

# ***Why do the children of young mothers have poorer outcomes?***

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*Presentation at the 2007 LSAC Research Conference*

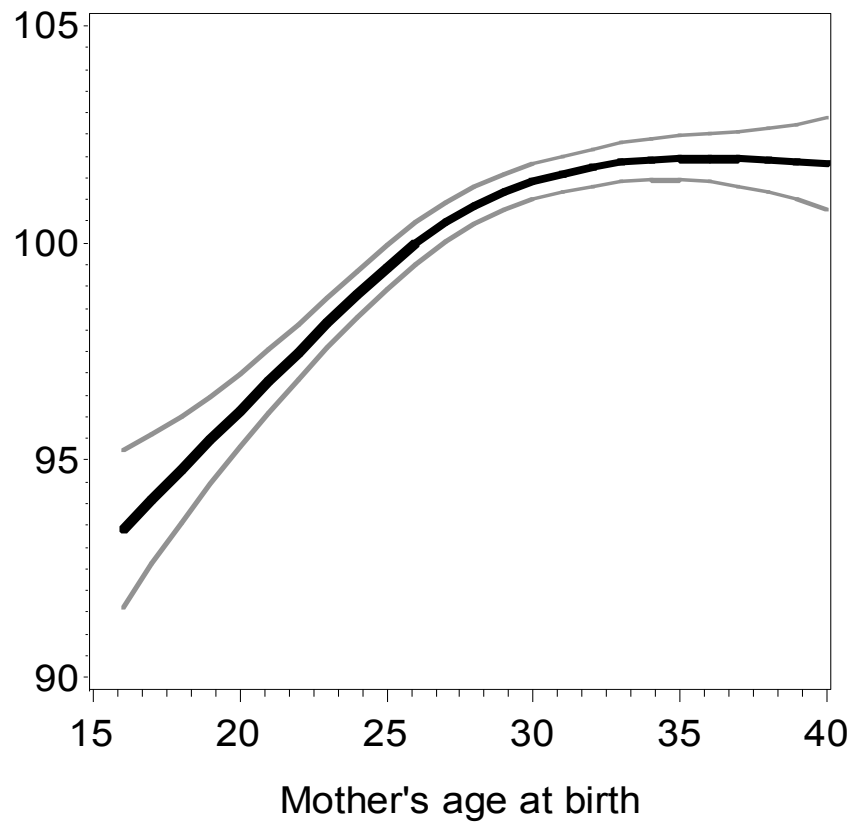
## Mother's age at birth is a good predictor of later-life outcomes for both mother and child

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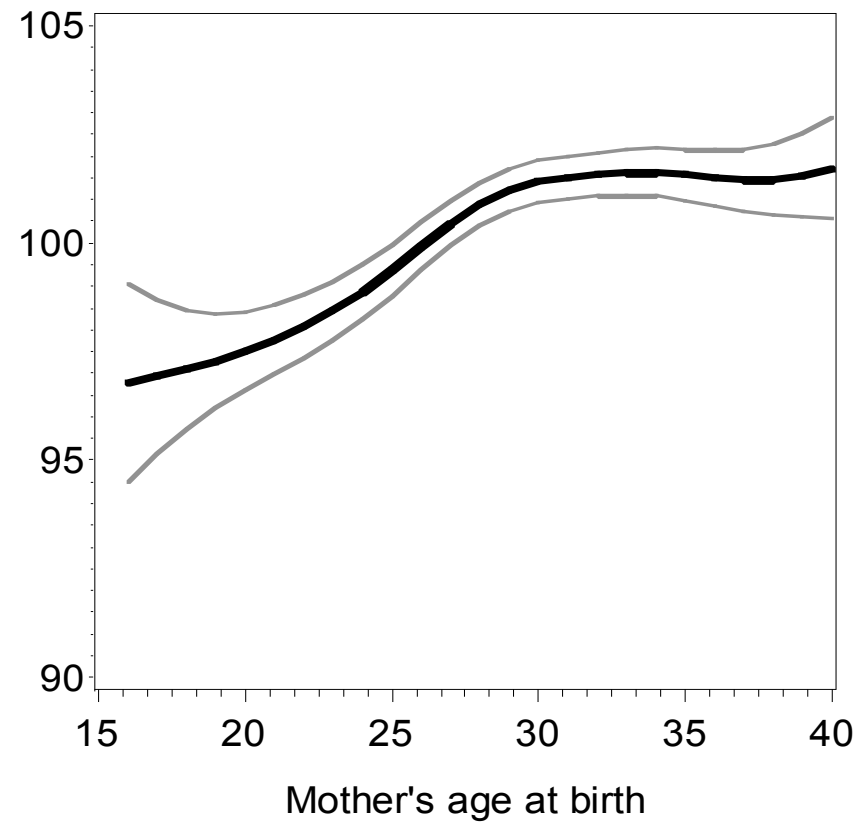
- ◆ By their early 30s, mothers who have their first child when young
  - ❖ have less education
  - ❖ are less likely to be a homeowner
  - ❖ are more likely to be single
  - ❖ and if partnered, have partners with lower incomes
  - ❖ these associations are stronger than 20 years ago
- ◆ Children born to younger mothers also have poorer outcomes

# Outcomes for 4-5 year-olds by mother's age at birth: LSAC

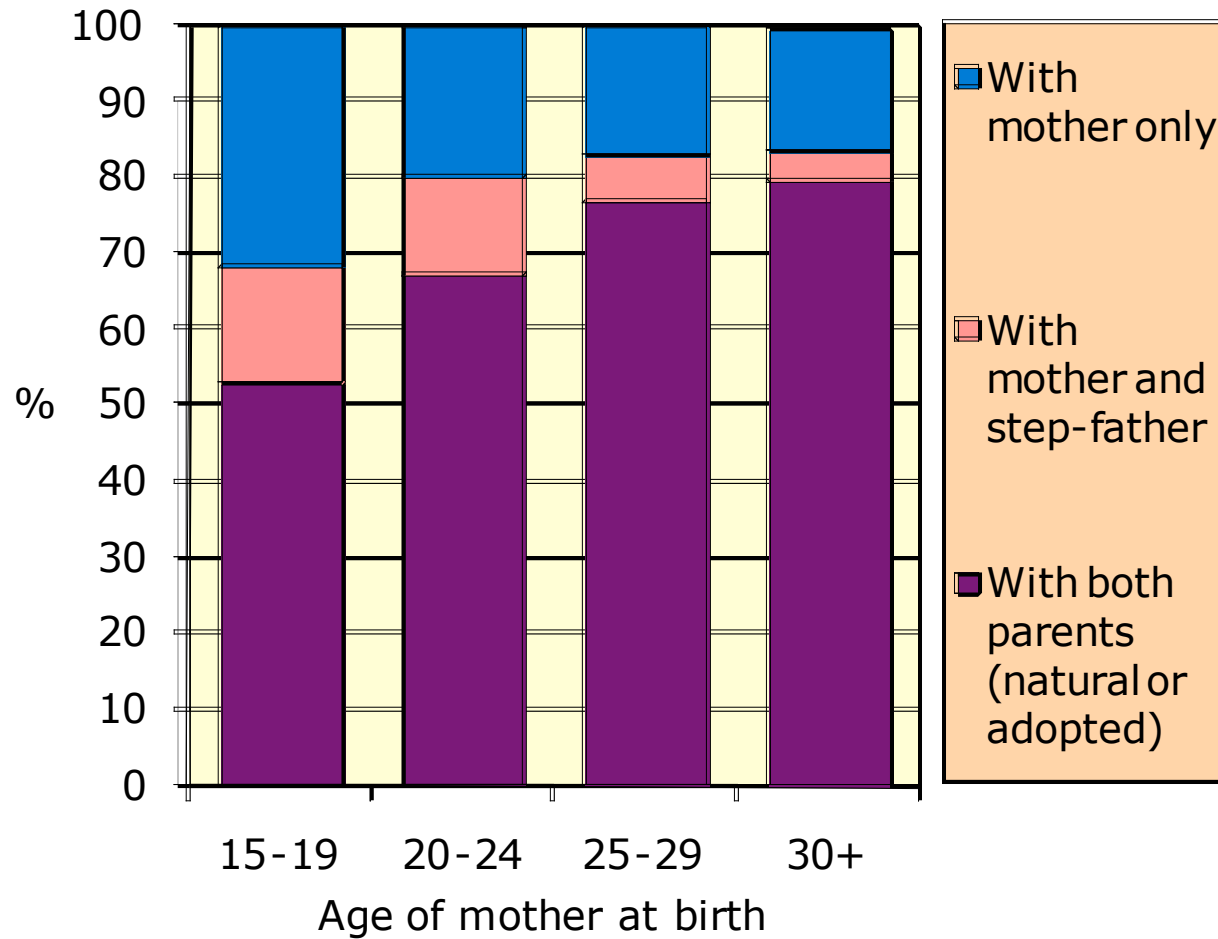
## Social/Emotional score



## Learning score

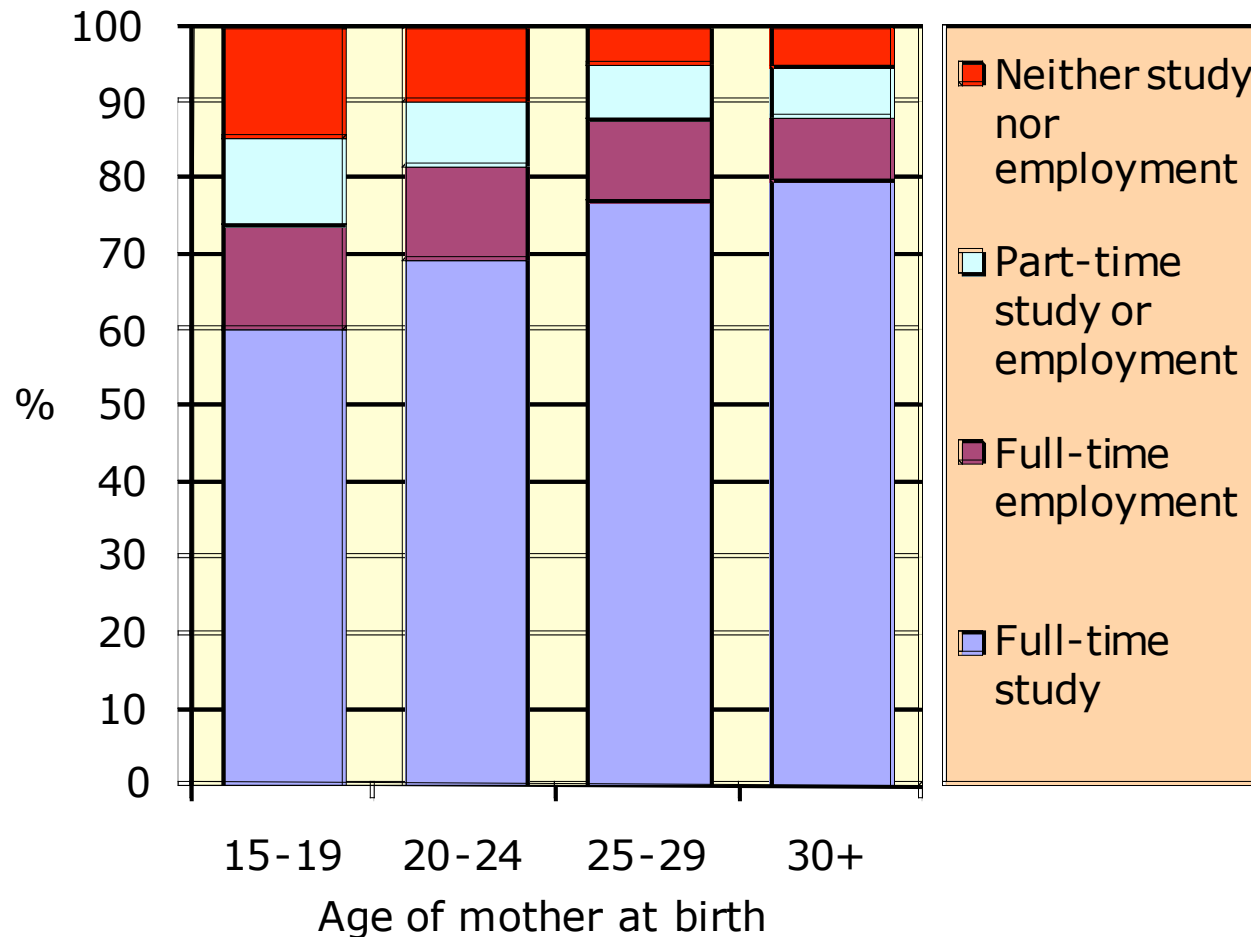


# Family status of youth aged 16-18



Source: 2001 Census, 1% Household Sample File. Only includes youth who are living with their apparent mother on Census night

# Education and employment status of youth aged 16-18



Source: 2001 Census sample file.

Notes: Youth with multiple characteristics are placed into the first category in which they fall (starting from the bottom of the figure). Eg a youth working part-time while studying full time is coded into the full-time study category. Youth not living with an apparent mother are not included.

- ◆ **Direct effect:** the child would have had a better outcome if their mother had “delayed their birth”
  - ◆ parents gain competence as they age,
  - ◆ incomes and assets increase with parental age,
  - ◆ young first childbirth may disrupt education and career formation of mother
- ◆ **Selection effect:** disadvantaged background and poor education/employment prospects => more likely to have children when young
- ◆ Whether policy should discourage early childbirth depends on whether there is a direct effect.

- ◆ Comparing women with and without miscarriages:  
*USA*: Hotz, Mullin and Sanders (1997), Hotz, McElroy and Sanders (2004), *UK*: Ermisch and Pevalin (2003, 2005), *Australia*: Bradbury (2006)
  - ◆ Direct effect on mother's outcomes is small or non-existent (or even positive)
  - ◆ Strongest evidence is for an impact on partnering patterns.
- ◆ Ashcraft and Lang (2006) argue that miscarriages not random. Nonetheless, impact of a teen birth is 'at most modest'.
- ◆ All these estimates are for the population of women who want to have a child when young. For the average woman, the effects are probably much greater.

## Identifying the direct effect on child outcomes

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- ◆ Control for *observed differences*
  - ◆ Typically find that the association diminishes but does not disappear
- ◆ *Fixed effects*. Compare siblings
- ◆ Compare children born to young mothers with children born to older mothers but who had a *miscarriage* when they were younger

- ◆ Levine et al (2005) compare methods, looking at youth outcomes using the NLSY79.
  - ◆ Behavioural outcomes: possible effects on grade repetition, truancy, early sex
  - ◆ Learning outcomes: having a teenage mother has no causal effect on test scores.
- ◆ Francesoni (2007) using BHPS finds quite different results.
  - ◆ First-born siblings born to teenage mothers are less likely to finish school than their latter-born siblings.
  - ◆ First-born girls are more likely to be teenage mothers themselves.

- ◆ LSAC: Look at outcomes for 4-5 year old children controlling for observed differences
  - ◆ Control for mother's age when she had her first child
  - ◆ Some evidence of poorer outcomes in the social-emotional domain

## Outcomes for 4-5 year-olds

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- ◆ Longitudinal study of Australian Children (child cohort, first wave)
- ◆ Summary outcome indices (Sanson, Misson et al 2005)
- ◆ Social/Emotional domain index
  - ❖ Parent-rated items on 'strengths and difficulties questionnaire' (Goodman, 1999)
- ◆ Learning domain index
  - ❖ Interviewer administered (abbreviated) Peabody Picture Vocabulary test
  - ❖ Parent and teacher ratings
  - ❖ Interviewer administered 'Who am I?' test (ACER, 1999)
- ◆ Physical domain index
  - ❖ Height/weight and parent reports of overall health and motor coordination

- ◆ Child characteristics:
  - ◆ Age, gender, first-born
- ◆ Background:
  - ◆ Mother smoked, indigenous, non-English speaking, mother and father education
- ◆ Family structure:
  - ◆ Lone parent family, with biological father, marital status, number of children
- ◆ Economic:
  - ◆ Equivalent income, full-time income, shortage of money events, SEIFA
- ◆ (Mother's age at birth of her *first* child)

## Controlling for age at birth of first child

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- ◆ To the extent to which unobserved background factors influence young motherhood, they probably act mainly via age at *first* birth
- ◆ Controlling for this thus captures much of these effects
- ◆ For second and younger siblings, can control for the mother's age at her first birth
- ◆ Caveat 1: this also controls for any age at first birth effects that affect both children (eg mother's education)
- ◆ Caveat 2: The mother's age effect cannot now be distinguished from any 'age gap' effect

$$\text{Age Gap} = \text{Age1} - \text{Age2} = \text{M.Age2} - \text{M.Age1}$$

implies

$$\text{M.Age2} = \text{Age Gap} - \text{M.Age1}$$

# Predicted outcome index increase due to mother being aged 30 rather than 20 at birth



	Bivariate association	Controlling for family characteristics	Also controlling for mother's age at birth of first child	
	----- Full sample -----			-- Non-first born --
Approx N	4,440	4,000	3,990	2,240
<b>Physical index</b>				
Predicted increase	0.6	-0.6	<b>1.8</b>	1.6
Standard error	(0.5)	(0.6)	(0.9)	(1.2)
<b>Learning index</b>				
Predicted increase	<b>3.2</b>	0.9	-0.9	-0.9
Standard error	(0.5)	(0.5)	(0.8)	(1.1)
<b>Social-emotional index</b>				
Predicted increase	<b>5.0</b>	<b>1.9</b>	<b>2.7</b>	2.4
Standard error	(0.5)	(0.5)	(1.0)	(1.3)

## Conclusions

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- ◆ Physical domain: No association, possible impact of birth spacing
- ◆ Learning domain: Moderate bivariate association, disappears when controlling for observed characteristics
- ◆ Social-emotional domain: Strong bivariate association, moderate association remains when controlling
  - ◆ But S-E index is entirely derived from parent-rated items