The Science of Family Research: Drug Abuse and Addiction

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National Institute on Drug Abuse
National Institutes of Health
Department of Health and Human Services
• NIDA's mission is to lead the Nation in bringing the power of science to bear on drug abuse and addiction.

• This charge has two critical components:
  • The first is the strategic support and conduct of research across a broad range of disciplines.
  • The second is ensuring the rapid and effective dissemination and use of the results of that research to significantly improve prevention, treatment and policy as it relates to drug abuse and addiction.
Resources for Medical and Health Professionals

NIDA's Clinical Trials Network

NIDA MED

NIDAIRP

irp.drugabuse.gov

DA's Clinical Network

NIDA goes back to school

The Science of Addiction
ADDICTION INVOLVES MULTIPLE FACTORS

Biology/Genes → DRUG → Brain Mechanisms → Addiction

Environment
ADDICTION IS A DEVELOPMENTAL DISEASE
starts in adolescence and childhood

Age at tobacco, at alcohol and at cannabis dependence as per DSM IV

Genes, Environment & Development Initiative (GEDI)
GEDI Vision

- Investigates interplay among genetic, environmental, and developmental factors (i.e. evidence for G, E, D main effects and interactions) in the etiology of substance abuse and related phenotypes.

- Data includes: genetic material; environmental influences; developmental level/status at period of exposure; and diverse phenotypes (quantitative & categorical).

GEDI Study

Results

- Main effects
- G x E
- G x D
- E x D
- G x E x D

Provide Usable Resources

Contributions to Field

Foundation for Fine Mapping of GEDI Components
Parental nurturance score (measured the warmth and availability of parental care) at age 4 inversely predicted hippocampal volume

Adverse Childhood Experiences (ACE) and Illicit Drug Use

- **Abuse**
  - Emotional, Physical, Sexual

- **Neglect**
  - Emotional, Physical

- **Household dysfunction**
  - Battered mother
  - Parental separation or divorce
  - Mental illness in household
  - Household substance abuse
  - Incarcerated household member

ACE account for one half to two third of serious problems with drug use. *PEDIATRICS 111: 564-572, 2003*
Universal Family-based Prevention Reduces Methamphetamine Use

Spoth, et al. 2006 Arch Pediatr Adolesc Med. Two randomized studies of long-term effects of universal preventive interventions. PDFY = preparing for the drug free years; SFP = Iowa Strengthening Family Program; LST = life skills training; .

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<thead>
<tr>
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<th>Study 1 (12th Grade)</th>
<th>Study 2 (11th Grade)</th>
<th>Study 2 (12th Grade)</th>
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<td>PDFY</td>
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<td>Lifetime (n = 457)</td>
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* ** (n = 457) (n = 597)
Brief Strategic Family Therapy for Adolescent Drug Abuse

Therapy Manuals for Drug Addiction: Manual 5

• Brief intervention used to treat adolescent drug use that occurs with other problem behaviors.
  • e.g. conduct problems at home and at school, oppositional behavior, delinquency, associating with antisocial peers, aggressive and violent behavior, and risky sexual behavior (Jessor and Jessar 1977; Newcomb and Bentler 1989; Perrino et al. 2000).

• Principles
  • Family systems approach (Szapocznik and Kurtines 1989).
  • Patterns of interaction (Minuchin et al. 1967).
  • Plan intervention to target and change patterns of interaction.

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NIH Pub. No. 03-4751, August 2003
http://www.drugabuse.gov/TXManuals/bsft/bsftindex.html
The Future of Family Research, Drug Abuse and Addiction.....

- Exploring various drugs of abuse (e.g. tobacco, prescription drugs, prenatal drug exposures).
- Mechanisms of vulnerability and resilience, both genetic and behavioral.
- Co-occurring internalizing problems and disorders.
- Family generational studies.
- Role of fathers and extended families.
- Diversity among families including:
  - various family risks processes and structures (e.g. parental drug abuse and treatment, maternal HIV, incarcerated parents, aging parents, immigrant families, returning military families etc.);
  - socioeconomic status (i.e. impact of changing economy).
NIH and VA Announce $7 Million Partnership for Substance Abuse Research among Military Personnel, Veterans and their Families

Research will focus on war efforts in Iraq and Afghanistan

Washington, D.C. – Two federal departments have joined forces to create a first-time collaborative funding project to support research on substance abuse and associated problems among U.S. military personnel, veterans and their families. The National Institute on Drug Abuse (NIDA), part of the National Institutes of Health, in partnership with two other NIH Institutes—the National Institute on Alcohol Abuse and Alcoholism (NIAAA), and the National Cancer Institute (NCI)—are jointly collaborating with the Department of Veterans Affairs (VA), on a seven million dollar funding opportunity announcement for research in this area. NIH is the leading scientific agency within the U.S. Department of Health and Human Services.