

COLLEGE ON
PROBLEMS OF
DRUG
DEPENDENCE



Mini-Program



Focus on
Women & Gender Differences

June 16-21, 2001
The Fairmont Scottsdale Princess

Provided by

NIDA NATIONAL INSTITUTE
ON DRUG ABUSE

**NIDA WOMEN & GENDER JUNIOR INVESTIGATOR
TRAVEL AWARDEES FOR CPDD 2001**

<u>Name</u>	<u>Title of Presentation</u>
Sudie E. Back <i>University of Georgia</i>	Gender differences in individuals with comorbid alcohol dependence and posttraumatic stress disorder
Andrew C. Barrett <i>University of North Carolina</i>	Sex-related differences in the antinociceptive effects of mu opioids using a mechanical nociceptive stimulus
Kimberly A. Blanchard, Ph.D. <i>Mt. Sinai School of Medicine</i>	Trauma and posttraumatic stress disorder in substance dependent women on welfare
Carrie A. Bowen, Ph.D. <i>McLean Hospital</i>	The effect of ovariectomy on cocaine self-administration by rats
Marcy J. Bubar <i>University of Texas Medical Branch</i>	Effects of acute (+)-3,4-Methylenedioxymethamphetamine [(+)-MDMA] on locomotor activity in male and female rats
Kelly P. Cosgrove <i>University of Minnesota</i>	Wheel-running suppresses cocaine self-administration differentially in male and female rats
Catherine M. Dormitzer <i>Johns Hopkins University</i>	Male-female differences & parental monitoring in early marijuana transitions: evidence from the PACARDO surveys in Latin America
Teresa R. Franklin, Ph.D. <i>University of Pennsylvania School of Medicine</i>	Gender-specific characterization (using fMRI) of regional brain activity during cue-induced nicotine craving in humans
Tony P. George, MD <i>Yale University School of Medicine</i>	Gender effects of smoking abstinence on spatial working memory in nicotine-dependent cigarette smokers
Maria A. Gomez-Serrano, DVM <i>American University</i>	Effects of cross-fostering on lipopolysaccharide-induced corticosterone release and open field and acoustic startle in Lewis and Fischer rats
Staci A. Gruber <i>McLean Hospital</i>	Gender differences in cerebral blood volume after a 28-day washout period in chronic marijuana smokers
Maureen Hillhouse, Ph.D. <i>University of California, Los Angeles</i>	The effects of gender and ethnicity on 12-step participation and effectiveness
Marianna E. Jung, Ph.D. <i>University of North Texas Health Science Center</i>	Protective effects of estrogen on ethanol withdrawal syndrome
Katherine Karlsgodt <i>Massachusetts General Hospital</i>	Cocaine craving during the menstrual cycle: relationship to ovarian steroids, dopaminergic neuronal activity, stress and depressive symptomatology
Sheri Kendall-Egleson, Ph.D. <i>University of Kentucky</i>	Neurotoxic synergism of cocaine and HIV proteins is reversible by estradiol
Carolynn S. Kohn, Ph.D. <i>University of California, San Francisco</i>	Coping and social support as predictors of abstinence following substance abuse treatment: gender differences

**NIDA WOMEN & GENDER JUNIOR INVESTIGATOR
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<u>Name</u>	<u>Title of Presentation</u>
Marguerite P. Laban, Ph.D. <i>Johns Hopkins University School of Medicine</i>	Suicidal ideation among drug-dependent pregnant women
Christina N. Lessov, Ph.D. <i>Washington University School of Medicine</i>	Are there gender differences in nicotine dependence?
Katherine H. McVeigh, Ph.D. <i>Rutgers, The State University of New Jersey</i>	Differences in the sexual and reproductive health experiences of substance-dependent and non-substance-abusing women on welfare
Nena P. Messina, Ph.D. <i>University of California, Los Angeles</i>	A profile of women in prison-based therapeutic communities
Donna R. Miles, Ph.D. <i>Virginia Commonwealth University</i>	Family history of alcohol and drug problems in pregnant substance dependent women
Laura A. Schleifer, Ph.D. <i>University of Chicago</i>	The effect of oral THC on impulsivity in humans: the role of gender and gonadal hormones
Sohaila Shakib, Ph.D. <i>University of Southern California</i>	Sex differences in psychosocial determinants of adolescent tobacco use: are girls and boys at equal risk?
Carla Storr, Sc.D. <i>Johns Hopkins University</i>	Unequal opportunity' drug dealing and neighborhood disadvantage
Jolan M. Terner <i>University of North Carolina</i>	Sex and rat strain differences in (-)-pentazocine antinociception
Alan H. Tseng <i>Washington State University</i>	Sex differences in cannabinoid antinociception and sedation
Ellen Wolfe, Ph.D. <i>Institute for Health Policy Studies</i>	Effect of treatment on demand on perinatal substance use
Li-Tzy Wu, Ph.D. <i>Research Triangle Institute</i>	Gender differences in developing psychostimulant dependence among nonmedical users of prescription stimulant drugs
Rebecca M. Young, Ph.D. <i>National Development and Research Institutes</i>	Need to reframe "gender role" as a context-dependent variable for drug & HIV research: lessons from a study of women IDUs who have sex with women
Wenxia Zhou <i>University of Texas Medical Branch</i>	Estrogen regulation of gene expression within dopamine and serotonin systems in rat brain

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<p>Marianna E. Jung, Ph.D. <i>University of North Texas Health Science Center</i> Protective effects of estrogen on ethanol withdrawal syndrome</p>
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<p>Sheri Kendall-Eagleson, Ph.D. <i>University of Kentucky</i> Neurotoxic synergism of cocaine and HIV proteins is reversible by estradiol</p>
<p>Carolynn S. Kohn, Ph.D. <i>University of California, San Francisco</i> Coping and social support as predictors of abstinence following substance abuse treatment: gender differences</p>
<p>Marguerite P. Laban, Ph.D. <i>Johns Hopkins University School of Medicine</i> Suicidal ideation among drug-dependent pregnant women</p>
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<p>Jolan M. Turner <i>University of North Carolina</i> Sex and rat strain differences in (-)-pentazocine antinociception</p>
<p>Alan H. Tseng, <i>Washington State University</i> Sex differences in cannabinoid antinociception and sedation</p>
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<p>Li-Tzy Wu, Ph.D. <i>Research Triangle Institute</i> Gender differences in developing psychostimulant dependence among nonmedical users of prescription stimulant drugs</p>
<p>Rebecca M. Young, Ph.D. <i>National Development and Research Institutes</i> Need to reframe "gender role" as a context-dependent variable for drug & HIV research: lessons from a study of women IDUs who have sex with women</p>
<p>Wenxia Zhou <i>University of Texas Medical Branch</i> Estrogen regulation of gene expression within dopamine and serotonin systems in rat brain</p>

Total number of awardees: **30**

Sunday, June 17, 2001

POSTER SESSION I

**Salon I, North Foyer
11:00 AM - 1:00 PM**

Set up time: Saturday 5:30 PM

Must be removed by Sunday 4:30 PM

MARIJUANA AND CANNABINOIDS

- 9 *Sex differences in cannabinoid antinociception and sedation*
A. Tseng, R. Craft, Washington State University, Pullman, WA
- 10 *The effect of oral THC on impulsivity in humans: The role of gender and gonadal hormones*
L.A. Schleifer, J.M. McDonald, and H. de Wit, The University of Chicago, Chicago, IL
- 11 *Gender differences in cerebral blood volume after a 28-day washout period in chronic marijuana smokers*
S.A. Gruber, W.D.S. Killgore, P.F. Renshaw, H.G. Pope Jr., and D.A. Yurgelun-Todd, Harvard Medical School, McLean Hospital, Belmont, MA
- 12 *Gender differences in collegiate risk factors for marijuana use*
S.E. McCabe and C.J. Boyd, University of Michigan Substance Abuse Research Center, Ann Arbor, MI
- 21 *The association between marijuana use and a major depression syndrome*
K.E. James, C.Y. Chen, and J.C. Anthony, Johns Hopkins University School of Hygiene and Public Health, Baltimore, MD

ADOLESCENTS

- 25 *Personality, sensation-seeking, and adolescent substance use disorders*
E.A. Whitmore, S.K. Mikulich, M. Stallings, G.A. Aarons, L.L. Thompson, T.J. Crowley, University of Colorado, School of Medicine, Denver, CO
- 30 *Alcohol and other drug use among mixed-race adolescents in California*
M.M. Wong, WestEd, Los Alamitos, CA
- 31 *A test of age-associated bias in reporting of clinical features of marijuana dependence: Epidemiological evidence from a national sample of recent-onset marijuana users*
C.Y. Chen and J.C. Anthony, School of Hygiene and Public Health, The Johns Hopkins University, Baltimore, MD
- 32 *Male-female differences and parental monitoring in early marijuana transitions: Evidence from the PACARDO surveys in Latin America*
C.M. Dormitzer, K. Vittetoe, J. Bejarano, P. Obando, and J.C. Anthony, Johns Hopkins University, Baltimore, UNAH, Tegucigalpa, IAFA, San Jose, CA
- 33 *Prevalence of adolescent substance abuse among elementary and secondary school students in a countryside in Brazil*
R. Boerngen-Lacerda and A.G.S. Tonial, Federal University of Paraná, Curitiba, PR, Brazil, Centro Pastoral, Educacional e Assistencial Dom Carlos, Palmas, PR, Brazil

Sunday, June 17, 2001

- 34 *The influence of spirituality on substance use in Panamanian adolescents*
W. Kliever, L. Murrelle, M. Sieire, and M. Ramirez, Virginia Commonwealth University, Richmond, VA
- 35 *Treatment needs and drug-related service utilization among Mexican middle and high school students*
F.A. Wagner, G. Borges, M.E. Medina-Mora, C. Benjet, J.A. Villatoro, Instituto Nacional de Psiquiatría, Tlalpan, Mexico
- 39 *Child abuse/neglect histories in adolescent drug abusers: Discriminative validity of a quantitative scale*
T.J. Crowley, S.K. Mikulich, K.M. Ehlers, S.K. Hall, University of Colorado School of Medicine, Denver, CO

BUPRENORPHINE

- 42 *Young heroin users in Baltimore: Geographic distribution, demographics and qualitative characteristics*
D. Gandhi, J. Jaffe, G. Kavanagh, R. Schwartz, E. Weintraub, M. Hayes, University of Maryland School of Medicine, Friends Research Institute, and Center for Addiction Medicine, Baltimore, MD

COCAINE: CLINICAL PHARMACOLOGY AND PHARMACOTHERAPY; CRAVING

- 63 *The effects of modafinil on food intake, verbal reports of drug effect, performance, and cardiovascular activity in normal, healthy men and women*
A.P. Makris, T.H. Kelly, and J.F. Wilson, Graduate Center for Nutritional Sciences and Department of Behavioral Science, University of Kentucky, Lexington, KY

GENES AND PROTEINS

- 92 *Temporal interactions between estrogen and progesterone affect cocaine- induced preprodynorphin mRNA levels in ovariectomized female rats*
S. Jenab, L. Perrotti, and V. Quinones-Jenab, Hunter College of CUNY, New York, NY

INHALANTS, SEDATIVE HYPNOTICS, ANXIOLYTICS

- 106 *Risk for suicide ideation and attempt after early-onset inhalant sniffing*
H.C. Wilcox and J.C. Anthony, Johns Hopkins School of Hygiene and Public Health, Baltimore, MD

PSYCHIATRIC COMORBIDITY

- 128 *Comorbid treatment of stimulant dependence and an eating disorder in women*
C. Cochrane, R. Malcolm, K. Brady, K. Carrol, J. Mitchell, M. Horner, A. Cozart and T. Brewerton, Medical University of South Carolina, Charleston, SC, Yale University, New Haven, CT, University of North Dakota, Grand Forks, ND, College of Charleston, SC

Sunday, June 17, 2001

Symposium II

Salon D-E

3:00 - 5:30 PM

**GENDER DIFFERENCES IN ANALGESIC
EFFECTS OF OPIOIDS**

Chairs: Rebecca Craft and James Zacny

- 3:00 *Gender differences in opioid analgesia in the rodent*
Rebecca Craft, Washington State University, Pullman, WA
- 3:30 *Gender differences in opioid analgesia in the non-human primate*
Steve Negus, McLean Hospital, Belmont, MA
- 4:00 *Gender differences in opioid analgesia in human volunteers: Cold pressor and mechanical pain*
Jim Zacny, University of Chicago, Chicago, IL
- 4:30 *Gender differences in post-surgical opioid analgesia in humans*
Robert Gear, University of California in San Francisco, San Francisco, CA
- 5:00 *Discussion*
Jeffrey Mogil, University of Illinois at Urbana-Champaign, Champaign, IL

Oral Communications II

Salon H

3:15 - 5:30 PM

ETIOLOGY: CHICKEN OR EGG?

Chairs: Howard D. Chilcoat and Stephen T. Higgins

- 3:30 *Tobacco dependence: What does the child behavior checklist tell us about teens seeking cessation treatment?*
N.J. Hickman III, J.M. Hills, D.H. Epstein, M. Ernst, M.L. Robinson, and E.T. Moolchan
NIH/NIDA, IRP, Baltimore, MD
- 4:00 *Thirty-year follow-up of the influence of early parenting on illicit drug use*
A.M. Windham and H. Chilcoat, The Johns Hopkins School of Hygiene and Public Health, Baltimore, MD
- 4:45 *Patterns of methamphetamine use, from first use to treatment*
M.-L. Brecht and C. von Mayrhauser, UCLA Integrated Substance Abuse Program, Los Angeles, CA
- 5:15 *Common genetic and environmental vulnerability for alcohol and tobacco use in a volunteer sample of older female twins*
C.J. Hopfer, M.C. Stallings, J.K. Hewit, University of Colorado Health Sciences Center, Denver, and Institute for Behavioral Genetics, Boulder, CO

Monday, June 18, 2001

POSTER SESSION II

**Salon I, North Foyer
11:00 AM - 12:50 PM**

Set up time: Sunday 5:30 PM

Must be removed by Monday 4:30 PM

HIV/AIDS AND IMMUNE FUNCTION

- 5 *HIV risk behavior outcomes among drug-involved women participating in a women's-centered HIV prevention program*
S. Stevens and V. Villareal-Perez, The University of Arizona, Tucson, AZ
- 6 *Social factors and economic dependence: Factors influencing substance use and HIV risk behaviors among drug-involved women*
B. Estrada, S. Stevens and V. Villareal-Perez, University of Arizona, Tucson, AZ
- 7 *The need to reframe "gender role" as a context-dependent variable for drug and HIV research: Lessons from a study of women IDUs who have sex with women*
R.M. Young, P. Case, A.L. Hollibaugh, B. Roche, S. Keyes, J. Fuld, S. Friedman, National Development and Research Institutes, New York, NY, Harvard Medical School, Boston, MA, and London School of Hygiene, London, England
- 8 *A behavioral model of HIV risk reduction for drug-injecting women*
A. Estrada, B. Estrada, and S. Stevens, University of Arizona, Tucson, AZ
- 9 *A multiple-session, small group intervention to reduce sexual risk of HIV/STD among drug-using women : The Women-FIT study*
E.L. Gollub, K. Mayer, B. Koblin, A. Davis-Vogel, D. Mercer, D. Metzger, University of Pennsylvania, Treatment Research Center, Philadelphia, PA, Brown University, Providence, RI NY Blood Center, New York, NY
- 10 *Motivational outreach with women sex workers*
C.E. Yahne, W.R. Miller, and L. Irvin-Vitela, The University of New Mexico Center on Alcoholism, Substance Abuse and Addictions, Albuquerque, NM
- 17 *Injection practices among rural women injectors in Missouri: A focus group study*
W.M. Compton, W. Reich, J. Horton, L.B. Cottler, Washington University School of Medicine, St. Louis, MO
- 18 *Vaginal microbicides: An HIV prevention tool for female drug users*
L. Maslankowski, A. Forbes, C. Clark, G. Woody and D. Metzger, University of Pennsylvania / Philadelphia VA Medical Center, Center for Studies of Addiction, Philadelphia, PA
- 27 *Support networks and medical service utilization among injection drug users with HIV/AIDS*
A.R. Knowlton, W. Hua, C.A. Latkin, John Hopkins School of Public Health, Baltimore, MD

Monday, June 18, 2001

- 29 *Community intervention among African-American female crack users: HIV and other health concerns*
C. Sterk, K. Elifson and K. Theall, Emory University, School of Public Health, Georgia State University, University Plaza, Atlanta, GA

WOMEN AND GENDER

- 36 *Gender differences in alcohol sedation: Pharmacological manipulations of glutamate and GABA systems*
M.M. Silveri and L.P. Spear, Binghamton University, NY and Brain Imaging Center, McLean Hospital, Belmont, MA
- 37 *Wheel-running suppresses cocaine self-administration differentially in male and female rats*
K.P. Cosgrove and M.E. Carroll, University of Minnesota, Minneapolis, MN
- 38 *Sex and rat strain differences in (-)-pentazocine antinociception*
J.M. Turner, A.C. Barrett, C.D. Cook, and M.J. Picker, University of North Carolina at Chapel Hill, Chapel Hill, NC
- 39 *Estrogen and acquisition of heroin self-administration in female rats*
M.E. Roth and M.E. Carroll, University of Minnesota, Minneapolis, MN
- 40 *Effects of cross-fostering on lipopolysaccharide-induced corticosterone release and open field and acoustic startle in Lewis and Fischer rats*
M. Gomez-Serrano, L. Tonelli, S. Litswak, E. Sternberg and A. Riley, American University, Washington, DC and NIMH, Bethesda, MD
- 41 *Effects of menstrual cycle phase and plasma hormone levels on fMRI brain activation*
J.M. Levin, M.J. Kaufman, J.F. Fox, T. Stenson, N.K. Mello, J.H. Mendelson, and P.F. Renshaw, McLean Hospital/Harvard Medical School, Belmont, MA
- 42 *Gender Differences in Developing Psychostimulant Dependence Among Nonmedical Users of Prescription Stimulant Drugs*
L. Wu and W.E. Schlenger, Research Triangle Institute, Research Triangle Park, NC
- 43 *Differences in the sexual and reproductive health experiences of substance-dependent and non-substance-abusing women on welfare*
K.H. McVeigh, J. Morgenstern, T.W. Irwin, K.A. Blanchard and B. S. McCrady, Rutgers Center of Alcohol Studies, Piscataway, NJ, and Mt. Sinai School of Medicine, New York, NY
- 44 *Drug involved American-Indian women and health*
V. Villareal-Perez, V. Goodloe, M. Cameron, B. Estrada, and S. Stevens, The University of Arizona, Tucson, AZ
- 45 *1998-1999, substitution treatment and birth among heroin-dependent women in France: A prospective study of about 249 cases*
L. Gourarier, C. Lejeune, S. Aubisson, E. Peyret, Groupe d'Etudes sur la Grossesse et les Addictions, Hopital Laennec Paris, Hopital Louis Mourier Colombes, Université Paris V Sorbonne, Paris, France

Monday, June 18, 2001

- 46 *STDs among out-of-treatment substance-abusing women enrolled in a community prevention study*
C. Meeks, L.B. Cottler, B. Stoner, R. Cunningham-Williams, W.M. Compton, A. Ben-Abdallah, Washington University School of Medicine, St. Louis, MO
- 47 *Sex and drugs: Relationship of primary substance use disorder and sexual behavior*
C.P. Domier, R.A. Rawson, A. Washton, and C. Reiber, UCLA Integrated Substance Abuse Programs, New York University School of Medicine, New York, NY
- 48 *Victimized and non-victimized homeless: The psychosocial and behavioral profile of women and their intimate partners*
A. Nyamathi, S. Wenzel, J. Flaskerud, L. Lesser, and B. Leake, University of California, Los Angeles, CA
- 49 *'Unequal opportunity' drug dealing and neighborhood disadvantage*
C.L. Storr and J.C. Anthony, Johns Hopkins University School of Hygiene and Public Health, Baltimore, MD
- 50 *Suicidal ideation among drug-dependent pregnant women*
M.P. Laban, L.M. Tuten, H.E. Jones, and D.S. Svikis, Johns Hopkins University, School of Medicine, Baltimore, MD and Virginia Commonwealth University, Richmond, VA
- 51 *Gender differences in individuals with comorbid alcohol dependence and post-traumatic stress disorder*
S.E. Back, K.T. Brady and S.C. Sonne, Medical University of South Carolina, Center for Drug and Alcohol Programs, Charleston, SC
- 52 *Putting science into practice: Utilizing research protocols to treat women with addictions and co-morbid PTSD in a community treatment program*
G.M. Miele, L.C. Litt, D.A. Hien and F.R. Levin, Columbia University College of Physicians and Surgeons, St. Luke's-Roosevelt Hospital Center and New York State Psychiatric Institute, New York, and Derner Institute for Advanced Psychological Studies, Garden City, NY
- 53 *Depression and gender predict outcome for desipramine and contingency management in cocaine and opiate dependence*
G. Gonzalez, A. Feingold, A. Oliveto, K. Gonsai, and T.R. Kosten, Yale University School of Medicine and VA New England MIRECC, West Haven, CT
- 54 *Gender differences in psychiatric profiles in a detoxification sample of drug abusers: antisocial men and traumatized women*
M. P. Millery and B. P. Kleinman, Mailman School of Public Health of Columbia University, New York, NY
- 55 *Socialization, gender, and needs at treatment entry among drug court admissions*
M. Campos, J. Roll, M. Prendergast, Drug Abuse Research Center, Integrated Substance Abuse Programs, University of California, Los Angeles, CA
- 56 *Coping and social support as predictors of abstinence following substance abuse treatment: Gender differences*
C.S. Kohn, J.R. Mertens and C.M. Weisner, University of California, San Francisco and Division of Research at Kaiser Permanente, Oakland, CA

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57 *The effects of gender and ethnicity on 12-Step participation and effectiveness*
M.P. Hillhouse and R. Fiorentine, Drug Abuse Research Center, University of California, Los Angeles, CA

58 *A tale of two cities: Financing another voucher program for substance abusers through community donations*
B. Rosen, J.B. Kamien, A. Ishisaka and L. Amass, Friends Research Institute, Los Angeles, CA

EPIDEMIOLOGY

126 *Characteristics and predictors of injecting psychostimulants for nonmedical reasons in a community sample*

W.E. Schlenger and L.T. Wu, Research Triangle Institute, Research Triangle Park, NC

128 *The Epidemiology of Alcohol Consumption Among American Indians Living on Four Reservations and in Nearby Border Towns*

P. May and J. Gossage, The University of New Mexico Center on Alcoholism, Substance Abuse, and Addictions, Albuquerque, NM

Oral Communications III

Salon F-G

12:50 - 3:30 PM

RAVE REVIEWS: CLUB DRUGS

Chairs: Edythe D. London and Chris-Ellyn Johanson

1:30 *Characteristics of women methamphetamine users that may predict their response to substance abuse treatment*

J.B. Cohen, J.E. Zweben, M. Halpin, K. Horner, and C. Reiber, East Bay Community Recovery Project, Oakland, and UCLA Integrated Substance Abuse Program, Los Angeles, CA

Oral Communications IV

Salon H

1:00 - 3:30 PM

CRIMINAL JUSTICE: THE VERDICT IS IN

Chairs: Christine Grella and David S. Festinger

2:00 *Adolescent probationers in a therapeutic community drug treatment program: Qualitative assessment of challenges to retention*

R.N. Bluthenthal, K. Riehman, D. Morrison, A.R. Morral, Drug Policy Research Center, RAND, Santa Monica, and Sociology Department, UCLA, Los Angeles, CA

Monday, June 18, 2001

Oral Communications V**Salon A-C
4:00 - 6:30 PM****NEW TOOLS OF THE TRADE**

Chairs: Thomas E. Eissenberg and Karin M. Eyrich

- 4:30 *Cocaine/cocaine/benzoyl-ecgonine detection concordance: Hair analysis vs. urine toxicology vs. self-report*
J.B. Page, P. Shapshak, R. Duncan, E. Bandstra, and C. McCoy, University of Miami Medical School, Miami, FL

Oral Communications VI**Salon D-E
4:00 - 6:30 PM****ANALGESIA**

Chairs: Keith A. Trujillo and Alice M. Young

- 5:30 *Sex-related differences in the antinociceptive effects of mu opioids using a mechanical nociceptive stimulus*
A.C. Barrett and M.J. Picker, University of North Carolina, Chapel Hill, NC
- 6:15 *Role of the mu-opioid receptor gene in human pain tolerance and opioid addiction*
P. Compton, M. Alarcon, and D. Geschwind, UCLA School of Nursing, and UCLA School of Medicine, Los Angeles, CA

Oral Communications VII**Salon F-G
4:00 - 6:30 PM****TROUBLED TEENS**

Chairs: Thomas J. Crowley and Howard B. Moss

- 4:30 *Onset of substance use disorder and its continuity from adolescence to young adulthood in women: The contribution of psychopathology*
A.C. Mezzich, S.M. Parks, K. Day, and M. Dunn, University of Pittsburgh, Pittsburgh, PA
- 4:45 *Pathways from childhood conduct syndrome to substance abuse: International comparisons using latent transition analysis*
R.K. Price and N.K. Risk, Washington University School of Medicine, St. Louis, MO
- 5:00 *Relationship between history of child abuse, anxiety/depression, and substance abuse proneness in adolescent girls hospitalized in an acute psychiatric unit*
S. Muntasser, J. Kable, L. Matthews, and J.W. Lowe, Emory University, Atlanta, GA and Tulane University, New Orleans, LA

Monday, June 18, 2001

5:15 *One year follow-up of fluoxetine in depressed AUD adolescents*
J.R. Cornelius, O.G. Bukstein, I.M. Salloum, K.G. Lynch and D.B. Clark, University of Pittsburgh School of Medicine, Pittsburgh, PA

6:00 *Comorbidity of reading disability in adolescents with substance and conduct problems*
L.L. Thompson, S.K. Mikulich, E.A. Whitmore, D. Allensworth and T.J. Crowley,
University of Colorado School of Medicine, Denver, CO

Workshop

**Salon D-E:
8:00 - 10:00 PM**

FIRST RESULTS FROM THE PERSISTENT EFFECTS OF TREATMENT STUDIES (PETS): A LONGITUDINAL PERSPECTIVE ON TREATMENT OUTCOMES

Chair: H. Wesley Clark, CSAT

Two-year treatment outcomes and predictors among substance-abusing women
Chris Scott, Chestnut Health Systems, Chicago, IL

Workshop

**Salon F-G:
8:00 - 10:00 PM**

REGULATORY AND HUMAN PROTECTIONS ISSUES FOR RUNNING CLINICAL TRIALS IN DRUG-DEPENDENT POPULATIONS

Chair: Frank Vocci and Robert Walsh

New NIH regulations that affect the way we do our clinical studies
Robert L. Walsh, NIDA, DTR&D, Bethesda, MD

Tuesday, June 19, 2001

Oral Communications IX

**Salon H
1:00 - 3:30 PM**

ALCOHOL/ANXIOLYTICS

Chairs: Linda B. Cottler and Thomas H. Kelly

- 1:30 *Discriminative stimulus effects of triazolam: Influence of menstrual cycle phase*
T.H. Kelly, A.M. Fredenburg, C.S. Emurian, C.A. Martin, L.R. Hays, and C.R. Rush,
College of Medicine, University of Kentucky, Lexington, KY
- 2:45 *Protective effects of estrogen on ethanol withdrawal syndrome*
M.E. Jung and J.W. Simpkins, University of North Texas Health Science Center, Fort
Worth, TX
- 3:00 *Association between attitudes and substance use behavior among high school students*
L.B. Cottler, A. Ben-Abdallah, W.M. Compton, E.B. Cottler, and F. McCallie,
Washington University School of Medicine, and St. Louis High School, St. Louis, MO

Oral Communications IX

**Salon A-C
4:00 - 6:30 PM**

PICTURE THIS: NEUROIMAGING

Chairs: Perry F. Renshaw and Alan S. Bloom

- 4:15 *Gender-specific characterization (using fMRI) of regional brain activity during cue-induced nicotine craving in humans*
T. Franklin, J. Croft, C. O'Brien, and A.R. Childress, Addiction Treatment Research
Center, University of Pennsylvania and Philadelphia Veterans Affairs Medical Center,
Philadelphia, PA

Oral Communications XI

**Salon D-E
4:00 - 6:30 PM**

MOLECULES AND GENES

Chairs: Bertha K. Madras and K. Steven LaForge

- 6:00 *The CB1 cannabinoid receptor is involved in neuroendocrine regulation*
T. Wenger, C. Ledent, V. Csernus and I. Gerendai, Semmelweis University, Budapest,
Hungary, University Libre de Brussels, Belgium and University of Pecs, Hungary

POSTER SESSION III

**Salon I, North Foyer
11:00 AM - 12:50 PM**

Set up time: Tuesday 5:30 PM

Must be removed by Wednesday 4:30 PM

OPIOIDS: CLINICAL PHARMACOLOGY AND TREATMENT

- 14 *Characteristics of drug treatment patients with versus without Medical Assistance*
K. Stoller, M. Kidorf, V. King, J. Carter, R. Brooner, Johns Hopkins University School of Medicine, Baltimore, MD
- 19 *Patterns of crime among chronic heroin users: the effect of gender and injection status*
J. Sanchez and D. Chitwood, University of Miami, FL

METHADONE MAINTENANCE

- 27 *Cognitive-behavioral therapy for illicit drug use during methadone maintenance: Treatment outcomes and MR spectroscopy findings*
M.H. Pollack, M.W. Otto, M.J. Kaufman, S.J. Penava, G.D. Lanka, D.A. Yurgelun-Todd, P.F. Renshaw, Massachusetts General, Boston, and McLean Hospitals, Harvard Medical School, Belmont, MA
- 34 *Sexual desire and dysfunction among methadone maintenance clients*
D.A. Calsyn, E.A. Wells, A.J. Saxon, J.R. Heiman, and R. Jackson, VA Puget Sound Health Care System, University of Washington School of Medicine, University of Washington School of Social Work, Evergreen Treatment Services, Seattle, WA
- 37 *Comparison of the effects of methadone and LAAM on the electrocardiogram*
A. Huber, W. Ling, J. Fradis, V.C. Charuvastra, Friends Research Institute, UCLA Integrated Substance Abuse Program, Los Angeles, CA

ALL IN THE FAMILY

- 42 *Gender relationship to treatment outcome in a methadone, buprenorphine and LAAM comparison*
H.E. Jones, R.E. Johnson, E.C. Strain and G.E. Bigelow, Johns Hopkins University School of Medicine, Baltimore, MD
- 43 *Intergenerational differences in course of alcoholism in women*
M. Larenas and C. Vieten, University of California, San Francisco, Gallo Clinic and Research Center, Emeryville, CA
- 44 *Family history of alcohol and drug problems in pregnant substance-dependent women*
D.R. Miles, D.S. Svikis, N.A. Haug, and R.W. Pickens, Virginia Commonwealth University, Medical College of Virginia, Richmond, VA and Johns Hopkins University School of Medicine, Baltimore, MD
- 46 *Finding genes that predispose to substance dependence in adolescents: the Colorado Center on Antisocial Drug Dependence*
J.K. Hewitt, M. Stallings, K.S. Krauter, T.J. Crowley, R. Corley, P. Riggs, S. Young, S.K. Mikulich, S.S. Cherny, S. Rhea, K.Ehlers, University of Colorado, Boulder, CO and University of Oxford, UK

Wednesday, June 20, 2001

- 48 *Spousal resemblance for antisocial personality disorder and substance dependence symptoms among parents of patients and controls*
J. Sakai, M. Stallings, S.K. Mikulich, R. Corley, S.E. Young, T.J. Crowley, The Institute For Behavioral Genetics, Boulder, CO
- 49 *Barriers to treatment among pregnant and parenting drug-dependent women*
M. Jessup, University of California, San Francisco, CA
- 50 *National estimates of the availability of services for women in substance abuse treatment*
A. Male, T. Brady, E. Sikali, M. Bokassa, A. Parker, and S. Salvucci, Synectics for Management Decisions, Inc., Arlington, VA and Substance Abuse and Mental Health Services Administration, Rockville, MD
- 51 *Parental status as an indicator of problem severity in substance abuse*
L. Stillman, J. Cacciola, D. Festinger, A. Floyd, M. Jenson, L. Raper, A. West
DeltaMetrics, Philadelphia, PA, DATA, Providence, RI, UT-DHSDSA, Salt Lake, UT, AR-DHADAP, Little Rock AK, NH-DADAPR, Concord, NH
- 52 *MMPI2 addiction scales: Validity for pregnant, substance-abusing women*
J. Kulstad, D. Svikis, H. Jones, N. Haug, S. Benedict, D. Miles and R. Pickens, Virginia Commonwealth University, Richmond, VA and Johns Hopkins University School of Medicine, Baltimore, MD
- 53 *Risk factors associated with toddler play*
J. Howard, L. Beckwith, M. Espinosa, and R. Tyler, University of California at Los Angeles, Los Angeles, CA
- 54 *Physical, sexual, and emotional abuse in pregnant, substance-dependent women*
M.L. Velez, L. Jansson, D. Svikis, J. Hamilton, H. Jones, V. Walters and H.D. Chilcoat
The Johns Hopkins University School of Medicine, Baltimore, MD and Virginia Commonwealth University, Richmond, VA
- 55 *Cost-efficacies of an aggressive outreach and a referral program for substance-abusing, pregnant women*
J.O. Bailey, R.J. Harrison, R. Cox, D. Farr, B. Vayhinger, A.L. English, Center for Drug Abuse Research, Howard University, Washington, PG County Hospital, Cheverly, Healthy Babies, Washington, DC, Center for Addiction and Pregnancy, Suitland, MD
- 56 *Predicting outcomes of residential substance abuse treatment for pregnant and parenting women*
X. Chen, K. Burgdorf, T. Roberts, and J. Herrell, Caliber Associates, Fairfax, VA and Center for Substance Abuse Treatment, Rockville, MD
- 57 *The mediating role of parenting stress in opiate-addicted mothers' parenting*
N. Suchman and S. Luthar, Yale University School of Medicine and Teachers College, New Haven, CT, and Columbia University, New York, NY
- 58 *Psychopathology and social disruption in drug-using and non-using urban mothers*
S. Truman, L. Mayes, and R. Schottenfeld, Yale Child Study Center and Yale University School of Medicine, New Haven, CT

Wednesday, June 20, 2001

- 59 *Finding Poppa: A comparative study of fathers enrolled in methadone maintenance treatment*
T.J. McMahon, S.S. Luthar, and B.J. Rounsaville, Yale University School of Medicine, New Haven, CT and Columbia University, Teachers College, New York, NY
- 60 *Talking with Poppa: Qualitative analysis of a focus group done with fathers enrolled in methadone maintenance treatment*
F.D. Giannini, T.J. McMahon, and N.E. Suchman, Yale University School of Medicine, New Haven, CT

CRIMINAL JUSTICE

- 61 *AOD disorders among arrestees: Gender makes a difference*
J. Steinberg, C. Grella and G. Monahan, UCLA Drug Abuse Research Center, Los Angeles, CA
- 62 *A profile of women in prison-based therapeutic communities*
N. Messina, W. Burdon, M. Prendergast, University of California, Los Angeles, Drug Abuse Research Center, Los Angeles, CA

AMPHETAMINES

- 89 *A descriptive analysis of participant characteristics and patterns of substance abuse in the CSAT methamphetamine treatment project: The first eighteen months*
P. Marinelli-Casey, R. Rawson, C. Gallagher, and J. Herrell, UCLA Integrated Substance Abuse Programs, Matrix Institute on Addictions, Center for Substance Abuse Treatment, Los Angeles, CA
- 92 *Demographic effects on the trail-making test in a sample of amphetamine abusers*
C. Roberts and A. Horton, Center for Substance Abuse Treatment, Rockville, MD
- 96 *Effects of acute (+)-3,4-methylenedioxymethamphetamine [(+)-MDMA] on locomotor activity in male and female rats*
M.J. Bubar, M.L. Thomas, and K.A. Cunningham, University of Texas Medical Branch, Galveston, TX

NICOTINE AND TOBACCO

- 109 *Are there gender differences in nicotine dependence?*
C.N. Lessov, P.A.F. Madden, K.K. Bucholz, N.G. Martin, W.S. Slutske, and A.C. Heath, Washington University School of Medicine, St. Louis, University of Missouri, Columbia, MO, and Queensland Institute of Medical Research, Brisbane, Australia
- 110 *Gender effects of smoking abstinence on spatial working memory in nicotine-dependent cigarette smokers*
T.P. George, J.C. Vessicchio, T.A. Bregartner, A. Termine, S.S. O'Malley and B.E. Wexler, Division of Substance Abuse, Yale University School of Medicine, New Haven, CT
- 111 *Predictors of retention in a tailored smoking cessation intervention for weight-concerned pre- and post-menopausal women*
A.L. Copeland, P.D. Martin, J.L. Neal, L.S. Lindman and P.J. Geiselman, Louisiana State University and Pennington Biomedical Research Center, Baton Rouge, LA

Wednesday, June 20, 2001

- 120 *Alternative methods for assessment of tobacco use in pregnant women*
S.M. Benedict, B. Leonhardt, D.S. Svikis, H. Jones, J.L. Kulstad and M. Tuten, Virginia Commonwealth University, Richmond, VA and Johns Hopkins University School of Medicine, Baltimore, MD
- 121 *Sex differences in psychosocial determinants of adolescent tobacco use: Are girls and boys at equal risk?*
S. Shakib, and L.A. Rohrbach, Institute for Health Promotion and Prevention Research, University of Southern California, Los Angeles, CA
- 122 *Reactivity to smoking cues in adolescent smokers*
H.P. Upadhyaya, S. Thomas, D. Drobles, S. Willard, M. Wharton, K.T. Brady, Medical University of South Carolina, Charleston, SC
- 123 *A factor analysis of teen responses on the Fagerstrom Test for Nicotine Dependence*
A. Radzius, D.H. Epstein, J.J. Gallo, and E.T. Moolchan, NIH, NIDA/IRP, Baltimore, MD and University of Pennsylvania, Philadelphia, PA
- 124 *Teenagers prepare to quit: Is there a relationship between change in smoking rates and retention in treatment?*
E.T. Moolchan, A.T. Aung, D.H. Epstein, N. Snidow, NIH, NIDA/IRP, Teen Tobacco Addiction Treatment Research Clinic, Baltimore, MD

Oral Communications XII

Salon A-C

12:50 - 3:30 PM

MAC ATTACK: DRUGS AND IMMUNE FUNCTION

Chairs: Guy A. Cabral and Ricardo Gomez-Flores

- 1:30 *Prenatal cocaine and immune function: Temporal characteristics*
G. Simpson, A. Avila, B. Bayer, G. Busse, J. Randall, and A. Riley, American University and Georgetown University, Washington, DC
- 2:15 *Neurotoxic synergism of cocaine and HIV proteins is reversible by estradiol*
S. Kendall-Eagleson, C. Anderson, A. Nath, R. Booze, University of Kentucky, Lexington, KY

Symposium XIII

Salon F-G

1:00 - 3:30 PM

WHEN MARS MEETS VENUS: GENDER DIFFERENCES IN DRUG DEPENDENCE

Chairs: Dace Svikis and Loretta Finnegan

- 1:00 *Introduction*
Dace Svikis, Virginia Commonwealth University, Richmond, VA

Wednesday, June 20, 2001

- 1:10 *Gender differences in the epidemiology of drug use, abuse, and dependence*
Howard Chilcoat, Johns Hopkins University, Baltimore, MD
- 1:35 *Gender differences in etiology of drug dependence*
Donna Miles and Roy Pickens, Virginia Commonwealth University, Richmond, VA
- 2:00 *Gender differences in drug effects: Laboratory studies*
Leslie H. Lundahl and Scott Lukas, McLean Hospital/Harvard Medical School, Belmont, MA
- 2:25 *Gender differences in drug abuse treatment: Services and outcomes*
Karol Kaltenbach, Jefferson Medical College, Philadelphia, PA
- 2:50 *Gender differences in psychiatric comorbidity for drug-dependent men and women*
Kathleen Brady, Medical University of South Carolina, Charleston, SC
- 3:15 *Discussion*
Cora Lee Wetherington, NIDA, Rockville, MD

Oral Communications XIII

Salon H

1:00 - 3:30 PM

CROSS-TALK: DRUG INTERACTIONS

Chairs: Jill U. Adams and Kenzie L. Preston

- 3:00 *Repeated administration of cocaine and alcohol to humans: Gender effects*
E.F. McCance-Katz, B.K. Boyarsky, C.L. Hart, J. Sarlo, C.M. Rogers, M.K. Murphy, T.R. Kosten, P. Jatlow, Albert Einstein College of Medicine, Bronx, Columbia University, New York, NY, and Yale University, New Haven, CT

Oral Communications XIV

Salon A-C

4:00 - 5:15 PM

MARIJUANA WITHDRAWAL

Chairs: Anthony Liguori and Richard W. Foltin

- 4:15 *Marijuana cue-induced craving in cannabis-dependent adolescents in psychiatric treatment*
L.H. Lundahl, K.N. Borden, and S.E. Lukas, McLean Hospital/ Harvard Medical School, Belmont, MA

Wednesday, June 20, 2001

Oral Communications XV

Salon D-E

4:00 - 5:15 PM

WORKING ON RECOVERY

Chairs: Margaret E. Ensminger and Carl Leukefeld

4:00 *Socioeconomic status and drug use during the 1980s and 1990s*

R.A. Miech and H. Chilcoat, Johns Hopkins School of Hygiene and Public Health,
Baltimore, MD

4:30 *Marijuana and cocaine use among African-American women who receive
welfare assistance*

C.T. Williams, M.E. Ensminger, and H.S. Juon, Johns Hopkins School of Hygiene and
Public Health, Baltimore, MD

5:00 *Drug abuse treatment needs among women on welfare*

R.S. Schottenfeld, M.C. Chawarski, and J. Pakes, Yale University School of Medicine,
and the APT Foundation, New Haven, CT

Thursday, June 21, 2001

POSTER SESSION IV

**Salon I, North Foyer
8:00 - 10:00 AM**

Set up time: Wednesday 5:30 PM

Must be removed by Thursday 12:00 PM

COCAINE: HUMAN BEHAVIOR AND TREATMENT; EMPLOYMENT AND HOUSING

- 27 *Correlations between measures of drug use, attitudes towards drug use and measures of impulsivity and risk-taking*
S.H. Mitchell, University of New Hampshire, Durham, NH
- 31 *Stress and drug use during a behavioral intervention trial for cocaine dependence*
J.R. Schroeder, D.H. Epstein, A. Umbrecht, and K.L. Preston, IRP, National Institute on Drug Abuse, Baltimore MD
- 35 *Substance use, dependence, and treatment motivation among female sex workers*
L. Nuttbrock, A. Rosenblum, J. Wallace, S. Magura, National Development and Research Institutes, New York, NY
- 36 *The effect of batterer's substance abuse on women's reasons for returning to abusive relationships*
D.F. Ragin, S. Griffing, R.E. Sage, L. Madry and B.J. Primm, Urban Women's Retreat and Urban Resource Institute, New York, NY
- 37 *Reading between the lines: Drug-involved women seeking new identities*
R. Andrade and S. Stevens, University of Arizona, Tucson, AZ
- 38 *Legal barriers to empowerment and sobriety in drug-involved women*
J.G. Bogart and S. Stevens, Office of J.G. Bogart Attorney at Law and University of Arizona, Tucson, AZ
- 39 *Childhood trauma, psychological symptoms, and domestic violence among cocaine and non-cocaine using women*
L.T. Singer, K. Farkas, S. Minnes and A. Salvator, Case Western Reserve University School of Medicine, Cleveland, OH
- 43 *Evaluation of a national initiative for women on welfare with substance abuse problems: The CASAWORKS for families program*
M.A. Gutman, A.T. McLellan, R.D. Ketterlinus, J. Willem, J. Meadows, M. Randall, and D. Woolis, Treatment Research Institute at the University of Pennsylvania, Philadelphia, PA and National Center on Addiction and Substance Abuse, Columbia University, New York, NY
- 50 *Developing a community of reinforcement through African-American churches*
K.C. Kirby, G. Stahler, M. Williams, B. Rosenwasser, K. Sapadin, L. Simons, C. Godbolte, T. Shipley, Temple University, Treatment Research Institute at University of Pennsylvania, Bridges to the Community, Philadelphia, PA

POLYDRUGS/INTERACTIONS

- 60 *A comparison of relapse rates of impaired health-care professionals who use tobacco vs. those who do not*
S.H. Schnoll, J.S. Knisely, and E. Campbell, Medical College of Virginia of Virginia Commonwealth University, Richmond, VA
- 62 *Drug use in young adults: age of first use and polydrug combinations involving ecstasy (MDMA)*
M.E. Stull, S.E. Lukas, McLean Hospital/ Harvard Medical School, Belmont, MA
- 63 *Treatment outcomes among adolescent substance abusers enrolled in a residential substance abuse treatment program*
B.S. Murphy and S. Stevens, The University of Arizona, Tucson, AZ
- 65 *Updated "normative data" from the addiction severity index*
J.J. Lloyd, J. Cacciola, A.T. McLellan, Treatment Research Institute at the University of Pennsylvania, Philadelphia, PA

ALCOHOL

- 71 *Clinical features associated with seeking alcohol treatment*
J.C. Anthony, J.J. Lloyd, and C.Y. Chen, Johns Hopkins University School of Hygiene and Public Health, Baltimore, Center for Substance Abuse Treatment, Rockville, MD

CONDUCT DISORDER, ADHD, PTSD

- 81 *Childhood conduct problem behaviors among street-recruited illicit drug users*
D.C. Ompad, C. Latkin, A.M. Arria, C.M. Fuller, D. Vlahov, S.A. Strathdee, Johns Hopkins School of Public Health, Baltimore, Center for Substance Abuse Research, University of Maryland, College Park, MD, Maileman School of Public Health, Columbia University, Center for Urban Epidemiologic Studies, NY Academy of Medicine, New York, NY
- 83 *Pattern of drug use among methadone-maintained patients: Individuals with and without adult attention-deficit hyperactivity disorder*
F.R. Levin, S.M. Evans, M. Sullivan, D. Brooks, Columbia University and NY State Psychiatric Institute, New York, NY
- 87 *Methylphenidate drug response in ADHD early adolescents*
C.A. Martin, T.H. Kelly, G. Guenther, University of Kentucky, Lexington, KY
- 96 *Neuroendocrine responses in substance users with and without PTSD*
K. Brady, S. Sonne, P. Latham, A. McRae, K. Veronin, R. Anton, and J. Liao, Medical University of South Carolina, Charleston, SC
- 97 *Trauma and posttraumatic stress disorder in substance-dependent women on welfare*
K.A. Blanchard, J. Morgenstern, T.W. Irwin, K.H. McVeigh and B.S. McCrady, Mt. Sinai School of Medicine, New York, NY and Center of Alcohol Studies, Rutgers University, Piscataway, NJ

Thursday, June 21, 2001

- 98 *Perceived need for treatment services among the dually diagnosed with and without post-traumatic stress disorder*

L. Cooper, C.E. Grella, L. Greenwell, Drug Abuse Research Center, University of California, Los Angeles, CA

- 99 *How helpful are treatments for women with substance dependence and posttraumatic stress disorder? An empirical study*

T. Gugliotti, L.M. Najavits, R.D. Weiss, C.S.N. Lee, and M.J. Schmitz, McLean Hospital, Belmont, and Harvard Medical School, Boston, MA

PHARMACOKINETICS AND DETECTION

- 110 *Plasma cocaine levels after "binge" cocaine administration in female rhesus monkeys*

N.K. Mello, C.A. Bowen, S.S. Negus and J.H. Mendelson, Alcohol and Drug Abuse Research Center, McLean Hospital/Harvard Medical School, Belmont, MA

- 111 *Brain cocaine levels following repeated IV cocaine: Time course and regional differences*

C.F. Mactutus, A. Lehner, C. Hughes, T. Tobin, M. Welch, R.M. Booze, University of Kentucky, Lexington, KY

SUBSTANCE ABUSE TREATMENT

- 135 *An update on the Drug Evaluation Network System*

M. Love, D. Carise, A.T. McLellan, H. Kleber, M. Edwards, H. Eshelman, V. Lam, K. Royal, T. Ackerson, C. Kendig, Treatment Research Institute at the University of Pennsylvania, Philadelphia, PA and Columbia University, New York, NY

Oral Communications XVII

Salon H

10:00 AM - 12:30 PM

HIGH RISK BEHAVIOR

(HIV, HEPATITIS C, HEPATITIS B)

Chairs: Clyde McCoy and David Epstein

- 10:00 *Drug users and non-users perceptions of why people engage in HIV risks*

K.F. Corsi, C.F. Kwiatkowski, J.A. Spradley, and R.E. Booth, University of Colorado School of Medicine, Denver, CO

- 10:15 *The dynamics of disease risk in drug-using women's primary sexual relationships*

S. Tortu, J. McMahon, and R. Hamid, Tulane University School of Public Health and Tropical Medicine, New Orleans, LA and National Development and Research Institute, New York, NY

- 12:15 *Survival analyses and laboratory measures within a homogeneous cohort of drug abusers*

C. McCoy, P. Shapshak, R. Duncan, F. Chiappelli, L. Metsch, and J.B. Page, University of Miami Medical School, Miami, FL, UCLA School of Dentistry, Los Angeles, CA

Thursday, June 21, 2001

Oral Communications XVIII

Salon D-E

2:00 - 4:30 PM

STIMULANTS AND STEROIDS

Chairs: Rosemarie M. Booze and Dorothy K. Hatsukami

- 2:00 *Gonadal hormones regulate stereotypic behavior in male and female rats following repeated IV cocaine administration*
R.M. Booze, M. Welch, A. Lehner, T. Tobin, C. Hughes, C.F. Mactutus, University of Kentucky, Lexington, KY
- 2:15 *Temporal interactions between estrogen and progesterone affect cocaine-induced behaviors in ovariectomized female rats*
L.I. Perrotti, S.J. Russo, L. Hudson, S. Cornejo, D. Lu, O. Sterinin, S. Jenab, V. Quinones-Jenab, Hunter College of CUNY, New York, NY
- 2:30 *The effect of ovariectomy on cocaine self-administration by rats*
C.A. Bowen, S.B. Caine, D. Zuzga, S.S. Negus and N.K. Mello, Alcohol and Drug Abuse Research Center, McLean Hospital-Harvard Medical School, Belmont, MA
- 2:45 *Cocaine sensitization in male and female rats*
C.M. Kuhn, Q.D. Walker and H. Spohr, Duke University Medical Center, Durham, NC
- 3:00 *Estrogen regulation of gene expression within dopamine and serotonin systems in rat brain*
W. Zhou, K.A. Cunningham, and M.L. Thomas, University of Texas Medical Branch, Galveston, TX
- 3:15 *Neonatal isolation enhances cocaine self-administration and accumbens dopamine levels: Gender effects*
T.A. Kosten and P. Kehoe, Yale University School of Medicine, New Haven, and Trinity College New Haven, Hartford, CT
- 3:30 *Gender differences in cocaine-associated cerebral blood flow abnormalities*
P.C. Gottschalk and T.R. Kosten, Yale University School of Medicine, West Haven, CT
- 3:45 *Effects of progesterone treatment on smoked cocaine response in humans*
M. Sofuoglu, D. Babb, and D.K. Hatsukami, Mount Sinai School of Medicine, New York, NY and University of Minnesota, Minneapolis, MN
- 4:00 *Cocaine craving during the menstrual cycle: Relationship to ovarian steroids, dopaminergic neuronal activity, stress and depressive symptomatology*
K. Karlsgodt, D.R. Gastfriend, S.E. Lukas, I. Elman, Massachusetts General Hospital, Boston, and McLean Hospital, Belmont, MA
- 4:15 *The subjective and physiological effects of amphetamine in men and in women by menstrual phase: Relationship to personality*
T.L. White, A.J.H. Justice and H. de Wit, The University of Chicago, Chicago, IL

Thursday, June 21, 2001

Oral Communications XIX

Salon F-G

2:00 - 4:30 PM

PERINATAL DRUG ABUSE: BRINGING UP BABY

Chairs: Paul R. Marques and Sidney H. Schnoll

- 2:15 *Fetal growth deficits associated with trimester timing and levels of maternal cocaine use during pregnancy*
E.S. Bandstra, J.C. Anthony, C.E. Morrow, and B.W. Steele, University of Miami School of Medicine, Miami, FL and Johns Hopkins University, Baltimore, MD
- 2:30 *Maternal cigarette smoking and infant/toddler behavior*
R.D. Eiden and K.E. Leonard, Research Institute on Addictions, Buffalo, NY
- 2:45 *Does prenatal cocaine exposure account for poorer verbal scores in nine-year-old children?*
P.R. Marques, L. Teti, D. Branch, J. Pokorni, H. Kirk, T. Long, Pacific Institute for Research and Evaluation, Calverton, MD and Georgetown University Child Development Center, Washington, DC
- 3:00 *Preliminary analysis of prenatal cocaine exposure on attention and behavior at school age*
J.L. Pokorni, P.R. Marques, D. Branch, H. Kirk, T. Long, Pacific Institute for Research and Evaluation, Calverton, MD and Georgetown University Child Development Center, Washington, DC
- 3:15 *Preschoolers' behavior, prenatal cocaine, and caregiver behavioral health*
V.H. Accornero, C.E. Morrow, E.S. Bandstra, and J.C. Anthony, University of Miami, Miami, FL and Johns Hopkins University, Baltimore, MD
- 3:30 *Effect of treatment on demand on perinatal substance use*
E. Wolfe, J. Guydish, A. Gleghorn, and A. Santos, Institute for Health Policy Studies, San Francisco, CA
- 3:45 *Impact of managed care on treatment for pregnant drug-dependent women*
L. Jansson, D.S. Svikis, M. Velez, E. Fitzgerald and H. Jones, Johns Hopkins University School of Medicine, Baltimore, MD and Virginia Commonwealth University, Richmond, VA
- 4:00 *Human placental transfer and metabolism of buprenorphine*
T. Nanovskaya, S. Deshmukh and M.S. Ahmed, University of Missouri-Kansas City, Schools of Pharmacy and Medicine, Kansas City, MO
- 4:15 *Methadone dosing in pregnancy: Treatment implications*
M. Tuten, H. Jones, E. Fitzgerald, R. Johnson, and M. Stitzer, Johns Hopkins University School of Medicine, Baltimore, MD

Thursday, June 21, 2001

Oral Communications XX

Salon H

2:00 - 4:30 PM

NICOTINE: UP IN SMOKE

Chairs: Eric T. Moolchan and Kenneth A. Perkins

2:30 *Effects of teenage girls' weight changes on treatment retention for smoking cessation*
A.T. Aung, J.R. Schroeder, J.L. Cadet, B.E. Mancha and E.T. Moolchan, National
Institute on Drug Abuse, Intramural Research Program, Baltimore, MD

2:45 *Smoking relapse prevention is a necessary component of smoking cessation intervention
for teens*
S. Albrecht, T. Patrick, M. Reynolds, L. Higgins, B. Braxter, M. Duchi, M. Cornelius, J.
Cornelius, School of Nursing and School of Medicine, University of Pittsburgh,
Pittsburgh, PA

ABSTRACTS [WITH PROGRAM PAGE NUMBERS]

Preschoolers' behavior, prenatal cocaine, and caregiver behavioral health [p21]

V.H. Accornero, C.E. Morrow, E.S. Bandstra, and J.C. Anthony, University of Miami, Miami, FL and Johns Hopkins University, Baltimore, MD

We estimated possible impact of prenatal cocaine exposure (PCE) and caregiver behavioral health on full-term newborns followed & rated via Child Behavior Checklist (CBCL) at age 5. Methods: Data at age 5 followup are from 399 African-American preschoolers, their biological mother-caregivers (n=322) and alternate caregivers (n=77). Caregiver functioning was rated by Addiction Severity Index. PCE was assayed at delivery via meconium, urine from infant & mother, and biological mother's self-report (209 cocaine-exposed, 190 not). Estimation of each β is via a multivariate response structural equation modeling. Results: The caregiver's recent psychological distress was linked to child externalizing (EX) and internalizing (IN) disturbances at age 5 ($\beta = 0.14$; $\beta = 0.16$; respectively; both $p < 0.001$), independent of drug use of mother prenatally and of caregiver at age 5, which was related to neither EX nor IN scores. When caregiver ASI drug severity and psychological distress subscales were expressed as manifest indicators of a latent construct for caregiver behavioral health (CBH), the CBH levels were found to depend upon prenatal cocaine use of biological mothers ($\beta = 0.80$; $p = 0.001$). Moreover, child EX and IN levels depended upon CBH ($\beta = 2.0$; $p = 0.004$; $\beta = 2.0$; $p = 0.016$), but there was no direct path from PCE to EX nor IN ($p > 0.05$). Discussion: These data lead us toward a model in which a preschooler's behavioral disturbances transact with concurrent caregiver behavioral health, which depends somewhat upon a biological mother's drug use during pregnancy, but with no direct path to link PCE to preschooler behavioral health. Analyses now underway will clarify possible indirect paths from PCE to preschoolers' behavior, and different β for alternate versus biological mothers. Support: NIDA †R01DA06556; *T32DA07292.

Smoking Relapse Prevention is a Necessary Component of Smoking Cessation Intervention for Teens [p22]

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Pregnant teenagers who indicated a desire to quit smoking during pregnancy were enrolled in a randomized clinical trial to assess developmentally specific strategies for smoking cessation. Subjects were randomized to usual care (UC), the Teen Freshstart program (TFS), a 6-week cognitive behavioral intervention developed by the American Cancer Society, or the Teen Freshstart plus Buddy program (TFSB). Face-to-face and telephone boosters were employed with the intervention subjects. Salivary cotinine and exhaled carbon monoxide (CO) were assessed at four timepoints: baseline (T1), end of intervention (T2), at 6 weeks following delivery (T3), and at 1 year post-intervention (T4). No differences were found in salivary cotinine measures between T1 and T2. When adjusting for CO at baseline, the CO at T2 was significantly lower in the TFS and TFSB groups relative to the UC group ($p = .01$). However, CO levels between the two intervention groups were not different. Cotinine assessments were not significantly reduced post-intervention, but both cotinine and CO assessments showed a significant increase from T1 and T2 to T3 and T4 ($p = .01$). Repeated measures ANOVA indicated no differences between groups when assessed across all time points ($p = 0.28$). These data document the necessity for postpartum relapse intervention for teenagers who wish to remain abstinent from smoking following delivery.

Reading Between the Lines: Drug-Involved Women Seeking New Identities [p17]

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Thirty women ranging in age from 21 to 53 years were selected from a larger drug research study as participants in the "Empowerment Through Literacy Study." The project offered a social support program in the form of literature study groups for drug-involved women at-risk of HIV. The group met 2-hours once weekly over the course of 24-weeks. In return, women received a \$10 weekly stipend for their participation in research activities, a copy of the book being read, and a "Dialogue Journal" to be exchanged with the facilitator. It was hypothesized that the group would serve as a tool for facilitating alternative behaviors and social change in participants, by 1) offering women the opportunity to create alternative conceptions of themselves and 2) experimenting, through readings, with novel ways of being that the women could define for themselves. As a consequence, it was anticipated that participation would result in literacy development, personal development, and reductions in high-risk behaviors. Preliminary findings suggest that the readings: 1) promote novel or absent literacy experiences for participating women, and 2) allow for the creation of forums for participating women to, directly and indirectly through the text, share and discuss their own lives. For example, One woman states a sentiment shared by other participating women. She writes: "The book. I think that it helped me a lot because it hit on a lot of things that have happened to me in life, so I could relate to a lot in the book. It brought back things and stuff that that are happening now. Helped me solve some of my problems."

Clinical features associated with seeking alcohol treatment [p18]

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Aim: We sought to identify specific clinical features of alcohol dependence and other characteristics of recent drinkers that might help differentiate treatment-seeking drinkers. We used a multivariate analysis based on the Generalized Estimating Equations (GEE) in order to take into account the inter-correlations between clinical features. **Methods:** In 1998, field staff for the National Household Survey on Drug Abuse (NHSDA) assessed 18,722 sampled adults, including 12,437 who reported drinking in the year prior to survey, most of whom self-marked answers to standard items on drug experiences, including clinical features of alcohol dependence, and treatment-seeking. **Results:** Multivariate modeling with GEE disclosed that the treatment-seekers (TX) reported all seven clinical features more often than drinkers not seeking treatment, with the greatest differences observed for reporting of alcohol-related emotional and other health problems, narrowing of behavioral repertoire, and inability to cut down. The size of the TX-noTX contrast was less pronounced for reported tolerance, using more than was intended, and salience of alcohol-related behavior (all GEE robust p-values < 0.05). Statistical adjustment for sex, age, and race-ethnicity did not alter these estimates appreciably. **Discussion:** Differentiation of treatment-seeking drinkers on the basis of clinical features may be helpful in planning for outreach programs to encourage earlier treatment entries. In future research, we hope to be able to clarify whether drinkers acknowledging these problems were more likely to seek treatment, or treatment promoted awareness and overcame denial of these specific clinical features. **Support:** CSAT & NIDA T32DA07292, & the NHSDA research teams at SAMHSA & RTI.

Effects of teenage girls' weight changes on treatment retention for smoking cessation [p22]

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Weight gain after smoking cessation treatment is often cited as a reason for relapse and/or treatment discontinuation. We assessed weight (Wt) and body mass index (BMI) gain at baseline and prospectively in 32 female teenage smokers (75% white, median age 15y, median Tanner stage 4) during smoking cessation treatment and its association with retention. Participants included 12 completers, 14 drop-outs and 6 active with a median treatment duration of 50 days. Concerns and behaviors adopted to control weight (WC) were obtained from the Diagnostic Interview for Child and Adolescent-IV. Univariate Kaplan-Meier, Logrank and Wilcoxon tests were used to examine BMI change (difference between baseline and last visit) and retention duration. At baseline, median BMI was 22kg/m² and 70% of the girls expressed WC. There was a non-significant increase in weight and BMI, which did not predict treatment retention, but correlated with race. White girls increased (wt 0.73kg ± 1.17 /BMI 0.28kg/m² ± 0.66) while African American (AA) girls decreased (wt -1.07kg ± 1.95 /BMI -0.60kg/m² ± 0.81). BMI gain was negatively correlated with retention in AA (Wilcoxon p-value=0.033, Logrank p-value=0.019) but not in Whites. Dichotomizing the whole sample according to BMI increase versus decrease, the group that increased dropped out earlier (BMI gain Wilcoxon p=0.087, Logrank p=0.10). Upcoming analyses will adjust for age, ethnicity, BMI at entry, abstinence versus continued smoking and marijuana use. Our findings suggest that weight gain and/or associated concerns affect treatment retention in smoking cessation for girls. Contrary to previous reports, we found a strong relationship between BMI change and study retention among the AA teenage female smokers. Additional study should clarify the influence of weight concerns and race on retention in cessation treatment. Supported by NIH, NIDA Intramural Funds

Gender differences in individuals with comorbid alcohol dependence and post-traumatic stress disorder [p6]

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An estimated 10.3% of men and 26.2% of women with alcohol dependence meet criteria for posttraumatic stress disorder (PTSD) (Kessler et al., 1997). Gender-specific information regarding this dual diagnosis may help identify factors important to improving etiologic models, and prevention and treatment interventions. The current study investigated gender differences in outpatient, treatment-seeking individuals (N=84) with comorbid alcohol dependence and PTSD. Assessments included substance use severity, trauma history, PTSD symptomatology, and comorbid psychiatric disorders. Examination of the temporal order of onset revealed that PTSD was most often primary among women (37.5% vs. 70.0%; $c^2=8.27$, $p<.05$) and alcohol dependence was most often primary among men (59.4% vs. 23.3%; $c^2=8.27$, $p<.05$). Women with this dual diagnosis were more likely than men to test positive for cocaine (0.0% vs. 20.6%; $c^2=8.67$, $p<.01$) and meet criteria for another anxiety disorder (37.2% vs. 60.0%; $c^2=4.31$, $p<.05$). Women also reported greater frequency and intensity of PTSD avoidance symptoms (27.3% vs. 52.5%; $c^2=9.59$, $p<.05$), higher rates of sexual trauma (54.8% vs. 97.5%; $c^2=19.12$, $p<.001$), and greater social impairment due to PTSD (26.8% vs. 52.9%; $c^2=8.10$, $p<.05$). Men with this dual diagnosis demonstrated greater alcohol use intensity as evidenced by a greater number of days of drinking to intoxication in the past month (13.24 vs.

8.73; $t=2.06$, $p<.05$). Almost one-fourth (23.3%) of men and 7.5% of women reported consuming 10 or more drinks per day ($\chi^2=3.89$, $p<.05$). In comparison to women, men also scored higher on the Obsessive Compulsive Drinking Scale (19.93 vs. 16.26; $t=2.15$, $p<.05$) and evidenced greater social (29.5% vs. 5.0%; $\chi^2=11.88$, $p<.01$) and legal impairment due to their substance use. These findings highlight a number of differences which may help inform gender-specific theories on the pathogenesis of comorbid alcohol dependence and PTSD, and lead to more effective interventions for individuals with this dual diagnosis.

Cost-efficacies of an aggressive outreach and a referral program for substance-abusing, pregnant women [p12]

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Substance abuse during pregnancy can contribute to serious complications and health risks for both mothers and infants before and after delivery. This study compares the effects and cost-efficacies of three alternative prenatal and postnatal comprehensive drug abuse treatment and intervention programs in the Washington, DC metropolitan area on clinical outcomes for mothers who delivered between January, 1996 and December, 2000. One center engages in aggressive outreach to high-risk pregnant women, while a second serves women referred by hospitals, clinics, social workers, and physicians for treatment and intervention. We hypothesize that the aggressive outreach program ($n=1300$) will be the most cost-efficient, and then the referral program ($n=600$), because they permit interventions, and possibilities for prenatal care and substance abuse treatment earlier than the control program ($n=3000$). The hypothesis will be tested by comparing outcomes (including, e.g., maternal complications, gestational age, weight, Apgar scores) and costs associated with the delivery and treatment for these outcomes at each site, controlling for the socio-economic and demographic characteristics of the pregnant women, the extent to which they use and/or are dependent on alcohol or any of several specific drugs (e.g., cocaine, crack, heroin), and the extent of prenatal care and medical problems prior to contact with each program. The paper will also use the programs' records and Medicaid submissions to compare the costs of serving and treating women in each program, including the costs of prenatal and substance abuse programs to which they might be referred.

Fetal Growth Deficits Associated with Trimester Timing and Levels of Maternal Cocaine Use During Pregnancy [p21]

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Background: Investigations of prenatal cocaine use raise multivariate questions due to multiple intercorrelated response variables and multicollinear covariates. This paper presents a study of prenatal cocaine effects on fetal growth, based upon two recently developed multivariate response models that merit attention in drug dependence research. Methods: 476 African-American mothers and their full-term newborns (253 cocaine-exposed; 223 unexposed) were prospectively enrolled and assessed at delivery. Cocaine exposure was determined by one or more positive: maternal self-report (including trimester timing and amount), maternal and infant urine, or infant meconium. Assessment of intercorrelated response variables (head circumference, weight, length, and gestational age, GA) was blinded with respect to cocaine status. Results: Based upon a generalized linear model with generalized estimating equations (GLM/GEE) to take intercorrelations into account, the three fetal growth measures were most strongly related to 3rd trimester cocaine exposure, with or without use in prior trimesters, even with regression adjustment for GA and other suspected confounding influences such as other prenatal drug exposures ($p<0.01$). This relationship was independent of the link between cocaine bioassay results and fetal growth. A separate multivariate structural equations model (SEM) was used to integrate the intercorrelated responses and covariates. There was a -0.4 standard deviation (sd) fetal growth deficit associated with every sd increase in level of maternal cocaine use, with the level specified as a latent variable measured by (a) maternal self-report for each trimester, (b) qualitative meconium, quantitative meconium, maternal urine, and infant urine. Once this general relationship was taken into account, there was no evidence of additional specific influence of cocaine use in the 3rd, 2nd, or 1st trimesters. Conclusion: These two multivariate response models shed light on different aspects of the link from prenatal cocaine exposure and fetal growth among full-term infants. Acknowledgment: R01DA06556

Sex-related differences in the antinociceptive effects of mu opioids using a mechanical nociceptive stimulus [p8]

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Previous studies indicate that mu opioids are more potent and effective antinociceptive agents in male than female rats against a thermal nociceptive stimulus. In order to determine if similar differences exist with other types of nociceptive stimuli, the antinociceptive effects of morphine and buprenorphine were determined in F344 male and female rats against a mechanical nociceptive stimulus using a paw pressure procedure. In this procedure, a gradually increasing pressure was applied to the rat's paw, and the pressure at which the rat withdrew its paw was recorded.

Across the range of doses tested (3.0-56 mg/kg), morphine produced dose-dependent increases in antinociception with maximal effects (>80% antinociception) obtained in both males and females. Sex differences were apparent, as morphine was approximately 2.3-fold more potent in males. Buprenorphine (0.1-3.0 mg/kg) in males produced a dose-dependent increase in antinociception with the maximal effect (64%) obtained at the 1.0 mg/kg dose. In contrast, in females buprenorphine failed to produce an antinociceptive effect even when tested up to doses of 3.0 mg/kg. As it was possible that these sex differences reflected different baseline paw-withdrawal levels, with the pressure required to produce a paw withdrawal being greater in males, a procedure was developed in which a fixed pressure was exerted on the rat's paw, and the latency (sec) to remove the paw was recorded. A pressure was selected for males (120g) and females (30g) such that baseline latencies to paw withdrawal were similar (4-5 sec). In this procedure, morphine was equally effective in males and females but approximately 4.1-fold more potent in males. Buprenorphine produced a 35% effect in males and only a 4% effect in females. These results indicate that morphine is more potent in males, whereas buprenorphine is more potent and effective in males. Furthermore, by demonstrating differences between males and females using mechanical nociception, these results extend the conditions under which sex differences in opioid-induced antinociception can be observed. (Supported by NIDA grants DA10277, DA07244)

Alternative methods for assessment of tobacco use in pregnant women [p14]

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The risks of prenatal tobacco use for mother and child have been well-documented in the literature. Widespread public service campaigns against smoking during pregnancy and the social stigma associated with it lead many pregnant women to deny or underreport tobacco use when seeking prenatal care. The present study was conducted as part of a clinical trial of alternative strategies to help motivate pregnant women to stop smoking. The study compared carbon monoxide values, cotinine levels and self-report information from research participants (N=37) at first prenatal visit. The sample was comprised of primarily young (M=23 yrs.), Caucasian (66%), single (76%) pregnant women with less than a high school education (M=10.9 yrs). All women provided informed consent to study participation. Rates of agreement between self-reported smoking status and carbon monoxide readings ranged from 75% for a CO value of < 8 ppm to 95% for a CO value of < 4 ppm. Although the sensitivity of both CO cut-off was the same (100%), specificity rates were much higher using the < 4 ppm cut-off than < 8 ppm (85.7% vs. 57.1%, respectively). Rate of agreement between cotinine assay and CO reading in this sample at first prenatal visit was 83%. Although 8 ppm is the typical cut-off score for the Baltimore, MD area, present study findings suggest a carbon monoxide cut-off score of 4 ppm may be more accurate. These findings have important implications for tobacco cessation studies with pregnant women, particularly those that employ behavioral strategies to reinforce smoking abstinence. This research was supported by NIAAA Grant AA11802

Trauma and posttraumatic stress disorder in substance-dependent women on welfare [p18]

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Empirical data suggests an overlap between substance use disorders, trauma, and posttraumatic stress disorder (PTSD). Since men are more likely to meet criteria for both substance use disorders and for PTSD, most studies examining the relationship between the two disorders have focused primarily on men. This study examines the relationship between substance use disorders, trauma, and PTSD in women on welfare. Participants were 157 women (age-M=36.9) meeting DSM-IV criteria for substance dependence and 58 non-substance using women (age-M=29.4). All participants were receiving TANF welfare benefits in an urban county in New Jersey. Data were collected as part of a longitudinal evaluation of Work First New Jersey's Welfare Demonstration Project. The Posttraumatic Stress Diagnostic Scale (PDS) was used at baseline to assess PTSD, and alcohol and drug diagnoses were assessed using the Structured Clinical Interview for DSM-IV (SCID). Approximately 75% of the substance dependent women reported experiencing a traumatic event at some point in their lives and 14% met criteria for current PTSD. In comparison, only 50% of the control group reported experiencing a traumatic event and none of them met criteria for PTSD. Number of substance dependence symptoms was positively correlated with severity of PTSD symptoms. The most common substance use diagnoses in individuals with PTSD were cocaine dependence (54.6%), alcohol dependence (51.5%), and opioid dependence (51.5%). These data indicate that substance dependent women are likely to have experienced significant trauma in their lives. Implications of these results will be discussed.

Adolescent probationers in a Therapeutic Community drug treatment program: Qualitative assessment of challenges to retention [p7]

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Client retention presents an important challenge to the effectiveness of Therapeutic Community (TC) treatments. By

the planned midpoint in TC treatments, retention of adolescents may be lower than 45% (Jainchill, 1997). To better understand issues that may contribute to early rejection of treatment, we are conducting a longitudinal qualitative study of the treatment experiences of 10 juvenile probationers in an adolescent TC. Seven boys and 3 girls were recruited into the study at entry to the TC. Ages ranged from 14 to 17 years old; 7 kids were Hispanic, 2 were white, and 1 was African American. Interviews are audio recorded and each participant is scheduled to be interviewed 7 times over the course of a year. At present, between 2 and 3 interviews from each youth are available for analysis. Half of the youth dropped out of the TC within 3 months of entry. Content analysis of interviews found that drop-outs felt unsafe in the TC, and in most cases, found the social demands of the TC to be burdensome. This problem was particularly pronounced for the girls, all of whom dropped out of the program. Qualitative interviewing can contribute to our understanding of adolescent TCs. Complete presentation of youth engagement and rejection of the TC based on 4 interviews will be provided in the presentation. ACKNOWLEDGEMENTS: Funded by CSAT/SAMHSA

Prevalence of adolescent substance abuse among elementary and secondary school students in a countryside in Brazil [p1]

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According to Porter-Serviss, Opheim & Lazar (1994) treatment success depends on how early intervention occurs. This highlights the importance of having good screening and systematically prevalence survey. Needle et al. (1986) reported that the most common age for initial drug use was about 10 to 11. In Brazil, data from a national (10 cities) survey of 15,503 10-12 year-old students indicated that during lifetime 51.2% had used alcohol, 11% had used tobacco and 11.7% had used other drugs (Galduroz, Noto & Carlini, 1997). In order to assist educators, community leaders, policy makers and family and better inform the planning and delivery of prevention and intervention targeted toward youth, a survey (same procedure used in the national survey) was administered to all elementary and secondary school students of a countryside. The local community leaders were interested in changing the real situation. The survey results from 398 students (75 with 10-12 years old) showed that during lifetime 56% had used alcohol, 9.4% had used tobacco and 25.3% had used other drugs, being the most prevalent use represented by inhalants (13.4%). In the whole sample (n=398), it's relevant to note that men and women didn't differ from each other. For example, during lifetime use: alcohol 69.2%-men vs. 72.8%-women; tobacco 31.8%-men vs. 39%-women; other drugs 41.4%-men vs. 42.6%-women

Legal Barriers to Empowerment and Sobriety in Drug-Involved Women [p17]

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The relationship between substance use and involvement in criminal activities has been well documented. What is less understood is how drug involved women perceive and use the legal system for their own advantage. Results from a study in Tucson, AZ suggest that many drug involved women do not use the legal system to: 1) obtain entitlements (i.e., child support); 2) protect themselves from a violent partner; 3) resolve past arrests/warrants; and 4) regain their legal rights. Between March 1998 and December 2000, 250 drug involved women were enrolled in a legal intervention component of a project aimed at reducing HIV risk and other negative consequences of drug use. Participants were all active drug users, over 18 years of age and not in drug treatment in the past 30 days. Results show that drug involved women have high rates of legal problems, however many times they themselves are the victims. Women fear losing custody of their children, they fear the ramifications of pursuing legal action against an assailant (especially in domestic violence and sexual abuse situations), and they are not confident if the system's ability to work for them. Additionally, they feel that they will get into further trouble by using the legal system, and that they will be perceived as "snitches" by members of their social network. Thus women prefer dealing with their legal problems themselves or by having friends or family members remedy the situation ("street justice"). Implications of this data will be discussed.

Gonadal hormones regulate stereotypic behavior in male and female rats following repeated IV cocaine administration [p20]

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Our prior work suggests that female rats are particularly sensitive to the effects of repeated IV cocaine administration (Booze et al., 1999). The present study explored the relationship between stereotypic motor behavior following repeated IV cocaine administration and striatal cocaine levels. Gonadectomized and intact male and female Sprague-Dawley rats were surgically implanted with an intravenous access port (Mactutus et al., 1994) then injected with cocaine (3.0 mg/kg) 1/day for 13 days (ns=10). Immediately after the first and 13th injection, animals were observed in their home cages (Fray et al., 1980). Behaviors were sampled at 1,5,10,15,30 and 60 minutes post-injection. Intact males, castrated males and ovariectomized females increased the incidence of stereotypic head bobbing on day 13, relative to day 1. In contrast, intact females displayed a significant decrease in head bobbing on day 13, relative to day

1. Striatal cocaine and BE levels (ns=8) peaked at 1 minute following the final IV injection; however, there were no significant differences in cocaine or BE peak levels among intact and gonadectomized animals. In summary, these data indicate sex differences 1) occur in the incidence of stereotypic behavior following repeated IV cocaine, 2) depend on female gonadal hormones, and 3) are not due to differential accumulation of cocaine or BE within the striatum of males and females. Supported by NIH DA11337 and DA13137.

The effect of ovariectomy on cocaine self-administration by rats [p20]

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Increased estrogen levels during the estrous cycle in rats have been reported to enhance the locomotor and reinforcing effects of cocaine. These findings suggested that removal of estrogens might decrease the reinforcing effects of cocaine. To test this hypothesis, we studied 18 rats as their own control before and after ovariectomy (OVX, N=12) and before and after sham OVX (N=6). Rats were trained to self-administer food on gradually increasing values of an FR schedule and then maintained on an FR 5. Once food-maintained responding was stable, rats were implanted with intravenous catheters and trained to self-administer cocaine (1.0 mg/kg/infusion) on an FR 5. After cocaine-maintained responding stabilized, dose-effect curves were determined. Saline and cocaine unit doses (0.032-3.2 mg/kg/infusion) were presented during separate 3-h sessions using a latin square design. Rats were assigned to the OVX or sham condition such that pre-surgical dose-effect functions were equivalent across groups. Rats recovered for 2 weeks after OVX or sham surgery to allow hormone levels to stabilize, and then cocaine dose-effect curves were redetermined. There were no statistically significant within-group differences in cocaine dose-effect curves determined before and after OVX or before and after sham surgery. In addition, there were no statistically significant between-groups differences in cocaine dose-effect curves determined after OVX or sham surgery. These findings suggest that after stable cocaine self-administration has been established in female rodents, the removal of ovarian steroid hormones does not alter the potency or efficacy of cocaine as a reinforcer. The effects of gonadal steroid hormone replacement are being determined in ongoing studies. Supported in part by Grants T32-DA07252, K05-DA00101 and P50-DA04059 from the National Institute on Drug Abuse, NIH.

Neuroendocrine Responses in Substance Users With and Without PTSD [p18]

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Substance use disorders and post-traumatic stress disorder (PTSD) are often comorbid. It has been hypothesized that alterations in the hypothalamic-pituitary-adrenal (HPA) axis may be involved in the pathophysiology of both disorders. In this study, the cold pressor task, after the administration of naltrexone or placebo, was conducted in a group of alcohol dependent women with (n=12) and without PTSD (n=11), a group of women with PTSD only (n=9) and a normal control group of women (n=13). Subjective pain response, length of time in water, cortisol, ACTH and B-endorphin levels were measured at several time points after the cold pressor task. Women with PTSD had higher pain ratings than those without PTSD. Women with PTSD also had significantly higher baseline ACTH values. Naltrexone significantly increased ($p < 0.05$) the ACTH response in the PTSD only group, but not in the PTSD/alcohol group. Naltrexone also significantly increased ($p < 0.05$) B-endorphin in both the PTSD only and the alcohol only groups, but not in the PTSD/alcohol group. The PTSD only and alcohol only groups had a slightly lower baseline cortisol level, but the PTSD/alcohol group baseline cortisol was not significantly different from the control group. There was a strong interaction between PTSD and alcohol on baseline cortisol levels. There were no between group differences in the effect of naltrexone on cortisol. For some variables, individuals with PTSD and alcoholism had values closer to the control level when compared to individuals with either PTSD or alcoholism alone. In conclusion, women with comorbid PTSD and alcohol dependence appear to have a characteristic neuroendocrine profile that is different from that of women with PTSD or alcoholism alone.

Patterns of Methamphetamine Use, from First Use to Treatment [p3]

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Concern over methamphetamine (MA) use and its consequences has increased during the past decade along with increases in MA prevalence and the dispersion to previously unaffected areas of the U.S. Research has recently focussed on promising treatment approaches. But few data are available on the natural history of MA use, particularly the early part of that process covering the "use-to-addiction-to-treatment" phases. The current study describes patterns of MA use from time of first use to first treatment for MA, as well as characteristics related to selected periods of use. Data are from intensive natural history interviews of a (stratified random) sample of 365 MA users, selected from admissions in 1997 to publicly funded treatment programs in Los Angeles County. The analysis sample (n=352) is 56% male, 44% female and 16% African American, 29% Hispanic, 46% non-Hispanic white, and 9% other. Average age of first MA use was 19.0 years, of first regular use of MA 20.9 years, and first treatment for MA 28.4 years. For

the sample as a whole, survival analysis was used to assess characteristics related to the length of time from first MA use to regular use; longer times were associated with being female, higher income, younger age of first MA use, and fewer MA-related problems. Characteristics associated with longer periods of regular use-to-first treatment for MA included earlier age of first MA use, use of more types of substances, selling MA. Individual patterns of MA use (in terms of number of days per month from first use to first treatment) were modeled; combinations of linear, quadratic, and/or cubic terms significantly predicted use patterns for 83% of the sample (with $R^2 > .5$ for 60% of those with significant prediction). Spline regression was also explored as an additional method of identifying major transition points for individuals where the frequency of MA use changes dramatically. The results may help identify critical transition points in the MA use process to form a basis for the optimal timing of prevention and treatment efforts.

Effects of acute (+)-3,4-methylenedioxymethamphetamine [(+)-MDMA] on locomotor Activity in Male and Female Rats [p13]

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Abuse of the psychostimulant MDMA has increased dramatically in young men and women over the last few years. Although well characterized for amphetamine and cocaine, little is known concerning potential sex differences in the behavioral response to MDMA. The present experiment was to test the hypothesis that intact female Sprague-Dawley rats ($n=16$) are more sensitive to the locomotor stimulatory effects of (+)-MDMA than male Sprague-Dawley rats ($n=16$), as is the case for amphetamine and cocaine. Measurement of locomotor activity in photobeam activity chambers began immediately following an acute injection of either saline (1 ml/kg, IP) or (+)-MDMA (4 mg/kg, IP), and continued for 120 min. In male rats, acute (+)-MDMA administration enhanced peripheral, central and vertical activity to 207%, 341% and 33% of basal levels, respectively, however this enhancement was not significantly different than basal activity. In female rats, however, this dose of (+)-MDMA significantly enhanced peripheral (468%), central (562%), and vertical (480%) activity over basal activity ($p < 0.05$). In addition, when comparing locomotor activity between males and females, there was no significant difference in basal activity, however, there was a significant interaction between treatment and sex ($p < 0.05$) for peripheral, central, and vertical activity, with females expressing a significantly greater degree of peripheral, central, and vertical activity. These data suggest that there may be sex differences in the neurochemical pathways underlying the locomotor stimulating effects of MDMA. Supported by NIDA DA 00260, DA 06511 and DA 07287.

Sexual Desire and Dysfunction among Methadone Maintenance Clients [p11]

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The majority of AIDS interventions with injection drug users (IDU) target sexual risk reduction. Sexual behavior change may be particularly difficult for IDU with sexual dysfunction. The Brief Sexual Functioning Questionnaire (BSFQ)-Men or Brier Index of Sexual Functioning (BISF)-Women was administered to 25 male and 24 female primarily heterosexual methadone clients who had been in treatment at least six months. The BSFQ and BISF ask about sexual activity over the prior month. Eleven (44%) men and 10 (43.5%) women reported engaging in sexual intercourse. Solitary masturbation was reported by 13 men (52%) and 3 (13%) women. Of these, 9 (69.2%) men and one (33.3%) woman identified masturbation as their only sexual activity. Seventeen men (68%) and 7 (28.7%) women indicated they had feelings of sexual drive less than once per week. Erectile dysfunction during oral sex, foreplay or intercourse was reported by 7 of 12 (58.3%) men, and by 5 of 13 (38.5%) who masturbated. Fourteen (56%) men reported the absence or infrequent occurrence of nocturnal erections. Premature ejaculation was reported by 4 of 13 (30.7%) men. Difficulty ejaculating even when erect and aroused during oral sex or sexual intercourse was reported by 4 of 13 (30.7%) men who engaged in these activities. Difficulty ejaculating while masturbating was reported by 2 of 12 (16.7%) men. Difficulty becoming sexually aroused during sexual intercourse was reported by 5 of 11 (45.5%) women engaging in intercourse. Difficulty becoming aroused was also reported during oral sex by 7 of 10 (70%) women, and during masturbation by 2 of 3 (66.7%) women. Failure to reach orgasm 75% of the time or more during sexual intercourse was reported by 8 of 11 (72.7%) women. Similar difficulties reaching orgasm were reported by 7 of 9 (77.8%) women engaging in oral sex and 2 of 3 (66.7%) women during masturbation. Infrequent sexual activity and high sexual dysfunction characterize this sample of methadone clients.

Socialization, Gender, and Needs at Treatment Entry Among Drug Court Admissions [p6]

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Socialization is importantly related to substance use and psychopathology. Ideally, socialization prepares individuals for the assumption of positive adult roles. Disruption of the socialization process has been implicated in the establishment of antisocial lifestyles. Negative early life experiences, high stress levels in the home, parental

psychopathology, and poor parent-child relationships detrimentally affect socialization. In addition, underlying nervous system sensitivity affects the impact of socialization experiences. The current study seeks to investigate the interaction between socialization and gender on treatment relevant intake characteristics (prior physical-health-related hospitalizations, overdose history, prior psychiatric hospitalizations, suicidal ideation and action, lifetime arrests) among 75 admits to a drug court employing contingency management techniques. Based on prior research, it is hypothesized that gender and socialization will interact in such a way that low-socialized females will present with the most life disruption at intake. In order to control for multicollinearity between some variables, hypotheses will be tested using 2 (gender; male, female) X 2 (Socialization Group; High, Low) MANOVAs. Findings from the current study are important in that they offer insight into the effects of personality variables on intake treatment need and the potential effectiveness of an intervention designed to increase pro-social, non-drug using behaviors.

A test of age-associated bias in reporting of clinical features of marijuana dependence: Epidemiological evidence from a national sample of recent-onset marijuana users [p1]

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Aim: Kandel et al. (1997) and others have suggested that risk of marijuana dependence is greater for adolescent marijuana users than for adult users. In this study, we test whether this excess risk might be traced back to age-associated bias or over-reporting of marijuana problems by young users. Methods: A national sample of 1,866 adolescent and 762 adult recent-onset marijuana users was identified within public data files of the National Household Surveys on Drug Abuse (NHSDA), 1995-98. 'Recent-onset' means having started marijuana use no more than 2 years before assessment. Marijuana dependence was assessed via seven standardized questions on its clinical features, such as being unable to cut down, or using more than intended. Multivariate response models (GLM/GEE & MIMIC) were used to examine the evidence of excess risk and item biases. Results: Among persons who had just started to use marijuana, clinical features of marijuana dependence occurred twice as often among adolescents, as compared to adults, even with statistical adjustment for other drug use, frequency of marijuana use, minority status, and sex ($p < 0.001$ from GLM/GEE). Evidence from MIMIC analyses show higher levels of marijuana dependence among adolescent users, but there is age-associated response bias for two of seven clinical features. Holding constant level of marijuana dependence, adolescents were more likely to report being unable to cut down ($p = 0.03$); they were less likely to report using more than they had intended to use ($p = 0.02$). Discussion: Age-associated reporting bias observed for two clinical features is unlikely to explain observed excess risk and levels of marijuana dependence among adolescent users. Nosologic, methodologic, and substantive reasons for this age-related excess deserve attention in future research. Acknowledgments: NIDA DA08199, NIMH MH47447, and the NHSDA research groups at SAMHSA and RTI.

Predicting outcomes of residential substance abuse treatment for pregnant and parenting women [p12]

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In 1994, the Center for Substance Abuse Treatment initiated funding support for 50 demonstration projects that provide long term substance abuse treatment for pregnant and parenting women. The current study uses cross-site longitudinal data collected periodically, from treatment admission to 6 months following treatment discharge, for a sample of 1,758 of these women. It examines multidimensional treatment (Tx) outcomes (Tx completion, post-Tx drug/crime activity, and post-Tx employability) as a function of several constructs: pre-Tx severity of drug dependence, pre-Tx socioeconomic status (SES), in-Tx family support, and services received during and after Tx. Structural equation models were constructed to measure predictor and outcome constructs from source variables and to explore direct and indirect causal connections among constructs. The study found post-SAT drug/crime activity to be directly linked to severity of pre-Tx drug dependence, SES, and post-Tx services. Post-Tx employability was influenced by SES and post-Tx drug/crime activity. Completion of Tx, an important intermediate outcome, strongly affects prognoses for both post-Tx drug/crime activity and employability. In-Tx services and family support directly influence Tx-completion and indirectly affect other outcomes. These results suggest the importance of completing Tx and of providing clients with post-Tx support services.

Comorbid Treatment of Stimulant Dependence and an Eating Disorder in Women [p2]

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Most treatment outcome studies of eating disorders do not include active substance abusers as study subjects. Currently, the treatment of the two disorders is usually separate and sequential. Treating the two disorders sequentially ignores the possible weight-related motivational interaction that has been reported to exist for women. This pilot study was designed to investigate the use of an integrated manualized treatment approach for the comorbid treatment of an

eating disorder and stimulant dependence versus sequential treatment regarding patient outcomes. 30 females with a comorbid eating disorder and stimulant dependence will be randomly assigned to either integrated comorbid treatment or sequential treatment. Treatment outcomes related to the eating disorder and stimulant dependence treatment as well as other substance abuse variables, SCID I and II, EDI, BDI, EDE-Q, and Self-Harm Inventory, and nutritional, attentional and memory indices, will be examined. To date, four subjects have been enrolled. Data regarding outcomes as well as the data from the other variables will be discussed with reference to implications for treatment and future research directions. Acknowledgement: Supported by NIDA grant DA 00413.

Characteristics of women methamphetamine users that may predict their response to substance abuse treatment [p7]

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Participants in the eight-site CSAT-funded Methamphetamine Treatment Project were randomized to the outpatient Matrix Treatment Model or treatment as usual at each site. At entry, all met DSM-IV criteria for methamphetamine dependence, and completed an extensive baseline assessment. This report describes gender differences among 532 persons enrolled between April 1999 and October 2000. There were no gender differences in age or education, but women were significantly more likely to report lifetime and recent social and psychological circumstances that could be expected to impact their ability to continue in and respond to treatment. These included unemployment or underemployment, family conflict, physical and sexual abuse, and psychological problems, including depression and PTSD.

Role of the mu-opioid Receptor Gene in Human Pain Tolerance and Opioid Addiction [p8]

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Pre-clinical data provide evidence for strain differences in pain and opioid reward responses, related to genotypic differences at the mu-opiate receptor gene. To test the role of this candidate gene in human pain and opioid reward, we examined the relationship between pain tolerance and opioid addiction in opiate addict ($n = 50$) and control ($n = 59$) subjects genotyped on mu-opiate receptor gene. Tolerance to a standardized noxious stimulus (thermal or mechanical) was dichotomized based on median score as pain phenotype. Genomic DNA was sequenced on the variants A118G and C17T in exon 1 using a LI-COR 4200L fluorescent sequencer. Allele sizes of the OPRM1 locus were obtained by electrophoresis in 6% acrylamide gels and analyzed using RFLPscan software. Although a significant relationship between the phenotypes of opioid addiction and pain intolerance was validated ($p = 0.02$), genotype differed neither between addict-affected vs. control, nor pain tolerant vs. intolerant subjects. The variant A118G was present in all individuals and the C17T polymorphism appeared in only 3 individuals (2 addicts and 1 control). As expected, allele frequencies for the OPRM1 locus differed by ethnicity ($p < 0.05$), however, not by gender. Thus, although human pain and opioid reward responses may co-occur in patterned ways, these differences do not appear to be related to the mu-opioid receptor gene.

Injection Practices Among Rural Women Injectors in Missouri: A Focus Group Study [p4]

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To understand the issues of syringe access faced by IDUs, we have been conducting focus groups with IDUs in urban and rural Missouri and have discovered several behaviors in a group of women injectors from rural Missouri which bear further attention. The women reported high rates of methamphetamine abuse which is consistent with the epidemic in rural Missouri. Treatment program data suggests that the predominant routes of administration have been oral and intranasal. By contrast, the women we studied demonstrated the common nature of injection of methamphetamine. Women IDUs from the remote rural ABootheel@ counties of Southeast Missouri (among the poorest counties in Missouri and the poorest in the country) were a rich source of data regarding the personal aspects of injection drug use. Specifically they indicated that: 1) Methamphetamine is the injection drug of choice for rural female IDUs, in contrast to the much more common heroin and cocaine in urban Missouri IDUs. 2) Alcohol is among the substances injected by rural women. To our knowledge this is the first report of rural female IDUs injecting alcohol. Reportedly both Awhiskey@ and more commonly AEverclear@ (a nearly pure alcohol product) are used. 3) Female IDUs are much more concerned than male IDUs about concealing their IDU status, especially from their children. This concern results in their using unusual and potentially dangerous injection sites, such as the groin, tongue and tear ducts, instead of their forearms. 4) Female IDUs more than male IDUs reported injecting in groups and described the bonding that resulted from this practice. 5) Female IDUs were concerned about public health and worried about proper disposal of needles because of concerns about children picking up needles discarded in public places. These injection practices may be noted in other geographic areas and may be seen as further evidence of the variety and severity of problems faced by IDUs, especially rural, female injectors. Comparison to results of focus

groups in other states and regions will be included.

Perceived need for treatment services among the dually diagnosed with and without post-traumatic stress disorder [p19]

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In spite of the growing recognition of Posttraumatic Stress Disorder (PTSD) among individuals who are dually diagnosed, it is estimated that less than 20% of substance abuse treatment programs offer specialized services for these clients. Several studies have described service utilization patterns among dually diagnosed individuals with PTSD. No study to date, however, has evaluated dually diagnosed clients' perceptions of need for treatment. This study compares dually diagnosed clients with and without PTSD regarding differences in their perceived needs for comprehensive services. The sample consisted of 130 men and women recruited from 11 residential substance abuse treatment programs participating in a study of treatment outcomes of the dually diagnosed in Los Angeles County. The subjects ranged in age from 18 to 56 years. Preliminary analyses suggest that nearly two fifths (39%) of the sample had a diagnosis of PTSD. Among those with PTSD, a greater proportion were female (60% vs. 41%, $p < .05$), and there was a greater proportion of African Americans (42% vs. 33%), and fewer Caucasians (27% vs. 51%, $p < .05$). There were no significant differences in types of psychiatric and substance use disorders between those with and without PTSD. Results of the bivariate analysis of types of treatment needs indicated that those with PTSD had greater perceived service needs in four areas: assistance with childcare/parenting, housing, transportation and prescriptions for psychotropic medications. Data from the Brief Symptom Inventory measuring intensity of emotional distress indicated a significantly greater level of distress among those with PTSD ($M_s = 87.0$ vs. 61.1 , $p < .001$). Recognition of these perceived treatment needs of the dually diagnosed with PTSD may enhance effectiveness of substance abuse treatment and decrease the need for higher utilization rates of more varied and costly services. Supported by National Institute on Drug Abuse (RO1-DA11966-01)

Predictors of Retention in a Tailored Smoking Cessation Intervention for Weight-Concerned Pre- and Post-Menopausal Women [p13]

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Fear of weight gain is often cited as a deterrent to smoking cessation and weight gain is often cited as a trigger for relapse among female smokers. Smoking cessation programs that have included weight management components have reported more recruiting success, indicating these programs were desired by patients. However, these programs have been unsuccessful in decreasing post-cessation weight gain, suggesting that revised treatments are necessary. In the present ongoing Smoking Treatment/Obesity Prevention (STOP) study, we are comparing the relative effectiveness of an empirically validated smoking cessation program alone and in combination with an individually tailored multidisciplinary weight management program in a sample of weight-concerned pre-menopausal and post-menopausal female smokers. In a recent study, we found that although 235 pre-menopausal women met criteria to participate in STOP, only 42 of them completed required baseline assessments and, subsequently, entered the treatment phase of the STOP study. Body Mass Index (BMI) and waist-hip ratio predicted retention from the phone screen, screening interview, and 1st baseline assessment. However, as predicted, the cognitive variables weight concern, smoking expectancies, and body shape concerns predicted study retention from our 2nd baseline assessment to treatment entry. These results indicate that women who were most "weight-concerned" and had the strongest positive smoking outcome expectancies, left the study before even entering treatment to quit smoking. Attrition for the STOP study has been much lower among the post-menopausal women. In this study, we are seeking to identify variables that account for the difference in attrition rates between these 2 groups. We predict that: 1) weight concern and dietary restraint will be less prevalent and less predictive of retention among the post-menopausal group; and 2) the smoking expectancies and aspects of self-efficacy that predict retention among post-menopausal women will differ qualitatively from those of the pre-menopausal women (e.g., negative outcomes such as health risks and addiction may be more predictive of retention in the older, post-menopausal women). Results carry implications for improved treatment retention and outcomes for female smokers.

One year follow-up of fluoxetine in depressed AUD adolescents [p9]

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Our own recent open label study suggested efficacy for fluoxetine for decreasing both the drinking and the depressive symptoms of adolescents with comorbid major depression (MDD) and an alcohol use disorder (AUD) (Cornelius et al., 2001). However, to date, no studies have evaluated the longer-term efficacy of fluoxetine or any other SSRI medication in adolescents with these common comorbid disorders. The authors conducted a first study to evaluate the long-term efficacy of fluoxetine for decreasing the depressive symptoms and the drinking of patients with comorbid

MDD and an AUD. This study consisted of a 1-year naturalistic follow-up of 10 patients who previously had completed a 3-month open label study of fluoxetine. At the 1-year follow-up evaluation, the group continued to demonstrate significantly less depressive symptoms and less drinking than they had demonstrated at the baseline of the acute phase study. For example, the HAM-D-24 score had dropped from 25.1 +/- 6.9 at baseline to a score of 6.8 +/- 5.8 at 1-year follow-up ($t=10.02$, $df=9$, $p<0.001$). Also, the number of drinking days in the last 30 days was significantly lower at 1-year follow-up than at baseline ($t=2.283$, $df=9$, $p=0.048$). However, at the 1-year follow-up, the group showed no significant change in level of symptoms compared to that noted at the completion of the acute phase study. Surprisingly, no subjects had chosen to continue taking the fluoxetine more than two months after the completion of their 12-week acute phase study. The results of this follow-up study suggest a persistence of efficacy for fluoxetine for treating this adolescent comorbid population. ACKNOWLEDGEMENTS: Supported by NIDA grant P50 05605, NIAAA grant P50 08746, a VA MIRECC grant and an NIAAA RO1 grant

Drug users and non-users perceptions of why people engage in HIV risks [p19]

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Studies show that, despite great successes in reducing HIV over the last 15 years, drug users are still at high risk for contracting HIV and Hepatitis C through needle sharing and unprotected sex. Participants in this study were recruited through street outreach to respond to a brief, 4-point scale ratings questionnaire that asked about HIV risk behaviors, including needle sharing and unprotected sex. For example, "When someone shares needles without bleaching them, it is because...". Forty males and thirty-six females participated, roughly equally divided into the following groups: opiate injectors, stimulant injectors, crack smokers, and non-drug users (via self-report). T-tests revealed significant differences between drug users who used different types of drugs, between drug users and non-drug users, and between males and females. Questions regarding needle sharing were analyzed only among drug-injecting participants. Among injection drug users, stimulant users were more likely than opiate users to say that people share needles because they trust their injecting partner ($p<0.040$), because they are high when injecting ($p<0.001$), and because they inject too often to bother ($p<0.03$). Among all drug users, stimulant injectors and crack smokers were more likely than opiate injectors to say that people don't use condoms because they are high when having sex ($p<0.002$). Drug users were more likely than non-drug users to say that people don't use condoms because they aren't afraid to take risks ($p<0.021$) and they don't want to insult their partner ($p<0.021$). Among drug injectors, men were more likely to say that people share needles because they are not comfortable saying that they don't want to ($p<0.016$), whereas women drug injectors were more likely to say that people share because they trust their injecting partner ($p<0.040$) and because it takes too long to bleach a needle ($p<0.002$). Among all participants, women were more likely to say that people don't use condoms because they don't think it is dangerous ($p<0.011$) and that people trust their partner enough not to use a condom ($p<0.041$). Implications of these findings will be presented. Supported by the National Institute on Drug Abuse, Grant DA 12813-01

Wheel-running suppresses cocaine self-administration differentially in male and female rats [p5]

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It has been suggested that the mesolimbic dopamine system may underlie the reward properties of both wheel running and drug abuse, and access to running wheels decreases oral amphetamine and ethanol intake under certain conditions. The purpose of the present study was to investigate the effects of wheel running on the maintenance of i.v. cocaine self-administration in male and female rats. Sex differences have been demonstrated in drug abuse; for example, female rats acquire drug self-administration in greater numbers and at faster rates than males. Few studies have examined sex differences in the effects of non-drug alternative reinforcers on drug-maintained behavior. Male ($n=10$) and female ($n=10$) Wistar rats self-administered cocaine (0.2 mg/kg) during daily 6-h sessions. Upon reaching the criterion of a mean of 100 cocaine infusions over five consecutive sessions, rats were given concurrent access to cocaine and a wheel during sessions. Preliminary results indicate that male and female rats maintained similar baseline levels of cocaine infusions, and access to the wheel significantly reduced cocaine-maintained behavior only in female rats. These results are consistent with findings that female rats show a greater effect of pharmacological treatment than males. These results suggest that non-drug alternative reinforcers may be effective in the treatment of female (vs male) drug abusers. Supported by NIDA grant R37 DA03240 (M.E.C) and NIAAA grant F31 AA005575 (K.P.C.)

Association between Attitudes and Substance Use Behavior among High School Students [p10]

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Students from a suburban St. Louis high school responded to anonymous questionnaires in late spring 2000 concerning their attitudes about and use of substances. Among the 1255 students who participated (90% of the student body) 31% reported smoking cigarettes, 23% reported drinking on weekdays and 47% reported drinking on weekends,

in the past 30 days. Further, 30% reported being offered club drugs. While 72% reported being offered marijuana, nearly a quarter of the sample believed there is no harm in smoking marijuana a couple of times a week. Analyses showed: students who say their parents allow drinking (18%) are 3 times more likely to drink than students who do not perceive such leniency (75% vs 25%); students who report parental drinking and drug problems are 2 times more likely to drink than students without such family history. Reasons for substance use range from having fun (50%) to relieving boredom and stress (41%) and getting high/drunken (30%). Students reported last drinking at their friends houses more often than any other place. The prevalence of nearly all risky behavior increased by grade level, though students in younger grades perceived less harm associated with substance use. Multivariate techniques sorted out the primary predictors of risky behavior: attitude, older grade level and male gender. These predictors will help design the Spring 2001 Prevention Day at this high school.

Child Abuse/Neglect Histories in Adolescent Drug Abusers: Discriminative Validity of a Quantitative Scale [p2]

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Child abuse and substance dependence often run together in families. Child abuse could be transmitted in such families either through learning or genes. A quantitative child-abuse assessment might both have clinical utility and facilitate gene-environment studies of child abuse. We previously reported developing such an instrument.

Hypothesis: Substance-involved adolescent patients will report more child-abuse/neglect than controls. Method:

Research assistants administered the Colo. Adolescent Rearing Inventory (CARI) and other assessments to 98 adolescents in substance treatment, and to 102 community controls (both groups about 40 % female). CARI's 50 questions each addressed a specific act of neglect, physical, or sexual abuse. Structured probes followed responses suggesting maltreatment. Results: In a patient-control X gender ANOVA patients (vs controls) endorsed significantly more items of neglect (mean 1.04 vs .37 items, $p < .001$), physical abuse (1.35 vs .31, $p < .001$), sexual abuse (.65 vs .23, $p < .024$), and total items (3.04 vs .92, $p < .001$). Females (vs males) endorsed significantly more sexual abuse items (.67 vs .39, $p = .05$). Conclusions: Substance-dependence patients commonly report more abuse/neglect than controls. CARI quantitatively detected this difference, significantly discriminating a patient group from a control group. CARI may have utility for clinical evaluation and etiologic research in child abuse and neglect.

Sex and drugs: Relationship of primary substance use disorder and sexual behavior [p6]

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The interconnection of substance abuse and sexual behaviors has been expressed by certain substance abusers within several outpatient treatment facilities to be an impediment in their recovery process. Exploratory data was collected that questioned the relationship between sexual behaviors and attitudes while under the influence of 321 alcohol, opiate, cocaine, and methamphetamine users enrolled in outpatient treatment programs at several Matrix Clinics in Southern California and the Washton Institute in New York City. Methamphetamine abusers (64%) reported the strongest associations between drug use and sexual behaviors and attitudes, followed by cocaine (54%) alcohol (53%) then opiate (23%) abusers ($\chi^2(3) = 37.4$, $p < .01$). Moreover, gender differences in response appeared within each category of drug abuser. Male cocaine ($\chi^2(1) = 10.5$, $p < .01$) and methamphetamine ($\chi^2(1) = 4.3$, $p < .05$) abusers reported a greater interconnection between sex and drugs than female users within the same drug category.

Development of a valid measure assessing the strength of this relationship is needed. Such an instrument may be beneficial for use in treatment programs as an aid in preventing relapse, especially for abusers with high interrelation between sex and drugs. ACKNOWLEDGEMENTS: Supported by the Center for Substance Abuse Treatment collaborative agreement #TI 11440-01 and the National Institute on Drug Abuse interagency agreement #1 Y01 DA 50038-00.

Male-female differences and parental monitoring in early marijuana transitions: Evidence from the PACARDO surveys in Latin America [p1]

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Question: In the U.S., males have excess risk of opportunity to try marijuana, but we see no male excess in the transition probability of trying marijuana, once the opportunity first occurs (Van Etten et al., 1997; 1998). Is this true in other countries, and might any observed variation be related to different levels of parental attention and monitoring of girls and boys? Methods: During 1999-2000, we conducted national sample school surveys of adolescents, with anonymous questionnaires administered by our survey teams in each of seven Latin American countries. Age at first marijuana exposure opportunity, age at first marijuana use, monitoring by parents (& other characteristics) were assessed via standard items and analyzed via contingency table analyses and logistic regression, starting with data from Honduras (n=1752) and Costa Rica (n=1688). Results: In both Honduras and CR, as in the US, boys were more

likely than girls to have had an opportunity to try marijuana ($p < 0.01$), a difference not entirely explained by parental monitoring levels. In CR as in the US, girls were just as likely as boys to try marijuana, once the opportunity occurred. This was not so in Honduras, where given opportunity, girls were less likely to try even after adjustment for different monitoring by parents ($p < 0.01$). Discussion: To date, our most important finding may be the Honduras counter-example to our group's previously observed male-female similarity in the transition probability for marijuana use, once the opportunity occurs. However, we now must look beyond parental supervision and monitoring to understand observed variation in this early transition from marijuana opportunity to first use. Acknowledgments: NIDA R01DA10502, T32DA07292, and the PACARDO research teams in Panama, Central America & Republica Dominicana

Maternal Cigarette Smoking and Infant/Toddler Behavior [p21]

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The purpose of this study was to examine the impact of maternal cigarette smoking during pregnancy on behavior of infants of toddlers. Behaviors across two contexts were measured: infant behavior during mother-infant free-play at 12 months and toddler non-compliance with maternal directives during clean-up at 18 and 24 months. Participants were 211 families with 12 month old children recruited through birth records. About 50% of the families consisted of alcoholic fathers. Of the 211 mothers, 50 smoked during pregnancy. At 12 months of age, mother-infant free play interactions were coded with regard to child affect (positive and negative), responsiveness to mother, and activity level. Results indicated a significant multivariate effect of maternal cigarette smoking on infant behavior, after controlling for family income and parental alcohol use. Univariate analyses indicated that cigarette exposed infants were less responsive and had higher activity level. Analyses of toddler non-compliance during clean-up indicated that after controlling for family income and parental alcohol use, there was a significant interaction effect of cigarette exposure (yes/no) and child age (18 vs. 24). Analyses of simple effects indicated that while non-exposed toddlers decreased in the level of non-compliance during a clean-up session across 18 and 24 months, cigarette exposed toddlers did not show similar declines on non-compliance with increasing age. Results suggest that maternal cigarette smoking has a significant impact on infant behavior and toddler behavioral regulation. Normative increases in the ability to regulate behavior occurring between 18 and 24 months were not apparent among cigarette exposed toddlers.

A behavioral model of HIV risk reduction for drug-injecting women [p4]

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The importance of developing and assessing behavioral models for HIV risk reduction cannot be understated. A viable, yet often overlooked, high risk group is drug injecting women who exhibit a constellation of high risk sexual and injection related behaviors conducive to the acquisition and transmission of HIV. Between December 1997 and December 2000 350 drug involved women were recruited from street settings in Tucson, AZ to participate in a HIV intervention research study. Participants were all active drug users, over 18 years of age and not in drug treatment in the past 30 days. The presentation provides the basis for developing a theory-driven behavior change model that incorporates key cultural, sociodemographic, and psychosocial factors related to the self-efficacy of women to perform HIV risk reduction. Regression analysis was used to develop a behavioral model that accounted for 42 percent of the variance in intentions to reduce HIV drug and sex behavior. Important factors in the final model included self-esteem, peer influences, HIV risk perception, an IDU risk index, AIDS knowledge, and intentions to perform HIV risk reduction. Implications for HIV risk reduction among drug injecting women are discussed. Attendees will be able to evaluate the relative importance of key factors related to HIV risk reduction in relation to drug involved women.

Social Factors and Economic Dependence: Factors Influencing Substance Use and HIV Risk Behaviors among Drug-Involved Women [p4]

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Women are increasingly represented in the HIV/AIDS epidemic. However, the influence of social factors and economic status on drug abuse and HIV risk behaviors has not been fully investigated. Results from a study in the southwestern United States suggest that women who have higher levels of economic dependence and instability demonstrate significantly higher levels of HIV drug and sexual risk behaviors as compared to those who are more economically independent and stable. Additionally, those women who have negative social circumstance (violent or abusive situations) demonstrate significantly higher levels of HIV drug and sexual risk behaviors as compared to those who have not had those experiences. Between March 1998 and December 2000 750 drug involved women were recruited from street settings in Tucson, AZ to participate in a HIV intervention research study. Participants were all active drug users, over 18 years of age and not in drug treatment in the past 30 days. Analyses include t-tests comparing women's HIV drug and sex HIV risk factors between 1) high and low economic dependence 2) high and low environmental stability and 3) high and low negative social circumstances. This presentation will discuss the

preliminary findings from the study, paying specific attention to understanding the characteristics and life experiences that put women at risk for HIV. Attendees will be able to articulate the factors that influence HIV drug and sexual risk among drug involved women.

Gender-specific characterization (using fMRI) of regional brain activity during cue-induced nicotine craving in humans [p10]

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Relapse to smoking is often precipitated by exposure to environmental cues that lead to craving. We have developed and validated stimuli (videos) that reliably evoke craving in smokers and are currently being used in a brain imaging setting (PET). The present study uses smoking videos in the fMRI setting to further characterize the substrates of cigarette craving. Research suggests that nicotine, like other reinforcing drugs, activates the mesocorticolimbic dopamine system. Preclinical studies demonstrate that nicotine effects on dopamine, on observable behaviors and on self administration are more pronounced in females (and modulated by estrogen) suggesting that nicotine is more rewarding to this gender. Furthermore, in human studies women smokers have shown increased desire to smoke and increased withdrawal symptoms during the premenstrual phase. We predict that the brain response to nicotine cues will i) mimic our earlier findings of regional hyperactivity during cued cocaine craving (amygdala, anterior cingulate) albeit, activity unique to nicotine craving may be unmasked and ii) may be greater in women and shaped by the menstrual cycle. Thus, male and female smokers (>20cigs/day) and a matched nonsmoking group (target n=12/grp) of rt. handed subjects are imaged while viewing nicotine or non-drug videos. Statistical parametric mapping methods will be used to compare data across groups. The relationship between activation and menstrual phase will be assessed. To our knowledge this study is the first to use brain imaging to examine gender differences during cued drug craving and as such will be a significant contribution to the field.

Young heroin users in Baltimore: Geographic distribution, demographics and qualitative characteristics [p2]

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We studied a sample of 119 heroin users between 18 and 25 years old seeking detoxification with buprenorphine at a private drug treatment center in west Baltimore. The clinic annually treats approximately 3,000 patients of all ages, most of whom are heroin users. About 800 of these patients are under age 25. The subjects received an initial assessment, which included demographic data, clinical assessment, and the Addiction Severity Index; 67 subjects were also administered a semi-structured Qualitative Questionnaire (QQ), with option to choose not to answer particular questions. The following were the salient findings: (1) Although a substantial proportion of the clinic population above age 25 are African-American, 95% of this sample of 18 to 25 year olds were Caucasian, and a high proportion (44%) were female. (2) Of the 119 subjects, 63% resided in Baltimore City. The several areas of the city where large numbers of these subjects resided are not the well recognized drug-infested areas in Baltimore. Some are former industrial areas now in decline; others are located close to Interstate 95, a major conduit for drugs. (3) Based on responses to the QQ, all subjects had tried at least one other drug before starting heroin use and had initially used heroin intranasally; 75% subsequently used heroin intravenously and thought that using clean needles protected them adequately from risk of complications; 64% said they were not worried about health problems, although 30% had had a diagnosed psychiatric or physical problem. Fifty-eight percent had no clear plan of action after detoxification. Our data, supported by the demographic data we were able to obtain from other clinics and from the Maryland State Alcohol and Drug Abuse Administration, seem to indicate that heroin use by African American, 18 to 25 year olds is relatively lower, and/or they tend not to seek treatment until a later age. Supported by a grant from The Abell Foundation.

Gender effects of smoking abstinence on spatial working memory in nicotine-dependent cigarette smokers [p13]

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Cigarette smoking alters cognitive function, and female smokers have greater difficulty with smoking cessation than males. One aspect of cognition, spatial working memory (SWM), is dependent on dopamine (DA) in the prefrontal cortex (PFC). Since central DA function is potentiated by estrogen and nicotine, it follows that cigarette smoking and smoking abstinence may have differential effects on SWM function in female versus male smokers. Using an eight-week placebo-controlled trial of selegiline hydrochloride in n=29 non-psychiatric refractory smokers, we have shown that smoking abstinence improves VSWM in non-psychiatric smokers. Effects of smoking abstinence on VSWM were independent of study medication. When our VSWM data was stratified by gender, improvements in VSWM during

smoking abstinence were confined to female subjects. A two-factor repeated measures ANOVA found a nearly significant Smoking Status X Gender X Time interaction [$F=3.53$, $df=1,21$, $p=0.07$], and a significant post-hoc difference ($p<0.05$) in VSWM between female and male quitters at Week 8 (trial endpoint). No significant demographic or clinical differences amongst the four groups (e.g. male and female quitters and non-quitters) were found, though sample sizes in the male quitter and non-quitters groups were small ($n=4$ in each group). Controlled studies of overnight abstinence and smoking re-instatement in male and female smokers are in progress to clarify these effects on VSWM. Thus, improvements in VSWM function with smoking abstinence appear to be gender-specific, and may relate to positive effects of estrogen on SWM. This finding may have important implications for our understanding of why females are more prone to smoking cessation failures compared to males, and for the development of more effective pharmacotherapies for female smokers. Supported in part by a NARSAD Young Investigator Award to T.P.G., and USPHS grants DA-00167 and DA-13334.

Talking with Poppa: Qualitative Analysis of a Focus Group Done with Fathers Enrolled in Methadone Maintenance Treatment [p13]

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Despite longstanding concern about the impact of parental substance abuse on child development, very little is known about the adjustment of drug-dependent men as parents. Moreover, although used extensively to expand understanding of drug-dependent mothers, qualitative research methods have not been used to document parenting issues of concern to drug-dependent fathers. In this pilot study, 12 fathers enrolled in methadone maintenance treatment participated in a series of four focus groups conducted to gather information about (a) the nature of their relationships with their children, (b) ways drug dependence has interfered with fathering, (c) their experiences as drug-dependent fathers in service delivery systems, and (d) their early experiences with their fathers. Qualitative analysis of the open group discussions highlighted (a) the sense of loss these men have experienced in their relationships with their fathers, (b) pervasive feelings of guilt and shame about their failure to be more effective parents, (c) the failure of all service delivery systems to acknowledge their status as fathers, (d) their concern about how to build more positive relationships with their children, and (e) their concern that children will develop psychosocial problems similar to theirs. The findings highlight the realistic nature of concerns opioid-dependent men share as fathers and ways the substance abuse treatment system might better support them in their role as fathers through the development of gender-specific parent interventions. From a methodological perspective, the findings illustrate how qualitative methods can be used to generate complementary information about research questions also being examined with quantitative methods. (This research was supported by National Institute on Drug Abuse Grants P50 DA09241 and R03 DA11988.)

A multiple-session, small group intervention to reduce sexual risk of HIV/STD among drug-using women: The Women-FIT study [p4]

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Objective: To test the feasibility of a group intervention for drug-using women at persistent high sexual risk of HIV/STD. Methods: 180 subjects were enrolled in Philadelphia, Providence and New York, to test, in a randomized trial, an intensive group-based behavioral intervention that has demonstrated behavior change in other populations. Intervention sessions (2_hrs) are manualized and aim to: increase knowledge and comfort with the anatomy and risk of HIV/STD; increase knowledge and use of a hierarchy of risk-reduction methods, including male condom, female condom, diaphragm, cervical cap, spermicide and withdrawal; and increase accessing of community health/other services. "Near-peers" who live and/or work in the communities contributing potential subjects were hired and trained as Group Leaders. The comparison arm received Enhanced HIV testing and counseling. Results: The majority of the study population was black (67%) with 25% white; 9% self-identified as Hispanic. 48% had <HS degree and 75% were unemployed. Mean proportion of unprotected vaginal or anal sex acts was 80%. Mean attendance at sessions over 3 sites was 83%. Mean participation level in group discussion, on 3 point scale (L-M-H) was "high". Among the first 78 subjects analyzed, 65% were very satisfied and 29% satisfied with group sessions. 41% cited "talking in group sessions with other women" as most valuable component. 87% took home female condom and 57% used this method more than once over the 5 wk intervention. Conclusion: This multi-session group intervention is feasible among drug-using women.

Effects of cross-Fostering on Lipopolysaccharide-Induced Corticosterone Release and Open Field and Acoustic Startle in Lewis and Fischer rats [p5]

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Inbred Lewis (LEW/N) and Fischer (F344/N) rats have been described as useful animal models to study the

relationship between genetic background and the regulation of the hypothalamic-pituitary-adrenal (HPA) axis. Given the relationship between the corticosterone-induced stress response and drug abuse, it is important to assess whether epigenetic factors contribute to the differential behavioral responses to stress and pro-inflammatory challenges in these two strains of rats. In the present study, the effects of cross-fostering of the LEW/N and F344/N strains on open field activity, acoustic startle amplitude and glucocorticoid reactivity to lipopolysaccharide (LPS) during adulthood were examined. Specifically, LEW/N and F344/N male and female pups were separated from their mothers within the first 12 h after birth and assigned to one of the following rearing groups: in-fostered LEW/N, in-fostered F344/N, cross-fostered LEW/N and cross-fostered F344/N. At 60 days of age, all animals were tested. The corticosterone response to LPS in in-fostered females was higher in F344/N than in LEW/N rats. This difference was statistically reduced in the cross-fostered groups. In males, no differences in LPS-induced corticosterone levels were observed between in-fostered LEW/N and F344/N rats. However, a statistically significant difference in corticosterone levels was observed between cross-fostered F344/N and LEW/N males. In the acoustic startle response, in-fostered LEW/N rats displayed greater startle amplitude than F344/N rats. This difference was maintained in cross-fostered females, but was significantly reduced in the cross-fostered males. In the open field test, there were no differences between the two in-fostered strains in total activity. Cross-fostering resulted in a difference between the two strain for both sexes. These data show that environmental factors during postnatal development play a role in determining the behavioral and physiological responses to stress and immune challenges and that this role is gender dependent.

Depression and gender predict outcome for desipramine and contingency management in cocaine and opiate dependence [p6]

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This study compared cocaine-abusing opioid-dependent individuals maintained on buprenorphine with and without comorbid Major Depression Disorder (MDD) on baseline characteristics and clinical improvement during a 6-month outpatient trial. The 160 subjects participated in a randomized placebo-controlled clinical trial comparing desipramine (DMI) to placebo and contingency management (CM) to non-contingency management (Non-CM). The patients were predominately Caucasian (56%), males (65%) with an average age of 37 years (SD=7.9) and unmarried (59%). Baseline assessments included the ASI, HAM-D and the SCID interview for diagnosis of MDD. Urine toxicology was performed thrice weekly during treatment, and HAM-D monthly. At baseline, both groups were equivalent on most characteristics, except that the group with MDD (N=56) had a larger proportion of females (46% vs 27%, $p=0.01$) and were more likely to have diagnosis of Antisocial Personality disorder (34% vs 18%, $p=0.02$) than those without MDD. Patients with MDD were not more likely to drop out of treatment, but MDD was associated with significantly less improvement in cocaine and opiate free urines tests despite adequate treatment with desipramine and/or sustained contingency management. However, for all treatment groups the increase in the rate of opioid and cocaine free urines was correlated with the reduction in depressive symptoms ($r=0.34$; $p<0.0001$). These results suggest that while reduction in depressive symptoms may be correlated with improvement of drug-free urines, MDD is associated with adverse treatment outcome and may require specific targeted treatment. Furthermore, females appeared to have a worse outcome than males, although this was confounded by these depression findings.

Gender differences in cocaine-associated cerebral blood flow abnormalities [p20]

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Cerebral blood flow (CBF- perfusion) abnormalities have been associated with cocaine dependence and have been reported as less severe in women compared to men. These comparisons have used clinical readings, but no vigorous statistical comparison such as Statistical Parametric Mapping (SPM). To address this issue we compared 26 males to 26 females drawn from 32 abstinent cocaine dependent patients and 20 normal controls. The severity of cocaine dependence and other baseline variables were comparable between the males and females. However, using SPM to identify areas of hypo- and hyper-perfusion on HMPAO SPECT scanning we found significantly fewer areas (clusters) of hypo-perfusion and more areas of hyper-perfusion in female than male abusers. For hypo-perfusion the number of clusters were 1.4 for male abusers, 0.7 for male controls, 1.1 for female abusers and 0 for female controls ($F=2.8$; $df=3,51$; $P<0.05$). For hyper-perfusion the number of clusters were 0.3 for male abusers, 0 for male controls, 1.3 for female abusers and 0 for female controls ($F=5.3$; $df=3,51$; $P<0.003$). Other measures of CBF using SPM showed a similar difference between the two genders suggesting that female abusers are protected from CBF deficits (hypo-perfusion) compared to male abusers and furthermore that female abusers have areas of significant increases in CBF (hyper-perfusion). The hormonal mechanisms that may account for this difference include estrogen effects on vasomotor tone and platelet adhesion.

1998-1999, substitution treatment and birth among heroin-dependent women in France: A prospective study of about 249 cases [p5]

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Since maintenance treatments were allowed in France (1993-94), pregnancy among heroin dependent women seems to be more frequent, better managed, and overall easier. A prospective study about 249 births was performed from October 1998 until September 1999. It involved 34 mother & child healthcare units all around the national territory. Only mothers using a maintenance treatment were included, either this treatment was methadone (37%) or buprenorphine (61%). 79,5 % got into maintenance before pregnancy. 40% were in a maintenance program and 55% got prescriptions from a general practitioner (GP). Significantly more mothers were living with the future father, started substitution before pregnancy and were prescribed by a GP in the buprenorphine group. Significantly more mothers got maintenance treatment in a program in the methadone group. Focusing on the neonatal withdrawal syndrome (NNWS), newborn children in the both groups had rather similar results, except in NNWS age of maximum which was 92 hours in the methadone group Vs 70 hours in the buprenorphine group ($p < 0.01$). Focusing on perinatal patterns, proportion of premature newborn between 33 and 37 weeks of amenorrhea, was significantly higher in the methadone group (18% Vs 9%, $p < 0.04$). Specificities in demographic, substitution and newborn development datas will also be shown and discussed.

Gender Differences in Cerebral Blood Volume after a 28-day washout period in chronic marijuana smokers [p1]

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Gender differences in functional neuroimaging data have previously been reported. In particular, differential lateralized effects of resting state cerebral blood volume (CBV) have been demonstrated in healthy male and female subjects. We recently identified changes in CBV for heavy marijuana smokers during a 28-day supervised abstinence period. To determine the potential effect of gender on CBV, we examined resting state dynamic susceptibility contrast (DSC) MRI data on twelve long-term marijuana users before and after a 28-day abstinence period. Data were acquired on days 1, 7 and 28 of the study. A repeated measures ANOVA indicated a significant interaction of sex by day for a measure of lateralized CBV ($F(2,5)=10.34$; $p=.017$), despite the fact that male and female subjects did not differ with regard to total lifetime marijuana use, or urinary THC levels on any study day. While males did not display lateralized CBV on any study day, females demonstrated a reversed pattern of laterality between study days 1 and 28. These findings suggest differential washout effects of marijuana on CBV for males and females, and reflect gender specific manifestations of similar drug use. Supported by NIDA grants DA12483 and DA10346.

How helpful are treatments for women with substance dependence and posttraumatic stress disorder? An empirical study [p19]

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Patients with co-occurring substance use disorder and posttraumatic stress disorder (PTSD) are widely described as a difficult treatment population (e.g., in symptom severity, treatment retention, and prognosis). In this study, we explored the treatment utilization, both past and present, of 77 women with PTSD and substance dependence at entry into a randomized controlled psychotherapy outcome study. We evaluated two questions: (1) Utilization (what treatments had patients utilized during their lives, and during the past month?); (2) Helpfulness (how helpful did patients find their treatments?). Results indicate four findings: (1) the most frequent treatments patients received, lifetime, were individual psychotherapy (75%), medication evaluation (75%), inpatient hospitalization (61%), and group therapy (54%); (2) the treatments patients found most helpful were, in rank order, methadone maintenance, group therapy, residential, family/couples, and individual therapy; least helpful was drug and alcohol counseling; (3) patients reported their strongest current preference was for combined treatment of PTSD and substance use disorder, rather than for treatment of just one or the other; (4) 74% of patients had received professionally-led treatment of any kind in the past month. Discussion addresses cost-effectiveness and patient preferences

Evaluation of A National Initiative for Women on Welfare With Substance Abuse Problems: The CASAWORKS for Families Program [p17]

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States face a special challenge moving women with substance abuse problems from welfare to work under the

requirements of the 1996 federal Temporary Assistance to Needy Families Program (TANF). This TRI study examines implementation and outcomes of a national initiative, designed by CASA, to refine and pilot test an integrated intervention strategy in 11 sites around the nation. The intervention strategy was designed to support female welfare recipients' efforts to achieve stable employment by overcoming substance abuse and other major barriers to work. Substance abuse treatment is integrated with employment-related services, services for domestic violence, parenting skills, and for other needs. A repeated measures design with no formal control group was employed during the initial developmental phase. The key outcome measures include the ASI and Treatment Services Review (TSR). Utilizing 125 clients who completed baseline, 6 month and 12 month assessments (out of an estimated final sample of 600), repeated measures MANOVAs were performed across all ASI composite scores as an overall test of within-group change. Interim outcome findings indicate that the employment picture significantly improved over the year ($p < .05$), with 40% of the women employed full or part-time at 12 months (compared to 5% at baseline). Substance abuse had been significantly reduced during this same time period, no alcohol use to intoxication during the past 30 days increased from 62% to 80% of women ($p < .05$), and those having no illegal drug use from 70% to 90% ($p < .05$). Improvements in medical problems and family/social issues were statistically significant but modest. The CASAWORKS model appears to be promising based on these findings but analyses with the full sample, and eventually (in a second phase) with a control group, will provide a clearer picture of the model's effectiveness.

Finding genes that predispose to substance dependence in adolescents: the Colorado Center on Antisocial Drug Dependence [p11]

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Substance dependence (SD) with adolescent onset is often comorbid with conduct disorder (CD). Genetic epidemiological studies of both SD and CD report evidence for heritable predisposition. Cases with both SD and CD may be more severe than cases with either SD or CD alone. The CADD is a multi-component research program utilizing clinically ascertained probands with SD/CD and their families, matched control families, and genetically informative community adoption and twin samples. We hypothesize that: i) a heritable quantitative index of SD can be identified using twin, adoption, and nuclear family data; ii) individual genetic loci (QTL) predisposing to SD can be detected and localized using the most extreme probands and their siblings. Joint analyses across samples ($N = 3535$ currently) estimate the familiarity, heritability, and clinical validity of dimensional SD phenotypes, together with age and gender relationships. A genome wide linkage study of an optimally defined phenotype exploits the efficiency of the selected clinical sample as an extreme group and utilizes multipoint mapping by DeFries-Fulker regression. The logic of this approach will be presented, together with illustrative QTL linkage analyses for 226 proband-sibling pairs. A multi-component research strategy, combining clinical and genetically informative community samples, provides a powerful paradigm for QTL studies of complex SD phenotypes. Supported by grants DA11015, DA05131, MH43899, HD10333, and EY12562.

Tobacco dependence: What does the child behavior checklist tell us about teens seeking cessation treatment? [p3]

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Prior studies have suggested links between childhood and adolescent behavioral problems and cigarette smoking. Both internalizing (withdrawn, somatic complaints, and anxious/depressed) and externalizing (delinquent and aggressive) behavior problems have been differentially associated with tobacco dependence and daily smoking. We hypothesized positive associations of smoking behaviors (Fagerström Test for Nicotine Dependence [FTND] scores and cigarettes smoked per day [CPD]) with internalizing and externalizing behavior problems from Achenbach's Child Behavior Checklist (CBCL) and Youth Self-Report (YSR) among teens motivated to quit. Thirty-eight teenagers (age 15.3 ± 1.6 years, 24% male, 24% African-American, FTND score 6.7 ± 1.2 , and CPD 17.3 ± 5.2) enrolled in a smoking cessation study completed the YSR and their parents/guardians completed the CBCL prior to treatment initiation. Pearson correlations showed positive associations for FTND scores with both internalizing and externalizing problem behaviors on the CBCL ($r=0.36$, $p \leq .05$ and $r=0.36$, $p \leq .05$ respectively), but only with internalizing problem behaviors on the YSR ($r=0.39$, $p \leq .05$). CPD was positively correlated with internalizing ($r=0.59$, $p \leq .001$) and externalizing ($r=0.36$, $p \leq .05$) problem behavior scores on the YSR. Multiple regression and concordance analyses to investigate covariates and onset of psychiatric symptoms are underway. Characterizing psychological/behavioral profiles of teenage smokers is relevant to designing appropriate cessation programs. (Supported by NIDA intramural funds.)

The effects of gender and ethnicity on 12-Step participation and effectiveness [p7]

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Despite the increasing utilization of 12-Step as a recovery resource and its use by many addiction specialists as an

integral component of treatment and long-term recovery, questions regarding the appropriateness of 12-Step programs for women and ethnic minorities have been raised. Utilizing data from the Los Angeles Target Cites Evaluation Project (n = 356), participants in adult outpatient alcohol and drug treatment were followed for 24 months. Information regarding 12-Step participation and effectiveness was collected and analyzed for all gender and ethnic groups. Contrary to reports that 12-Step is more appropriate for European-American males, statistical analyses reveals that women and ethnic minorities are equally likely to attend 12-Step programs, and to recover in conjunction with such participation as European-American males. Although 12-Step may not appeal to all seeking to cease alcohol and drug use, the clinical implications for treatment providers and other addiction specialists points to the benefits of integrating 12-Step components into traditional treatment programs as well as supporting the practice of recommending 12-Step participation for clients of all gender and ethnic groups.

Common Genetic and Environmental Vulnerability for Alcohol and Tobacco Use in a Volunteer Sample of Older Female Twins [p3]

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Objective: We report patterns of genetic and environmental correlations for alcohol and tobacco use in a volunteer sample of older, Caucasian, female twins using three different levels of severity for alcohol use and smoking. The levels of severity for alcohol use and smoking were: ever drank, weekly drinking, problematic drinking; ever smoked, daily smoking of a half-pack or more, and daily smoking of at least 1 pack or more. Procedures: A community-based sample of 1,926 female twins aged 50 to 96 were recruited through advertisements in the journal of the American Association of Retired Persons. Subjects were asked to rate alcohol and tobacco use over their lifetime. Analyses: Twin correlations for alcohol and tobacco use measures were fit using Mx. Results: There were significant genetic correlations between problem drinking and ever smoking and using at least one half pack per day. $R_g = 1.0$ (95% CI .32 –1.0) for Problem Drinking/ Ever Smoking; and $R_g = 1.0$ (95% CI .43 –1.0) for Problem Drinking/ Smoking at least .5 packs/ day. Importance of Findings: The shared genetic influence on alcohol use and smoking in women, is clearest for those subjects with the highest severity of alcohol use, problem drinking.

Risk Factors Associated with Toddler Play [p12]

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The 18-month play of 71 toddlers, prenatally exposed to cocaine and other substances, was studied in relationship to a number of potential prenatal and postnatal risk factors. Four areas of risk were assessed: maternal prenatal drug use, maternal prenatal psychopathology, infant status including gestational age at birth and early neurobehavioral status, and the six-month caregiving environment. All areas were found to independently relate to toddler play. Specifically, mothers who during pregnancy reported higher levels of use and more adverse effects of drug use in their lives were more likely to have toddlers whose play was more deviant, less skillful, and was characterized by fewer positive interactions with their caregivers. Toddlers were less likely to engage in positive interactions with their mothers during play when their mothers had been more depressed prenatally. The greater the degree of maternal paranoid symptoms prior to the birth of the child the more deviantly the children played and the less the children expanded themes, had smooth transitions, and were absorbed in play. Infants with better orientation skills or those born closer to term were more likely to demonstrate skillful play and engage in more positive interactions during play with their caregivers. Children being raised in more stimulating and organized environments and children with more responsive caregivers were also more likely to engage in skillful play and engage in more positive interactions with their caregiver. The results of the regression analyses indicate that caregiving contributes to the quality of toddler play over and above the independent contributions made by maternal drug use, maternal psychopathology and infant status.

Comparison of the effects of methadone and LAAM on the electrocardiogram [p11]

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The current study was designed to describe cardiac functioning of opiate addicts as they enter treatment, through induction and 30 days of maintenance on methadone, and after transferring and 30 days of maintenance on LAAM. Twelve-lead ECGs were performed at treatment entry, after methadone maintenance, and again after maintenance on LAAM. To control for the cardiac effects of other illicit substances, any subjects who were unable to maintain abstinence (documented with urine toxicology) were discontinued from the project. One-hundred twenty-three opiate dependent persons out-of-treatment at least 30 days were evaluated at treatment entry (77 males and 46 females; mean age of 41.5 years) to yield fifty-one subjects that completed all three cardiac evaluations (33 males and 18 females). Data on completers are presented. The eighteen women had a mean QTc of 427.3 at intake, which increased 7.97% after methadone treatment and an additional 3.51% after LAAM treatment. The forty-three men who completed had a mean QTc of 411.4 at intake, which increased 7.58% after methadone treatment and an additional 1.55% after LAAM

treatment. Although the group mean QTc never exceeded a priori specified thresholds (450 for adult males; 470 for adult females), we observed considerable individual variability. The QTc interval exceeded thresholds for at least one timepoint in 72.2% of females and 69.7% of males, although no subjects were discontinued during the project due to any cardiac abnormality. Additional analyses and cardiologist interpretations provide a context for evaluating the clinical significance of these data. Acknowledgements: NIDA Grant 1 P50 09260 and Roxane Laboratories, Inc.

The association between marijuana use and a major depression syndrome [p1]

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Aim: We are probing a reported twofold excess prevalence of a syndrome resembling major depression (SRMD) among marijuana users (U.S. National Household Survey on Drug Abuse, NHSDA, Main Findings, 1997). If smoking marijuana (MJ) causes depression, a non-linear dose-response gradient is likely, with the syndrome most prevalent at higher levels of recent MJ smoking, independent of other influences such as tobacco use (e.g., see Wu & Anthony, 1999). **Methods:** For NHSDA in 1997, field staff assessed 16,661 sampled adults, including 2,080 with MJ smoking in the year prior to survey, most self-marking answers to standard items (e.g., times smoked MJ). NHSDA modules also tapped clinical features of the SRMD in the past year, plus tobacco use & other suspected determinants of depressed mood. Statistical modeling & estimation procedures accounted for complex sampling design and weights. **Results:** Relative to expectation of about 8%, there was a two-fold excess SRMD among recent MJ smokers across a gradient from 1-2 occasions to about 150 occasions of MJ use in the past year. However, for adults smoking on 300 or more occasions, the model-based estimated probability was above 22%, consistent with the hypothesized gradient, even with statistical adjustment for sex, age, and other suspected influences on depression. **Discussion:** We probed for and found non-linearity when estimating probability of a syndrome resembling major depression in relation to frequency of recent MJ use. In analyses now underway, we are seeking to replicate these results with more data from prior years. If replicated, the epidemiological evidence of a marijuana-associated SRMD may deserve attention in clinical and toxicological studies. **Support:** NIDA DA04392, DA09897, T32DA07292.

Impact of managed care on treatment for pregnant drug-dependent women [p21]

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Pregnant drug dependent women and drug-exposed children present for treatment with a myriad of medical and psychosocial problems. Previous research has shown that integrated, comprehensive services are both clinically and economically effective (Svikis et al., 1997; Jansson et al., 1996). With the advent of managed care, limitations have been imposed upon quantity and frequency of services for this high-risk patient population. The present study compared maternal, fetal, and infant outcome data in the fee-for-service (Fiscal Year 1995) as compared to managed care (FY 2000) health care reimbursement systems. Patient demographics were comparable for the two periods. Women (N=124 in FY95 and N=128 in FY2000) were predominantly African American (87%); with a mean age of 28 yrs. Diagnostically, opiate dependence was more prevalent in FY2000 (72% DSM-IV Opiate Dependence) than FY1995 (54%). This difference was statistically controlled for in subsequent analyses. Analysis of maternal and infant outcome data found comparable outcomes for recent drug use history and infant birth parameters (e.g., Apgar scores, birth weight, % low birth weight). However, women in the FY 2000 group had significantly fewer comprehensive drug treatment days in the post-partum period and were significantly less likely to follow through with pediatric care appointments post-partum (38 vs 66%, $p < 0.05$). Additionally, there were more fetal deaths in FY 2000 than FY95 (9 vs 5). Additional analyses will compare prenatal care visit data, obstetrical complications, prenatal and perinatal drug use and severity, treatment compliance, infant neonatal abstinence score severity and pediatric treatment. This research was supported by NIDA Grant DA 12403 and a K08DA00338.

Temporal interactions between estrogen and progesterone affect cocaine-induced preprodynorphin mRNA levels in ovariectomized female rats [p2]

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Estrogen and progesterone have been postulated to be key hormones modulating cocaine-induced behavioral and neurochemical activation in female rats. These gonadal hormones and their temporal interactions are postulated to underlie estrous cycle differences in response to cocaine administration in female rats. Previous studies have shown that preprodynorphin mRNA levels were induced persistently in the striatum in response to "binge" cocaine administration in male Fischer rats (Spangler et al., 1993). To determine whether similar changes occur in females and the role of gonadal hormones in this modulation, we administered cocaine (i.p., 15 mg/kg) to ovariectomized Fischer rats that received s.c. injection of progesterone concurrently with or 1, 4, 20, 24, 30, 43, 44, 45, 46, or 48 hours after estrogen treatment. A bi-modal temporal interaction between estrogen and progesterone on cocaine-induced preprodynorphin mRNA levels was observed in the hypothalamus and striatum. The alteration of preprodynorphin

mRNA levels by cocaine and the effects of gonadal hormones on these alterations may have significant implications for the regulation of cocaine-induced behavioral and neurochemical alterations. This work was supported by the Altman Foundation, RCMI RR-03037, MIDARP DA12136, SCORE SO6 GM60654, SNRP NF39534

Barriers to Treatment Among Pregnant and Parenting Drug-Dependent Women [p12]

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Pregnancy is described as a "window of opportunity" in the treatment of pregnant drug dependent women, yet extrinsic barriers to substance abuse treatment contribute to late and no-entry patterns of treatment utilization. These treatment enrollment patterns have been constructed as delay or denial, yet real concerns about drug testing, loss of child custody, arrest and incarceration have been noted as possible reasons for treatment delay. The purpose of this qualitative study was to examine pregnancy-specific patterns of treatment utilization and extrinsic barrier negotiation among pregnant and parenting women. A one-time semi-structured interview and life history analysis was conducted with 36 women enrolled in residential perinatal substance abuse treatment programs of northern California. Preliminary results suggest that fear of testing positive for illicit drugs, loss of child custody, and pregnancy experiences of negative and threatening responses from health care providers acted as barriers that deterred women from seeking care. Women who did enroll in treatment during pregnancy had already participated in prenatal care for weeks prior to seeking substance abuse treatment. Variations in treatment utilization were examined by ethnicity, parity, HIV status, region, and child welfare and legal policy interventions with pregnant women. The results suggest policy initiatives to reduce extrinsic barriers and facilitate early entry to substance abuse treatment and prenatal care for pregnant women.

Gender relationship to treatment outcome in a methadone, buprenorphine and LAAM comparison [p11]

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Introduction: In a randomized trial of Meth, Bup, and LAAM for the treatment of opioid dependence, there were no significant main effects of sex on primary outcome measures. The present analysis explored within-gender differences to determine if particular medications may be more effective for males or females. Methods: 35, 36, and 33 males and 20, 19, and 22 females randomly assigned to Meth, Bup and LAAM, respectively were compared on retention in treatment, global assessment of functioning, percent opiate positive urine specimens and self-reported opiate use. Results: Retention in treatment was longer for both males (102 vs 81 day; $P < 0.05$) and females (115 vs 103 days; $P < 0.05$) receiving Meth versus LAAM. No differences between medications were observed for males or females on the global assessment of functioning. Females receiving Bup had significantly fewer opiate positive urine specimens than females receiving Meth (50% vs 68%; $P < 0.05$). Males receiving LAAM had significantly fewer opiate positive urine specimens than males receiving Bup (48% vs 68%; $P < 0.05$). Two weeks into treatment, females on LAAM tended to self-report using opiates fewer times than females on Meth (4.6 vs. 8.9; $P = 0.06$). Conclusions: Within-subject change results indicate that all three medications benefit both genders. Although some differences were observed, there was not a pronounced basis for differential medication recommendation as a function of gender. Supported by K02 DA0332, K05 DA00050 and P50 DA05273.

Protective effects of estrogen on ethanol withdrawal syndrome [p10]

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This study hypothesizes that the sex steroid, estradiol (E), protects against ethanol withdrawal (EW) syndrome in rats. Three behavioral aspects were assessed during EW: 1) overt physical withdrawal signs, 2) a motoric function using a rotarod assay, and 3) a spatial learning performance using the Morris water maze. Ovariectomized rats (four groups, 10 – 14 /group) implanted with an E or oil pellet (every three weeks, s.c.) received liquid ethanol (7.5 w/v %) or dextrin control diet for five weeks followed by two weeks of withdrawal. Upon termination of the diet, rats were scored for overt withdrawal signs such as tremor, seizure, or death. Using a rotarod paradigm, rats were tested for latency (sec) to fall from an accelerating rotarod in 5 consecutive sessions (the longer latency, the better performance). The initial latency was separately measured to assess motoric capacity before learning occurred. In a Morris Water maze paradigm, rats were tested for spatial learning capacity using the latency (sec) to find a platform. Results show that 1) in the absence of E, the EW group showed higher total overt withdrawal sign scores (7.1 +/- 1.2) than the dextrin group (0.09 +/- 0.4) ($p < 0.01$) and the score of the EW group was lower in the presence of E ($p < 0.01$). 2) In the absence of E, the EW group (35.7 +/- 2.4) showed shorter rotarod latency than the dextrin group ($p < 0.01$) and the latency of the EW group increased in the E (51.5 +/- 0.8) treated group ($p < 0.01$). In EW groups, E treatment (54.5 +/- 2.7) also resulted in a longer latency than an oil treatment (16.7 +/- 2.7) in the initial session ($p < 0.001$) and in subsequent sessions. 3) There were no significant effects of either EW or E treatment on the latency to find a platform in EW groups. These data indicate that estrogen produces protection against certain EW syndrome such as overt physical withdrawal signs and initial as well as subsequent motoric impairment but does not alter spacial memory-

related behavior.

Cocaine Craving during the Menstrual Cycle: Relationship to Ovarian Steroids, Dopaminergic Neuronal Activity, Stress and Depressive Symptomatology [p20]

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A growing body of evidence suggests that drug abuse and dependence progress differently in females as compared to males. For instance, in a recent study we found that gender influences various aspects of cocaine craving as well as the role played by craving and stress in the course of cocaine dependence. The mechanism of the gender-related craving differences is still unknown. Because female gonadal hormones modulate the dopaminergic activity in the nucleus accumbens, they may also affect the intensity of cocaine craving (as some of its aspects are related to the hypofunctionality of the brain reward circuitry). The purpose of this study was to prospectively assess normally menstruating cocaine-dependent women throughout the phases of their menstrual cycle to determine: 1) how female hormones influence various dimensions of craving, 2) potential dopaminergic systems' involvement in the interaction of the sex steroids and craving and 3) the effect of stress hormones, ACTH and cortisol, on cocaine craving. During eight consecutive weekly visits, data were collected on the natural fluctuations occurring in gonadal and stress hormones, plasma prolactin levels and cocaine use. Clinical assessments were performed using a detailed menstrual symptom diary and questionnaire along with a multidimensional craving questionnaire. In preliminary analysis from the first three participants we found higher Hamilton Rating Scale for Depression Scores (7.0 ± 3.5 vs. 16.3 ± 5.3) and marginal differences in cocaine craving (20.0 ± 8.4 vs. 22 ± 8.1) in luteal vs. follicular phase, as determined by the presence of menses and ovarian hormonal assays. Further studies of the course of cocaine dependence may need to consider the impact of menstrual cycle on the clinical presentation of female subjects.

Discriminative stimulus effects of triazolam: Influence of menstrual cycle phase [p10]

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This study examined the effects of menstrual cycle phase on the discriminative stimulus and other behavioral effects of triazolam in five healthy adult women. Subjects were trained to discriminate 0.25 mg/70 kg of triazolam from placebo. Generalization testing with training and test doses (0.06, 0.12 mg/70 kg) was then completed during early follicular (low estradiol, low progesterone) and mid luteal (high estradiol, high progesterone) phases of subsequent menstrual cycles. Menstrual cycle phases were determined based on self report and urine testing, and hormone levels were verified through serum analysis. On test days, subjects consumed a light meal, received drug 30 minutes post meal, and completed computerized sessions consisting of DSST performance and visual-analog (VAS) ratings of drug effect 0, 0.5, 1, 1.5, 2 and 2.5 hours after drug administration. Discrimination responding was also measured in post-drug sessions. Both the time-course and dose-dependent generalization curve of triazolam-appropriate responding varied as a function of menstrual cycle phase, with greater sensitivity to the behavioral effects of triazolam occurring during the mid luteal phase. Triazolam's effects on DSST performance and VAS ratings did not demonstrate the same pattern of differential sensitivity as a function of menstrual cycle phase, suggesting that the discriminative stimulus effects of drugs may be particularly sensitive to changes in hormonal status across the menstrual cycle. Supported by DA-09098.

Neurotoxic synergism of cocaine and HIV proteins is reversible by estradiol [p14]

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HIV infection is associated with iv drug use. AIDS-related dementia (ARD) is more prevalent among HIV infected iv drug users than non-users. The HIV infection rate is growing faster among women than men. Furthermore iv drug use plays a larger role in HIV transmission to women than it does to men. We have developed an in vitro model of human neurotoxicity to investigate cellular mechanisms that may contribute to ARD. We have previously shown that the HIV proteins, gp120 and Tat, are dose-dependently neurotoxic. Furthermore, subtoxic levels of cocaine in conjunction with subtoxic levels of gp120 and Tat produce neurotoxicity in this model. This synergistic neurotoxicity is reversible by 17beta-estradiol at nanomolar concentrations, suggestive of gender-dependent effects of HIV interactions with cocaine in our model of neurotoxicity. Here we show that cocaine, but not its longer lived major metabolite, benzoylecgonine (BE), is dose-dependently neurotoxic. This is evidence for direct interactions of cocaine with HIV protein-mediated neurotoxicity. In sum: 1) Cocaine synergizes with HIV proteins to produce neurotoxicity; 2) Neurotoxicity is not due to the cocaine metabolite, BE; 3) Estradiol has a neuroprotective effect. Importantly, the results being reported here suggest that investigation of gender-specific treatment of ARD is warranted. This work was supported by NIH/NIDA grant numbers DA11337, DA13137 and T32AG00242.

Developing a Community of Reinforcement through African-American churches [p17]

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The goal of the Community Reinforcement Approach (CRA) is to develop a "natural community of reinforcement" for drug abstinence. Forging ties with an abstinent community can extend positive social reinforcement for prosocial and abstinent behaviors established during treatment. However, many clients are likely to be socially isolated, have poor family relationships, and few sober friends. Thus, if CRA is to be applied through significant others in the drug user's life, suitable social supports must be developed. We are currently piloting a randomized controlled trial where social supports for cocaine abusing minority women are developed through the African American church. Eighteen women enrolled in a residential treatment facility received standard care. Half were randomly assigned to additionally receive CRA. Each woman was given a sponsor of the same religious denomination recruited from the African American churches, mosques, etc. Women and their sponsors interacted regularly and met weekly with other clients and sponsors at the treatment facility to engage in culturally relevant and spiritual activities. Results from the first 11 women who have completed six months of the program suggest that women in the CRA group stayed in treatment longer (153 vs 57 days) and are less likely to test positive for drugs at 3 months post treatment admission (0% vs. 50% drug positive). There is some suggestion of less drug use at 6-month follow-ups as well (25% vs. 50% positive). The small number of participants in the pilot study do not allow conclusions to be drawn regarding the utility of developing CRA through churches, however, the data suggest that a full clinical trial is warranted.

The influence of spirituality on substance use in Panamanian adolescents [p2]

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Although spirituality has been shown to protect European American adolescents from substance use, little is known about the protective effects of spirituality for adolescents living in Latin America. The present study investigated the contributions of age, sex, and dimensions of spirituality to lifetime substance use in a sample of 988 adolescents (56% female. Ages 11-19) living in Panama. Three religious subscales were identified: 1) trust and faith in God (6 items); 2) spirituality, which included talking to friends about spiritual matters (4 items); and 3) parent religiosity (4 items). One-fourth (23.6%) of the sample reported cigarette use, nearly half (46.9) reported alcohol use, and 3.5% reported marihuana use. Logistic regression was used to evaluate the hypotheses that spirituality would be associated with lower substance use. Age and sex were controlled in all analyses. Interactions of age and sex with the religious subscales were examined following consideration of main effects. Analyses revealed that males and older adolescents reported greater substance use than females and younger adolescents. None of the measures of religiosity was related to cigarette use. Greater spirituality, but not trust in God or parent religiosity was related to non-alcohol use ($p < .001$). Greater faith in God ($p < .01$) but less spirituality ($p < .05$) was associated with less marihuana use. There were no age or sex interactions with the religious subscales.

Support networks and medical service utilization among injection drug users with HIV/AIDS [p4]

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Social support mobilization and its correlation to medical service utilization was examined among 635 injection drug users (47% HIV+). Social network analysis revealed that HIV seropositives compared to HIV seronegatives had larger support networks, including more females, were less likely to have a sex partner, and had marginally larger emotional support and physical assistance networks. Among HIV seropositives, access to care was associated with greater size of support network, including emotional support, physical assistance, and females in the support network, controlling for participant's gender. Having a sex partner was associated with less access to care. Outpatient care was positively associated with size of emotional support network and number of females in the support network, controlling for gender. ER use without subsequent hospitalization was associated with greater number of active drug users in the support network, controlling for participants' drug use. Kin support was not significant. Findings have implications to public health.

Coping and Social Support as Predictors of Abstinence following Substance Abuse Treatment: Gender Differences [p6]

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Prior research found that coping styles and social support are predictive of substance abuse treatment entry and mortality and that an interaction between social support and coping exists such that problem drinkers with more social resources were more likely to use adaptive coping. However, little research has examined how social support and coping interact to predict abstinence after treatment. This is an important area, as many treatment providers and programs often incorporate problem solving, cognitive behavioral, and family therapies into their treatment.

Moreover, little is known about how these factors may differ between men and women substance abusers. Participants were 747 adults seeking treatment in an HMO alcohol and drug treatment program who agreed to complete a structured, in-person interview. Participants were assessed at baseline using the Coping Response Inventory (Moos, 1992), measures of social support including the Addiction Severity Index, demographic variables, and a 12-month follow-up measure of abstinence. Preliminary MANOVAs revealed gender differences for baseline coping and social support measures. Regression analyses revealed gender differences among the variables and interaction terms that predicted abstinence at 12-months follow-up. These findings have important implications for treatment programs. This study was supported by the National Institute on Drug Abuse (RO1-DA10572 and a NIDA Training Grant for an Institutional Postdoctoral Training Program in Drug Abuse Treatment and Services Research)

Neonatal isolation enhances cocaine self-administration and accumbens dopamine levels: Gender effects [p20]

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We showed that neonatal isolation enhances acquisition of cocaine self-administration (SA) and amphetamine-induced dopamine (DA) levels in nucleus accumbens (NAc), an area involved in the behavioral effects of psychoactive drugs, in adult male rats. Female isolates show greater increases in NAc DA levels. We now examine if adult female isolate rats show heightened acquisition of cocaine SA and NAc DA levels compared to control females and to isolate males. Pups born to Sprague-Dawley rats were isolated from dam, nest, and litter for 1-hr/day on postnatal (PN) days 2-9 (ISO) or not handled (NH) until weaning (PN25). As adults (100-120 days), rats were tested for acquisition and extinction of operant responding for food (FR1; 10-sec TO) in daily 30-min sessions. Jugular catheters were implanted and acquisition of cocaine SA assessed using a progressive dose increase procedure (0.125-0.5 mg/kg/infusion; 1 dose/5-days) in daily 2-hr sessions. Separate groups were implanted with probes aimed at NAc. Cocaine (0 or 10 mg/kg IP) was administered and dialysates collected every 15-min for 120-min post-injection. Preliminary data suggest that female ISO show enhanced neurobehavioral effects suggesting that there are gender differences in how early life stress affects responsivity to cocaine. Support: Donaghue Medical Research Foundation (DF-00-202).

Cocaine sensitization in male and female rats [p20]

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Female rats show greater locomotor responses to cocaine, self-administer more cocaine and show more sensitization after chronic treatment. However, most sensitization studies have not discriminated between the enhanced sensitivity of females and increased sensitization. The purpose of this study was to test the hypothesis that females exhibit greater changes in locomotor response with repeated stimulant exposure than males. The single dose paradigm of Post et al was used to compare cocaine sensitization in a context-dependent and context independent setting. Male and female rats (n = 16/group) were treated once with 40 mg/kg cocaine or saline in the test environment followed by saline or cocaine 90 min. later in the home cage. Controls received saline in both environments. On the next day, female rats were treated with 2.5, 5, or 10 mg/kg cocaine and males were treated with 5, 10 or 20 mg/kg in the test environment. Overlapping doses were used to control for the different "ceiling" of females and males to cocaine-induced locomotion. Locomotion was assessed using a photocell system and an observational scale. Data were analyzed by ANOVA. Females exhibited more locomotion than males at comparable doses, and paired animals showed more locomotion than unpaired animals, which did not differ from saline. There was no sex difference in the effect of previous cocaine exposure on cocaine-induced locomotion. Stereotypy scores were also higher in females than in males, and paired animals showed more behavior than unpaired. Again, there was no sex difference in the effect of previous cocaine exposure. These data suggest that the important sex difference in this paradigm is the initial response to the drug, not the effect of sensitization. These data suggest that females are more sensitive to stimulants, but do not exhibit greater capacity for adaptive changes in the brain after repeated stimulant exposure. Supported by NIDA grant DA09079.

MMPI2 addiction scales: Validity for pregnant, substance-abusing women [p12]

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Perinatal substance use often leads to significant maternal and fetal complications. However, identification of perinatal use is problematic, with women underreporting the extent to which substances are used or abused. The MMPI2 contains 3 addiction proneness scales, the MacAndrews Alcohol Scale – Revised (MAC-R), the Addiction Proneness Scale (APS), and the Addiction Admission Scale (AAS), which have been shown to identify substance abuse problems in a variety of populations. The present study examined these scales in a sample (N=171) of opiate and/or cocaine dependent pregnant women in order to examine the identification rates for these scales (i.e., % above T=65) and associated differences in demographics, substance use, and psychological characteristics. Participants were

primarily unmarried (75%), African American (80%) with a mean age of 29.1. Scale intercorrelations were relatively low, ranging from .26 to .33. The APS, AAS, and the MAC-R identified 14.7%, 79.9%, and 55.9% of the women, respectively, as having substance abuse problems or a potential for problems, indicating significant variation in identification. High APS scorers had higher rates of current and lifetime cocaine use ($p < .03$); more lifetime polydrug use ($p < .05$); earlier use of cocaine ($p < .01$); and more drug treatment admissions ($p < .01$). High AAS scorers had higher rates of current cocaine use ($p < .01$); more lifetime heavy alcohol and marijuana use ($p < .04$); and earlier use of cocaine. High MAC-R scorers had higher rates of current cocaine use ($p < .03$), earlier use of cocaine, ($p < .01$), and more alcohol treatment admissions ($p < .05$). High scorers on all scales endorsed significantly more psychiatric problems ($p < .02$), with profiles for high AAS scorers most elevated. Additional analyses will examine item specific predictors of substance use problems. Although these scales did identify problematic substance use and psychological problems, their ability to identify all women at risk for problems, particularly the APS, requires further study. This research was supported by NIDA Grant DA11476.

Suicidal ideation among drug-dependent pregnant women [p6]

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Substance dependent pregnant women who report suicidal ideation may be in critical need of specialized treatment. The current retrospective study compared the psychiatric and lifestyle characteristics of two groups of treatment-seeking pregnant, opiate and/or cocaine dependent women admitted to the Center for Addiction and Pregnancy (CAP). Participants completed the Addiction Severity Index and Structured Clinical Interview for the DSM-IV during the first 7 days of treatment. Women reporting past and/or current suicidal ideation (44%; $n=31$) were compared to women who did not report thoughts of suicidal ideation (56%; $n=40$). Demographically, the two groups were similar in age, education levels, race, employment, and marital status. Women reporting suicidal ideation were more likely to be homeless ($p=.01$), report histories of emotional ($p=.02$), physical ($p<.001$), and sexual abuse ($p=.002$) and endorse previous psychiatric treatments ($p<.001$) than women not reporting suicidal ideation. On psychiatric diagnoses, women reporting suicidal ideation were more likely to have co-morbid current and lifetime disorders including mood, anxiety and Post-Traumatic Stress Disorder ($p=.002$) than those not reporting suicidal ideation. No differences in substance abuse or dependence diagnoses were observed between groups. These findings highlight the need to identify women with histories of suicidal ideation and recognize the potential relapse risk imposed by emotional distress and confront these issues in treatment. Research supported by R01 DA12403-01.

Intergenerational differences in course of alcoholism in women [p11]

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Studies of differences in the course of alcohol dependence between men and women have revealed disparities, showing that women often have a shorter course of alcohol dependence and experience consequences more rapidly, a phenomenon known as telescoping. However, intragroup differences among women have rarely been studied. This study examined 284 predominantly Causasian middle-class adult women with past DSM-IV alcohol dependence, recruited from across the U.S. as part of a large family study on the genetics of alcoholism. Women were stratified into four comparison groups twice, first based on age of onset of alcohol dependence (earlier vs. later in life) and second on calendar year of onset of alcohol dependence (earlier vs. later generations). It was hypothesized that the course of alcohol dependence would differ among women who developed alcohol dependence earlier in their lifetimes (teens and 20's) vs. later (30's and 40's), and that course of alcohol dependence would differ among women who developed alcohol dependence in earlier generations (i.e. 1950's-70's) vs. later generations (1980's-90's). One-way ANOVAs revealed that women developing alcohol dependence earlier in life and women developing alcohol dependence in earlier generations had 1) shorter durations from onset of regular drinking to onset of alcohol dependence, 2) longer durations of alcohol dependence, and 3) longer intervals from onset of dependence to symptom appearance and treatment attempts, than women developing alcohol dependence later in life, or in later generations. These results suggest that women developing alcohol dependence later in life, and women developing alcohol dependence in later generations, lose control less rapidly and remain out of control for a shorter period, attempting treatment and recovering more quickly, resulting in a shorter more compressed course of alcohol dependence. The cross-sectional nature of this study prevents conclusions of a causative nature, however we hypothesize that differences observed among age of onset groups could be due to lower severity in later onset women, whereas differences observed in generation groups might reflect more prevention, greater treatment options, and less stigmatization and gender stereotyping of women alcoholics in recent generations.

Are There Gender Differences in Nicotine Dependence? [p13]

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Nicotine dependence is often defined using Fagerström Test for Nicotine Dependence (FTND) or DSM-IV criteria. In a cohort of Australian adult twins (n=6257 individuals), we examined whether individual dependence criteria, in addition to FTND and DSM-IV dependence diagnoses, have different prevalence rates among women and men and whether gender specificity exists in the genetic and environmental factors that influence the dependence criteria and diagnoses. Regarding FTND criteria, more men than women were heavy smokers, that is smoked 20 or more cigarettes per day (25% vs. 16% lifetime, $p<0.01$) and more men than women had their first cigarette of the day within 30 min upon awakening (23% vs. 16% lifetime, $p<0.01$). Based on these two criteria, the combined FTND nicotine dependence phenotype was also more prevalent among men than women (18% vs. 12% lifetime, $p<0.01$). Regarding DSM-IV criteria, nicotine tolerance was endorsed by more men than women (44% vs. 33% lifetime, $p<0.01$), with no gender differences in prevalence estimates for the other dependence criteria. However, more men than women endorsed the overall DSM-IV dependence diagnosis (33% vs. 29% lifetime, $p<0.01$). There were significant genetic factors explaining 30% to 75% in the variability of FTND and DSM-IV nicotine dependence criteria and diagnoses, however no gender differences in the degree of genetic or environmental influences were detected. Interestingly, an additional variable--exposure to smoking or having ever tried smoking-- is more strongly genetically determined in women than in men, with 87% vs. 42% of the phenotypic variance being explained by genetic factors, respectively. Thus, the initial phenotypic analyses indicate that there are gender specific factors that influence nicotine dependence; the genetic analyses indicate that genes that influence exposure to smoking are different in women and men, but that genes that influence nicotine dependence-related phenotypes are similar across gender.

Pattern of Drug use Among Methadone-Maintained Patients: Individuals With and Without Adult Attention-Deficit Hyperactivity Disorder [p18]

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Some data suggest that adults seeking treatment for ADHD who have concomitant substance use disorders have an earlier onset of substance use and are less likely to go into remission than those without adult ADHD. This study assessed whether methadone maintained (MM) patients with adult ADHD have a more severe pattern of substance use than those without adult ADHD. MM patients were screened for either an HIV risk behavior intervention study and/or a pharmacologic treatment study for adult ADHD. Compared to those without adult ADHD, MM patients with adult ADHD were younger (36.9 vs. 42.9 years), more likely to be male (75% vs. 50%), never been married (53% vs. 33%), and have an additional Axis I diagnosis (41% vs. 25%). There were no significant differences in rates of lifetime depression or antisocial personality disorder. MM patients with adult ADHD began using alcohol at any earlier age than those without ADHD. Despite having similar rates of lifetime abuse/dependence of cocaine or marijuana, MM patients with adult ADHD were more likely to have current cocaine abuse/dependence or marijuana abuse/dependence. Although MM patients with ADHD had a similar number of treatment admissions to methadone maintenance programs or therapeutic communities, MM patients with ADHD spent less time in these programs than those without ADHD. These findings suggest that MM patients with comorbid adult ADHD have a more severe pattern of drug use and a poorer treatment response to methadone maintenance and may require targeted pharmacologic and nonpharmacologic interventions. Supported by NIDA Grants 5 RO1 DA1144 and K02 00465

Effects of menstrual cycle phase and plasma hormone levels on fMRI brain activation [p5]

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We have previously demonstrated marked sex differences in the acute and chronic effects of cocaine on cerebral hemodynamics. Acute vasoconstriction varies as a function of menstrual cycle phase, and young women have relatively little long-term perfusion damage from cocaine. As there is intense interest in using functional MRI (fMRI) methodology to study the effects of drugs, such as cocaine, on brain function, a better understanding of fundamental sex-related differences in brain functional activation is imperative. Having previously demonstrated such differences in fMRI activation, we now seek to relate these differences to menstrual cycle phase. Six women (avg. age 23) were studied at three phases of the menstrual cycle (early follicular - days 4-6; late follicular - days 9-12; and luteal - days 19-24), measuring an array of hormone levels at each visit. Visual cortex activation was measured with a photic stimulation fMRI assay. We found a trend toward reduced brain activation in the late follicular phase of the menstrual cycle. However, while there was no clear correlation of brain activation to serum levels of estradiol, estrone, or progesterone, there was highly significant positive correlation with levels of FSH ($r=0.65$, $p=0.005$) and FSH ($r=0.6$, $p=0.01$). Although the sample size is small, role of plasma hormone levels on brain functional activation and vascular reactivity merits further investigation. Supported by NIDA grants DA00297, DA03329, DA00064, and DA09448

Updated "normative data" from the addiction severity index [p18]

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The Addiction Severity Index (ASI), now 20 years old, is one of the most widely used instruments in the addiction field. This paper updates an earlier set of "normative data" from the ASI, published in 1992. We discuss the clinical and research uses of the ASI over the past decade and provide updated "normative data" on composite scores and key items for samples of alcohol, cocaine and opiate abusers, as well as for subgroups of pregnant women, homeless men, the psychiatrically ill, untreated substance abusers, welfare to work clients and drug court-involved abusers. This descriptive study is based on data from ASI interviews with over 50,000 substance abusers from throughout the US. The majority of the data come from treatment admissions – although the data derive only from convenience samples and cannot be considered nationally representative. Compared with earlier estimates, the findings from this study are based on substantially larger and more heterogeneous samples of substance abusers (n=916 and n=50,000, respectively). This study has both practical and clinical implications for administrators, clinicians and researchers in that the "normative data" presented provide much better comparison information for the identified patient populations. In addition, an internet-based resource is presented which provides access to the updated ASI database, an internet resource which allows for further analysis based on characteristics of interest.

An Update on the Drug Evaluation Network System [p19]

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The Drug Evaluation Network System (DENS) is now in its 5th year of operation. DENS is an ongoing, nationwide, electronic system providing information on patients entering methadone, residential and outpatient treatment programs, and drug courts from 5 cities. The Addiction Severity Index (ASI) is the primary instrument used. ASI data are collected on computers during clinical interviews, and transmitted biweekly via modem resulting in almost "real-time" tracking of trends (data presented at CPDD will reflect approximately 20,000 treatment admissions up to the week prior to the conference). This paper updates findings presented at earlier CPDD conferences. Notable changes over the past 4 years include comparisons between areas of country, and between gender and age groups. For example, data from the past year showed an increase in the percentage of people using cocaine in the 30 days prior to assessment from the 1999 presentation, but this increase was proportionally higher for women (48% to 58% used cocaine in 1999 vs. 2000) compared to men (43% to 48% respectively). In our 1998 presentation, we compared rates of amphetamine use across areas of the country. These rates continue to be stable at less than 1% reporting use in the 30 days prior to treatment intake for Chicago, New York and Philadelphia, however, rates in Northern California treatment programs and drug courts continue to rise slightly (drug courts 22% to 24% use in 1999 and 2000 respectively, and treatment programs 6% to 8% use in 1999 and 2000). Finally, a look at changes among treatment seekers in the 16-25 year old age group shows a startling increase in young adults injecting heroin in Philadelphia where in 1999, 50% of 16-25 year old heroin users reported injecting, to a high of 66% reporting injection use in the year 2000.

Marijuana Cue-Induced Craving in Cannabis-Dependent Adolescents in Psychiatric Treatment [p15]

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Despite evidence that reactivity to drug-related cues is associated with substance abuse treatment outcome, few studies have addressed marijuana cue-induced craving, and none have included adolescents. The present study examined whether marijuana craving could be elicited in adolescents diagnosed with cannabis dependence, and whether gender differences were present. Eight male and seven female adolescent psychiatric inpatients were exposed to neutral and marijuana-related cues, and subsequent changes in mood, craving, and heart rate were assessed. Results failed to reveal gender differences in response either to neutral or marijuana-related cues. All subjects responded to marijuana-related cues with significant increases in self-reported anxiety, desire for good feelings, craving and urge for marijuana, desire to use marijuana, urge for alcohol, and likelihood of marijuana use given the opportunity. Changes in heart rate were not significant. These results indicate that marijuana craving can be induced and assessed in this population within a laboratory setting. As adolescents who are reactive to drug-related cues may be more likely to relapse following treatment, identifying such adolescents may be invaluable in developing treatment strategies that address the experience of craving in this population, and for optimizing aftercare to minimize relapse. Supported by grants DA12582, DA03994, and DA00343

Brain cocaine levels following repeated IV cocaine: Time course and regional differences [p19]

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Although the pharmacokinetics of IV cocaine in plasma are well characterized (Booze et al., 1997), brain levels of cocaine have been less well studied. The present study analyzed the time course and brain distribution of cocaine (COC) and its metabolites (benzoylecgonine, BE; ecgonine methyl ester, EME; norcocaine, NC) following repeated IV cocaine administration. Sprague-Dawley rats (male, female, castrated, and ovariectomized) were surgically implanted with an intravenous access port (Mactutus et al., 1994). Animals received 3.0 mg/kg IV cocaine 1/day for 14 days, delivered as a bolus injection. On the 14th day, animals of each group were sacrificed (1, 5, 15, and 60 min, ns=8). Brains were rapidly removed and immersed in tubes containing saturated NaF and kept at -80°C until analysis by LC/LC/MS. Peak brain concentrations of COC occurred at 1 min post-injection in all regions. Relative to the cerebellum (2.2 mg/g tissue), locus coeruleus (LC) had the greatest concentrations (4X higher). Brain levels of COC decreased dramatically over the 60 minute sampling period (Beta1/2 of ~39 min for the LC). The brain metabolite profile of IV COC was similarly ordered for all brain regions (BE > EME > NC). In sum, IV dosing in rodents appears 1) distinct from other rodent dosing models, 2) similar to primate models of IV dosing, and 3) suggests that the gender-dependent effects of COC in rodents are not attributable to differential accretion of cocaine. Supported by DA11337, DA13137 & DA09160.

The effects of modafinil on food intake, verbal reports of drug effect, performance, and cardiovascular activity in normal, healthy men and women [p2]

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Concerns about weight contribute to smoking initiation, interfere with smoking cessation efforts, and promote relapse. Anti-obesity medications have been successful in regulating weight in nonsmokers and ex-smokers; however, use of these agents is restricted due to undesirable side effects and unknown long-term consequences. This study will investigate the effects of a novel stimulant medication, modafinil, on food intake, verbal reports of drug effect, performance, and cardiovascular activity in normal, healthy men and women. These effects will be compared with those of d-amphetamine, an adrenergic anorectic with well-documented abuse liability. Eight participants will complete 10 sessions and will receive a single oral dose of the following: placebo, modafinil (placebo, 1.75 mg/kg, 3.5 mg/kg, or 7.0 mg/kg), and amphetamine (0.035mg/kg, 0.07 mg/kg, 0.14 mg/kg) on separate occasions. Brief (15 minute) performance batteries will be administered at hourly intervals following drug administration for 6 hours. Forty-five minutes of free time will separate successive performance testing intervals allowing participants to watch television, read, listen to music, or eat. Behavioral and subjective effects including performance, food intake, activity, mood and other subjective effects such as hunger and thirst will be monitored during the study. Data will be analyzed using mixed model repeated measures ANOVA with dose and time as within subject factors. Four subjects have completed the ongoing protocol. Preclinical studies suggest that modafinil decreases appetite and reduces frequency of eating. However, unlike anorectic adrenergic agents, modafinil displays a low incidence of side effects. In addition, modafinil exhibits low abuse potential. These characteristics make modafinil uniquely suited for the treatment of obesity. If proven to be an effective anorectic agent, modafinil may reduce adverse health consequences of drug use and enhance treatment efficacy in individuals who use tobacco smoking as a means of regulating their weight. This research is supported by NIDA grant R03 DA13484-01.

National Estimates of the Availability of Services for Women in Substance Abuse Treatment [p12]

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Woman centered programming is shaped and driven by the unique experiences of drug dependent women who face a range of barriers to their successful engagement into addiction treatment. Woman centered programming is defined by the provision of services that address women's treatment needs as well as reduce barriers to recovery from drug dependence that are more likely to occur for women. Research suggests that patients who receive ancillary services while in treatment such as case management, housing assistance, and employment counseling may have better treatment outcomes. Furthermore, addiction treatment programs offering enhanced support services may have better outcomes for women drug abusers. This research is based on data from the Alcohol and Drug Services Study (ADSS), a national survey on substance abuse treatment facilities and clients. The availability of woman centered programming is estimated for outpatient non-methadone and outpatient methadone treatment. For this study, a construct of woman centered programming was created to capture two types of social and medical services at drug treatment programs, comprehensive on-site childcare and prenatal care services. In outpatient non-methadone settings, 36.3% of programs reported offering special programs for women and 17.1% reported special programs for pregnant women. In outpatient methadone settings, 42.8% of programs reported offering special programs for women and 39.4% reported special programs for pregnant women. In all modalities, 9.0% of programs reported offering "comprehensive" prenatal care and 10.1% offered "comprehensive" child care services. These data help portray the availability of medical and support services for women in substance abuse treatment. Future research with this data will include studies of service availability and its influence on retention in treatment. It is important to note, however, that the study of access is

complex and many factors beyond service availability remain which impair women substance abusers' successful entry into treatment. More study is needed of services which enhance access to treatment for women.

A descriptive analysis of participant characteristics and patterns of substance abuse in the CSAT methamphetamine treatment project: The first eighteen months [p13]

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The Methamphetamine Treatment Study is an eight-site randomized clinical trial designed to compare the Matrix Model of treatment for methamphetamine dependent individuals with "Treatment As Usual" at each site. The Matrix Model is a manualized outpatient treatment approach that integrates treatment elements from a number of specific strategies, including cognitive-behavioral therapy, motivational interviewing, psychoeducation, and 12-step program involvement. Treatment As Usual as a comparison condition varies by study site. Patients at each site are randomly assigned to either the Matrix Model (n = 75 per site) or Treatment As Usual (n = 75 per site). In addition to participating in treatment services, patients are asked to provide weekly data, including a urine specimen for drug testing. Data is also collected at discharge, 6-month, and 12-month follow-up interviews. This poster presents a demographic description of the cohort, and describes patterns of drug use, abuse, and related problems among the 719 participants recruited between April 1999 and October 2000. Specific analyses include: demographic composition of the sample with respect to gender (58.5% female, 41.5% male), age (= 36.7 years), ethnicity (58% Caucasian, 19% Asian or Pacific Islander, Hispanic-Cuban 9%, Hispanic-Mexican 8%, Native American 3%, African American 2%, and Hispanic-Puerto Rican 1%), education completed (= 12.1 years), and income (= \$977 per month). Other descriptive analysis include: primary drug used, mean percent of days using various drugs including methamphetamine, alcohol, and marijuana, and percent of sample reporting various routes of drug administration. Mean baseline Addiction Severity Index composite scores describing medical, employment, alcohol, drug, legal, family/social, and psychiatric status are also presented. This research was supported by the Center for Substance Abuse Treatment collaborative agreement # TI 11440-01.

Does prenatal cocaine exposure account for poorer verbal scores in nine-year-old children? [p21]

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This study is an ongoing evaluation of development in two cohorts of children who have reached age nine. A previously exposed cohort (n=29), for whom four different gestational cocaine exposure measures are available, was studied as part of a perinatal research program in the early 1990s; age mates who were not similarly exposed now serve as a contrast (n=24). Children were all born in Maryland suburbs adjacent to Washington DC, live in the same neighborhoods and go to the same schools. Mothers of the groups differ strongly on prior drug use and on Millon Axis II scales but not on SES, income, ASI medical, psychiatric, legal or family scales, financial strain, HOME or life stress measures. Cocaine group mothers have lower mean IQ, 87 vs 94, and ASI employment. Child measures include: WISC, WAIT, CELF3, Connors, CBCL, GATSB, visual-motor tasks and physical development. With the exception of the WISC verbal IQ and verbal comprehension, and the WAIT (achievement) total score, significant differences between the two cohorts have not been found. WISC verbal comprehension index and IQ were significantly poorer for the exposed children (verbal IQ 87 vs 95; P<.001). Also the level of prenatal exposure nine years earlier (with contrast group set to zero) for maternal and infant hair cocaine was significantly correlated to WISC verbal IQ (Pearson r<-.4) and verbal comprehension index (Pearson r <-.44). Regression analysis of child verbal IQ predictors determined that the gestational exposure to cocaine (whether mother or infant hair or an integrated exposure factor score) explained 15-20% of the variance in child verbal IQ. Other tested variables such as mother IQ, SES, parenting style, mother age did not stay in the equation. Findings are still tentative; subjects in each group will grow to 60 by 2002. This work supported by Field-Initiated Award U.S. Dept Education H324C980092.

Methylphenidate drug response in ADHD early adolescents [p18]

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This ongoing study is evaluating subjective, physiological, and other behavioral effects of methylphenidate in ADHD early adolescents recruited from a child psychiatry clinic based on a history of therapeutic use of stimulants. Standard abuse liability assessment procedures were modified to support the behavior of these distractible subjects, who each completed two 5-hour laboratory sessions. Methylphenidate (.25mg/kg) and placebo were each administered under double blind conditions on one session in the morning, and stimulant therapeutic medications were withheld until after daily assessments were completed. To date, 9 subjects, ages 11-14, have completed the protocol. In 3 cases, severity of the subjects' symptoms did not permit alteration in other daily therapeutic medications (e.g., clonidine); therefore, use of other medication was included in the analysis as an additional factor. Preliminary analyses (ANOVA) suggest that methylphenidate increased heart rate (p=0.05), decreased the POMS Confusion-Bewilderment Scale (p=0.07),

and increased the ARCI Amphetamine scale ($p=0.08$). This preliminary study supports the feasibility of the use of abuse liability procedures to assess medication response in early adolescents with ADHD. These data may be useful in addressing the controversy associated with abuse liability of therapeutic stimulant medications in ADHD populations, particularly in the early adolescent population at risk for initiation of drug use.

Vaginal microbicides: An HIV prevention tool for female drug users [p4]

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Vaginal microbicides are being developed as a woman-controlled HIV prevention tool. If shown to be safe, acceptable, and effective, microbicides will offer women a way to protect themselves from HIV infection, re-infection and transmission. Female drug users remain at high risk for HIV infection via sexual transmission. Thus, it is critical that they participate in testing the safety, acceptability, and efficacy of microbicides. For a Phase I trial of a vaginal microbicide product, the first to include HIV-infected women, we screened sixteen HIV-positive women. Self-report data collected at screening revealed past illicit drug use (56%), past injection drug use (19%), and past involvement in substance abuse treatment (44%). Two of the women reported current non-injection drug use. Among those selected for trial participation, no SAEs were reported and all stated that they would be willing to use the product if it were shown to be effective. These findings, and past success in recruiting and enrolling drug users in HIV vaccine trials, suggest that female drug users will be valuable and appropriate participants in future microbicide trials.

The Epidemiology of Alcohol Consumption Among American Indians Living on Four Reservations and in Nearby Border Towns [p7]

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Basic epidemiologic research for targeted comprehensive prevention of Fetal Alcohol Syndrome (FAS) in four American Indian communities was the focus of this project. A survey of randomly selected individuals was conducted in each community. The total sample of 1536 is the largest epidemiologic survey of adult drinking behavior ever completed among American Indians. The sample is 44% male. Fifty-eight percent of the males and 40% of the females report drinking in the past 30 days. These males report drinking a mean of 8.6 drinks per occasion, while females report drinking 6.2 drinks per occasion. Among the same respondents, males report 5.4 binge days (5+ drinks per day) while females report 4.1 binge days in the past 30 days. On average, drinking males consume 67 alcoholic drinks per month while the mean number of drinks for females is 29. These males report being "high" or drunk 32.7 times during the past year; females 18.8 times during the same time frame. Most of the sample reside within the confines of the four reservations, but depending on cultural and geographic definitions, 7 to 12% reside in off-reservation border towns. Indians living on the reservation tend to be more strongly tied to their culture. Generally, the more traditional Indians drink less frequently, but may binge more frequently when they do drink, and consume more per occasion. Accordingly, we can hypothesize that those Indians living in border towns may constitute a unique drinking subsample. This presentation will compare the drinking behaviors between on and off reservation subsamples. Funding provided by the NIAAA (RO1 AA09440 and RO1 AA11685) and the NIH Office for Minority Health Research.

Gender differences in collegiate risk factors for marijuana use [p1]

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This study investigated gender differences in risk factors for marijuana use in the past year among undergraduate students from a large research university. The web-based study examined whether risk factors for marijuana use (e.g. race, age, class year, living arrangement, academic performance, drinking behavior prior to college, heavy drinking, cigarette smoking, drinking motivations and attitudes) operated in the same manner among undergraduate men as compared to undergraduate women. A sample of 2,041 randomly selected undergraduate students was used; the sample had a mean age of 21.07 years old with 49% female, 72% White, 12% Asian, 5% African-American, and 4% Hispanic. The annual prevalence of marijuana use among undergraduate students was 34.7% (32.7% female and 36.8% male); this use is consistent with the 1999 national prevalence of 35.2% among collegians (Johnston, O'Malley, Bachman, 2000). A variable-centered regression analysis was used to compare gender differences. The data indicated several important gender differences with respect to individual risk factors for marijuana use. Among these factors, heavy alcohol use prior to college was a much stronger risk factor among men while drinking motivations served as a significant risk factor for women. The findings offer support for gender differences between individual risk factors for marijuana use among collegians; implications for prevention and research are discussed. This study was supported by the University of Michigan and a NIDA grant T32 DA 07267.

Repeated administration of cocaine and alcohol to humans: Gender effects [p15]

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Binge use is a common practice of cocaine abusers and comorbid alcoholism occurs frequently. This study attempts to more closely approximate street use of these substances in a randomized, double-blind, placebo-controlled, within-subject study design in which we examined behavioral and physiological effects of combined cocaine and alcohol use and the role of the active metabolite, cocaethylene in humans. Seventeen volunteers (8F, 9M), who met cocaine dependence and alcohol abuse criteria, completed the 3 session protocol. Over each 8-h session, participants received 1 of 3 dosing regimens: 1) 4 doses of intranasal cocaine (C) (1 mg/kg every 30 min) with oral alcohol (A) (1 g/kg) administered following the initial C dose and a second drink (120 mg/kg) at 60 min; 2) 4 doses of C/placebo A; 3) 4 doses of placebo C/A. Area under the curve (AUC) values representing responses to successive doses of C and A were analyzed using a two-factor repeated measures ANOVA. $p < .05$ (two-tailed) was considered statistically significant and $p < .10$ a trend. Systolic and diastolic pressure significantly increased during CA and C relative to A, but no gender differences were observed. Pulse increased significantly during CA relative to C or A. Women had greater increases in pulse during A administration, but similar increases relative to men for CA and C. Significant increases in "high" occurred during CA compared to C or A, but no differences by gender were observed. Ratings for "feel good" were greater for CA vs C or A. Women reported significantly greater ratings for "feel good" during C and A administration, no gender differences were observed for this variable for CA. No significant differences were observed by gender for cocaine, alcohol, or cocaethylene plasma concentrations. Men and women have similar physiological and pharmacokinetic responses to cocaine, alcohol, and the combination. Increased ratings of "feel good" for women during binge use of these drugs may produce increased vulnerability to adverse events due to a reduction in internal cues to curtail consumption.

Survival analyses and laboratory measures within a homogeneous cohort of drug abusers [p19]

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Background. Prior research is unclear as to the influence of cocaine on immune dysfunction and survival among HIV+ women. Hypotheses. Long-term cocaine abuse will result in decreased survival and increased immune dysfunction in HIV+ women. Methods. Between 1993 & 1996, 147 African American Women (AAW) who abused cocaine in the prior month were assessed semiannually. Of these, 95 were HIV+ and 52 were HIV-. At each assessment blood and urine specimens were obtained and a brief questionnaire administered. Cox survival technique was used for data analysis. Results and Discussion. Over the study period, 21 HIV+ and 0 HIV- AAW died. Of 21 variables entered, HIV p24, CD45RA+, CD62-, lymphocyte virus load (LVL), neopterin, and age were associated with decreased survival. Univariate analysis showed significant effects due to CD4, neopterin, β -2 microglobulin, LVL, p24, RNA load, % of 7 CDC physical symptoms, CD45RA+, CD45RA-, CD38-, and CD62+ cells, and a trend for CD8+ cells. Multi-variate analysis of viral parameters showed LVL was most robust. (Significance was also shown with age, also a significant covariate). The effects of antiretroviral therapy were also assessed. This analysis shows that virological and immune measures have direct significant associations explaining survival whereas Drug Abuse measures do not, leaving the possibility of more indirect influence of Drug Abuse. Acknowledgments: All human subject requirements were observed. We thank Drs. N Weatherby, D Mash, and SM Shah, and S Comerford. Our work was supported in part by NIH grants: DA04787 and DA07909.

Finding Poppa: A Comparative Study of Fathers Enrolled in Methadone Maintenance Treatment [p13]

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Despite longstanding concern about the impact of parental substance abuse on child development, very little is known about the status of drug-dependent men as parents. In this ongoing study, quantitative methods are being used to clarify ways the psychosocial adjustment of opioid-dependent men as fathers differs from that of men with no history of alcohol or drug dependence. In a preliminary analysis of data collected from the ethnically diverse sample of more than 100 fathers currently enrolled in the study, there are no significant differences in developmental experiences that often affect capacity to parent, and there are no significant differences in attitudes toward fathering. However, the opioid-dependent fathers are confirming less involvement with their children, they are rating themselves as less effective parents, they are reporting less satisfaction as a parent, and they are reporting more guilt and shame about failure to be a better parent. Further analysis of these significant between-group differences suggests that they may be mediated by significant differences in male gender role identification and personality functioning that probably represent longstanding risk for drug dependence. These preliminary findings raise questions about ways drug dependence interferes with ability to translate commonly accepted attitudes toward fathering into socially responsible behavior as a parent, and they highlight ways male gender role identification and disturbance in personality functioning might

mediate compromise of social role performance often attributed directly to drug dependence. (This research is being supported by National Institute on Drug Abuse Grants RO3 DA11988 and P50 DA09241.)

Differences in the sexual and reproductive health experiences of substance-dependent and non-substance-abusing women on welfare [p5]

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Baseline interview data from 157 substance-dependent and 58 non-substance abusing women receiving TANF welfare benefits in Newark NJ were collected as part of a longitudinal evaluation of Work First New Jersey's Substance Abuse Research Demonstration Project. Substance-dependent women were hypothesized to have had more complicated, violent, or risky sexual and reproductive health histories than women who do not abuse substances. Within the substance-dependent cohort, no statistically significant differences were expected between women for whom alcohol is the primary problem and women with primary drug problems. Data collection measures included the female version of the Addiction Severity Index, the Marital Conflict Tactics Scale and a measure of post-traumatic stress disorder. The data were analyzed using orthogonal, age-adjusted linear, probit and logistic regression models. Preliminary analyses suggest substance-dependent TANF recipients have more complicated age-adjusted reproductive and sexual health histories, less stable sexual relationships with greater sexual risk for acquiring HIV, and greater incidence of sexual violence than do TANF recipients who do not abuse substances. These findings indicate a need on the part of substance-dependant TANF recipients for sexual and reproductive health services that offer a wide range of prevention education as well as psychological and perhaps medical treatment.

STDs Among Out-of-Treatment Substance-Abusing Women Enrolled in a Community Prevention Study [p6]

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NIDA has highlighted the need to counsel and test women with high risk behaviors for STDs and HIV. Such public health efforts are especially important in St. Louis which is 2nd in the nation for chlamydia, 3rd for gonorrhea, and 8th for syphilis. Thus, as part of two NIDA and NIAAA prevention studies to reduce high risk behaviors in out-of-treatment substance using women in the St. Louis area, STD/HIV testing and counseling are conducted. The urine amplified probe is used for gonorrhea/chlamydia testing; Hepatitis C, HIV and Syphilis tests are conducted on blood. Eligibility for the NIAAA study includes being a heavy or problem drinker in the absence of drug use; eligibility for the NIDA study requires use of cocaine, opiates or amphetamine, as determined by urinalysis. During the first year of these studies, we have enrolled and tested 81 women in the NIAAA study and 53 women in the NIDA study. STD rates are as follows: among the heavy drinking NIAAA sample, 8% were positive for chlamydia, 4% for gonorrhea, 5% for Hepatitis C and 3 % for syphilis. Drug using respondents in the NIDA study had higher rates of all but one STD: 10% were positive for chlamydia, 2% for gonorrhea, 24% for Hepatitis C, 5% for HIV, and 9% for syphilis. Predictors of positive STD status, in addition to drug and alcohol abuse, such as sexual partners, ASP history, barriers to health services and history of violence will be evaluated

Plasma Cocaine Levels After "Binge" Cocaine Administration in Female Rhesus Monkeys [p19]

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Clinical reports indicate that cocaine is usually abused in a "binge" pattern. Single doses of cocaine produce rapid increases in anterior pituitary and gonadal steroid hormones, but the hormonal profile after repeated cocaine injections is unknown. Four cocaine doses were administered at 30 min intervals to female rhesus monkeys to simulate "binge" patterns of cocaine. A cocaine dose (0.8 mg/kg, i.v.) that reliably stimulates release of LH, ACTH and E2 was studied. Samples for plasma cocaine analysis were collected at 2, 4, 8, 16 and 24 min after each cocaine injection. Peak plasma cocaine levels were measured at 2 min after each i.v. cocaine injection, and there was a monotonic increase in peak plasma cocaine levels after successive cocaine injections. In the first 4 females studied, peak plasma cocaine levels averaged 313 ± 55 ng/ml after the first cocaine dose and 521 ± 30 ng/ml after the fourth cocaine dose; an increase of 66 percent. No hormone levels were analyzed in this preliminary study due to limitations on the volume of blood that could be safely collected at one time. These findings indicate the feasibility of simulating "binge" cocaine administration patterns in rhesus monkeys, and studies of the effects of repeated doses of cocaine on anterior pituitary and gonadal hormones are planned. This research was supported in part by grants P50-DA04059, K05-DA00101, K05-DA00064 and T32-DA07252 from the National Institute on Drug Abuse, NIH.

A Profile of Women in Prison-Based Therapeutic Communities [p13]

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The extent to which traditional therapeutic community (TC) methods meet the specialized treatment needs of drug-dependent women in prison is largely unknown. Female drug offenders often have more severe histories of drug abuse, psychological impairment, health problems, and sexual abuse than their male counterparts. However, very little research has been conducted specifically with this population. The purpose of this study is to generate a profile of female offenders entering TC treatment in prison, and thus outline the specific treatment and aftercare needs of this group. Extensive treatment intake interview data for 4,026 women and 3,152 men from 16 prison-based TCs in California will be compared using Chi-Square analyses and t-tests. Intake data come from a five-year process and outcome evaluation of the California Department of Corrections' treatment expansion initiative. Preliminary results show that the male and female participants differ with regard to their substance abuse problems, psychological functioning, and criminal involvement. Cocaine/crack was the most prevalent drug problem reported by the female offenders, while methamphetamine was the most prevalent problem reported by the male offenders. With respect to psychological status, the percentages of females who reported having experienced feelings of depression; anxiety or tension; trouble understanding, concentrating, or remembering; suicide attempts; and taking prescribed medications were substantially higher than those for the males. The percentages of females who reported that their most recent offense was drug-related was also substantially higher than those for the males. Further exploration from this study will provide valuable information on the types of services and approaches that should be emphasized when treating women in prison-based TCs. Future post-treatment outcome analyses could indicate which women might be at greater risk for relapse and in need of additional services.

Onset of Substance Use Disorder and its Continuity From Adolescence to Young Adulthood in Women: The Contribution of Psychopathology [p8]

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This study aimed at determining the contribution of severity of internalizing disorders (ID) and antisocial behavior (ASB) to the age of onset of substance use disorder (SUD) and its continuity from adolescence (age 14-18) to young adulthood (age 19-23). The sample consisting in 133 women diagnosed with DSM-III-R SUD at age 14-18 is a subsample of a larger sample (n=) of SUD women. The results showed that the average age of onset of SUD was 13 years (sd=1.98, range=6-17 years). The correlational analyses showed that age of onset of SUD correlated with severity of ID ($r=-.22, p=.01$) and ASB ($r=-.18, p=.04$) at age 14-18. SUD severity at age 19-23 correlated with ID ($r=.27, p=.002$) and ASB ($r=.23, p=.008$) at age 14-18. The results of the multiple regression analyses controlling for SUD severity and number of drug/alcohol treatments received at age 14-18 demonstrated that SUD severity (Beta=.33, $p=.000$), drug/alcohol treatment (Beta=.22, $p=.009$), and ID (Beta=.20, $p=.03$) at age 14-18 predicted SUD severity at age 19-23. The model explained 17% of the total variance of SUD severity at age 19-23 ($F=7.6, p=.000$). In conclusion, the onset of SUD is related to the severity of ID and ASB. Also, its continuity from adolescence to young adulthood is predicted by SUD severity, number of drug/alcohol treatments received, and severity of ID.

Socioeconomic status and drug use during the 1980s and 1990s [p16]

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Does the association between socioeconomic status and drug use change over historical time? To examine this question we analyzed the National Longitudinal Survey of Youth 1979, focusing on respondents aged 19-27 in 1984 ($n=11,266$), and these respondents' children, who were aged 14-22 in 1998 ($n=1973$). We found that mother's education was positively related to children's powder cocaine use among the 1984 cohort, and it was negatively related to children's powder cocaine use among the 1998 cohort, controlling for respondents' age. For example, children of mothers with a college education were more than twice as likely to have used cocaine compared to children of mothers with less than a high school education in 1984 (O.R.= 2.25, 95% C.I.=1.8-2.79), but the odds ratio for same comparison in 1998 was only 0.14 (95% C.I.=.019-1.074). These results underscore the recent call for a more dynamic conceptualization of the relationship between SES and drug use outcomes.

Putting Science into Practice: Utilizing Research Protocols to Treat Women with Addictions and Co-Morbid PTSD in a Community Treatment Program [p6]

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Prevalence estimates suggest that as many as 80% of women seeking treatment for chemical dependency report lifetime histories of sexual and/or physical assault. A substantial subgroup of substance-abusing women exposed to violence suffer from the psychological sequelae of trauma, including posttraumatic stress disorders (PTSD). For women seeking treatment for chemical dependency epidemiological prevalence estimates for comorbid PTSD are as high as 44% to 59%. Further, the rate of comorbid PTSD in female substance abusers is two to three times higher than

for male substance abusers. Clearly there is a need to address issues of trauma in the treatment of substance abusers, particularly women. The only standardized treatment specifically designed to integrate attention to both PTSD and substance abuse is "Seeking Safety" (SS; Najavits et al, 1998, in press). SS is a short-term, manualized treatment approach that adapts cognitive-behavioral techniques to address the unique clinical needs of women with this dual diagnosis. The main goals of the treatment are to help patients attain abstinence from substances and decrease PTSD symptoms. Empirical results of this dually focused treatment have been promising. As an extension of a clinical trial of SS, we developed an outpatient treatment program for women with substance use who have been victims of trauma. The aims of this presentation are to: 1) describe the Women's Health Project Treatment and Research Center in NYC; 2) discuss how SS integrates relapse prevention with trauma treatment, and 3) address the benefits and challenges implicit in the "technology transfer" of this manualized treatment in our community treatment program. Utilizing clinical examples, we will illustrate how variables such as other co-morbid diagnoses, treatment modality, treatment intensity and compliance impact the effectiveness of this program for women with addictions and trauma.

Family history of alcohol and drug problems in pregnant substance-dependent women [p11]

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Family history of alcohol and drug problems was examined in 278 pregnant drug-dependent women (85% African American, 15% Caucasian; mean age 29.0 years old, 11.1 years education) enrolled in a comprehensive drug abuse/prenatal treatment program. Women who reported alcohol problems in their father (40%) or brothers (13%) were twice as likely to also have alcohol problems, while women who reported alcohol problems in their sisters (12%) were six times as likely to have alcohol problems compared with women who did not report a family history of alcohol problems. A trend for maternal alcohol problems (16%) associated with increased risk for patient alcohol problem use was observed, however, maternal problem alcohol use was significantly associated with greater psychiatric problems in the patient, including more days troubled by psychiatric problems in the past month and suicide ideation. Drug use in both the mother (14%) and father (22%) was strongly associated with patient drug severity, such as greater heroin and cocaine use, more months of drug use, and earlier age of onset. Problem use in brothers (27%) and sisters (22%) was also associated with greater patient use of alcohol, cocaine, heroin, and nicotine. These results suggest that a family history of alcohol problems is associated with an increased risk for alcohol problems in drug dependent women, while a family history of drug problems is associated with current drug severity.

Gender differences in psychiatric profiles in a detoxification sample of drug abusers: antisocial men and traumatized women [p6]

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Frequent dual diagnosis of a variety of mental illnesses and drug abuse, as well as gender differences in the rates of different psychiatric diagnoses in the general population have been well documented. This study will explore gender differences in self-reported psychiatric indicators in a largely Latino and African-American sample of 277 men and 94 women receiving detoxification for heroin and/or crack addiction in two hospitals in New York City. Preliminary results show, as expected, that male addicts have significantly higher rates of adolescent conduct disorder and involvement in violence than females, while female addicts report higher rates of sexual, physical, and emotional abuse than males. Rates of depression and psychotic symptoms are high in the overall sample, but do not show any gender differences. The results suggest that men and women typically experience different psychiatrically problematic histories that lead to addiction – men are more likely to be antisocial and women are more likely to be traumatized. Highlighting these differences have important implications for effective gender-specific treatment strategies.

Correlations between measures of drug use, attitudes towards drug use and measures of impulsivity and risk-taking [p17]

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Prior research has demonstrated that drug dependent individuals show higher levels of impulsivity on a behavioral task than nondependent individuals: e.g., opioid users (Madden et al. 1997), alcohol (Vuchinich & Simpson, 1998), nicotine (Bickel et al. 1999; Mitchell, 1999). This study extended these results by examining data from 120 college students to assess the correlations between graded drug use measures (use in the last 30 days, lifetime use, Drug Attitudes Scale) and measures of impulsivity and risk-taking. In the impulsivity task, participants chose between money available immediately and \$10 available after a delay (0, 7, 30, 90, 180 and 365 days). In the risk-taking task, participants chose between money available for sure and \$10 available with some uncertainty (probability of receiving money was 1.0, 0.9, 0.75, 0.5, 0.25 and 0.1). All measures of drug use were positively correlated with each other. Measures of drug use were positively correlated with the behavioral measure of impulsivity for male participants but not for females. Somewhat smaller correlations between drug use measures and the behavioral measure of risk-taking were also obtained for males but not for females. These data indicate that graded measures of drug use can be related

to measures of impulsivity and risk-taking, but that those relationships differ for male and females.

Teenagers prepare to quit: Is there a relationship between change in smoking rates and retention in treatment? [p14]

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As part of a larger treatment trial (12-week intervention) for teenagers motivated to quit, we assessed the relationship between treatment retention and fluctuation in their smoke intake just before quitting. We gathered self-reported smoking rates (CPD) and expired air carbon monoxide concentrations (CO) across two clinical encounters, 4 days and 1 day prior to the designated quit date. Participants include 43 teenagers (mean age 15.4 ± 1.5 , 77% girls, 79% Caucasian, Fagerström Test of Nicotine Dependence (FTND) score 6.48 ± 1.22 , years smoked 3.11 ± 1.35 , mean time interval since last cigarette 108 ± 63 minutes, 58% marijuana users). Prior to quitting, smoking rates increased in 12%, decreased in 25%, and stayed the same in 63% of teens, with a mean change of -0.5 ± 5.6 cigarettes (range -10-17). CO increased in 51%, decreased in 42%, and stayed the same in 7%, with a mean change of 0.02 ± 6.88 ppm (range 11-17). The median retention in treatment was 50 days. History of marijuana smoking did not affect the relationship between CPD and CO. Survival analyses showed no differences in treatment retention as a function of increase, decrease, or maintenance (CO: log-rank chi-square=0.97, p=0.61; CPD: log-rank chi-square= 0.01, p=0.99). Further analyses with a larger data set including the relationship of CO with time elapsed since last cigarette smoked will be performed. Our data suggest that teenagers' fluctuations in smoking rates just prior to quitting do not predict duration of retention in treatment. Given the effect of retention on treatment outcomes, these findings suggest that prognoses should be based on factors other than pre-"quit date" variations in teenage smoking patterns. Supported by NIDA intramural research funds

Relationship between history of child abuse, anxiety/depression, and substance abuse proneness in adolescent girls hospitalized in an acute psychiatric unit [p8]

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Objective: The purpose of this study was to examine the relationship between depression/anxiety, history of abuse, and substance abuse proneness (SAP) in adolescent girls hospitalized in an acute psychiatric unit. Materials and Methods: The study included 300 inpatients, females and males, between the ages of 13-17. Results: The data, analyzed using SAS, indicated a significant relationship between SAP with anxiety and/or depression, and with history of abuse in females but not in males. Family discord, conduct problems and hyperactivity were found to correlate with SAP in both males and females. Discussion: Our data suggest that: 1- substance abuse in adolescent girls is associated with a different clinical construct than in boys; 2- in adolescent girls histories of child abuse and substance abuse often coexist; 3- comorbid anxiety/depression in girls is an indicator of severe pathology often involving history of child abuse and substance abuse. Conclusion: Our data indicate the gender is an important variable in treatment and prevention of substance abuse. In adolescent girls, anxiety and depression, history of child abuse and family discord are important antecedents for substance abuse. Adolescent girls, who present with anxiety and/or depression require an aggressive treatment, including assessment of family problems, and substance abuse.

Treatment Outcomes among Adolescent Substance Abusers Enrolled in a Residential Substance Abuse Treatment Program [p18]

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Between 1992 and 1995 increases in marijuana use, hallucinogens, inhalants, amphetamines and barbiturates were reported for students in the 8th, 10th, and 12th grades, and increases for cocaine and crack use were reported for 8th and 10th grades. The most recent data indicates that almost half (49.6%) of high school students reported using marijuana; up almost 5 percentage points from 1996. Drug use trends for youth in Tucson, Arizona are higher for some drugs when compared to national trends and in a one-year period, amphetamine use rose 34%. Besides the use of methamphetamines, the use of alcohol, marijuana, tobacco, LSD, cocaine, and Rohypnol (a powerful sedative known as the "date-rape" drug) are the drugs of choice among the youth in Tucson. The current study examines the prevalence of illicit drug use by gender for 100 adolescents (age 13-17 years) enrolled in a residential step-down drug treatment program. In addition the study evaluates the effectiveness of this treatment program through the analysis of paired t-tests comparing pre-treatment baseline data to 3 and 6-month post baseline data. Results indicate that not only is drug use reduced following participation in treatment but other negative behaviors (i.e., criminal activity, school/work absenteeism) is also decreased. The treatment model and implications for effectively intervening with drug using adolescents will be discussed.

Human Placental Transfer and Metabolism of Buprenorphine [p21]

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Methadone, Buprenorphine (BUP) and L-acetylmethadol (LAAM) are used to treat the adult opiate addict. Our goal is to determine the transfer kinetics of the three opiates across, and metabolism by, term human placenta. To achieve this goal and to determine the distribution of the opiates and their metabolites in placental tissue (T), maternal (M) and fetal (F) "circulation" (C), the technique of in vitro dual perfusion of placental lobule is utilized. Data on BUP will be reported here. BUP was added to the MC in the concentration range of its peak serum levels in patients treated with the drug. During the first hour, there was a rapid decline in BUP level in the MC (50 % of the original) with only 3 % appearing in the FC. The remainder (47 %) was retained by the tissue. After 4 hrs of perfusion, BUP concentration ratio in FC to MC was 0.5 and T to MC, 13. AUC values for BUP in the MC was one fold higher than that for the FC. The amount of BUP metabolized to norBUP (NBUP) ranged between 2-5%. The distribution of NBUP was in the order: T > FC > MC while that for BUP was in the order: T > MC > FC. The enzyme catalyzed dealkylation of BUP to NBUP by placental microsomal preparations was saturable with an apparent Km of 81+19µM and a Vmax of 6+2 pmole/mgprotein.min. In summary, after 4hrs of perfusion, the concentration of BUP retained by term human placental tissue is one fold higher than that in the MC and <10% of the drug is transferred to the FC. NBUP formed during perfusion is < 5% of the added BUP and levels of the metabolite in the FC were > MC. BUP and the formed NBUP had no adverse effects on the determined viability and functional parameters of the tissue.

Substance use, dependence, and treatment motivation among female sex workers [p17]

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A survey of 71 street-walking female sex workers revealed high levels of substance use and dependence. During the prior month, 27% had used alcohol; 56% heroin; 82% crack cocaine; 27% powder cocaine; and 27% marijuana. Substance dependence was measured with Gossop's (1992) Severity of Dependence Scale. Among those using a particular drug, the mean level of dependence severity was 10.35 for heroin; 8.24 for crack cocaine; 4.61 for alcohol; 3.67 for powder cocaine; and 2.27 for marijuana. A multiple regression of Simpson's Treatment Motivation Scale (1992) on composite measures of use/dependence for the above five drugs (measured as 0 for non-use, with level of dependence coded from 1 to 16) showed a strong association between heroin use/dependence and treatment motivation (beta=.40; p=.002). No association was observed between non-opiate use/dependence and treatment motivation. The high prevalence of crack cocaine use in this population, the high level of dependence associated with this drug, and the non-association of crack use/dependence on treatment motivation, highlight the problem of engaging crack cocaine dependent sex workers in treatment. Study supported by Grant 4KD1 TI 12049-10-1 from CSAT.

Victimized and Non-Victimized Homeless: The Psychosocial and Behavioral Profile of Women and their Intimate Partners [p6]

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Serious long-term behavioral sequelae have resulted from both physical and sexual victimization of women. The purpose of this study is to examine the psychosocial, behavioral and environmental profiles of homeless women with and without a history of victimization and of their intimate partners. Five hundred seven homeless women and their intimate partners participated in the study. Utilizing a Health Seeking and Coping Theoretical Framework, psychometrically sound instruments assessing self-esteem, psychosocial health (BSI, MHI-5), drug and alcohol use, sexual risk behaviors and childhood and adult physical and sexual abuse were utilized. Analysis conducted included chi-square tests, t-tests, Wilcoxon two-sample tests and logistic regression analyses. The homeless women reported a mean age of 35; the majority of whom were African-American (60%). A similar profile was found for the intimate partners. Thirty nine percent of the women reported being physically and/or sexually assaulted as adults. Controlling for potential confounders, victimized women were more likely than others to have a history of childhood sexual and physical abuse, lifetime substance use, greater mental health symptomatology, and current risky sexual activity. In conclusion, homeless women with mental health and substance abuse problems need to be screened for violent experiences and encouraged to obtain appropriate treatment for their problems to reduce their ongoing risk of victimization.

Childhood conduct problem behaviors among street-recruited illicit drug users [p18]

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Objective: To describe the occurrence of childhood conduct problems among a cohort of non-injection (NIDUs) and injection drug users (IDUs) in Baltimore, Maryland. Methods: Adolescent and young adult (age 15-30) NIDUs and IDUs were recruited into an ongoing community-based cohort. IDUs must have initiated injection drug use ≤ 5 year prior to study entry. NIDUs must have initiated non-injected cocaine, crack or heroin use ≤ 5 year prior. Childhood conduct problem behaviors were assessed through interviewer-administered questionnaires using the Child Self-Report of Conduct Problems from the Prevention Research Center. Item response categories were coded a priori to correspond with DSM-IV specifications for conduct problem behaviors, to generate a score. Continuous variables were compared using t-tests. Categorical variables were compared using Chi-square and Wilcoxon signed-rank tests. Results: To date, among 82 subjects, 51.2% were female and 63.4% were African American. Median age was 26 (range 18-30). Fifty-nine percent were IDUs. Childhood conduct problems were reported by 51.2%; 8.5% reported a behavior pattern consistent with conduct disorder. Number of conduct problems did not differ between IDUs and NIDUs or by gender ($p > 0.05$). However, males were more likely than females (15.0% vs. 2.4%, $p = 0.04$) to report a behavior pattern consistent with conduct disorder (CD). Conclusions: These preliminary data suggest that problem conduct behaviors are common among young out of treatment drug users. The prevalence of CD and its association with male gender is consistent with previous studies. Since data collection is ongoing, associations with drug use behaviors are pending.

Cocaine/cocaethylene/benzoyl-ecgonine detection concordance: Hair analysis vs. urine toxicology vs. self-report [p8]

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Background. Use of hair analysis to monitor cocaine abuse remains controversial. Nevertheless, many studies have shown the utility of hair analysis in detecting drugs including cocaine, cocaethylene (CE), benzoyl-ecgonine (BEC), opiates, amphetamines, cannabis-use, barbiturates, nicotine, ecstasy, and alcohol using immune methods or gas chromatography-mass spectrometry (GC-MS). Hypotheses. Detection of Cocaine/CE/BEC (termed Total Cocaine [TC]) in hair will be in concordance with TC in urine, and self-reported prior 30-day use of cocaine. Methods. 46 HIV+ women were selected. Eligibility criteria included being African American Women (AAW), active crack and/or powdered cocaine use, at least 18 years of age, and no active opiate abuse. The AAW were assessed semi-annually between 1993 and 1996 to obtain hair and urine specimens and a brief questionnaire was administered. Data were analyzed using correlation methods. Results and Discussion. Pearson Correlation Coefficients/p values were as follows. TC in hair vs. Self Report, 0.58 ($p < .0001$); TC in hair vs. logTC in urine, 0.73 ($p < .0001$); and logTC in urine vs. Self Report, 0.63 ($p < .0001$). Since these methods were not perfectly correlated it is advisable to use all three if questions of data interpretation occur in studies requiring cocaine detection. Acknowledgment: All human subject requirements were observed. We received advice/help from Mr. S Comerford and Drs. B Steele, L Hearn, D Mash, SM Shah, and N Weatherby. Our work was supported in part by NIH grants: DA04787, DA07909, and DA06556.

Temporal interactions between estrogen and progesterone affect cocaine-induced behaviors in ovariectomized female rats [p20]

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Estrogen and progesterone have been postulated to be key hormones in modulating cocaine-induced behavioral and neurochemical activation in female rats. The activation of reproductive behaviors in female rats involves a temporal interaction between estrogen and progesterone: progesterone either synergizes with estrogen to facilitate lordosis or acts to inhibit the effects of estrogen, thus blocking reproductive receptivity. Due to the possible overlap of motor and reward mechanisms in reproductive behaviors and cocaine-induced behavioral alterations, this study investigated the temporal relationship between estrogen and progesterone in the modulation of cocaine-induced behavioral alterations. A bimodal interaction between estrogen and progesterone was observed in the modulation of total locomotor activity, ambulatory activity and rearing activity. This gonadal hormone interaction was not observed in the modulation of cocaine-induced stereotypic activity. Although not correlated with locomotor activity, a temporal interaction between estrogen and progesterone was observed in benzoyl-ecgonine and corticosterone levels. This observed bimodal/temporal interaction between estrogen and progesterone in behavioral and neurochemical alterations may underlie some of the previously observed estrous cycle effects on cocaine-induced alterations. This work was supported by the Altman Foundation, RCMC RR-03037, MIDARP DA12136, SCORE SO6 GM60654, SNRP NF39534

Cognitive-Behavioral Therapy for Illicit Drug Use During Methadone Maintenance: Treatment outcomes and MR spectroscopy findings [p11]

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Background: Many opiate dependent patients continue illicit drug use despite participation in methadone treatment programs (MTP). In this study we applied a novel cognitive-behavioral treatment (CBT) designed to reduce illicit drug use among patients in a MTP. The treatment targeted the reduction of sensitivity to interoceptive cues associated with drug craving, and trained alternative responses to these cues. Methods: Participants were 23 outpatients who failed to control their illicit drug use despite >3 months in a MTP utilizing weekly counseling. Patients were randomly assigned to either the novel CBT program or a program of increased counseling (TAU+), such that the 2 treatment programs were equated for therapist contact. The CBT was delivered in 12 individual, weekly sessions and 2 booster sessions at 1 and 2 months thereafter. The CBT combined 4 primary treatment components: an informational component, exposure to interoceptive (primarily emotional) cues for drug craving, cognitive restructuring, and somatic coping skills. In addition, we compared findings on cerebral phosphorus magnetic resonance spectroscopy (31P MRS) in 12 patients completing the CBT program, compared to controls. Assessment: Weekly urine drug screens allowed assessment of the percentage of urine drug screens that were positive for illicit substances or alcohol. We compared average drug screening results (i.e., drug screens free of illicit substances) early in treatment (during the first 8 weeks), with those during follow-up (after the session at week 12). Results: During the follow-up assessment period, a treatment by sex interaction was evident ($F_{1, 19} = 2.25, p < .04$), as well as significant prediction by the covariate ($p < .006$). Follow-up analysis of simple effects revealed that for women, CBT was associated with a higher rate of negative urine screens relative to the TAU condition. No such difference was evident for men. For women but not men, the CBT program was associated with significantly greater reductions in illicit drug use compared to the TAU+ intervention (BL-EP change (%): 20.2 vs. 8.2; $p < .05$). On MRS, whole brain ratios of PME/PDE were decreased compared to patients entering MTP and were comparable to the normal control population. Discussion: Results from this pilot study demonstrate a significant reduction in illicit drug use in women receiving this novel cognitive-behavioral intervention. The 31P MRS data suggest that the efficacy of the behavioral intervention in reducing illicit drug use was associated with an apparent normalization of neurochemical markers. Supported by NIDA grants DA 10040 (MP) and DA 11231 (MP).

Preliminary analysis of prenatal cocaine exposure on attention and behavior at school age [p21]

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Early findings of developmental differences between cocaine-exposed and nonexposed infants often do not persist in studies of older children. However, there have been concerns that cocaine exposure may affect attention and behavior, areas of importance during school years. This study presents preliminary data on the effects of prenatal exposure on children at nine years of age. The study is an ongoing follow-up of a perinatal investigation of cocaine exposure of 120 infants born at a public hospital to low-income, primarily African-American, mothers living in a Maryland county adjacent to Washington, DC. A non-drug using cohort of women of similar demographics, living in the same zip code areas, is used as a comparison. In order to study possible effects on attention and behavior, a battery of measures including the Conners' Rating Scale, Conners' Rating Scale-Teacher Version, the Gordon Diagnostic System, the Guide to the Assessment of Test Session Behavior for the WISC-III (GATSB), and the Child Behavior Checklist (CBCL) were administered along with measures of intelligence, achievement, and motor development (WISC, WIAT, CELF, Bruininks-Oseretsky Test of Motor Proficiency). The study will enroll 60 of the original 120 participants along with an equal number of comparison children. Data on approximately 72 subjects will be available June 2001. Preliminary analyses of attention data on 51 subjects indicate no significant differences between exposed and non-exposed groups on GATSB and Gordon measures. Preliminary analyses suggest elevated hyperactivity and ADHD scores (Conners' Teacher) and elevated conduct disorder symptoms (CBCL) for prenatally exposed females only. This work is supported by Field-Initiated Award H324C980092 from the U.S. Department of Education.

Pathways from childhood conduct syndrome to substance abuse: International comparisons using latent transition analysis [p8]

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Conduct disorder is a strong predictor of both licit and illicit substance use and abuse. Cross-cultural or cross-national comparisons of transitions from conduct disorder to substance abuse provide insights into how risk and protective factors, which mediate or moderate the developmental pathways, operate differently across cultures or societies. Cross-cultural hypotheses on transition rates can be tested from retrospective reports, before designing a more complex multi-national longitudinal study focusing on developmental psychopathology. In this report, we examine cross-national variations in the pathways from childhood conduct syndrome to alcohol and drug use problems, utilizing general-population epidemiologic surveys with a uniform assessment from the United States (St. Louis), Canada (Edmonton), New Zealand (Christchurch), South Korea (Seoul and rural areas), and Taiwan (towns and rural areas.). To avoid imposing a Western diagnostic system, latent transition analysis (LTA) was employed with the pooled data ($N=21,725$). Results show that: 1) response patterns and the latent class structure of childhood conduct

syndrome were more varied across society and gender than the latent class structure of alcohol abuse and drug use problems; 2) while the transition rates from childhood conduct syndrome to alcohol and drug abuse are high in all international sites, the probability levels varied by society and gender; 3) the differences in transition rates were most pronounced, overall, across gender and the West-East distinction; and 4) some differences in transition rates were also found between Korea and Taiwan, and between New Zealand and two other Western sites. The uniform measurement approach, the norm of current international research, is more useful for cross-cultural comparisons of relatively common behaviors. Future research needs to explore the areas of the assessment of societal/cultural specific measures, a new method of cross-cultural validation of semantically different measures, and a flexible sampling method to assure sufficient variations of response patterns to the measures assessed. (Supported by NIDA, R01DA10021, K02DA00221)

A factor analysis of teen responses on the Fagerstrom Test for Nicotine Dependence [p14]

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Although the FTND factor analyses of three adult populations have been reported, teenage populations have not been studied. We analyzed intake FTND responses among teens (N=235) seeking treatment in an ongoing study. Teen smokers had a mean age of 15.4 (SD \pm 1.4) years (range 13 to 17), were 67% female, 29% African American, have a mean FTND score of 5.9 (SD \pm 2.1) and smoked an average of 15.1 (SD \pm 7.8) cigarettes per day. To date, factor analyses (utilizing phi correlation technique) of FTND responses from our teen population suggest a two-factor structure similar to that of adult smoking populations. Because the teen smoking cessation study is ongoing and data are accruing, an updated factor analysis with a larger "N" will be presented. Also, comparisons of factor structures as well as demographic and smoking characteristics of both the teen and adult populations and will be presented. Further study of psychometric approaches to defining nicotine dependence among teens are needed.

The effect of batterer's substance abuse on women's reasons for returning to abusive relationships [p17]

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This study examines the effects of batterer's substance abuse on women's reasons for returning to abusive relationships. A total of 186 battered women, residing in an urban, emergency, domestic violence facility answered questions about their prior separations from their batterers, reasons (if any) why they returned to their batterer in the past, and reasons for considering returning to their batterer in the future. The results revealed that women battered by substance-abusing (SA) partners returned for two principal reasons: a change in the batterer's substance use and the emotional (attachment) needs of the battered woman. Our findings showed that women abused by SA partners were significantly more likely to return if the batterer sought or obtained substance abuse treatment ($p < .003$) than were women battered by non-substance abusing (NSA) partners. Abused women also were more likely to return if their SA partner promised to change ($p < .02$). A more detailed comparison of the effect of type of substances (drug vs. alcohol) on the battered woman's reasons for returning revealed that women battered by their drug-abusing partner were more likely to return for emotional reasons (batterer promised to change, $p < .01$, batterer seems sorry, $p < .06$) than were women battered by alcohol abusing partners. Earlier findings by these authors regarding battered women's reasons for returning suggested that emotional (attachment) needs were the strongest factors associated with returning, followed by pragmatic, economic needs. The current findings suggest a change in the order of the principal reasons for battered women returning to abusive relationships. They also indicate the importance of identifying domestic violence issues in substance abuse treatment programs.

Demographic Effects on the Trail-Making Test in a Sample of Amphetamine abusers [p13]

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Appreciation of the importance of screening for cognitive impairment among substance abusing populations has increased in recent years. In this poster, demographic effects on the Trail Making test (TMT), a test often used for screening for cognitive impairment, are examined in a sample of amphetamine abuser patients in drug abuse treatment programs. A sample of 108 males and 77 females was drawn from electronic files of data from the Drug Abuse Treatment outcome Study (DATOS). The DATOS was a naturalistic, prospective cohort study that collected data from 1991-1993 in 96 programs in 11 cities in the United States. Data were analyzed to determine the effects of demographic variables on the two parts of the TMT in this large sample of patients. At variance with previous research with other drugs of abuse, demographic variables such as age, gender, ethnicity and education level were not statistically significantly related to either TMT parts A and B. These results suggest that there are no demographic effects on the TMT in amphetamine abusers in drug abuse treatment settings.

A Tale Of Two Cities: Financing Another Voucher Program For Substance Abusers Through Community Donations [p7]

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Voucher-based reinforcement therapy (VBT) is valid and effective for treating drug abuse. Disseminating this strategy into community based practice has been challenging because of barriers associated with financing VBT. At CPDD 1996 we reported the results of a strategy for financing VBT in which donations geared toward pregnant women and their children were solicited using a direct mail fund raising campaign aimed at corporations, manufacturers, retailers and individuals. The Toronto, Canada work had a 19% positive response rate and yielded donations worth US\$8,000. We now report a replication at a community-based narcotic treatment program in Los Angeles, CA. The direct mail fund raising campaign for the Los Angeles Pregnant and Clean Program began 7/17/00. Results are reported as of 1/11/01. Of 257 unique contacts, 51 contacts donated items yielding a 20% positive response rate. The retail value of donations to the Los Angeles program to date exceeds US\$67,000. Donated items averaged \$20 and included 31% baby goods, 21% women's goods, 12% handicrafts and 9% toys. Donors included 37% corporations, 22% individuals, 14% charities, 10% theatres/cinemas and 17% others. We will describe the campaign's strategy and the costs involved as well as make suggestions for those who want to attempt similar programs. An onsite voucher exchange store was established and a controlled study is now testing the efficacy of this community-financed VBT for reducing smoking in substance abusers. Our results demonstrate that community-sponsored VBT programs are feasible, reproducible and offer an alternative for financing voucher programs for substance abuse treatment. Community sponsorship of VBT may ultimately increase its use and acceptance by the treatment community. Supported by NIDA grant RO1 DA13638.

Estrogen and acquisition of heroin self-administration in female rats [p5]

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Previous research indicates that female rats acquire cocaine and heroin self-administration at a faster rate than male rats (Lynch and Carroll, 1999). Additionally, a greater percentage of rats with intact estrogen, or estrogen replacement acquire cocaine self-administration compared to female rats with estrogen either surgically or chemically blocked (Lynch et al., 2000). The purpose of the present experiment was to extend the above findings by examining the effect of estrogen on the acquisition of heroin (0.0075 mg/kg) self-administration in female rats. Thirty rats were distributed into 3 groups: 1) ovariectomized (OVX) + estradiol benzoate (EB) (n=10), 2) OVX + vehicle (VEH) (n=10), and 3) sham-operated (SH) + VEH (n=10). Food and water were freely available. An autoshaping procedure that has been previously used in this laboratory was used to quantify the acquisition of heroin self-administration (Lynch & Carroll, 1999). This procedure involved a priming component followed by a self-administration component, whereby heroin infusions were available under a fixed-ratio (FR) 1 schedule. Preliminary results indicate that 100% of OVX + EB (n=5) rats and 75% of SH + VEH (n=8) rats met the criteria for heroin self-administration, while only 60% of the OVX + VEH (n=5) rats met the criteria. These data suggest that estrogen may contribute to the vulnerability of females to initiate heroin use. [Supported by NIDA grants R37 DA03240 (MEC) and T32 DA07097 (MER)].

Spousal Resemblance for Antisocial Personality Disorder and Substance Dependence Symptoms among Parents of Patients and Controls [p12]

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Calculations of genetic and environmental influences on substance dependence (SD) and antisocial problems sometimes assume random mating. Hypothesis: People choose partners similar to themselves, regarding symptoms of SD and antisocial personality disorder (ASPD). Methods: Using standard interview procedures, we examined mean cross-drug SD and ASPD (log transformed) symptoms among 69 pairs of parents of adolescents in treatment for substance and conduct problems, and in 151 pairs of control parents. Results: For both SD and ASPD fathers and mothers of patients had significantly higher mean symptom counts than fathers and mothers of controls. SD Symptoms (\pm stdev) $p <$ ASPD Symptoms (\pm stdev) $p <$ Pt Fathers 11.9 (\pm 11.2) 3.1 (\pm 2.0) Ct Fathers 4.5 (\pm 6.3) 0.0005 1.6 (\pm 1.5) 0.0005 Pt Mothers 7.2 (\pm 8.9) 1.3 (\pm 1.3) Ct Mothers 2.2 (\pm 4.0) 0.0005 0.6 (\pm 1.0) 0.0005 Mother-Father correlations for ASPD were 0.37 for patients and 0.27 for controls (0.38 for combined groups). For SD mother-father correlations were 0.55 for patients and 0.36 for controls (0.53 for combined groups) (all $p <$ 0.005). Conclusions: Regarding SD and ASPD, between group differences and within-family spouse correlations suggest substantial non-random mating. Support: NIDA grants DA 09842, DA 11015

Patterns of crime among chronic heroin users: the effect of gender and injection status [p11]

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Past research has identified at least three major types of income-generating criminal activity among heroin addicts: (1)

property crime such as shoplifting, forgery, and burglary; (2) prostitution; and (3) drug dealing. Data from a stratified street recruited sample of 600 heroin sniffers and injectors were analyzed to provide answers for questions regarding gender and injection status differences in patterns of income-generating crime. Male and female addicts are hypothesized to be involved in a variety of illegal activities to secure money. Although women, like men, are hypothesized to turn to crime to raise money for drug purchases, their income-generating criminal activities vary across injection status (sniffers vs. injectors). A series of ordinary least squares (OLS) regression models are performed examining the relationship between income-generating crime, demographic, drug use history, social networks, and lifestyle variables. Particular attention is paid to the influence of injection status and gender. All variables considered in these models were generated based on the 30-day period prior to the interview. The data support some major hypotheses of the street addict lifestyle conceptual framework, that is, that intravenous heroin injection—a key measure of significant involvement in the street addict subculture—increases the degree of involvement in income-generating crime. Also, the types of income-generating crime and the interaction among them vary across gender.

The Effect of Oral THC on Impulsivity in Humans: The Role of Gender and Gonadal Hormones [p1]

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Impulsivity has been linked to drugs of abuse both as a cause and a result of use, but the relationship is currently poorly understood. It is also not known whether gender or circulating levels of gonadal hormones influence the effects of drugs on impulsivity. The goals of the present study were: 1) to test the effect of oral THC on impulsivity in men and women using the stop task, a measure of behavioral inhibition, and 2) to examine the drug's effect in relation to gender and sex hormones (estradiol, progesterone and testosterone). Nineteen male and eighteen female subjects participated in a double-blind, placebo-controlled, within-subject, crossover design in which each subject received two doses of oral THC (7.5 and 15 mg) and placebo. In both men and women, THC significantly, and dose-dependently, increased impulsive responding on the Stop task. The effects of THC were not different in men and women. The correlations with circulating levels of hormones are currently being analyzed. These results suggest that use of marijuana may increase impulsive behavior, and that this effect is apparent in both men and women. Supported by USPHS grant RO1 DA02812.

Characteristics and Predictors of Injecting Psychostimulants for Nonmedical Reasons in a Community Sample [p7]

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Injecting drug use has been a major public health concern. This study examined the characteristics and determinants of injecting prescription psychostimulants for nonmedical reasons among lifetime psychostimulant users who participated in the 1998 National Household Survey on Drug Abuse. Statistical analyses were conducted on a total of 925 individuals aged 12 or older who reported lifetime nonmedical use of prescription stimulants, such as benzedrine, biphedamine, Dexamyl, Dexedrine, Fastin, Ionamin, methamphetamine, methedrine, and Preludin. The lifetime prevalence of injecting psychostimulant use was 13.7% among lifetime nonmedical users of psychostimulants. There was no gender difference in the prevalence of injecting psychostimulant use. A vast majority of injecting psychostimulant users (84.8%) also had injected other illicit drugs. Close to one fourth of injectors had cleaned the needle before using it, and approximately one third had shared needles. An increased rate of injecting psychostimulant use was found among psychostimulant users who were aged 35 or older (17.4%) or had not attended college (19.7%). Psychostimulant injectors also were likely to be chronic psychostimulant users (33.2%) and to have initiated psychostimulant use, daily cigarette smoking, alcohol use, or marijuana use before the age of 13.

A comparison of relapse rates of impaired health-care professionals who use tobacco vs. those who do not [p18]

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Limited research has focused on the relationship of tobacco use and relapse to alcohol and drug abuse. This study compared relapse episodes of impaired health-care professionals who were current users of tobacco vs non-tobacco users. Four state monitoring programs participated in the study. Participants, recruited during a three-year period (n=1728), signed program contracts approved by each state's institutional review board. A comprehensive intake interview was conducted including chemical use, psychosocial, psychiatric, and medical histories. All relapses occurring while enrolled in the monitoring program were quantitatively and qualitatively assessed. The most frequent types of professionals in the tobacco (T) using group and non-tobacco (NT) using group were MDs (T=57%, NT=47%), pharmacists (T=11%, NT=10%), DOs (T=6%, NT=6%), and respiratory therapists (T=5%, NT=9%). These groups significantly differed regarding gender (p=.003) and marital status (p=.002), but not age or race. Tobacco users were more likely to be female and single. Both groups were approximately 90% Caucasian and had a mean age of 42 years. There was a significant difference between the groups regarding primary drug of choice

($p=.008$). More tobacco users abused alcohol (43% vs 38% for NT) and more non-tobacco users abused opioids (38% vs 34% for T). Groups were not significantly different regarding polydrug use or other drugs of abuse. Relapse episodes occurring after enrollment in the monitoring program for tobacco users were compared to non-tobacco users. Significantly more tobacco users relapsed (16% vs 11% for NT; $p=.003$), and relapsed more frequently ($p=.0023$); however, there were no group differences regarding relapsing substance. These findings suggest that tobacco users may be more at risk for relapse than non-tobacco users and that nicotine addiction treatment may improve outcome. Supported in part by Ortho-McNeil Pharmaceutical

Drug Abuse Treatment Needs Among Women on Welfare [p16]

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To assess substance abuse and related service needs in women applicants and recipients of Temporary Family Assistance, we conducted structured, face-to-face interviews in welfare offices in three urban centers. Rates of participation in the survey averaged 65% (22% missed interviews; 13% refused); 488 of the 966 women interviewed (51%) agreed to hair toxicology testing. The average age of the women was 29 years; 55% were black, 32% Hispanic and 12% white; 92% had childcare responsibilities or were pregnant, and on average care for 2.5 children (range 0-10). Current cocaine or opiate abuse was documented by self-report or hair toxicology in 20% (192/966) and abstinence documented in 31% (298/966). Hair toxicology was positive in 30% of women reporting no recent use with available hair toxicology results, leading to a minimum estimate of current opiate or cocaine use in 35% of the 966 women (192 documented and 143 of those reporting no use but refusing or missing hair toxicology testing). Current marijuana use was documented in 34% (329/966) of the women and based on 24.5% underreporting estimated in an additional 14% (137/966); 50% reported current cigarette smoking. Compared to documented abstainers, documented current cocaine or opiate users reported significantly more total months on welfare (95 (SD=133) vs. 57 (SD=67) months, $p<.001$) and greater involvement with child protection services (OR=1.9 (95% CI 1.3-2.8); 33% of all women surveyed reported involvement). Documented current users experienced high prevalence of depression (26% met criteria for probable depression on the CES-D), childhood history of sexual (27%) or physical abuse (33%) and sexual (13%) or physical (52%) abuse since age 18. Despite the high prevalence of substance use disorders, their frequent co-occurrence with multiple other "co-morbidities," and the costs associated with these disorders (including longer periods receiving welfare and costs associated with child protective services), only 18% of those with cocaine and 43% of those with opiate dependence were currently receiving treatment. Supported by K24 DA00445 (NIDA), 270-97-7038 (CSAT), 1066-4402 (CT DMHAS)

Stress and drug use during a behavioral intervention trial for cocaine dependence [p17]

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The ability of stress to precipitate drug use remains unclear. This study examined the association between self-reported stress levels and subsequent use of cocaine during a clinical trial of contingency management and cognitive behavioral therapy to treat cocaine dependence. Stress levels were prospectively assessed every six weeks throughout the 24-week trial using the 14-item Perceived Stress Scale. The outcome measure was the proportion of urine specimens positive for cocaine during the six-week period following each stress assessment. Repeated measures linear regression was used to evaluate the association between stress level and subsequent cocaine use. The study sample consisted of 260 cocaine-dependent outpatients, who were 60% male and 71% African American, having a median age of 39 years. Stress levels were fairly stable over time, and higher among female participants ($t=-2.58$, $p=0.01$) and those under the age of 40 ($t=3.20$, $p=0.0016$). Stress was not significantly associated with any other demographic or social support variables. Stress level was significantly and positively associated with subsequent likelihood of cocaine-positive urine specimens ($t=4.50$, $p<0.0001$), after adjusting for baseline cocaine use, baseline stress level, treatment group assignment, gender, and age. These findings suggest that treatment strategies for cocaine dependence that mitigate the effects of stress could potentially improve treatment outcome.

Sex differences in Psychosocial Determinants of Adolescent Tobacco Use: Are Girls and Boys at Equal Risk? [p14]

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A recent review of the literature suggested that the adolescent female smoker might be more self-confident, socially experienced, and rebellious while the adolescent male smoker may be more socially inexperienced. The purpose of this study is to examine sex differences in associations between social competence, rebelliousness, self-esteem, related psychosocial variables, and smoking among adolescents. Using a sample of 7th- and 9th-grade students ($n=536$; 47.8% female and 52.2% male), derived from an urban community within Los Angeles County, California, this study used a self-administered survey to examine relationships between past 30-day smoking and the following variables:

(1) self-esteem, (2) depressive symptoms, (3) life events, (4) social awkwardness around the opposite and same sex, (5) dating the opposite sex, (6) peer pressure resistance skills, and (7) rebelliousness. Separate odds ratios were calculated and compared for girls and boys. Univariate logistic regressions revealed that both females and males who were more rebellious, had lower self-esteem, had weaker resistance skills, and reported more negative life events were at higher risk for having smoked in the past 30 days (p 's<0.01). Females and males who were currently dating were also at higher risk for having smoked in the past 30 days (p 's<0.05). For females, depressive symptoms was also a significant univariate correlate (p <0.01). The multivariate regression analyses revealed that rebelliousness and peer pressure resistance skills were the strongest correlates of 30-day smoking for both sexes (p 's<0.01). This study failed to provide support for the hypothesis that there are sex differences in associations between social competence and smoking. The findings suggest that rebelliousness and peer pressure resistance skills are significant correlates of smoking for both sexes.

Gender Differences in Alcohol Sedation: Pharmacological Manipulations of Glutamate and GABA systems [p5]

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Gender differences in alcohol-induced sedation have previously been observed, with male rats generally displaying longer alcohol-induced sleep times in response to high doses of alcohol than age-matched females (Silveri & Spear, 1998; Collins et al., 1975). The potential roles of NMDA and GABAA receptor systems in this gender difference were explored in Sprague-Dawley rats tested at postnatal day (P)26 (juvenile) or P70 (adult). Dose response curves were established for the effects of intraperitoneal (ip) +MK-801 (NMDA antagonist; 0.75, 1.0, or 1.25 mg/kg), muscimol (GABAA agonist; 0.75, 1.25, 1.75 mg/kg), or saline on loss of righting reflex, sleep time, and waking trunk and brain alcohol levels following 3.5 g/kg alcohol. Muscimol pretreatment significantly enhanced alcohol-induced sedation in both females and males compared to age- and gender-matched counterparts pretreated with saline, with this effect being more pronounced at the younger age. Pretreatment with +MK-801 significantly increased alcohol-induced sleep time similarly across age. A gender effect was also evident, with females given the low dose of +MK-801 showing a greater +MK-801-induced enhancement of alcohol sedation. These data provide evidence that the glutamate system, particularly the NMDA receptor component of that system, may contribute to gender differences in alcohol-induced sedation. Supported by NIAAA grant R37 AA12525-01.

Prenatal cocaine and immune function: Temporal characteristics [p14]

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Although the effects of prenatal cocaine exposure on immune reactivity have been reported, most studies have examined gestational, not pre-gestational, cocaine exposure (the later of which more closely mimics human cocaine use), and have failed to control for factors that could potentially alter immune responses. Using nutritional and surrogate controls, we have recently demonstrated suppressed immune reactivity in offspring [post natal day (PND) 50] of dams exposed to long-term cocaine (both pre- and gestational cocaine exposure) (Randall et al., Soc. Neurosci. 26:1097; 2000). This effect was not influenced by gender, maternal behavior or nutritional deficits. Since the physiological and behavioral effects of prenatal cocaine are often transient in nature, the present study assessed the temporal characteristics of these immune suppressive effects. Specifically, this experiment examined the consequences of long-term cocaine exposure on in vitro immune parameters in the offspring of Long-Evans rats. Dams in Group COC received exposure to cocaine for 30 days prior to, and for 12 days during (days 7 to 19), gestation. Group PF was handled identically to Group COC except subjects in this group received exposure to the drug's vehicle and were matched on food consumption to those animals in Group COC. At PND 25, PND 50 and PND 100, pups were sacrificed and blood samples were collected in order to assess mitogen-induced lymphocyte proliferation. Prenatal cocaine exposure dramatically suppressed immune reactivity at PND 25; however, this effect was greater for males than females. These suppressive effects were still present at PND 50, yet considerably reduced and no longer gender dependent. On PND 100 the effects were no longer evident, as lymphocyte proliferation for Groups COC and PF was indistinguishable. These results are thus consistent with our previous findings, again demonstrating that long-term prenatal cocaine exposure suppresses immune function. These effects on the immune response appear to be transient and gender dependent, such that the remarkable suppression of immune reactivity at an early age, which was greater for males, dissipates with development. Acknowledgement: Supported by a grant from NIDA to BB and AR

Childhood trauma, psychological symptoms, and domestic violence among cocaine and non-cocaine using women [p17]

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This study examined differences in experiences of childhood trauma between women who were heavier and lighter

users vs. non-users of cocaine during pregnancy, and examined relationships between severity of trauma and drug use, psychological symptoms and domestic violence in an urban, largely African-American, lower SES population. Women (140 cocaine users [66 heavier, 74 lighter users] and 138 non-users) were interviewed with a standardized assessment of drug use, the Brief Symptom Inventory, the Conflict Tactics Scale – Revised, and the Childhood Trauma Questionnaire. Heavy cocaine users had higher total trauma scores, and more experience of childhood emotional and physical neglect than non-users (p 's < .05). Cocaine users had higher psychological distress, and reported more use of violence in domestic interactions (p 's < .05). For all women, severity of childhood trauma was related to greater severity of psychological distress ($r = .36, p < .0001$), greater self-use of violence ($r = .16, p < .02$), and greater experience of severe violence from a partner ($r = .28, p < .0001$). Severity of sexual abuse had the strongest relationship to severe partner violence ($r = .32, p < .0001$). Treatment for childhood abuse and neglect may provide one avenue for early prevention of drug use among women and should be considered in current treatment programs for cocaine using women.

Effects of progesterone treatment on smoked cocaine response in humans [p20]

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We recently reported that the luteal phase of the menstrual cycle, compared with the follicular phase was associated with diminished response to cocaine in female cocaine users. Since the luteal phase is characterized by higher progesterone levels, compared with the follicular phase, we hypothesized that progesterone treatment may attenuate the subjective response to cocaine. To test this hypothesis, we investigated the safety and efficacy of acute progesterone treatment in smoked cocaine response in female cocaine users. Five women with regular menstrual cycles, had 2 experimental sessions during the early follicular phase, within 3-9 days after the beginning of their menses. In each experimental session, subjects received a single 200 mg dose of progesterone or placebo, orally. Two and a half hours after the medication treatment, subjects received 3 deliveries of 0.4 mg/kg smoked cocaine, 30 min apart. Following progesterone treatment, plasma progesterone levels peaked in 2 h. Progesterone treatment, compared to placebo, did not affect the blood pressure and heart rate changes in response to cocaine deliveries. Progesterone treatment attenuated the rating of some of the subjective effects of cocaine, compared to placebo. These preliminary results suggest that the early follicular phase of the menstrual cycle may be a useful period to investigate the effects of in female cocaine users. The effects of progesterone treatment on cocaine dependence needs to be further studied (Supported by NIH grants P-50 DA09259 and MO1-RR00400).

AOD disorders among arrestees: Gender makes a difference [p13]

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Research has shown that female arrestees with alcohol and drug (AOD) disorders have higher rates of co-occurring mental health disorders than male arrestees with AOD disorders. Less well known is why these differences occur. This study examined associations between childhood abuse, parental AOD disorders, revictimization, homelessness, and the co-occurrence of mental health and AOD disorders in male and female arrestees using data from the California Drug Use Forecasting Project (CAL-DUF). Between 1994-1996, structured interviews were conducted with 1,321 males and 396 females in jails located in 13 counties throughout California. Urinalysis was performed to validate self-reported drug use. 64.3% of males and 71.2% of females tested positive for one or more drugs. Within this subsample ($n=1,131$), females reported higher rates of co-occurring psychological problems than males (34.5% vs. 25.7%). Logistic regressions were performed for males and females to assess interactions of gender with child abuse, family factors, other life problems and relationship to AOD disorders. Preliminary analyses suggest that these factors play a salient role in the addiction careers of female arrestees but not male arrestees, suggesting the need for gender-specific programming in correctional settings. NIDA DA07272.

Community intervention among African-American female crack users: HIV and other health concerns [p5]

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Objective: (1) to address the need for women and race-specific community-based interventions, with an emphasis on African-American crack cocaine users; and (2) to present data from formative and outcome-based research on the design, implementation, and evaluation of an HIV risk reduction intervention for African-American female crack cocaine users. Methods: The one-year formative phase (Phase 1) involved in-depth interviews with 90 women and resulted in a targeted intervention. The intervention is being evaluated during Years 2-4 (Phase 2). Data collection consists of process information as well as baseline, post- intervention, and 6-month follow-up interviews. The sample for Phase 2 includes 315 women. Results: Findings will be presented on process and outcome information as well as unintended outcomes of the community-based intervention. Conclusions: Many of the women reported positive outcomes from their participation in the intervention (other than HIV risk reduction), such as feeling less stigmatized

and having acquired new skills that can be applied to many aspects of their lives, emphasizing the need to consider outcomes other than those originally intended.

HIV Risk Behavior Outcomes among Drug-Involved Women Participating in a Women's-Centered HIV Prevention Program [p4]

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As we enter the third decade of the AIDS epidemic, women account for a steadily increasing proportion of AIDS cases, representing 24 % of cases diagnosed during the first half of 1999. The two largest transmission categories among women are heterosexual contact and injection drug use, (40% and 27% respectively). Understanding risk behaviors among women and how to affect behavior change is critical. In the current study a women-centered HIV prevention program developed from feminist theory targets specific HIV risk behaviors on an individual basis. Between March 1998 and December 2000 750 drug involved women were recruited from street settings in Tucson, AZ to participate in the study. Participants were all active drug users, over 18 years of age and not in drug treatment in the past 30 days. This presentation will discuss the preliminary outcomes of the study including reductions in sexual risk (i.e., proportion of unprotected sex, number of sex partners, and number of IDU sex partners) as well as reductions in drug related HIV risk (i.e., number of injections, needle hygiene, and intensity of drug use). Analyses include paired t-tests comparing women's baseline to 6 months post baseline data. Implications of the study including the importance of utilizing feminist theory in the development of HIV prevention interventions for women will be discussed.

Parental Status as an Indicator of Problem Severity in Substance Abuse [p12]

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Several studies assert that substance-abusing mothers have special treatment needs. These special needs are purportedly the result of added responsibility of childcare. This study examines men and women with and without children in the home and their differences in problem severity at entry into substance abuse treatment. A sample of 1783 individuals entering substance abuse treatment from 4 States were grouped based on gender and child status (children in home, children not in home, no children). All completed an enhanced version of the self-administered Addiction Severity Index (ASI) at treatment entry. Clinical factors were calculated indicating problem severity in medical, employment, alcohol, drug, legal, family/social, and psychiatric areas. A MANOVA was performed to analyze differences in problem severity between the 6 groups. There were significant differences in all areas of severity except employment and drug. A few notable findings were: Women with children not living with them had significantly higher severity in legal problems than other women, suggesting that they might benefit from specific attention to their legal problems. Conversely, men with children living with them had significantly lower family/social problems than all other groups, suggesting that they have a supportive home environment that treatment can capitalize on. Overall, these findings indicate that childcare responsibility is a factor in problem severity and should be considered when creating a treatment plan. Unfortunately, the standard ASI does not collect information on childcare responsibility. In the future, it may be important to include this variable in clinical assessments.

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Characteristics of drug treatment patients with versus without Medical Assistance [p11]

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In 1997, the State of Maryland adopted a managed care model for administration of substance abuse treatment services within the medical assistance (Medicaid, MA) population. The State contracted with area Managed Care Organizations (MCOs) that subsequently contracted with treatment programs to deliver services to MCO referrals. Access to MA requires evidence of pregnancy, serious health problems (AIDS, severe diabetes) or major psychiatric illness (bipolar disorder, schizophrenia); poverty alone does not qualify a person for coverage. The combination of poverty and major health problems necessary to qualify for MA may combine to produce a more impaired subset of substance abusing patients compared to those without MA. Previous work has not systematically compared the characteristics of substance abusers with versus without MA. The present study compares the baseline demographic and clinical characteristics of 559 patients admitted for outpatient treatment of opioid and other drug use problems between 7/1/1997 and 5/1/2000. All patients received methadone or LAAM as part of the treatment plan. Data were separated into MA versus non-MA groups based on admission payor source. The MA group was primarily female (82% vs. 40%), with higher rates of unemployment, unmarried, minority status, lifetime major depression, past psychiatric hospitalization, and having any recent days with medical problems. In the non-MA group, illegal income and rate of antisocial personality (APD) were higher, as were rates of current cocaine dependence and lifetime diagnoses for most other drug classes. The high rates of female gender, unemployment and medical/psychiatric impairment in the MA population may have prognostic significance. Supported by NIDA P50 DAO5273, NIDA RO1

'Unequal opportunity' drug dealing and neighborhood disadvantage [p6]

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Question: For the U.S. generally, there is a male excess in opportunity to try and to buy illegal drugs (Van Etten et al., 1997, 1999; Rosenberg & Anthony, in press). But does this generalization hold true for teenage girls and adult women living in socially disadvantaged neighborhoods, where chances to buy might be quite common? Methods: In 1998, National Household Survey on Drug Abuse (NHSDA) field staff assessed 25,500 sampled youths and adults, most of whom self-marked answers to standard items on drug experiences (e.g., being approached by someone selling drugs). Separately, neighborhood disadvantage was gauged by an 11-item scale (Cronbach=0.82). Here, estimation and multiple regression procedures take into account complex sampling design and weights. Results: Each month in 1998, an estimated 6% of the study population was approached by a seller of illegal drugs. Residents of the most disadvantaged neighborhoods were 3 times more likely to be offered a chance to buy (estimated odds ratio for most vs least disadvantaged neighborhoods, OR=2.9; 95% CI=2.5-3.3, with statistical adjustment for sex, age, race-ethnicity, education, urban/rural and geographic region). Males were more likely to have drug purchase opportunity ($p < 0.001$), even within the most disadvantaged neighborhoods. Discussion: Limitations of self-report survey data always merit attention, but this study evidence lends support to an inference that teenage girls and adult women are less likely to be approached by someone selling drugs, no matter how disadvantaged the neighborhood. If confirmed, this evidence of possible sex-linked protection can be traced back to its sources, followed by development of new methods to prevent illegal drug use across a range of social disadvantage. Acknowledgments: NIDA R01DA09897, plus the 1998 NHSDA research teams at SAMHSA & RTI

Drug Use in Young Adults: Age of First Use and Polydrug Combinations Involving Ecstasy (MDMA) [p18]

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Data from a number of recent surveys and epidemiological reports suggest that the use of ecstasy by young adults has increased dramatically. The present survey examined the age of first use of various drugs and polydrug combinations involving ecstasy (MDMA). Seventy-seven (26 male and 51 female) volunteers calling in response to advertisements for research studies involving drugs and/or alcohol answered questions regarding their drug use in a telephone interview. Reported age of first use of ethanol, nicotine, marijuana, LSD, psilocybin, and intranasal cocaine did not differ between males and females. The reported ages of first use of the various drugs were as follows: ethanol (14.52 ± 0.32), nicotine (14.87 ± 0.34), marijuana (16.42 ± 0.28), LSD (17.18 ± 0.31), psilocybin (17.4 ± 0.58), and intranasal cocaine (19.23 ± 0.31). However, the reported age of first use of ecstasy did differ between males and females, with females reporting an earlier age of first use (19.13 ± 0.30) than males (20.38 ± 0.46). In addition, 24% of males and 26% of females reported combining ecstasy with at least one other drug to alter ecstasy's effects. Marijuana was the most common drug reported in combination with ecstasy. Even though the present findings were obtained from a self-selected sample, they may be more representative of emerging drug use patterns because all of the callers were current drug users. Supported by NIDA grants DA03994 and DA00343

The mediating role of parenting stress in opiate-addicted mothers' parenting [p12]

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Prior research has suggested that maternal psychopathology and sociodemographic risk are important contributing factors to addicted mothers' parenting problems. In this study, we tested the hypothesis that sociodemographic risk and maternal psychopathology are distal stressors, the effects of which are mediated by mothers' subjective experience of stress in the parenting role. We also examined parenting behavioral correlates of specific types of parenting stress (i.e. child-focused, relationship-focused, and parent-focused stress). Method: As part of a baseline interview for a randomized clinical trial, 74 mothers recruited from methadone clinics in New Haven, CT completed measures on their psychological adjustment, parenting practices, and their children's adjustment. We examined linkages of the mediation model in a series of hierarchical linear regressions. Results: Parenting stress mediated the association between sociodemographic risk and two negative parenting domains (verbal/physical abuse and neglect), and between psychological maladjustment and all six parenting behavior domains examined (verbal/physical abuse, neglect, communication, involvement, limit setting, and autonomy). Child-focused stress was associated with higher levels of verbal/physical abuse, limit setting problems, and restricted autonomy. Stress derived from the mother-child relationship was associated with higher levels of neglect and involvement problems. Parent-focused stress was marginally associated with less restricted autonomy. Conclusions: Rather than having a direct effect, as has previously been suggested, opiate-addicted mothers' psychological maladjustment (similar to sociodemographic risk) appears to act as a distal stressor, indirectly influencing parenting behaviors by reducing tolerance for everyday stressors occurring in the parenting role. Additionally, associations between parenting problems and parenting stress reflect

high specificity. Parenting problems involving abuse and poor discipline are more likely to arise when mothers view their children as creating problems whereas parenting problems involving neglect and withdrawal are more prevalent among mothers who are ambivalent about the mother-child relationship.

Sex and rat strain differences in (-)-pentazocine antinociception [p5]

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Studies employing a variety of assays indicate that (-)-pentazocine (PTZ) may be active at mu, kappa, as well as sigma receptor sites. In the present study, the effects of sex and nociceptive stimulus intensity on PTZ-induced antinociception were examined in F344, Lewis, and Sprague Dawley rats using a warm-water (50_C, 52_C, and 55_C) tail-withdrawal procedure. At 50_C, PTZ produced maximal or near maximal antinociceptive effects in males of each strain tested. In F344 and Sprague Dawley males, PTZ produced maximal or near maximal antinociceptive effects at 52_C and 55_C, whereas only minimal levels of antinociception were obtained at these temperatures in Lewis males. In females of each strain, PTZ produced maximal antinociceptive effects at 50_C. At 52_C, PTZ produced near maximal antinociceptive effects in F344 and Sprague Dawley females, and minimal levels of antinociception in Lewis females. In females of each strain, PTZ produced minimal antinociceptive effects at 55_C. Alone, the mu opioid morphine and kappa opioid spiradoline produced maximal antinociceptive effects at all nociceptive stimulus intensities tested. Under conditions in which PTZ produced only minimal antinociceptive effects in males and females, it antagonized the effects of morphine. At 52_C and 55_C, PTZ failed to antagonize spiradoline in all rat strains tested. In summary, sex differences were observed in PTZ antinociception, where at the higher nociceptive stimulus intensities it was more effective in males than females. Strain differences were also observed as PTZ was more effective in F344 and Sprague Dawley males than in Lewis males. Finally, it appears that in the warm-water tail-withdrawal procedure, PTZ functions as a low efficacy mu opioid in male and female rats of various strains. (Supported by grants DA10277, DA07244, and MHO7431)

Comorbidity of Reading Disability in Adolescents with Substance and Conduct Problems [p9]

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Previous research suggests high comorbidity rates between conduct disorder (CD) and reading disability (RD). However, the rates of self-reported reading disability are very low in our sample of adolescents who are in day- or residential treatment for substance (SUD) and conduct problems (CD). Therefore, we compared the prevalence of RD in SUD/CD subjects (patients) with community controls. Method: 85 patients (57 males and 28 females) and 96 controls (59 males and 37 females) were administered intelligence and academic testing as part of a larger battery of psychiatric and psychological measures. In order to determine the presence and degree of RD, we calculated a Reading Quotient (RQ) by dividing the average of oral reading and spelling scores by the average of chronological age, IQ age equivalent, and age for grade. Subjects with an RQ score of .80 or less were classified as RD. Results: A two (patient vs control) by two (male vs female) ANOVA revealed significant main effects for both group and sex, with no significant inter-action. RD scores were lower (worse) for patients than controls [$F(1,178)=14.97, p<.001$] and for males than females [$F(1,178)=8.47, p<.004$]. Using the cut-off of .80, 65% patient males and 61% patient females were classified RD, while 42% control males and 27% control females were classified RD. Across all subjects, a lower RQ was associated with more DSM-IV substance dependence symptoms, more CD symptoms, and lower SES. These results suggest high rates of RD, especially in patients with SUD/CD, that have not been diagnosed or treated.

The Dynamics of Disease Risk in Drug-Using Women's Primary Sexual Relationships [p19]

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Recent research on the social context of disease risk among women drug users has indicated the importance of their primary heterosexual relationships. This study determined which relationship factors were associated with heightened sexual risk. Data from 372 women, primarily African-American and Latina, were obtained in a retrospective cross-sectional survey. All were offered testing for HIV, HepB and HepC. Logistic regression analyses identified significant predictors of unprotected vaginal or anal sex (prior 30 days). Predictors examined were demographics; HIV status of both partners; and important relationship factors, such as living arrangements, duration, closeness, economics, violence, communication, and drug use. Results were: 68% of women reported unprotected sex with main partner (prior 30 days); 9% believed partner to be HIV+. Women's disease prevalence: HIV-infected, 25%; HepB, 48%; HepC, 39%. Six variables independently predicted unprotected sex with primary male partners at $p<.05$: (1) no communication between partners about safe sex (OR=5.1; CI=2.5, 10.3); (2) Dyadic HIV sero-concordance (OR=4.5; CI=2.1, 9.5); (3) physical violence committed or threatened by male partner (OR=3.1; CI=1.1, 8.6); (4) male under age 40 (OR=2.2; CI=1.1, 4.2); (5) woman received monetary support from male (OR=2.2; CI= 1.1, 4.1); and (6)

decisions made unilaterally by male partner (OR = 1.2; CI=1.1, 1.4). Drug using women's most risky relationships are characterized by male violence, economic dependence on the male partner, no communication between the partners about condom use, and unilateral decision making by the male partner. The impact of these relationship factors on disease risk must be addressed by harm reduction efforts targeted at women drug users.

Psychopathology and social disruption in drug-using and non-using urban mothers [p12]

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Although high levels of psychopathology and social disruption are reported in drug dependent women, it is unclear whether these variables are related to drug dependence independently or are attributable to other social and environmental factors. We evaluated psychopathology and social disruption in 56 women previously recruited (4-8 years ago) for a longitudinal study of the effects of drug exposure on their children. Non-drug-using women, also recruited immediately after giving birth, came from similar socio-economic backgrounds and neighborhoods. Women were classified as drug using with cocaine (N=26), drug using without cocaine (N=18), and non-using community controls (N=12). Participants were administered a structured interview for diagnoses of Substance Use, Major Depression, Generalized Anxiety (GAD) and Post Traumatic Stress Disorder (PTSD). A structured measure of social disruption was administered (e.g., perception of social support, sense of physical safety), reproductive outcomes (e.g., number of pregnancies and abortions) and social conflict (e.g., arrests and evictions). Results: Frequency Analysis demonstrated that drug using women and matched controls had equivalent rates of depression, PTSD and GAD. Over half (55%) of the sample experienced at least one traumatic event, and 34% of the sample met the diagnostic threshold for PTSD. Analysis of variance and regression analysis demonstrated that drug users had poorer reproductive outcomes and spent more time on Welfare. Women with PTSD reported having lower levels of social support, and increased social conflict; drug using women did not differ from controls on these measures. Results indicate that poor urban women are exposed to high levels of trauma, and that PTSD may be a more salient predictor of social disruption than drug use in this population. NIDA K24-DA00445

Sex Differences in Cannabinoid Antinociception and Sedation [p1]

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Cannabinoids are currently used clinically; however, there are very few studies that have examined cannabinoid-induced effects in females. Previous studies have shown that there are sex differences in cannabinoid pharmacokinetics and pharmacodynamics in rats, suggesting that there could be sex differences in cannabinoid-induced behaviors. To address this issue, delta-9-tetrahydrocannabinol (delta-9-THC), 11-hydroxy-tetrahydrocannabinol (11-OH-THC), or CP55,940 (CP) was administered intraperitoneally (i.p.) to male and female Sprague-Dawley rats, who were tested on the 50_C tail withdrawal, paw pressure, catalepsy bar and spontaneous locomotor assays at various times post-injection. The only significant sex difference in baseline response was that females showed greater spontaneous locomotor activity than did males (p=0.047). Delta-9-THC produced dose-dependent tail withdrawal and paw pressure antinociception and decreases in locomotor activity in both sexes. However delta-9-THC produced a greater effect in females than males on tail withdrawal (p=0.002), paw pressure (p=0.012), and spontaneous locomotor activity (p=0.037). Ten mg/kg delta-9-THC also produced greater catalepsy in females than males; however, this sex difference was not statistically significant. 11-OH-THC produced dose-dependent antinociception in the tail withdrawal and paw pressure assays, dose-dependent catalepsy on the bar test, and dose-dependent decreases in spontaneous locomotor activity in males and females. The only sex difference was that 11-OH-THC produced greater decreases in spontaneous locomotor activity in females than males (p=0.025). CP produced dose-dependent increases in antinociception in the tail withdrawal and paw pressure assays, dose-dependent catalepsy on the bar test, and decreases in locomotion. Females were more sensitive than males to CP in the tail withdrawal (p=0.008) and locomotor activity assays (p=0.002). This study demonstrates that there are sex differences in antinociception and sedation produced by a variety of cannabinoids in the Sprague-Dawley rat.

Methadone Dosing in Pregnancy: Treatment implications [p21]

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Methadone maintenance is an effective treatment for pregnant opiate dependent women (Finnegan et al, 1991). Higher maternal methadone doses have been recommended to decrease drug use and to improve treatment retention (Kandall et al, 1999). Others advocate for low doses to minimize the risk of neonatal abstinence syndrome (NAS) (Wang, 1999). The current study examined treatment outcomes as a function of methadone dose in 111 women admitted to the Center for Addiction and Pregnancy (CAP). It was hypothesized that women maintained on higher methadone doses (>55 mg) would fare better in treatment than those on lower doses (15-54 mg). Demographically, this CAP population is in their late 20's, African American (85%), never married (89%), unemployed (92%), and have 11 years of

education. This study compared women receiving "low" (15-40 mg), "moderate" (41-54 mg), and "high" (55-80 mg) methadone doses on days in treatment and percent of urine specimens positive for opiates and/or cocaine. Women maintained on doses of <40 mg had a greater percentage of positive urine specimens ($p < .001$) and spent significantly fewer days in treatment than the "moderate" and "high" dose groups ($p < .001$). Results revealed that the "low" dose group fared significantly worse than the "moderate" and "high" dose groups on treatment outcome measures. These findings suggest that higher methadone dosage is correlated with improved maternal treatment outcomes. Birth outcomes and NAS results for these three groups will be presented in June. Research supported by R01DA12403.

Reactivity to smoking cues in adolescent smokers [p14]

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Objective: There are several reports of reactivity to smoking cues in adult smokers, but not many in adolescent smokers. We present preliminary data from an ongoing study of nicotine cue-reactivity in adolescent smokers. Hypothesis: Adolescent smokers will have increased craving and physiological response (heart rate) to smoking cues as compared to non-smokers. Methods: Adolescent smokers ($n=5$) and 15-19 yr old gender, age and race-matched controls ($n=9$) were recruited. After the informed consent procedure, participants were exposed to video-taped smoking cues and neutral cues for three minutes each in random order with a rest period in between. Participants' subjective visual analog craving levels were recorded along with heart rate. We used students T test to compare mean craving scores and heart rate. We used P2 test to compare demographic variables. Results: Preliminary analysis indicate that adolescent smokers tend to have higher heart rate in response to smoking cues, although not statistically significant. Smokers did not differ in subjective craving responses from controls. Conclusion: Preliminary results show that the cue reactivity procedure is well tolerated by adolescents. Preliminary results indicate that videotaped cues may not be effective in eliciting a craving response in adolescents. We discuss possible reasons for this and implications for future adolescent studies examining smoking cue-reactivity.

Physical, sexual, and emotional abuse in pregnant, substance-dependent women [p12]

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The present study examines exposure to violence in drug dependent pregnant women admitted to a comprehensive perinatal drug treatment program. A semi-structured questionnaire was developed to assess the lifetime and current abuse/violence and service needs of the women and their children. It was administered to the clients ($N=67$) during their first week in treatment following a routine group session defining substance abuse and intimate/family violence. Participants were predominantly African American (58.2%), mean (SD) years of age 28.33 (8.55) with a mean (SD) of children 2.45 (2.09). The study found high prevalence of lifetime abuse ranging from 40% (sexual abuse) to 73.1% (emotional abuse) to 76.1% (physical abuse). Reports of abuse during pregnancy remain high, ranging from 8.1% (sexual abuse) to 21% (physical abuse) to 51% (emotional abuse). Thirty eight percent of pregnant women reported a history of physical fights with current partner and 15.5% of physical parental fights were witnessed by their children. Of pregnant women reporting history of yelling and screaming fights with current partner (62.5%), one-fourth of verbally abusive parental fights were witnessed by their children. Thirty one percent and 17% of the women, perceive the need of counseling regarding history of abuse for themselves and for their children, respectively. These preliminary results confirm high lifetime rates of violence and abuse and that victimization continues during pregnancy. The findings of this ongoing study emphasize the importance of screening female substance abusers for a history of abuse and providing the additional treatment that they may require. The results suggest that treatment facilities for substance abusing pregnant women should be prepared to address exposure to violence among their clients. Research support provided by HRSA grant No. 1 H64 MC 00017-01.

Drug involved American-Indian women and health [p5]

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Little research has been conducted on the health status and health-related issues of urban American-Indian women, particularly those who are alcohol or drug involved. Given this gap in knowledge, this study assesses the health status along with health care needs and service provision of alcohol and drug-involved American-Indian women living in southwestern United States. Between March 1998 and December 2000 102 drug involved American-Indian women were recruited from street settings in Tucson, AZ to participate in the Community Outreach Project for Women study. Participants were all active drug users, over 18 years of age and not in drug treatment in the past 30 days. Results indicate high levels of alcohol and drug use; high levels of HIV sex and drug risk behaviors; childhood and adult experiences of sexual abuse; interrelationship between the menstrual cycle and alcohol and drug use; multiple pregnancies with adverse outcomes; and the need for additional health care services. Recommendations include enhancing the education of healthcare providers with regard to American-Indian women's alcohol and drug use and

the need for comprehensive, culturally competent, gender-specific alcohol and drug treatment services.

Treatment needs and drug-related service utilization among Mexican middle and high school students [p2]

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Introduction. Very little research has been done in Mexico to estimate drug-related treatment needs or service utilization. We provide population-based estimates of potential drug-related treatment needs and service utilization, by level of drug use. **Methods.** We used data from the latest survey on drug use, representative of all middle and high school students in the Federal District of Mexico (Mexico City). A standardized, self-administered questionnaire was given to 10,173 students aged 12-22 (mean=14.6, SE=0.08), especially designed to assess use of several drugs and risk/protective factors, including a sub-scale on conduct behavior problems and the CES-D. All analyses account for the complex sample design. **Results.** An estimated 12% of middle and high school students of Mexico City had used drugs; 6.3% used only one drug, and 4.7% used two or more drugs in their lifetime. About 20% of the students who ever used two or more drugs received some drug-related help, however 50-55% reported they would like to use drugs less. Significant covariates of a desire to use drugs less were being male (Odds Ratio, OR, =2.17, 95%CI=1.52-3.10); report of one or more conduct behavior problems versus none (OR=1.42, 95%CI=1.03-1.95); used two or more drugs versus used only one drug (OR=6.13, 95%CI=4.34-8.65). **Discussion.** Despite several limitations, the present study offers evidence about already existing gaps between treatment needs and service utilization among Mexican students. In the context of an epidemiological transition that involves new drug use problems, these gaps should not be neglected. **Acknowledgments.** Supported by CONACYT, Mexico, Repatriation grant # 000358 and project 3431P-H.

The CB1 cannabinoid receptor is involved in neuroendocrine regulation [p10]

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It has been described that cannabinoids have suppressive effects on gonadotropin secretion. In the present work we demonstrate that luteinizing hormone (LH) and testosterone(T) levels are decreased in CB1 knockout (CB1^{-/-}) mice if compared with wild (CB1^{+/+}) type. Anandamide has no further decreasing effect on LH or T levels in CB1^{-/-} mice. The results indicate that the role of endocannabinoids in the regulation of LH secretion is CB1 receptor mediated. It seems that cannabinoids regulate the gonadotropin release but the synthesis in anterior pituitary.

The subjective and physiological effects of amphetamine in men and in women by menstrual phase:

Relationship to personality [p20]

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Based on preclinical evidence that gonadal hormones affect dopamine function, it is possible that euphorogenic effects of drugs such as amphetamine may be influenced by endogenous steroid levels. To date interactions between gonadal hormones and drug effects have not been well studied in humans, despite their relevance for understanding individual differences in the abuse of psychoactive drugs. The present study assessed the subjective and physiological effects of a single dose of d-amphetamine (AMPH; 15 mg oral) or placebo in men (N=7) and in women (N=12) during the follicular and luteal phases of the menstrual cycle, in a within-subject crossover design. Female subjects reported greater Euphoria and Arousal during their follicular than luteal sessions, and the subjective effects of AMPH (Stimulation and Elation) were significantly greater during the follicular than the luteal phase. Further, male subjects reported greater subjective effects after AMPH (feel drug effects, feel high) than did female subjects during the luteal phase. Potential modulation of these effects by the personality dimensions of extraversion and anxiety are discussed. Supported by USPHS grants RO1 DA02812 and GCRC MO1 RR00055.

Personality, Sensation-Seeking, and Adolescent Substance Use Disorders [p1]

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Personality variables (i.e., sensation seeking (SS) and impulsivity) have been shown to have substantial genetic and biological influences and to be related to substance use disorders (SUD) and antisocial behavior in adults. Although there is strong evidence that Conduct Disorder (CD), SS, and Disinhibition are important predictors of SUD in adolescents, other reliable dimensions of personality have received less study and little is known about the best tools for measurement of these traits in adolescents. Hypotheses: Adolescent patients will show higher Neuroticism, lower Agreeableness, lower Conscientiousness and higher SS than controls. They will also show similar personality profile patterns to antisocial adults with SUD, and these personality dimensions will be related to CD, SUD, and associated variables. Method: We compared 93 patients and 100 controls (both groups about 40% female) using the NEO-FFI and Zuckerman's Sensation Seeking Scale (ZSSS). A sub-set of patients also completed the Tridimensional

Personality Questionnaire (TPQ). We also analyzed the validity of these scales in relation to SUD, CD, and associated variables. Results: The expected personality differences were demonstrated between patients and controls, and patients showed similar patterns to adults with SUD. Analyses also revealed significant gender differences in personality and significant relationships among the three personality measures and associated variables. Conclusions: Further refinement and use of personality assessment in adolescents may be particularly useful in the prevention and treatment of SUD for numerous reasons: (1) personality appears to be easily and reliably measured, (2) it can help to identify individuals at risk at a young age, and (3) it may help to subtype drug and alcohol users for behavioral genetic and treatment outcome research. Support: NIDA Grants DA 09842 and DA 11015.

Risk for suicide ideation and attempt after early-onset inhalant sniffing [p2]

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Aim: In this ongoing followup study, we estimate later risk of suicide ideation and attempts for adolescents with and without a history of inhalant sniffing and other drug use when assessed in 1993. Methods: Standardized interview assessments in 1993 were completed with 1516 youths age 12-15; to date, we have re-assessed 620 in young adulthood (mean age=20), finding 19 to have made later suicide attempts (SA) and 61 with suicidal ideation (SI). (Three youths reported use of a fictitious drug and were excluded.) We used multivariate response modeling (GLM/GEE) to take into account intercorrelation of the two suicidal responses and to adjust for possible confounding by age, sex, race-ethnicity, and history of early-onset tobacco or other drug use. Results: Estimated risk of suicide attempt (SA) was 13 times greater for inhalant users versus non-users (GEE robust $p < 0.0001$); the relative risk (RR) estimate for suicide ideation was 3.95 ($p = 0.006$). Statistical adjustment led to moderate attenuation of these estimates (RR for SA=8.17; $p = 0.0007$; RR for SI = 2.92; $p = 0.04$), and disclosed an independent excess risk of SA and SI for early-onset tobacco smokers versus non-smokers. Neither marijuana use nor alcohol use were associated with risk of SA and SI in this partial sample. [In June, we will provide an update on these findings.] Discussion: Partway through our followup, early-onset inhalant sniffing is linked with later risk of suicidal behaviors, independent of other suspected determinants of risk, including early-onset tobacco smoking. One possibility is an unmeasured shared diathesis for both early-onset drug use and later risk of SA and SI. In the future, more detailed analyses will probe the observed variation more thoroughly (e.g., in relation to frequency of inhalant and tobacco use). Acknowledgments: NIDA DA04392, DA09897, T32DA07292.

Marijuana and Cocaine Use Among African-American women Who Receive Welfare Assistance [p16]

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Background: A key issue that came to the forefront during the welfare reform debate concerned the relationship between welfare receipt and drug use and abuse. This analysis examines the relationship between persistent welfare assistance and marijuana and cocaine use among African-American women. Hypotheses: We hypothesize that women who have received welfare assistance for a period of 5 years or more will be more likely to use drugs compared to those who have never received welfare assistance or who have received it for a shorter duration. Methods: Data for this analysis comes from a longitudinal study of African Americans living in a Chicago community followed from first grade (N=1242) to age 32. Analyses: Multinomial logistic regression analyses were performed to examine the relationship between years of welfare receipt and three categories of marijuana and cocaine use (never, past, current) among female respondents (N=496). Results: Findings indicate an increased relative risk (RRR = 3.94; CI: 1.29, 12.05) of past year cocaine use for women who report receiving welfare for 5 years or more. Welfare receipt of less than 5 years was found to be significantly associated with past year marijuana use (RRR = 2.69; CI: 1.11, 6.54). Conclusion: While time-limited assistance of the new welfare policy may impact cocaine use among recipients, its impact on marijuana use may be limited.

Thirty-year follow-up of the influence of early parenting on illicit drug use [p3]

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Deficient parenting and disruptive patterns of parent-child communication during late childhood and adolescence have been found to signal increased risk of drug use and other behavior problems; however, little is known about the impact of very early parenting on drug use. This study investigated the relationship between maternal behavior that hinders attachment with her infant and the child's likelihood of using illicit drugs through adulthood. Data are from a thirty-year follow-up of a cohort of mother-infant pairs who represent a population-based sample of low to middle income families (n=1758). Maternal behavior (MB) was rated when the child was eight months old. High scores on the scale reflect extremely consistent, affectionate and responsive behavior; low scores reflect behavior that is critical, unresponsive and inconsistent. For these analyses the scale was divided into tertiles. Study outcomes included using marijuana, cocaine and heroin at least five times. MB was not related to marijuana or cocaine use. However, children in the lowest tertile of MB were nearly twice as likely to use heroin (RO = 1.8; 95% CI = 1.2 – 2.6) than children in the highest and middle levels of maternal behavior, controlling for mother's age at the child's birth, child's sex, and

race. Kaplan Meier analyses showed that differences in the incidence of drug use emerged in the late teens. These findings indicate that very early parenting behavior may have long term effects on the developing child, particularly in regard to extreme types of drug use. This suggests the need for early prevention efforts to intervene in parenting practices before deleterious patterns of parent-child interaction become entrenched.

Effect of Treatment on Demand on Perinatal Substance Use [p21]

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In San Francisco, Drug Abuse Treatment on Demand (TOD) implementation was initiated in July 1997. Women were identified as one of the priorities in the first year and women focused services received one-quarter of the funds. The aims of this study were to evaluate the changes, pre- and post-TOD, on the proportion of women delivering drug-exposed infants, the proportion who received treatment, and the impact on the number of infants placed into foster care. This was a retrospective study of women who used illicit drugs during pregnancy and delivered at a county hospital between July 1, 1995 and June 30, 1999, before and after implementation of TOD. Data were obtained by linking information from the hospital, county substance abuse services and foster care. A total of 339 mother-infant pairs were studied. Initial analysis shows a significant ($p=0.00$) decrease in the proportion of infants born drug-exposed at the hospital pre-TOD (6.6%) and post-TOD (4.8%). The percentage of drug-exposed infants discharged to foster care at birth decreased from 45% pre-TOD to 35% of infants post-TOD ($p = 0.07$). However, the proportion of women who received drug treatment the year before their pregnancy decreased post-TOD from 24% to 15% of women ($p=0.05$). The proportion of women receiving drug treatment during pregnancy or within a year after delivery did not change significantly pre- and post-TOD. These findings suggest that there was a decrease in the number of drug-exposed infants and that a smaller proportion were placed in foster care at birth post-TOD. However, these changes were not significantly associated with treatment exposure during the time period studied. Additional analyses will be explored to provide a more in depth view of drug treatment utilization in this cohort of women.

Alcohol and other drug use among mixed-race adolescents in California [p1]

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Much of what is known about alcohol and other drug (AOD) use among adolescents is based upon mono-racial samples. However, the increasing rates of inter-racial marriage in the United States has produced a large community of mixed race individuals, who, until recent efforts by the 1999 National Household Survey on Drug Abuse (NHSDA), have been largely ignored in AOD research. Often, those of mixed or multiple races are prompted to select only one of the mono-racial categories or "other race," which has yielded unknown effects on published AOD rates of mono-racial groups and rendering invisible those of mixed race. Recent WestEd surveys among students aged 12 to 17 years suggest that they comprise roughly 13% of our samples, versus the 2% obtained in the NHSDA for this age group. Consistent with the results of the 1999 NHSDA, WestEd's 1995 Asian Survey and 1998 California Healthy Kids Survey (CHKS), reveal that rates of AOD use for those of mixed race often rivaled or exceeded rates of Whites, who have historically reported among the highest rates in studies on ethnic group differences. For the 1995 Asian Survey of those in grades 9 and 12, those of mixed race reported the highest lifetime rates of alcohol, cigarettes, marijuana, amphetamines, inhalants, and polydrug use, compared to Chinese, Filipinos, Koreans, Whites, Latinos, and Blacks. For the CHKS, we compared mono-racial with bi-racial youth in 11th grade. Similarly, we often found high or the highest AOD rates among bi-racial youth, compared to mono-racial rates. The high rates alone do not necessarily indicate that the mixed race community is more vulnerable to AOD effects. However, further research is needed on what factors may underlie these AOD rates for this large, heterogeneous community, such as socio-cultural and psychological factors. ACKNOWLEDGMENTS: Supported by Grants from the National Institute on Drug Abuse (1 R13 DA12499-01) and the K & F Baxter Family Foundation.

Gender Differences in Developing Psychostimulant Dependence Among Nonmedical Users of Prescription Stimulant Drugs [p5]

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This study examined gender differences in psychostimulant dependence among nonmedical users of prescription stimulant drugs. The study sample was drawn from the 1998 National Household Survey on Drug Abuse. Statistical analysis was conducted on a total of 925 individuals aged 12 or older who reported lifetime nonmedical use of prescription stimulants, such as benzedrine, biphedamine, Dexamyl, Dexedrine, Fastin, Ionamin, methamphetamine, methedrine, and Preludin. SUDAAN software was used to conduct statistical analyses. An estimated 3.0% of lifetime nonmedical users of prescription stimulants developed dependence in the year preceding the interview. Women had a higher rate of psychostimulant dependence than men (5.3% vs. 1.5%; crude odds ratio = 3.6, 95% confidence interval = 1.6-8.2), although there was no gender difference in age at onset of first psychostimulant use. Among lifetime psychostimulant users, the likelihood of developing dependence also varied by age group, level of education, marital status, health insurance status, and age of first psychostimulant use. The following were found to have an increased

rate of becoming dependent: youths, young adults aged 18 to 25, those who had not attended college, those not currently married, those without health insurance, and those who initiated psychostimulants before the age of 18. Previous studies tended to indicate that males had a higher prevalence of most substance use disorders than did females. This analysis of a nationally representative household sample revealed that female psychostimulant users were more likely than male users to have developed dependence.

Motivational outreach with women sex workers [p4]

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Motivational Interviewing has gained international recognition as an effective method for working respectfully with substance abusing patients. Over two dozen controlled research trials support its success in helping people become more ready to enter treatment, reduce their use of alcohol and other drugs, and modify various health behaviors. This supplement/pilot study investigated the substance use and HIV risk of 27 women street sex workers in Albuquerque. It was an outreach approach to women who had not presented for drug treatment, making it different from previous studies of inpatients and outpatients. At four-month follow-up, the participants reported 67% fewer days of sex work and 50% fewer days of drug use. Their lawful employment increased 167%. The participants ranked their top priorities. Because most participants were sleeping in cheap motels along Route 66, their first priority was decent housing. Their next priority was mental health care for their anxiety, depression, and post-traumatic stress disorder. Their third priority was treatment for their substance use.

The Need to Reframe "Gender Role" as a Context-Dependent Variable for Drug and HIV research: Lessons from a Study of Women IDUs Who Have Sex with Women [p4]

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Objective: To explore whether and how variations in gender (expectations, norms, and "performance") among women are related to differences in HIV risk behaviors. Background: Prior studies of gender dynamics and HIV risk focus on differences between men and women and on heterosexual dyads, showing women to generally be the less powerful, more nurturing partner in relationships, 'feminine' workers in the street economy (mainly prostitutes), and dependent rather than initiating in drug interactions, with power imbalances contributing to HIV risk for women as a group. Yet "women" are not homogenous in norms, expectations, and performance of gender. Methods: Grounded-theory analysis of gender-related behavior and norms among 65 women IDUs who have sex with women (WSWIDUs) in New York City and Boston, based on 260 interviews and 350 ethnographic observations. Results: Substantial intra-group variation in gender-related norms and behaviors among WSWIDUs is accompanied by considerable variation in the expression of gender for individual WSWIDUs, depending on the setting and such factors as the perceived gender norms of other people present. It was not possible to categorize most WSWIDUs in this study as "conforming" or "nonconforming" across multiple dimensions of gender, such as appearance, relational power, or street/drug economy role. Some feminine-appearing and femme-identified women controlled relationship decisions, injection risk, and resources with both male and female partners. In many cases, subjects consciously altered their gender presentation in order to decrease the risk of violence or increase access to resources. E.g., women described adopting less stereotypically feminine appearance in order to command more respect while incarcerated. Conclusion: "Gender role" is context-specific and more purposefully enacted and negotiated than prior research suggests. The relationship of gender role to HIV risk is likewise complex.

Estrogen regulation of gene expression within dopamine and serotonin systems in rat brain [p20]

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The behavioral effects of psychostimulants such as cocaine and amphetamine are more pronounced in female than male rats. Data from our laboratory have demonstrated that estrogen (E) enhances the locomotor activity induced by cocaine or 3,4-methylenedioxymethamphetamine (MDMA) in ovariectomized (OVX) rats. We hypothesized that E may modulate the behavioral response to psychostimulants via its regulation of gene expression of important components of dopamine (DA) and serotonin (5-HT) systems in the brain that underlie the effects of psychostimulants. Mature female Sprague-Dawley rats (n=8 rats/group) were ovariectomized (OVX) or OVX and implanted with E-filled silastic capsules (OVX+E). Three weeks after the surgery, brain tissue was collected for the determination of mRNA levels of E receptors [ER alpha and ER beta], components of the DA system [D1, D2S, D2L, D3 receptors and DA transporter (DAT)], and components of the 5-HT system [5-HT1A, 5-HT1B, 5-HT2A, 5-HT2C receptors and 5-HT transporter (SERT)] in amygdala, hypothalamus, midbrain, nucleus accumbens, and ventral tegmental area (VTA) by ribonuclease protection assay (RPA). We found that E significantly decreased mRNA levels for ER alpha and ER beta in amygdala, and ER alpha in hypothalamus. E up-regulated D1 receptor mRNA in

hypothalamus, D2L receptor mRNA in midbrain, and D3 receptor mRNA in VTA, and down-regulated D3 receptor mRNA in midbrain. E also enhanced 5-HT_{2C} receptor transcript levels in both midbrain and hypothalamus. The differential regulation of gene expression by E suggests that the enhanced response to psychostimulants in female rats may be mediated by E modulation of the central DA and 5-HT systems. These results may provide new insights into abuse liability and potential therapeutic strategies for drug dependence in women. Supported by DA 06511 and DA 00260.