On a mild autumn afternoon in 2013, about 150 people gathered at Melbourne’s Royal Children’s Hospital for a 30th birthday celebration. This commemoration differed from many 30th birthday parties as it was not for a person, but rather for a research study, with a guest list that comprised researchers, study participants and their families. Back in 1983, when the study began, few of the researchers or participants would have anticipated that the study would still be going strong 30 years later. Yet, over the past three decades, the Australian Temperament Project (ATP) has grown from a pioneer study of child temperament to become one of Australia’s longest running studies of human development. It also recently became one of only a few in the world with data on three generations of family members.

In this article we reflect on the first 30 years of the ATP, what we have learnt, and our aspirations for the future of this landmark study.

The Australian Temperament Project

The ATP is a longitudinal study that has followed the lives of a large group of Victorian children (and their parents) from their first months of life into adulthood and, since 2011, is following the “children of the study children”. The study began in 1983 with the recruitment of 2,443 families with 4–8 month old infants, from Infant Welfare Centres across Victoria. Three decades on and 15 surveys later, 70% (1,701) of these families are still active in the study.

The ATP was so named due its primary interest in understanding how children’s temperaments—a key aspect of each child’s personality— influence their later development. While temperament has remained a central interest, over the years the ATP has broadened its focus to study many other aspects of the young people’s development, including their educational progress, mental health, relationships with others, engagement in risky
While temperament has remained a central interest, over the years the ATP has broadened its focus to study many other aspects of the young people’s development.

Box 1: Major areas of development studied in the ATP

- Temperament/personality
- Parenting style
- Behavioural and emotional problems
- School adjustment and achievement
- Family socio-demographic characteristics
- Substance use and antisocial behaviour
- Physical health
- Risky driving
- Social competence
- Civic mindedness and positive development
- Eating attitudes and behaviours
- Workforce participation
- Peer relationships
- Couple relationships, marriage and parenthood
- Parent–child relationships and family climate
- Genetic influences

Throughout the life of the study, parents have acted as key informants on their children’s development, completing surveys at each of the 15 assessment waves. They have also provided information on their own mental health, family environment and lifestyles. Information from teachers and maternal and child health nurses has also been collected at relevant ages. From late childhood (11–12 years) the young people have reported on their own development, experiences and wellbeing (see Table 1 for a summary of the type of informant, ages of study members and year of data collection for each wave). Almost all data have been collected via mail surveys, but in the most recent survey wave (in 2010–11) there was also an online option.

In addition to these surveys, the ATP has conducted a number of in-depth studies with smaller groups of study members to look at specific development issues. Some of these studies have involved visiting study families within their homes.

From the start, the ATP has been a multidisciplinary collaborative project. It began as a partnership between psychologists at La Trobe University and paediatricians at the Royal Children’s Hospital. Over time the collaboration has expanded to include the University of Melbourne, the Australian Institute of Family Studies (AIFS) and Deakin University. Through AIFS, collaborations were developed with agencies having particular policy interests. For example, work with Crime Prevention Victoria examined a number of policy-relevant issues related to the development and consequences of antisocial behaviour; and research with the Transport Accident Commission (TAC) and the Royal Automobile Club of Victoria (RACV) shed light on factors associated with risky driving and its prevention. As well as the core team of researchers, many others, including graduate students, have investigated specific issues using ATP data. One of the strengths of the study is the continuity provided by the ongoing involvement of many of the original investigators, while younger researchers have brought new energy and expertise to the team.

(Current team members are listed on the study’s website <www.aifs.gov.au/atp>.)

Three decades of learnings from the ATP

At the time of writing, ATP data had been used in over 140 papers covering a broad range of developmental issues (see the ATP website for a full listing <www.aifs.gov.au/atp/pubs>). This research has not only contributed to scientific

### Table 1: Age of study members and informant type at each survey wave (1983 to 2010–11)

<table>
<thead>
<tr>
<th>Wave</th>
<th>Year</th>
<th>Participant age</th>
<th>Informant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infancy and early childhood</td>
<td>1</td>
<td>1983</td>
<td>4–8 months</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>1984</td>
<td>1–2 years</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>1985</td>
<td>2–3 years</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>1986</td>
<td>3–4 years</td>
</tr>
<tr>
<td>Primary school years</td>
<td>5</td>
<td>1988</td>
<td>5–6 years</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>1990</td>
<td>7–8 years</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>1992</td>
<td>9–10 years</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>1994</td>
<td>11–12 years</td>
</tr>
<tr>
<td>Adolescence</td>
<td>9</td>
<td>1995</td>
<td>12–13 years</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>1996</td>
<td>13–14 years</td>
</tr>
<tr>
<td></td>
<td>11</td>
<td>1998</td>
<td>15–16 years</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>2000</td>
<td>17–18 years</td>
</tr>
<tr>
<td>Adulthood</td>
<td>13</td>
<td>2002</td>
<td>19–20 years</td>
</tr>
<tr>
<td></td>
<td>14</td>
<td>2006–07</td>
<td>23–24 years</td>
</tr>
<tr>
<td></td>
<td>15</td>
<td>2010–11</td>
<td>27–28 years</td>
</tr>
</tbody>
</table>

Note: Informants are: P = parents, C = children, T = primary school teachers, and N = maternal and child health nurses.
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 the early 1980s, there was virtually no Australian research on child temperament, and very limited Australian longitudinal research on early child development more broadly. Thirty years on, temperament is routinely measured in studies of child development, and ATP measures are frequently used in this research.

Using surveys adapted for the Australian context, ATP findings clearly show that people differ in their temperament from birth, and that these differences affect their development and wellbeing later in life. For instance, longitudinal analyses of ATP data have shown how “difficult” infant temperament characteristics (e.g., being irritable, shy, uncooperative) can lead to behavioural and emotional adjustment problems in early childhood and beyond, particularly if there are other risks in a child’s life.

ATP research has also helped dispel the misconception that temperament is fixed for life. While temperament remains fairly stable for the majority, findings from the ATP show that experiences such as the style of parenting a child receives can help modify temperament traits. For example, individuals who were shy as infants were more likely to overcome their shyness if their parents were warm, positive and did not push their children to become independent too soon.

Learning difficulties

Although most children do well at school, mastering essential numeracy and literacy skills can be a struggle for some. ATP findings show that approximately one in eight study members were experiencing reading difficulties at age 7–8. Nearly 80% of this group continued to have learning problems (with reading, spelling or maths) six years later. These findings highlight the importance of identifying and helping children who are experiencing learning difficulties as early as possible, to prevent these problems from becoming entrenched.

Recovery from early learning problems is clearly possible. Research from the ATP has shown that boys were more likely to recover from early learning problems if they had good reasoning skills, did not have co-existing behaviour problems and came from families with higher socio-economic backgrounds.

Mental health problems

ATP research has shown that the roots of many behavioural and emotional problems can be traced back to early childhood. Focusing specifically on emotional problems, findings from the ATP show that teenagers who were irritable and shy as toddlers and experienced problems in their relationships growing up, were at greater risk of experiencing ongoing problems with anxiety and depression. Genetic factors also increased the risk of anxiety and depression for some, by increasing their susceptibility to challenging life events or decreasing their ability to “bounce back” after experiencing difficult circumstances.

As with learning problems, early identification and treatment of children with mental health difficulties appears to be of paramount importance in reducing the likelihood of such problems persisting over time. ATP results suggest that young people who are depressed or anxious might be more likely to overcome their symptoms if they develop good social skills and better relationships with others, and if their school environment is supportive.
ATP research has shown that the roots of many behavioural and emotional problems can be traced back to early childhood.

**Risk-taking**

The ATP has been an important resource for investigating youth risk-taking behaviour, with detailed longitudinal data collected on antisocial behaviour (e.g., violence, theft), substance use (and misuse) and risky driving (e.g., speeding, drink-driving).

Working with experts from the criminal justice, road safety and substance use fields, the ATP team has looked at patterns of engagement in these behaviours over time, and the factors that influence these. This research has provided valuable guidance for intervention efforts, highlighting optimal periods for intervention, and the areas in which these initiatives may be most useful. For instance, when studying the development of antisocial behaviour, the ATP identified a number of important periods—the start of both primary and secondary school, and immediately after secondary school—when changes for better or for worse seem most likely to occur, indicating that efforts to help young people might be particularly beneficial at these stages.

Findings from the ATP also show how different types of risk-taking often occur together, and share common risk factors. Young people who engaged in risk-taking were more likely to have “difficult” temperament traits, have a history of behavioural problems and poor social skills and to have experienced peer, parent and school issues. These characteristics were often evident from childhood.

**Bullying**

Another area in which the ATP’s longitudinal data has been able to provide valuable insights is bullying. ATP findings show that young people who were bullied at age 13–14 were more likely to be depressed at age 19–20, while those who bullied others in their early teens were more likely to break the law in early adulthood. However, not all people involved in bullying experienced problems later on. The ATP team identified factors that “protected” these young people from later harmful effects of bullying. They found that victims of bullying were less likely to be depressed in early adulthood if they had good social skills and did not have difficulties with schoolwork at 13–14 years. And young people who bullied others were less likely to engage in criminal behaviour as young adults if they had good social skills, experienced good parental supervision, did not have a “volatile” temperament, and had few friends who engaged in antisocial activities at 13–14 years. This research has helped raise awareness of the fact that bullying can have harmful long-term consequences, not only for its victims but also for those who bully. It has also provided guidance for initiatives aimed at assisting bullies and victims, suggesting that social skills training programs and interventions aimed at improving relationships with parents and peers might help bullies and victims fare better in the long run.

**Positive development**

Many studies focus on what is going wrong in people’s lives, examining only part of the picture. The ATP team has always had a keen interest in what is going right, and this has become an increasing focus since the study members reached their late teens.

Rather than simply referring to the absence of problems, positive development involves the achievement of optimal development and wellbeing. Many experiences in childhood and adolescence appear to help young people to “thrive” as adults. These include: strong relationships with family and peers, positive school experiences, a less reactive temperament style, good control over emotions, and an interest in being involved in the community.

Perhaps not surprisingly, positive development has been linked to better outcomes in adulthood. Study members who showed evidence of positive development at age 19–20 experienced better emotional, physical and mental health in early adulthood.
Parenting adult children

The transition from adolescence to adulthood is often accompanied by major changes in relationships between parents and their offspring, but little is known about how parents view this process.

When the study members were in their mid-20s, parents were asked about their relationships with their ATP sons or daughters and their current parenting roles. Most parents continued to share close relationships with their adult sons or daughters over the transition to adulthood. However, many parents no longer believed that it was their role to provide practical, hands-on support to their 23–24 year olds, seeing their role as more of an advisor or as emotional back-up.

Nevertheless, approximately two-thirds of parents had provided some form of financial assistance to their son or daughter in the preceding year. They also provided valuable emotional support to their adult children. Interestingly, when we asked both the parents and their adult children about this support, the young adults valued the support more highly than their parents realised.

Informing policy, practice and research

Insights gained from ATP research have helped inform practice and policy in a number of fields, including education, health, criminal justice, road safety and parent education. For example, ATP research has provided important guidance for parents on everyday issues such as how to manage their teenager’s drinking, and how to tailor their parenting style to the temperament of their child. It has also informed policies and initiatives aimed at reducing crime, risky driving and teen alcohol use.

The ATP has also been used as a “model” for other longitudinal studies. For instance, Growing Up in Australia: The Longitudinal Study of Australian Children and Footprints in Time: The Longitudinal Study of Indigenous Children have benefitted from the ATP research team’s experiences of running a large, ongoing longitudinal study, regularly seeking advice from the ATP on project-related issues. Furthermore, many studies use ATP questions in their own research, most commonly the temperament measures.

The ATP is a key member of a number of research partnerships, including the Longitudinal Studies Network, and collaborates with other studies, both in Australia and overseas, to study issues of mutual interest. As an example, the ATP is currently taking part in an international study led by the Organisation for Economic Co-operation and Development (OECD), that is focusing on the role of cognitive skills and temperament in promoting wellbeing and social progress and how such skills can be better developed.

Future directions

As the ATP enters its fourth decade, the ATP has an opportunity to continue informing policy and practice, by increasing understanding of the factors that improve the life chances of Australians at different stages of the life course. The ATP will continue to track changes in many aspects of study members’ lives, including their personality, relationships, workforce participation, aspirations and mental health, for better or worse, as they move through mid-adulthood (30+ years).

The ATP’s rich longitudinal data will also continue to be invaluable in studying aspects of adult development that have their roots in earlier life. For example, the ATP is well placed to examine why some people are able to overcome earlier difficulties while others suffer long-term effects. Likewise, the ATP’s work on positive development will continue and will be able to examine how “thriving” in adolescence and early adulthood affects later personality and success in life. The changing nature of relationships between the original ATP parents and their adult children is another area of interest as the project moves forward.

The ATP will also continue to welcome further opportunities to work with other researchers and organisations, both in Australia and abroad, to address issues of specific concern for policy and practice in Australia.

One of the most important contributions that the ATP will make going forward is through the ATP Generation 3 study (see Box 2). This study, Insights gained from ATP research have helped inform practice and policy in a number of fields including education, health, criminal justice, road safety and parent education.
which commenced in 2011, provides a unique opportunity to study the developmental origins of health and wellbeing across three generations (the ATP study participants, their parents, and the study participant’s own children). There are only a handful of prospective three-generation studies worldwide, and none have data on parents from their birth. The aim is to recruit 1,000 offspring over the next five years to create a resource capable of identifying important transgenerational risk and protective factors (psychosocial, biological and economic) that affect the health and development of the next generation and that may hold substantial policy implications for promoting a healthy start to life.

**Box 2: The ATP Generation 3 study**

Now that ATP participants are in their 30s, and many are settling down and having children of their own, the focus of the study has extended to the next generation. The ATP Generation 3 study commenced in 2011 and will recruit 1,000 cohort offspring across the peak period of births in the cohort over the next five years. Offspring are identified through contacting participants twice yearly to enquire about new pregnancies (as well as plans for becoming pregnant).

Parents or expectant parents who enrol in the study are invited to participate in a variety of project components. These include short telephone interviews during pregnancy and after the child’s birth (at 8 weeks and 12 months), an ultrasound during the third trimester of pregnancy, an observational assessment of children and parents when the child is 12 months old, and the collection of DNA and other biological samples from parents and children (at 8 weeks and 12 months). Planning for an age 4 follow-up is currently underway.

With three decades of prospective information on parents (Generation 1), their children (Generation 2), and now their children’s children (Generation 3), the ATP Generation 3 study will be uniquely placed to examine how the life histories of one generation affect the next. The study will be one of the largest and most comprehensive intergenerational studies of its kind internationally and will offer new and important insights for policies promoting a healthy start to life for all Australians.

**Conclusion**

Thanks to the extraordinary support of the study families over the past three decades, the ATP has been able to collect a wealth of valuable data, covering various aspects of life from infancy to adulthood. This landmark study has made significant contributions to policy and practice in a number of fields. As it continues to track participants through adulthood, and is enriched by the ATP Generation 3 study, the ATP looks set to remain a major research resource well into the future.

**Endnotes**

1 Infant Welfare Centres in Victoria are now called Maternal and Child Health Centres.

**Further reading**


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The ATP is a multidisciplinary collaboration between researchers from AIFS, Deakin University, the University of Melbourne, and the Royal Children’s Hospital, Melbourne. Additional collaborators include the University of New South Wales and the University of Otago. The ATP has received financial support from many funding agencies and institutions over the years and is currently supported by an Australian Research Council grant.

This article is based on the report, *The Australian Temperament Project: The first 30 years*, published by AIFS in 2013. We would like to acknowledge the contribution of our co-authors on this report (in alphabetical order): Dr Ben Edwards, Dr Mary Hawkins, Dr Primrose Letcher, Keriam Little, Jacqui Macdonald, Professor Frank Oberklaid, Dr Meredith O’Connor, Professor Margot Prior, Diana Smart, and Professor John Toumbourou. We would also like to sincerely thank the young people and their parents who have participated in the ATP over all these years, for their wonderful loyalty and interest in the study.

**Disclaimer**: The views expressed in this article are those of the individual authors and may not reflect those of the organisations involved.