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Keynote Speaker Presentations: 5th Annual UMass Center for Clinical and Translational Research Retreat (video)

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The speaker has no actual or potential conflict of interest in relation to this program/presentation.
LAW AND BEHAVIOR RESEARCH

- All laws are based on presumptions about human behavior
- Behavioral and medical sciences can test and improve presumptions on which law is based
- Thus using science to improve the quality of justice
TWO-STAGE TRANSLATIONAL RESEARCH PROCESS

Population-based Research

Patient-Oriented Research

Basic Research
THREE-STAGE TRANSLATIONAL RESEARCH PROCESS
(NIMH ASSOCIATION FOR CLINICAL RESEARCH TRAINING)

Patient-oriented Research

Basic Research

Population-based Research

T1

T2

T3
THREE-STAGE TRANSLATIONAL RESEARCH PROCESS
(NIMH ASSOCIATION FOR CLINICAL RESEARCH TRAINING)

Justice-oriented Research

Basic Research

Law and Legal Process

T1

T2

T3
JUVENILE JUSTICE

- A 100-year old system: Intended to meet youths’ needs by rehabilitating rather than punishing

- By 1990s, juvenile justice was little different than criminal justice, increasingly treating juveniles like adults
Questions:

- Why is adolescence a high risk period for crime?
- Among teenagers who offend, even seriously, why do most of them not continue to re-offend in adulthood?
- Could understanding of adolescent offending from a developmental perspective provide for a better response than simply “locking them up?”
Analysis of law’s assumptions about adolescent offending
Objective: Study decision-making processes and capacities of adolescents from a developmental perspective

Appearance of first fMRI studies of child/adolescent brain development

Gradual maturation of prefrontal cortex until late teens

Surge of activity in limbic area associated with hormonal puberty around 12 to 16
CONSEQUENCES: A DEVELOPMENTAL PERIOD OF HAZARDOUS DECISION-MAKING

Functional Development

Limbic Regions

Prefrontal regions

Hazardous period

Adolescence  13  15  17  19  21
Seeking behavioral evidence for immature decisional abilities suggested by neuroscience data on brain development.
T1 STUDIES OF DECISIONAL ABILITIES

- Seeking behavioral evidence for immature decisional abilities suggested by neuroscience data on brain development

Performance on laboratory behavioral tasks...

(using neuropsychology, cognitive psychology, and attitudinal preference measures)

...measuring age differences in abilities related to adaptive decision-making

(such as delay of impulse, consideration of future potential outcomes, recognizing risks, etc.)
IMPULSIVENESS
(Failure to delay adaptively)
SENSATION SEEKING

![Bar chart showing sensation-seeking behavior across different age groups.](image-url)
CONSIDERING LONG-RANGE CONSEQUENCES
PERCEIVING DANGEROUS OPTIONS AS RISKY
Do the age differences in abilities in laboratory tasks also hold for youths’ decisions in legal contexts?

Age-related performance paralleled the findings in the first set of studies.
T2 STUDIES: PRACTICE AND LEGISLATION

- Research to educate juvenile court practice and state legislatures to better recognize adolescents’ lesser capacities as defendants
T2 STUDIES: IMPLEMENTING OUR RESULTS THROUGH PRACTICE AND LEGISLATION

- Research to educate juvenile court practice and state legislatures to better recognize adolescents’ lesser capacities as defendants
  - Development of valid forensic assessment methods
  - Translation to inform legislators

- Outcomes—
  - Our assessment methods are now used in a majority of juvenile courts nationwide
  - One-third of the states have created special legislation for better protection of youth in trial proceedings
T2 STUDIES: SHAPING OUR RESULTS FOR THE U.S. SUPREME COURT

- Legal scholarly analysis to translate the neurodevelopmental/behavioral research for use by appellate courts
  - Amicus briefs
  - Policy documents

- Cited and explained by U.S. Supreme Court in three cases reducing culpability for crimes committed as an adolescent
  - Graham v. Florida (2010) (no LWOP less than murder)
TRANSLATIONAL RESEARCH IN LAW AND PSYCHIATRY

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