Nature versus nurture

IIE 366: Developmental Psychology

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Lecture 06

Family Policy and Nature-Nurture

I. Child Development and Family Policy
- A. Background
- B. Ways to Influence Family Policy
- C. Influences on Research

II. Nature and Nurture
- A. Genetic Influence on Intelligence
- B. Nonshared Environmental influence

I. Child Development and Family Policy

A. Background

B. Ways to Influence Family Policy

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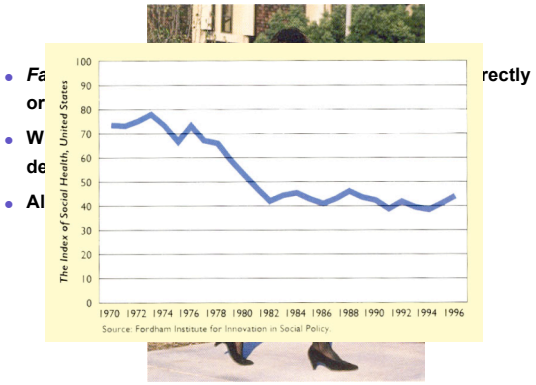

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B. Ways to Influence Social Policy

- Build understanding of children and their development
- Serve as an advocate for children and children's needs
- Evaluate policies and programs
- Develop a model program

C. Influences on Research

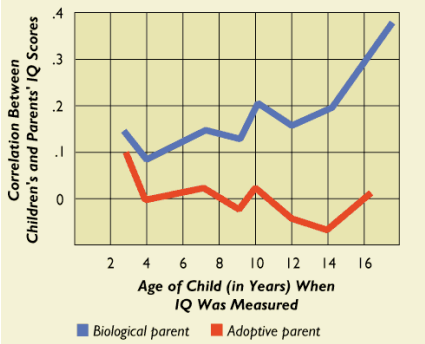
- Broader, more comprehensive theories
- Improved methods
- Note: ethics plays a central role of developmental psychology

II. Nature and Nurture

A. Genetic Influence on Intelligence
B. Nonshared Environmental Influence

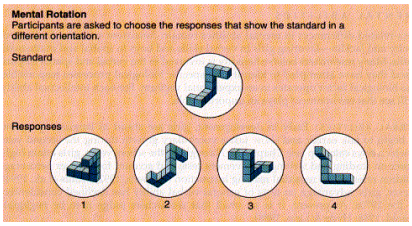
1. Evidence from the Colorado Adoption Study

- 245 children who were relinquished by their mothers at birth, their biological mothers, and their adoptive mothers, and 245 control families that included only biological children
- children's IQ measured every 1-3 years



Reliability and validity

Are the results the same when we look at different aspects of intelligence?



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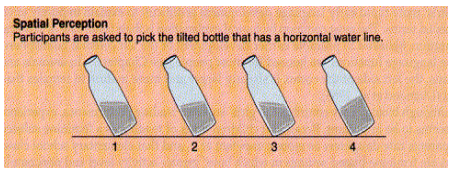

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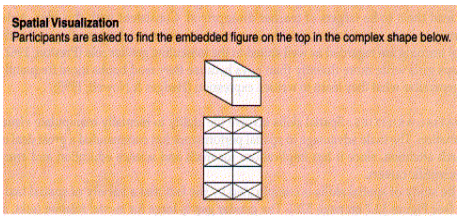

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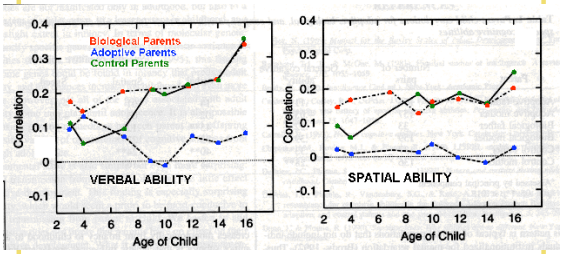


Against expectations

- You might think that the adoption studies would have a serious problem
  - Selective placement
  - Adoptive parents attempt to select children with desirable traits
  - Or with traits similar to themselves
- This turns out not to be a problem for many traits (since correlations are not found)
- Moreover, correlations between biological mothers and adoptive mothers were .00 for general intelligence, .06 for verbal ability, and .05 for spatial ability

Criticisms

- One major problem with adoption studies is that they are *observational* studies
- No control of environments
  - Income
  - Education levels
  - Siblings
  - Schools
- Usually it is unethical to do the experiments you would like to do!

Intelligence

- 1930's orphanage with no room
- Two "hopeless" baby girls
  - 13 and 16 months
  - Runny noses, ugly hair, undersized, poor muscle tone, unresponsive
  - IQs between 35 and 46 (moderate to severe mental retardation)
- Transferred to a ward of adult women in an institution for persons with mental retardation
- 6 months after the move, IQ increased to 77 and 87
- A few months later, IQ increased to mid-90s (almost normal)

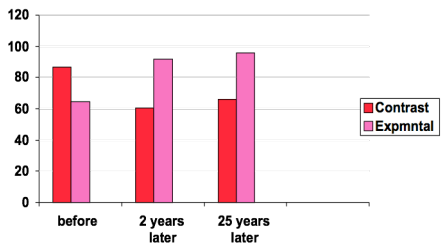
Skeels (1966)

- What caused the improvement in IQ?
- Children received a lot of attention in mental retardation ward
  - Toys, books
  - Residents played and talked with children
- Observations suggest an experiment

Nurture effects

- The Skeels (1966) study of 25 preschool children placed in an orphanage as infants.
- Comparison group: 12 children who remained in the orphanage throughout the preschool years.
  - Average IQ of 86 at start of study
- Experimental group: 13 children who were transferred to a home for teenage girls with mental retardation
  - All classified as mentally retarded (average IQ 64)
  - Unsuitable for adoption (state law)
  - One-to-one care
  - Half-morning kindergarten program

Results from Skeels



Nurture

- Changes in environment lead to a 30 point difference in IQ!

It seems obvious that under present-day conditions there are still countless infants with sound biological constitutions and potentialities for development well within the normal range who will become retarded and noncontributing members of society unless appropriate intervention occurs. It is suggested by the findings of this study and others published in the past 20 years that sufficient knowledge is available to design programs of intervention to counteract the devastating effects of poverty, sociocultural, and maternal deprivation.... The unanswered questions of this study could form the basis for many life-long research projects. If the tragic fate of the twelve contrast group children provokes even a single crucial study that will help prevent such a fate for others, their lives will not have been in vain. (p. 109) (Skeels, 1966)

B. Nonshared Environmental Influences

- 1. A paradox in the study of environmental influence
- 2. Sources of nonshared environmental influence
- 3. A specific example: Family size and birth order

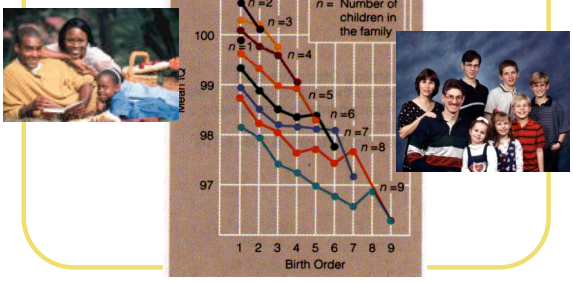
A paradox in the study of environmental influence

- Adoption studies make it clear that genes aren't everything. Environment matters.
- Yet the correlation between siblings is only .35.
- Sibs differ by an average of 12-13 IQ points compared to 15-17 for unrelated pairs.
- Experience matters but it usually makes children within a family different.

Sources of Nonshared Experience

- Accidental factors, such as illness
- Family structure, including birth order, birth spacing, absence of parents
- Different parental treatment and expectations
- Extrafamily factors including teachers and nonshared peers

An example: Impact of family size and birth order



Next time

- Prenatal development
- Newborns