific knowledge, as well as influencing policy and practice in a number of fields. With the continuing support of its study members, we look forward to further enriching our understanding of human development over future decades.



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1983

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5. Oberklaid, F., Prior, M., & Sanson, A. (1986). Temperament of pre-term versus full-term infants. *Journal of Developmental & Behavioural Pediatrics*, *7*, 159–162.
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7. Prior, M., Crook, G., Stripp, A., Power, M., & Joseph, M. (1986). The relationship between temperament and personality: An exploratory study. *Personality and Individual Differences*, *7*, 875–881.
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AUSTRALIAN TEMPERAMENT PROJECT

A study of development from infancy to adulthood

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