Outline

- The need for and value of longitudinal research
- Australian Temperament Project - study on pathways to antisocial behaviour
  - child, family and community influences
  - transition points
  - reality and limits of resilience
- Growing Up in Australia - overview, and an example of analyses: school readiness and socio-economic disadvantage
- Australian Research Alliance for Children and Youth - closing the 'Know-Do gap'

Changing context of childhood in Australian society

- Mothers working, childcare
- Hours of work, work stress, work mobility
- Divorce, single parents, blended families
- Conflict, violence, isolation, homelessness
- Smaller families, contraction of the extended family
- Child abuse and neglect, out of home care
- Insecure neighbourhoods, decreased connections
- Decreased social capital (trust, cooperation, civic engagements & reciprocity)

Current concerns about Australian children's wellbeing

- Are children and young people having the time of their lives, or struggling with life in their times?* (Eckersley, 2004, p. 36)
- Preterm births, birth defects and cerebral palsy
- Asthma, diabetes, obesity
- Mental health, behavioural and emotional problems
- Educational problems
- Juvenile crime
- Child abuse
- Youth suicide
- Indigenous child health
AND these problems are not evenly distributed across the population

The ARACY Report Card (2008): The Wellbeing of Young Australians

- "...to improve something, first measure it" (UNICEF 2007)
- No internationally comparable child wellbeing report:
  - also Aust average versus Aboriginal Aust average
- Allows evidence based dialogue on need
- Allows prioritisation of effort

Teenage fertility: age specific fertility rates for females 15-19 years

Source: The ARACY Report Card: The Wellbeing of Young Australians
<table>
<thead>
<tr>
<th>Measure</th>
<th>Australia Rank</th>
<th>Indigenous Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Injury death rate 0-4 years</td>
<td>7 / 8</td>
<td>NA</td>
</tr>
<tr>
<td>School achievement (reading)</td>
<td>6 / 29</td>
<td>29 / 30</td>
</tr>
<tr>
<td>School achievement (maths)</td>
<td>8 / 30</td>
<td>29 / 31</td>
</tr>
<tr>
<td>School achievement (science)</td>
<td>5 / 30</td>
<td>29 / 31</td>
</tr>
<tr>
<td>% young people (15-19) not in education, training or employment</td>
<td>17 / 25</td>
<td>NA</td>
</tr>
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</table>

Ranking of Family Friendly Work Conditions Across 19 OECD Countries

<table>
<thead>
<tr>
<th>OECD Country</th>
<th>Job Security</th>
<th>Job Creation</th>
<th>Workload</th>
<th>Family Friendly Leave</th>
<th>Flexibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Norway</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Denmark</td>
<td>4</td>
<td>6</td>
<td>6</td>
<td>1</td>
<td>7</td>
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<tr>
<td>Belgium</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>France</td>
<td>9</td>
<td>8</td>
<td>8</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>Austria</td>
<td>14</td>
<td>11</td>
<td>11</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Germany</td>
<td>11</td>
<td>13</td>
<td>13</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Switzerland</td>
<td>17</td>
<td>9</td>
<td>9</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Iceland</td>
<td>13</td>
<td>15</td>
<td>15</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Italy</td>
<td>14</td>
<td>20</td>
<td>17</td>
<td>15</td>
<td>7</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>12</td>
<td>11</td>
<td>11</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Australia</td>
<td>14</td>
<td>14</td>
<td>22</td>
<td>22</td>
<td>7</td>
</tr>
<tr>
<td>Greece</td>
<td>10</td>
<td>14</td>
<td>23</td>
<td>12</td>
<td>7</td>
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<tr>
<td>Czech Republic</td>
<td>25</td>
<td>17</td>
<td>15</td>
<td>22</td>
<td>7</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doing well:</td>
</tr>
<tr>
<td>• material wellbeing</td>
</tr>
<tr>
<td>— joblessness</td>
</tr>
<tr>
<td>• school achievement</td>
</tr>
<tr>
<td>• some behaviours / risks:</td>
</tr>
<tr>
<td>— smoking, illicit drug use</td>
</tr>
<tr>
<td>• subjective wellbeing</td>
</tr>
<tr>
<td>• participation</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doing poorly:</td>
</tr>
<tr>
<td>• aboriginal wellbeing overall</td>
</tr>
<tr>
<td>• material wellbeing</td>
</tr>
<tr>
<td>— households with income below 50% of median</td>
</tr>
<tr>
<td>• health &amp; safety:</td>
</tr>
<tr>
<td>— infant mortality, immunisation, intentional self injury death rate, accidental injury 0-4 years, non-accidental deaths under 19</td>
</tr>
<tr>
<td>• transition to employment</td>
</tr>
<tr>
<td>• family / peer relationships</td>
</tr>
<tr>
<td>• some behaviours and risks:</td>
</tr>
<tr>
<td>— teenage fertility, road deaths, justice supervision</td>
</tr>
<tr>
<td>• environment</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>• not leading on any domain</td>
</tr>
<tr>
<td>• 16/30 OECD</td>
</tr>
</tbody>
</table>

ARACY Report Card: Summary

<table>
<thead>
<tr>
<th>Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Some strengths of large-scale longitudinal studies</td>
</tr>
<tr>
<td>➢ Greater confidence in identifying 'cause and effect' relationships</td>
</tr>
<tr>
<td>➢ Findings are generalisable (if large and representative)</td>
</tr>
<tr>
<td>➢ Can tap multiple factors in child’s environment</td>
</tr>
<tr>
<td>➢ Track stability and change in child's environment (and impact on child)</td>
</tr>
<tr>
<td>➢ Track stability and change in the child:</td>
</tr>
<tr>
<td>➢ (How much/How) do early problems predict later problems?</td>
</tr>
<tr>
<td>➢ Developmental pathways</td>
</tr>
<tr>
<td>➢ Risk and protective processes</td>
</tr>
<tr>
<td>➢ Transition points</td>
</tr>
</tbody>
</table>

Developmental model (adapted from Simon, 2002)

<table>
<thead>
<tr>
<th>Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australian Temperament Project (ATP)</td>
</tr>
<tr>
<td>➢ A longitudinal study of development and wellbeing from infancy to adulthood</td>
</tr>
<tr>
<td>➢ Representative sample of over 2400 children from across Victoria</td>
</tr>
<tr>
<td>➢ 15 waves of data since 1983, at 1-2 yearly intervals</td>
</tr>
<tr>
<td>➢ Data from parents, teachers, nurses and the participants themselves - and now starting on Generation 3</td>
</tr>
<tr>
<td>➢ Data on:</td>
</tr>
<tr>
<td>➢ Temperament</td>
</tr>
<tr>
<td>➢ Child and adolescent health, behavioural and emotional problems</td>
</tr>
<tr>
<td>➢ School adjustment, social competence and civic mindedness</td>
</tr>
<tr>
<td>➢ Family functioning, parenting style and relationships</td>
</tr>
<tr>
<td>➢ Peer relationships</td>
</tr>
<tr>
<td>➢ Socio-demographic characteristics (etc)</td>
</tr>
</tbody>
</table>
Pathways to antisocial behaviour - ATP/Crime Prevention Vic. collaboration

3 themes

- Several pathways - different in their nature and timing
- Risk is first identifiable at start of primary school, and involves many domains of life
- Resilience is common and also involves many domains

Risk factors for Persistent Antisocial group

- Individual factors
  - e.g. difficult temperament; externalising problems; poor social skills; substance use; risk taking; less adaptive coping styles
- Family factors
  - Functioning: e.g. poor parent-child relationship, less warmth, less communication and more alienation from parents; less parental monitoring, more harsh discipline; parental substance use
  - Structure and background: more frequent experience of a family disruption
- Peer and school factors
  - e.g. antisocial peers; fewer organised peer group activities; academic difficulties; negative attitude towards school
**Australian Temperament Project:**

**Some learnings**
- Differences in children’s temperament matter for their development
- The early years of life matter, but so do later periods
- Pathways can start early but remain open to change - prevention and early intervention, but not only early
- The reality of resilience - change is possible and common - don’t despair
- Interdependence between aspects of a child’s life
- Need for a holistic perspective
- Most do well - expect well … But around 25% have adjustment difficulties
- Many problems co-occur and multiplicity of influences
- 50 multi-modal interventions - raise for parents, schools and communities
- Multiplicity of pathways - many roads to Rome
- Close ties with policy and practice are needed to ensure uptake of findings
- And longitudinal studies are worth the effort...

**Growing Up in Australia**

**the Longitudinal Study of Australian Children: a valuable new resource**
- National coverage
- 10,000 children
- 2 age cohorts (infants and 4-5 yrs)
- Close link between researchers, policy-makers and service-providers: FaHCSIA, AIFS and ABS, with Consortium Advisory Group
- Multi-disciplinary
- Ecological model
- Holistic view of children
- Extensive multi-source data
- Data accessible to researchers

**Study methods and informants**

Data collection tools
- Home interviews, self-completion questionnaires, time-use diary,
- Direct assessment of children, interviewer observations, data linkage
(Medicare, PBS, National Childcare Accreditation Council, SEIFA, etc.)

Infomants
- Child’s parents:
  - Primary (typically biological mother)
  - Secondary (resident / non-resident)
- Childcare providers and pre-school teachers
- Teachers
- Interviewers
- The child (from 6-7 years)

Current status
- Data from Waves 1-6 available
- Wave 5 underway
- Planning for Wave 6-8
- Possible health and biomarker module

**Growing Up in Australia**

**Knowledge potential**

**A: Families**
- How are Australian parents going about their parenting?
  - Impact on child
  - x child age, family types, cultural background, support, etc
- Associations among financial stress, parenting stress, parenting practices, child outcomes
  - x family types, etc
- The roles of non-resident parents and grandparents
  - Impact on child
  - x family types, etc
- How does access to family-friendly work provisions impact on child outcomes?
  - Mediated through parental stress and wellbeing

**B: Physical and mental health**
- Association of overweight (16%) and obesity (5%) with:
  - Child factors (e.g. temperament, activity, diet)
  - Family factors (e.g. parent weight, parenting, stress)
  - Socio-demographic factors (e.g. location, culture)
- Association of injuries with child, family and community factors
- Predictors of children’s emotional and behavioural problems (e.g. anxiety, aggression)
  - Risk and protective child, family and community factors
  - x family type, location, culture, etc.
Growing Up in Australia: Outcome Index

- Composite measure of how children are faring:
  - overall
  - physical domain
  - social/emotional domain
  - learning domain
- Simple, user-friendly tool for communicating otherwise complex research findings
- Population average on each scale is 100 (SD 10); 'negative' and 'positive' cut-offs (top and bottom 15%)

Growing Up in Australia: Knowledge potential

C: Child care and education
- Comprehensive data on childcare quantity and quality, link to NCAC data; home-based and care-based learning experiences
- Impact on child of:
  - Age at entry
  - Stability of care/carers
  - Amount of care
  - Type of care
  - Quality of care
  - x child and family factors
- What aspects of care quality are most closely related to child outcomes?
- Impact on child’s cognitive development and readiness to learn of formal and informal early learning experiences

Home to school transitions for financially disadvantaged children: Findings from LSAC Waves 1 and 2

Based on an AIFS report for The Smith Family
With Diana Smart, Jennifer Baxter, Ben Edwards and Alan Hayes (Australian Institute of Family Studies)

School readiness:
- multi-faceted – cognitive and social/emotional components
  (+ approach to learning, physical health, school’s readiness, etc.)
- linked to later outcomes in adolescence and adulthood

School readiness and disadvantage:
- children from poor families tend to have poorer school achievement
- understanding the basis for this differential and addressing it are issues of social equity and social inclusion

Low Outcome Index: Percentage of Child Cohort by Health Characteristics

- Non-parental care is common experience:
  - one-third of infants experience regular formal and/or informal child care
  - 95% of 4-5 year olds spend significant amounts of time in centre-based child care or early education settings.
- Physical Domain outcomes were poorer for infants in large group care settings, likely due to increased exposure to contagious illnesses, but group care was unrelated to Physical outcomes at 4-5 years of age.
- Learning outcomes were best for children in the most educationally oriented (i.e. pre-year 1) programs
- Child and family characteristics, particularly those related to family socio-economic status, were stronger predictors than child care of any infant or child outcomes

Key research questions

Examined using LSAC K cohort Wave 1 and 2 data:
1. (a) Are Australian children from financially disadvantaged families less ready for school, and (b) do they make poorer school progress, than other children?
2. (a) What child, family and broader environmental factors influence school readiness; and (b) do these differ for financially disadvantaged children?
3. What is the combined effect of family financial disadvantage and poor school readiness for children’s school outcomes?]
4. What are the implications for policy and practice?
Main measures

- Family financial disadvantage (Wave 1)
  - Income (family equivalent) in the lowest 15%
  - Experience of financial hardship in last 12 months
  - Major source of income from government benefits/allowances
  - Perception of the family as poor/very poor
- Low school readiness (lowest 20%) at 4-5 years (Wave 1)
  - Cognitive
    - Receptive language (short PPVT)
    - Preliteracy and prenumeracy skills (ACER 'Who Am I?')
  - Social-emotional
    - Conduct problems, hyperactivity, emotional problems, peer problems, prosocial skills (SDQ, parent report)
- Poor school progress (lowest 20%) at 6-7 yrs (Wave 2)
  - Academic performance (language and numeracy) (ACER Rating Scale, teacher report)
  - Engagement in learning (from ECLS-K, teacher report)
  - Social-emotional adjustment: SDQ (teacher report)

Question 1a - Links between financial disadvantage and social-emotional readiness (W1)
- Percentage with poor language skills at 4-5 years
- Question 1a - Links between financial disadvantage and cognitive readiness (W1)
- Major source of income from government benefits/allowances
- Income (family equivalised) in the lowest 15%
- Perception of the family as poor/very poor
- Similar trends for all four measures of financial disadvantage – income chosen for subsequent analyses
- Clear links ... transition • Not a ‘guarantee’ - a number of better-off children showed low school readiness and struggled at school

Question 1b - Links between financial disadvantage (W1) and academic progress (W2)
- Preliteracy and prenumeracy skills (ACER 'Who Am I?')
- Experience of financial hardship in last 12 months
- Percentage with low scores on Approach to Learning at 6-7 years

Question 1 (financial disadvantage, school readiness and progress): Conclusions
- Similar trends for all four measures of financial disadvantage – income chosen for subsequent analyses
- Clear links between family financial disadvantage and children's
  - readiness for school (cognitive and social-emotional)
  - later academic achievement and adjustment
- Not 'destiny' - many financially disadvantaged children were ready for school and made a successful transition
- Not a 'guaranteed' - a number of better-off children showed low school readiness and struggled at school
Question 2: Factors predicting cognitive school readiness

<table>
<thead>
<tr>
<th>Domain</th>
<th>Variable</th>
<th>Cond Prob</th>
<th>Hyperact</th>
<th>Error Prob</th>
<th>Peer Prob</th>
<th>Low Prob</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial disadvantage</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Child characteristics</td>
<td>Low literacy</td>
<td>risk***</td>
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<tr>
<td>Parental characteristics</td>
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<tr>
<td>Professional education</td>
<td>High risk</td>
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<tr>
<td>Family stress model</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Child care experiences</td>
<td>Not in child care or preschool</td>
<td>risk*</td>
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<tr>
<td>Neighbourhood</td>
<td>Accessible non-metropolitan area</td>
<td>risk*</td>
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</table>

Conclusions about the factors that predict school readiness

- Many factors (child, parental, family, child care and neighbourhood) contribute to a child’s readiness for school.
- Risk factors were generally similar for financially disadvantaged children and their peers.
- Effects of financial disadvantage felt through
  - other parental and family factors
  - a greater risk burden among disadvantaged families

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Question 2: Factors predicting social and emotional school readiness

<table>
<thead>
<tr>
<th>Domain</th>
<th>Variable</th>
<th>Cond Prob</th>
<th>Hyperact</th>
<th>Error Prob</th>
<th>Peer Prob</th>
<th>Low Prob</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial disadvantage</td>
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<tr>
<td>Child</td>
<td>Low literacy</td>
<td>risk***</td>
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<td>Parental characteristics</td>
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<tr>
<td>Neighbourhood</td>
<td>Accessible non-metropolitan area</td>
<td>risk*</td>
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</tbody>
</table>

Risk burden of disadvantaged and non-disadvantaged families

Models explaining the effect of family financial disadvantage on school readiness

- **Investment model** - financial disadvantage limits a family’s ability to provide intellectually stimulating experiences
  - best explains children’s cognitive and learning outcomes
- **Family stress model** - family interactions and relationships are put under pressure by financial disadvantage
  - best explains children’s social and emotional outcomes
- **Both important and probably operate together**

Bad Parenting....

<Images of ducks>
Implications for intervention

- Common risk factors for all children (although greater burden of risks for financially disadvantaged children)
  - ‘Special purpose’ intervention approaches unlikely to be needed
- Risk factors evident in many areas of children’s lives
  - Multi-modal interventions that target multiple areas are the most promising strategy to improve school readiness among financially disadvantaged children

Knowledge translation in LSAC

- Publicly available data and multiple users
- Policy relevant research questions
- Partnership with FAHCSIA
- Consultation across government
- Thematic reports
- “Life @” series – “Life @ 1”, “Life @ 3”, “Life @ 5”, soon “Life @ 7”
- Continued funding dependent on demonstrated relevance

Conclusions 1 - closing the “Know/Don’t know” gap

- Longitudinal studies can provide unique data with implications for prevention and intervention
- Avoid a one-size-fits-all approach
- Early origins of many problems, but opportunities for change beyond early childhood – especially around transitions
- Both risk and protection are multi-faceted, many problems co-occur – so multi-faceted, sustained interventions
- Cumulative disadvantage
- Reality - but limits - of resilience

Benefits of early intervention

Perry Preschool Project follow-up at age 40
- Total benefit-cost ratio of 17:1
  - 4:1 for participants (mainly higher income)
  - 13:1 for the public (tax revenue, special education costs, social welfare costs, criminal justice system costs)

“If we have a dollar to invest, where do we place it to get the best return? All the evidence points to early intervention as having the highest success rate and therefore the best returns for society.”

(James Heckman)

But … expand the pie, grow the cake, …

Jeanne Brooks-Gunn “Do you believe in magic?”
- Intervention early in life cannot “inoculate” a child / family against later difficulties. If interventions don’t tackle the root causes or sources of risk, ongoing support is needed. To think otherwise is to believe in magic.

Conclusions 2 - closing the “Know/Do” gap

- Uptake of knowledge does not just happen - close connection between research, policy and practice is needed to close the “Know-Do” gap

Australian Research Alliance for Children and Youth (ARACY)

A broker of collaborations:
- works across sectors and disciplines
- provides a neutral space for organisational collaboration
A disseminator of ideas:
- progresses sustainable, evidence-based action
An advocate for Australia’s future generation:
- ultimate aim of improving the wellbeing of children and young people
  - focus on prevention
  - focus on life-pathways
Around 2000 organisational and individual members
- ‘value adds’ to members’ work
- funding from government & philanthropic / corporate

About 60 Contributing Organisations and 300 individual members

- Diverse array of researchers, practitioners and policy-makers concerned with child/youth well-being
- Developed the capacity of researchers, policy makers and practitioners to:
  - Work together to identify research questions that will have the greatest impact on outcomes, and to expand the knowledge base
  - Ensure that the evidence is useful and is put into action
  - Make better use of existing data sources
- Capacity-building seminars using ‘access grid’ and webinars
- New Investigators Network
  - Early career researchers working with mentors
  - Interdisciplinary work, analysis skills, knowledge translation skills
- Established ‘sub-networks’
  - Longitudinal Studies, Prevention Science, Knowledge Exchange, Fatherhood Research, etc
- Provided seed-funding (50+ projects)
  - To bring people together to develop innovative collaborations

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Creating an economically, environmentally & socially sustainable society

- To thrive, children need to be valued
- Increasing the value placed on children helps create the conditions in which their wellbeing can be improved
- This requires a major shift in how we all think, feel and behave
- It really does take a village (whole of nation)

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Readings

**Longitudinal research (in general)**


**LSAC** (http://www.aifs.gov.au/growingup/pubs/)


**ATP** (http://www.aifs.gov.au/stp/)


**ARACY**


**General**