CPDD 77th Annual Scientific Meeting Program

June 13–18, 2015
Arizona Biltmore in Phoenix, Arizona

Focus on Women & Sex/Gender Differences

2015 Mini-Program

National Institute on Drug Abuse

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NIDA'S WOMEN & SEX/GENDER DIFFERENCES RESEARCH
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PREFACE

Accumulating evidence indicates that the antecedents, consequences, and mechanisms of drug abuse and addiction often differ in males and females and that sex/gender is an important variable in treatment and prevention. To foster research on women and sex/gender differences in all areas of drug abuse research, both human and animal, since 1999 the National Institute on Drug Abuse (NIDA) has encouraged submission of abstracts on this topic for the annual meeting of the College on Problems of Drug Dependence (CPDD). The response has been very gratifying as evidenced by the numerous presentations on this topic in this year's CPDD program, as well as in previous years' programs.

NIDA is pleased to provide you with this special electronic version of the CPDD program that contains the program schedule for presentations related to women and sex/gender differences along with the abstracts. We hope that this mini-program will be useful for those conducting research in this area. For those of you who do not conduct sex/gender-based research, we hope that this mini-program will suggest ways in which incorporating this perspective and methodology can inform and advance your research program.

On May 14, 2014, *Nature* published an article, "Policy: NIH to balance sex in cell and animal studies**,"** by Dr. Janine Clayton, Director of the NIH Office of Research on Women's Health, and Dr. Francis Collins, NIH Director, stating, "The NIH is now developing policies that require applicants to report their plans for the balance of male and female cells and animals in preclinical studies in all future applications, unless sex-specific inclusion is unwarranted, based on rigorously defined exceptions. These policies will be rolled out in phases beginning in October 2014, with parallel changes in review activities and requirements." These new NIH policies are expected to be rolled out in the fall of 2015 and initially will impact animal studies with vertebrate animals and human subjects. In view of the new policies, this mini-program should be useful to all CPDD researchers.

To support junior investigators pursuing research careers on women and sex/gender differences, special NIDA travel awards for CPDD have been granted annually since 1999. Each year these competitive awards have been given to up to 30 junior investigators (students and investigators who are less than five years past the doctoral degree or residency) whose CPDD abstract on this topic is accepted for either a poster or oral session. NIDA congratulates this year's travel awardees. Their names along with the title of their presentation are listed on pages 2 and 3, and on the following pages is a listing of all prior years' awardees.

To those of you who are junior investigators and engage in research on women and sex/gender differences, or are interested in pursuing research in this important area, NIDA will again sponsor the Women & Sex/Gender Junior Investigator Travel Awards for the 2016 CPDD meeting in Palm Springs, California, June 11-16, and we encourage you to apply (see the announcement on page 89).

Finally, for those of you who are interested in exploring funding opportunities for research on women and sex/gender differences, please see the listings on page 88.

For additional information on NIDA's Women and Sex/Gender Differences Research Program, contact:

- Dr. Samia Dawud Noursi, NIDA Women and Sex/Gender Differences Research Program, Deputy Coordinator, telephone 301-594-5622, snoursi@nih.gov, or

- Dr. Cora Lee Wetherington, NIDA Women and Sex/Gender Differences Research Program, Coordinator, telephone 301-435-1319, wetherington@nih.gov

NIDA'S WOMEN & SEX/GENDER DIFFERENCES RESEARCH JUNIOR INVESTIGATOR TRAVEL AWARDEES FOR CPDD 2015

Ahuama-Jonas, Chizara University of Cincinnati	Lifetime victimization and sexual relationship power among substance-abusing African American women (Pages 11 & 30)
Arger, Christopher University of Vermont	Correspondence between self-reported and biochemical measures of **s**moking in Opioid-dependent pregnant women (Pages 24 & 31)
Belendiuk, Katherine University of California Berkeley	Substance use outcomes of girls with ADHD in a 10-year follow-up of a prospective longitudinal study (Pages 16 & 36)
Britch, Stevie Washington State University	Cannabidiol and tetrahydrocannabinol interactions on antinociception in male and female rats (Pages 27 &36)
Coskunpinar, Byerley Rush University Medical Center	Sex differences in effects of trait impulsivity on vulnerability to substance dependence (Pages 29 & 43)
Evans, Elizabeth University of California Los Angeles	Gender differences in mortality among treated opioid dependent patients (Pages 16 & 45)
Foster, Dawn Yale School of Medicine	Perinatal attentional retraining intervention for smoking - A pilot study (Pages 25 & 47)
French, Helen Hunter College	Sex difference in behavioral effects of the THC agonist CP55,940 (Page 15 & 48)
Hardee, Jillian University of Michigan	Gender differences in the development of emotion circuitry in youth at risk for substance abuse: A longitudinal fMRI study (Pages 21 & 52)
Hartwell, Emily University of California Los Angeles	Gender differences in craving and internalizing symptoms in Methamphetamine dependence (Pages 8 & 53)
Khan, Shivani University of Florida	Risk of sexual abuse among ecstasy users differs by gender and other drug use (Page 16 & 58)
Kromrey, Sarah Wake Forrest University	Influence of reproductive hormones on social rank and vulnerability to cocaine reinforcement in female Cynomolgus monkeys (Pages 8 & 59)
Loza, Oralia University of Texas El Paso	Gender differences in methamphetamine use in a Mexico-U.S. border city (Pages 16 & 65)
Murugan, Vithya Washington University St. Louis	Prevalence and correlates of spousal sexual violence against married women in India (Pages 16 & 71)
Seay, Kristen University of South Carolina	A comparison of male and female caregivers: Caregiver depression as a mediator in the pathway from caregiver problematic drug use to child internalizing behaviors (Pages 26 & 79)

Shrestha, Roman University of Connecticut	Gender differences in associations between neurocognitive impairment and cocaine use among high-risk cocaine-dependent methadone-maintained patients (Pages 15 & 79)
Smethells, John University of Minnesota	Treating impulsivity for cocaine and food in female and male rats by repurposing therapeutics (Pages 10 & 79)
Swalve, Natashia University of Minnesota	Sex differences in reinstatement of cocaine-seeking in rats after acute treatment of progesterone and atomoxetine (Pages 15 & 82)
Weiss, Virginia University of Kentucky	Sex differences in dopamine and serotonin activation of brain pathways in adolescent rats exposed to social partners or amphetamine (Pages 15 & 85)
Werner, Kimberly Washington University St. Louis	Black-white disparities in risk for cannabis use and problems in women: The role of early tobacco use, trauma type and psychiatric pathology (Pages 23 & 86)

NIDA'S WOMEN & SEX/GENDER DIFFERENCES JUNIOR INVESTIGATOR 1999 – 2014 TRAVEL AWARDEES

1999
Linda Chang
Tom Eisenberg
Robert Freeman
Wendy Lynch
Michelle Pilati
Tanya Telfair Sharp

2000
Sharon M. Benedict
Scott F. Coffey
Igor Elman
Sonja Frison
Carolyn Furr-Holden
Sascha Griffing
Louis Holdstock
Marianna E. Jung
Mikhail Kalinichev
Julia Y.S. Kim
Jody L. Kulstad
Jane Liebschutz
Gloria M. Miele
Maureen Miller
Sonia Minnes
Erik R. Rasmussen
Liesbeth Reneman
Megan E. Roth
Alyson Schuster
Cathy A. Simpson
Yong S. Song
Janet C. Titus
Giao Q. Tran
Courtney V. Valdez
Wenxia Zhou
Zoran Zimolo

2001
Sudie E. Back
Andrew C. Barrett
Kimberly A. Blanchard
Carrie A. Bowen
Marcy J. Bubar
Kelly P. Cosgrove
Catherine M. Dormitzer
Teresa R. Franklin
Tony P. George
Maria A. Gomez-Serrano
Staci A. Gruber
Maureen Hillhouse
Marianna E. Jung
Katherine Karlsgodt
Sheri Kendall-Eagleson
Carolynn S. Kohn
Marguerite P. Laban
Christina N. Lessov
Katherine H. McVeigh
Nena P. Messina
Donna R. Miles
Laura A. Schleifer
Sohaila Shakib
Carla Storr
Jolan M. Terner
Alan H. Tseng
Ellen Wolfe
Li-Tzy Wu
Rebecca M. Young
Wenxia Zhou

2002
Andrew C. Barrett
Klark Bennett
Veronica Bisagno
Jessica Dean
Jay C. Elliott
Eugene D. Festa
Colin N. Haile
Sara M. Handy
Carlos Hernandez-Avila
Sharon D. Johnson
Lynne M. Kemen
Wendy J. Lynch
Sherry A. McKee
Aimee L. McRae
Katherine J. McVeigh
Fumi Mitsuishi
Christina J. Nelson
Jessica M. Peirce
Marc N. Potenza
Lynda Payne
Jovita F. Randal
Kara S. Riehman
Megan E. Roth
Scott Russo
Pilar M. Sanjuan
Valerie J. Slaymaker
Anna Söderpalm
Erin C. Stoffel
Carolyn H. Stone
Jolan M. Terner

2003
Arpana Agrawal
Jeffery C. Batis
Kelly A. Carrigan
Christine C. Cloak
Amy M. Duhig
Kathryn L. Hamilton
Sarah H. Heil
Mary M. Heitzeg
Tzipora Kuba
Elizabeth Lapoczka
Joshua A. Lile
Charles W. Mathias
Alessandra Milesi-Halle
Maria Mouratidis
Jo Cara Pendergrass
Michele L. Pergadia
Jennifer M. Phillips
Stephanie L. Rock
Juliette K. Roddy
Lori E. Ross
Deborah Scharf
Gregory R. Simpson
Erin C. Stoffel
Adriana M. Tucci
Karen A. Tucker
Carmella Walker
Alexander Y. Walley
Amy M. Windham
Helen Z. Wu
Xiang-Y. Zhang
Molly E. Zimmerman

2004
Declan T. Barry
Courtney Breen
Wilma J. Calvert
Joy E. Chudzynski
Stephanie L. Collins
Charles D. Cook
Katherine O. Courtney
Karin M. Eyrich
Anita F. Fernander
Leah J. Floyd
Kate E. Fothergill
Nancy A. Haug
Scott M. Hyman
Martha A. Jessup
Matthew W. Johnson
Lynne M. Kemen
Daniel D. Langleben
Chiang-Shan R. Li
Nikeea Linder
Lisa M. Lomas
M. Maldonado-Molina
Jesse Mason

Sean E. McCabe
Nena P. Messina
Susan Mikulich-Gilbertson
Michael H. Mohammadi
Arbi Nazarian
Vicki A. Nejtek
Bronson F. Oosterhuis
Jennifer L. Perry
Rajeev Ramchand
Punita K. Sunder
Annelyn Torres-Revercón
Lei-nei Wan
Yan Wang
Catherine Woodstock- Striley
Mansoon Yu

2005
Stephanie Afful
Alicia Allen
Sudie Back
Soojeong Bae
Ain Chung
Kelly Cosgrove
Catherine Davis
Frank Dillon
Catherine Domier
Mark Ferris
Andrea Gordon
Kerry Grohman
William J. Kowalczyk
Steven LaRowe
Erin Larson
Adam Leventhal
Sarah Meshberg-Cohen
Marc Mooney
Ashley Myracle
Noosa Niv
Joshua Ode
Prashni Paliwal
Gail Pereira Do Carmo
Sarah Podolin
Andrea Stone
Jesse Suh
Jean Sumner
Dawn Thatcher
Karen Weierstall
Maria Zarza

2006
Lynn M. Anderson
Justin J. Anker
Shanna Babalonis
Vinita Batra
Jeffrey C. Batis
Kipling Bohnert
Wendy Beth Bostwick
Gregory Breeden
Ya-Fen Chan
Emma Childs
Marc L. Copersino
Christine Coyne
Matthew W. Feltenstein
Lesley L. Green
Jennifer R. Havens
Deirtra A. Hunter
Brian C. Kelly
Katherine Keyes
Bethea Kleykamp
Benjamin P. Kowal
Joshua A. Lile
Jennifer L. Newman
Elizabeth Reynolds
Deborah Rinehart
Allison V. Schlosser
Wei-Lun Sun
Yan Wang
Andrea H. Weinberger
Rinah Yamamoto

2007
Nicole J. Amador
Justin J. Anker
Emma Childs
Chris S. Culbertson
Melissa A. Davey-Rothwell
Catherine L. Dempsey
Matt W. Feltenstein
Tracie J. Gardner
Eugenia C. Garvin
Tonya M. Gerald
Lilian A. Ghandour
Valerie S. Harder
Emily L.R. Harrison
Mathilde M. Husky
Jennifer E. Johnson
Monique B. Kelly
Kerry A. Kerstetter
Kristin M. Lester
Orna Levran
Silvia S. Martins
Clifford C. Michaels
Peter T. Morgan
Megan E. Piper
Peter G. Roma
Katharine M. Seip
Michele Staton-Tindall
Golfo K. Tzilos
Tomoko Udo
Karla D. Wagner
Mary Waldron
Matthew T. Weaver

2008
Alexis W. Ary
Jeffery C. Batis
Amy S. Buchanan
Ya-Fen Chan
Hui Cheng
Carla K. Danielson
Amy C. Janes
Du Jiang
Kerry A. Kerstetter
Stephen J. Kohut
Tanja C. Link
Catalina Lopez-Quintero
Jamie E. Mangold
R. Kathryn McHugh
Carrie B. Oser
Jennifer G. Plebani
Mirjana Radovanovic
Deborah J. Rinehart
Sarah C. Roberts
Ty S. Schepis
Lisa M. Shannon
Anne E. Smith
Courtney E. Smith
Oriana Vesga-Lopez
Mary Waldron
Monique E. Wilson
Peggilee Wupperman
Ellena S. Zakharova

2009
Oluwayimika Adelaja
Alicia Allen
Shanna Babalonis
Deanne M. Buffalari
Michelle Burns
Manuel M. Catacora
Courtenay Cavanaugh
Victoria H. Coleman
Brett Froeliger
Lauren Harte
Ana Hilde
Nathan A. Holtz
Stuart King
Janet S. Kuramoto
Magalie Lenoir
Neely Mahapatra
Prashanthi Mainampally
Kimber L. Price
Sarah C. Roberts
Veena Satyanarayana
Courtney E. Smith
Zu-in (Shelley) Su
Evelyne M. Tschibelu
Elizabeth E. Van Voorhees
Alexa A. Wakley
Yukiko Washio
Liliane Cambraia Windsor
Luyi Zhou

2010
Leah Comment
Carrol D'Sa
Ashely Dibble
Tera Fazzino
Hélène Géniaux
Rollin Hawkins

Amber Holbrook
Alicia Hulbert
Leila Islam
Kerry Kerstetter
Yulia Khodneva
Grace Kong
Katie Lawson
Grace Lee
Jennifer Lorvick
Typhanye Penniman
Khampaseuth Rasakham
Stella Resko
Deborah Rinehart
Zila Meer Sanchez
Allison Sepulveda
Lisa Shannon
Nora Siegel
Suzanne Spear
Kelly Stewart
Sara Varner
Jan Weiner

2011
Rebecca Ashare
Brendan Clark
Marcel de Dios
Amanda Elton
Irina Esterlis
Diann Gaalema
Rachael Gonzales
Nathan Holtz
Amy Janes
Kerry Kerstetter
Hedy Kober
Alexa Lopez
Yasmin Mashhoon
Tina Mathew
Meghan Morris
Harshini Neelakantan
Katelin Nickel
Stephanie Nygard
Catina O'Leary
Carmela Reichel
Lindsey Robertson
Daniel Roche
Crystal Schiller
Sneha Thamotharan
Frances Valencia
Molly Wilson-Murphy
Luyi Zho

2012
Natalie Bruner
Junran Cao
Yen-Jung Chang
Lian-Yu Chen
Brittney Cox
Natania Crane
Elise DeVito
Yun Han
Kathi Harp
Krista Lange
Libo Li
Amy Loree
Karsten Lunze
Lisa McFadden
Jason Paris
JoAnna Perry
Alexis Peterson
Erin Pullen
Carolina Ramôa
Carmela Reichel
Jennifer Slane
Megan Smith
Philip Smith
Azure Thompson
Tomoko Udo
Yukiko Washio
Kim Young

2013
Melanie Canterberry
Natania Crane
Mihai Dumitrescu
Eugene Dunne
Annesa Flentje
Brett Froeliger
Nathalie Goletiani
Dennis Hand
Lauren Hearn
Maria Levi Minzi
Alexa Lopez
Caitlin Martin
Elizabeth Meier
Verena Metz
Verica Milivojevic
Melanie Mueller
Lindsay Oberleitner
Rikki Patton
Preeta Saxena
Catherine Spellicy
Denise Vidot
Kate Walsh
Reagan Wetherill
Nikki Wooten
Yang Yang
Justin Yates
Natalie Zlebnik

2014
Jeremiah Bertz
Sarah Cercone
Elyse Cornett
Jennifer Dahne
Courtney Elizabeth Daly
Sarah Dermody
Yinghui Duan
Lauren Few
Jessica Fogel
Erin Fukaya
Michelle Horner
Sonam Lasopa
Kristin Lee
Amanda Levine
Ben Lewis
Alexa Lopze
Susan E Martelle
Kathryn McHugh
Jaimie Meyer
Andrew Meyer
Harshini Neelakantan
Stephanie Nygard
Mackenzie Peltier
David Pomm
An-Li Wang
Michael Wilson

Sunday, June 14, 2015

Plenary Session

AZ Biltmore Ballroom
9:00 - 11:15 AM

9:40 *Presentation of the Martin and Toby Adler Distinguished Service Award to Cora Lee Wetherington*
Introduction by Loretta Finnegan

Symposium I

AZ Biltmore Ballroom
3:00 - 5:00 PM

FEMALES AND FLOWERS: SEX DIFFERENCES IN THE DEPENDENCE-RELATED EFFECTS OF Δ9-THC

Chairs: Jenny Wiley and Cora Lee Wetherington

3:00 *Sex differences in antinociceptive tolerance to THC*
Rebecca Craft, Washington State University, Pullman, WA

3:25 *Sex-dependent effects of cannabis in the human laboratory*
Ziva D. Cooper, Columbia University and NYSPI, New York, NY

3:50 *Evaluation of sex differences in a rodent model of cannabinoid dependence*
Julie A. Marusich, RTI International, Research Triangle Park, NC

4:15 *Affective, psychosocial, and neuropsychological sex differences in adolescent and young adult marijuana users*
Natania A. Crane, University of Illinois at Chicago, Chicago, IL

4:40 *DISCUSSANT: What's sex got to do with it?*
Jenny Wiley, RTI International, Research Triangle Park, NC

Oral Communications 2

McArthur Ballroom 5/6
3:00 - 5:00 PM

MEASURING ANGUISH: TRAUMA & STRESS

Chairs: Philip H. Smith and David V. Flores

4:30 *Childhood adversity, stress-sensitization, and lower likelihood of cigarette smoking cessation in a U.S. nationally representative sample: A study of sex differences*
P. H. Smith[2], L. Oberleitner[1], K. Z. Smith[2], S. Mckee[2], [1]School of Medicine, DSA, Yale University, New Haven, CT, [2]Psychiatry, Yale University School of Medicine, New Haven, CT

Monday, June 15, 2015

Media Forum

McArthur Ballroom 4
8:00 - 9:30 AM

WHAT'S HOT: 2015 ORAL ABSTRACT NOMINATIONS

Chairs: Bertha K. Madras and Anna Rose Childress

MARIJUANA: CHILDREN AT RISK

Maternal age and trajectories of marijuana use over 17 years. Authors: L. Goldschmidt, N. Day, M. Cornelius

Natacha De Genna, University of Pittsburgh School of Medicine, Pittsburgh, PA

OPIOIDS: PRESCRIBING, DEATH AND RESCUE

Prescription opioid death rates are greater for females than males. Authors: M.C. LeLait, S.G. Severtson, B. Bucher-Bartelson and R.C. Dart

J. Iwanicki, Rocky Mountain Poison and Drug Center, Denver, CO

FAMILIES AT RISK

Effects of parental alcohol vs. tobacco and marijuana use on early adolescent onset of alcohol use Authors: S.S. Tobero and K.C. Pears

Deborah Capaldi, Oregon Social Learning Center, Eugene, OR

Oral Communications 3

McArthur Ballroom 5/6
10:00 - 12:00 PM

MEN/WOMEN ADDICTIONS: SEX DIFFERENCES

Chairs: Jennifer W. Tidey and Sarah A. Kromrey

10:00 *Taurine effectively inhibits cocaine preference in male and female rats: Candidate for SUD treatment*
K. Salas-Ramirez[1], K. Uribe[2], E. Friedman[3], S. Banerjee[1], [1]Physiology, Pharmacology and Neuroscience, The City College of New York, New York, NY, [2]Biology, The City College of New York, New York, NY, [3]Physiology, Pharmacology and Neuroscience, The City College of New York, New York, NY

10:15 *Cocaine self-administration in male and female monkeys, treatment with progesterone and enriched environment*
M. E. Carroll, M. Collins, B. Dougen, Psychiatry, University of Minnesota, Minneapolis, MN

10:30 *Influence of reproductive hormones on social rank and vulnerability to cocaine reinforcement in female cynomolgus monkeys*
S. Kromrey, P. W. Czoty, M. A. Nader, Physiology & Pharmacology, Wake Forest Univ School of Medicine, Winston-Salem, NC

10:45 *Gender differences in craving and internalizing symptoms in methamphetamine dependence*
E. E. Hartwell[1,2], L. A. Ray[1], [1]Psychology, University of California, Los Angeles, Los Angeles, CA, [2]Integrated Substance Abuse Programs, University of California, Los Angeles, Los Angeles, CA

11:00 *Smoking topography in men and women with and without current depression: Findings from a 10-site clinical trial*
J. W. Tidey[1], A. Strasser[2], E. Donny[3], D. Hatsukami[4], [1]Center for Alcohol & Addictions Studies, Brown University, Providence, RI, [2]University of Pennsylvania, Philadelphia, PA, [3]University of Pittsburgh, Pittsburgh, PA, [4]University of Minnesota Medical School, Minneapolis, MN

11:15 *Gender differences in cannabis withdrawal symptoms among treatment-seeking cannabis users*
E. S. Herrmann[1], E. Weerts[1], R. Vandrey[2], [1]Psychiatry and Behavioral Sciences, Johns Hopkins School of Medicine, Baltimore, MD, [2]Johns Hopkins University, Baltimore, MD

11:30 *Prescription opioid death rates are greater for females than males*
J. L. Iwanicki, M. C. Le Lait, S. G. Severtson, B. Bucher-Bartelson, R. C. Dart, RADARS® System, RMPDC, DHHA, Denver, CO

11:45 *Gender differences in history of sexual and physical abuse in relation to addiction severity*
J. E. Korte[1], T. Killeen[1], S. Sonne[1], L. Haynes[1], A. Malek[1], K. T. Brady[1,2], [1]Medical University of South Carolina, Charleston, SC, [2]Ralph H. Johnson VA Medical Center, Charleston, SC

Poster Session I
(Lunch)

Frank Lloyd Wright Ballroom
12:00 - 2:00 PM

Odd-numbered posters manned first hour;
Even-numbered, second hour

Set-up time begins Sunday 3:00 PM
Must be removed at 2:00 PM Monday

FOOD

4 *Validity of the eating section for the modified Addiction Severity Index*
M. Auriacombe[3], C. M. Denis[3,4], M. C. Rosa[3,2], J. Collombat[3], F. Serre[3], J. Daulouede[1,3], M. Fatseas[3], [1]BIZIA, Bayonne, France, [2]Center for Drug and Alcohol Research, Federal University of Rio Grande do Sul, Porto Alegre, Brazil, [3]Addiction Psychiatry (CNRS USR 3413), Universite Bordeaux, Bordeaux, France, [4]University of Pennsylvania, Philadelphia, PA

5 *Topiramate effect on weight gain during methadone maintenance*
A. Umbricht[1], J. R. Schroeder[2], D. G. Antoine[1], D. A. Tompkins[1], C. Barnhouser[1], E. C. Strain[1], G. Bigelow[1], [1]Johns Hopkins University School of Medicine, Baltimore, MD, [2]Schroeder Statistical Consulting, Ellicott City, MD

STIMULANTS - ANIMALS

11 *The effects of estrous cycling on cocaine self-administration in socially housed male-female dyads*
R. Lacy, M. Feinstein, J. C. Strickland, M. A. Smith, Department of Psychology, Davidson College, Davidson, NC

IMPULSIVITY

38 *Impulsiveness and sex trading for drugs, money, both, or neither*
S. Clingan, D. G. Fisher, G. L. Reynolds, Center for Behavioral Research and Services, California State University, Long Beach, Long Beach, CA

45 *Treating impulsivity for cocaine and food in female and male rats by repurposing therapeutics*
J. R. Smethells, M. E. Carroll, University of Minnesota, St. Paul, MN

HIV I

56 *Alcohol and drug use among patients of HIV services in Hanoi, Vietnam*
G. Bart[2], G. M. Le[1], H. Nguyen[1], H. Tran[1], T. R. Rieckmann[3], S. Nguyen[1], K. Darfler[4], R. Rawson[4], [1]Hanoi Medical University, Hanoi, Viet Nam, [2]Medicine, Hennepin County Medical Center, Minneapolis, MN, [3]Public Health, OHSU, Portland, OR, [4]UCLA ISAP, Los Angeles, CA

58 *Verbal memory is impaired among HIV+ female, but not HIV+ male cocaine users*
E. Martin[1], R. Gonzalez[2], J. Vassileva[3], P. Maki[4], [1]Psychiatry, Rush University Medical Center, Chicago, IL, [2]Psychology, Florida International University, Miami, FL, [3]Psychiatry, Virginia Commonwealth University, Richmond, VA, [4]Psychiatry, University of Illinois, Chicago, IL

67 *The relationship between African-American women's health discussion networks & HIV risk behaviors*
C. B. Oser[1], K. Eddens[1], E. Pullen[1], B. Perry[2], R. Crosby[1], [1]Univ of Kentucky, Lexington, KY, [2]Indiana University, Bloomington, IN

68 *Psychosocial syndemic affecting women living with and at-risk for HIV*
A. Batchelder[1], A. W. Carrico[1], A. Palma[2], E. Schoenbaum[3], J. Gonzalez[3], [1]University of California - San Francisco, San Francisco, CA, [2]Columbia University, New York, NY, [3]Yeshiva University, Bronx, NY

69 *Comprehensive women-centered treatment for substance use in Georgia: Initial examination of drug use and HIV risk*
I. Kirtadze[2], D. Otiashvili[2], K. O'Grady[5], W. Zule[3], E. Krupitsky[4], W. Wechsberg[6], H. E. Jones[1], [1]OB/GYN, UNC Chapel Hill, Chapel Hill, NC, [2]Addiction Research Center, Union Alternative Georgia, Tbilisi, Georgia, [3]RTI International, Research Triangle Park, NC, Durham, NC, [4]Department of Addictions, Bekhterev Research Psychoneurological Institute, St. Petersburg, St. Petersburg, Russian Federation, [5]Department of Psychology, University of Maryland, College Park, MD, Baltimore, MD, [6]RTI International, Durham, NC

71 *Factors associated with participation in HIV case management intervention among Russian drug users*
O. Toussova[4], D. M. Cheng[3], E. Blokhina[4], C. Bridden[1], N. Gnatienko[1], E. Quinn[3], A. Raj[6], T. K. Kiriazova[5], K. Lunze[3], A. Y. Walley[2], E. Krupitsky[7], J. Samet[3], [1]Boston Medical Center, Boston, MA, [2]General Internal Medicine, Boston Univ, Boston, MA, [3]Boston University, Boston, MA, [4]First Pavlov State Medical University of St. Petersburg, St. Petersburg, Russian Federation, [5]NGO "Future Without AIDS", Odessa, Ukraine, [6]UCSD, San Diego, CA, [7]Bechterev Research Psychoneurological Institute, St. Petersburg, Russian Federation

TECHNOLOGY

82 *Facebook as a locating and tracking strategy among rural drug-using women*
M. F. Dickson[1], M. Staton-Tindall[2], C. Leukefeld[3], M. Webster[3], C. B. Oser[4], [1]Center on Drug and Alcohol Research, University of Kentucky, Lexington, KY, [2]College of Social Work, University of Kentucky, Lexington, KY, [3]Behavioral Science, University of Kentucky, Lexington, KY, [4]Sociology, University of Kentucky, Lexington, KY

90 *Feasibility of web-based treatment delivery for cocaine use disorder: Profile of Internet access by active cocaine users*
F. P. Wagner[1], J. C. Strickland[2], W. W. Stoops[1,2,3], C. R. Rush[1,2,3], [1]Behavioral Science, University of Kentucky, Lexington, KY, [2]Psychology, University of Kentucky, Lexington, KY, [3]Psychiatry, University of Kentucky, Lexington, KY

91 *BSAFER: A web intervention for women in the ED with drug use and IPV*
E. Choo[1], C. Zlotnick[2], D. Strong[3], M. Mello[1], [1]Department of Emergency Medicine, Brown University, Providence, RI, [2]Psychiatry and Human Behavior, Brown University, Providence, RI, [3]Department of Family and Preventive Medicine, UCSD, San Diego, CA

CRIMINAL JUSTICE

96 *Sex, drugs, and violence: An analysis of women in drug court*
A. Acheampong[2], C. W. Striley[3], D. O. Fakunle[1], L. Cottler[3], [1]Mental Health, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, [2]University of Florida, Gainesville, FL, [3]Epidemiology, University of Florida, Gainesville, FL

99 *Meeting the HIV and hepatitis C needs of female drug court participants in the context of their trauma*
D. Morse[1], C. Cerulli[1], P. Bedell[1], J. L. Wilson[1], H. Amaro[2], [1]Psychiatry, University of Rochester School of Medicine, Rochester, NY, [2]Social Work and Preventive Medicine, University of Southern California, Los Angeles, CA

PREVENTION

101 *Criminal arrests among drug-using assault-injured youth seeking ED care: A prospective cohort study*
R. M. Cunningham[1], P. M. Carter[1], M. Zimmerman[1], F. Blow[1], M. A. Walton[1], [1]Univ. of Michigan, Ann Arbor, MI

102 *Event-level analysis of antecedents to firearm violence among drug-using ED youth*
P. M. Carter[1], M. A. Walton[1], Q. Epstein-Ngo[1], E. A. Austic[1], M. Zimmerman[1], F. Blow[1], S. Chermack[1], A. Buu[2], R. M. Cunningham[1], [1]Univ. of Michigan, Ann Arbor, MI, [2]Indiana University, Bloomington, IN

103 *Lifetime victimization and sexual relationship power among substance-abusing African-American women*
C. Ahuama-Jonas, K. Burlew, University of Cincinnati, Taylor Mill, KY

104 *The risks of gang association among drug-using women in Cape Town, South Africa*
T. Carney[2], B. Myers[1,3], F. Browne[4], P. Wechsberg[4,5,6], D. Kline[4], [1]Alcohol, Tobacco and Other Drug Research Unit, South African Medical Research Council, Tygerberg, South Africa, [2]Alcohol, Tobacco and Other Drug Research Unit, South African Medical Research Coucil, Cape Town, South Africa, [3]Psychiatry and Mental Health, University of Cape Town, Rondebosch, South Africa, [4]Research Triangle Institute International, Raleigh/Durham, NC, [5]Psychology in the Public Interest, North Carolina State University, Raleigh, NC, [6]Psychiatry and Behavioral Sciences, Duke University, Durham, NC

107 *Prevalence and correlates of drug use in women patients of community health centers in Tijuana, Mexico and Los Angeles, USA*
M. Arroyo[1], G. Natera[1], L. Gelberg[2], R. Andersen[3], M. Rico[2], [1]National Institute of Psychiatry Ramón de la Fuente Muñiz, Mexico City, Mexico, [2]Family Medicine; Public Health, UCLA, Los Angeles, CA, [3]UCLA School of Public Health, Los Angeles, CA

124 *Effects of cultural congruity on alcohol use severity among Hispanic emerging adults in college*
M. Cano[1], E. Vaughan[3], M. de Dios[4], Y. Castro[2], A. Roncancio[5], L. Ojeda[6], [1]Epidemiology, Florida International University, Miami, FL, [2]School of Social Work, University of Texas at Austin, Austin, TX, [3]Indiana University, Bloomington, IN, [4]MD Anderson Cancer Center, Houston, TX, [5]UT Health Science Center, Houston, TX, [6]Texas A&M University, College Station, TX

125 *Correlates of specific personality and alcohol use with nonmedical use of prescription stimulants in college students*
S. Bierma[1], S. J. Lookatch[2], K. Ritter[1], G. Kurdziel[2], T. Moore[1], E. C. Katz[3], [1]University of Tennessee, Knoxville, TN, [2]Department of Psychology, University of Tennessee, Knoxville, TN, [3]Towson University, Towson, MD

POLICY

133 *A pre–post comparison in healthcare service utilization among heroin-using women in the methadone maintenance treatment in Taiwan*
Y. Lien[2], H. H. Yeh[1], S. Fang[2], C. Chen[2], [1]Epidemiology, Michigan State University, East Lansing, MI, [2]Institute of Public Health, National Yang-Ming University, Taipei, Taiwan

136 *Factors associated with illicit methadone injecting in a Canadian setting*
D. Tucker[1], M. Milloy[1,2], K. Hayashi[1,2], R. Lung[1], P. Nguyen[1], T. Kerr[1,2], E. Wood[1,2], [1]BC Centre for Excellence in HIV/AIDS, St Paul's Hospital, Vancouver, BC, Canada, [2]Department of Medicine, University of British Columbia, Vancouver, BC, Canada

Oral Communications 5

Grand Ballroom
2:00 - 4:00 PM

MAINTAINING ABSTINENCE: TREATMENTS FOR OPIOID DEPENDENCE

Chairs: Mark A. Smith and Andrew Rosenblum

2:00 *The effects of strength training on heroin self-administration*
M. A. Smith, G. Fronk, S. Bills, R. Lacy, Davidson College, Davidson, NC

Monday, June 15, 2015

Oral Communications 6

McArthur Ballroom 4
2:00 - 4:00 PM

ADLERESCENTS: ADOLESCENT DRUG ABUSE

Chairs: Richard Miech and Chloe J. Jordan

3:45 *Effects of parental alcohol vs. tobacco and marijuana use on early adolescent onset of alcohol use*
D. Capaldi[2], S. S. Tiberio[2], D. C. Kerr[1,2], K. C. Pears[2], [1]School of Psychological Science, Oregon State University, Corvallis, OR, [2]Oregon Social Learning Center, Eugene, OR

Marian W. Fischman Memorial Award Lecture

McArthur Ballroom 4
4:30 - 5:30 PM

Presentation of the Marian W. Fischman Award to Kathleen Brady

Introduction by Sudie Back

Stress and addictions
Kathleen T. Brady

Pre- and Post Doctoral Trainees Networking Event

Gold
5:30 - 7:00 PM

Workshop VII

McArthur Ballroom 5/6
7:00 - 9:00 PM

SUBSTANCE ABUSE TREATMENT CLINICAL TRIALS: DOES GENDER MATTER?

Chairs: Shelly F. Greenfield and Carmen Rosa

Stimulant reduction intervention using dosed exercise: Gender differences and treatment acceptability
Therese Killeen, Medical University of South Carolina, Charleston, SC

Gender differences in response to a 12-step engagement intervention: Results of a national drug abuse treatment clinical trials network study
Mary Hatch-Maillette, University of Washington, Seattle, WA

Web-based psychosocial treatment for outpatient substance abuse treatment seekers: Gender differences in acceptability and treatment outcomes
Aimee Campbell, Columbia University College Medical Center, New York, NY

Gender differences in accessing substance abuse treatment following an emergency department SBIRT intervention
Audrey Brooks, University of Arizona, Tucson, AZ

DISCUSSANT: Recent results in the NIDA clinical trails network: Does gender matter?
Shelly F. Greenfield, Harvard Medical School, Boston, MA

2015 NIDA International Forum

June 15, 2015–7:00 to 9:00 p.m.

Epidemiology

229 *Diagnosis of hepatitis C virus infection after entry to opioid substitution therapy: A 15-year observational cohort study*

S. Larney[1], J. Grebely[2], M. Falster[3,4], A. Swart[4], J. Amin[2], L. Degenhardt[1], L. Burns[1], C. M. Vajdic[4]. [1]National Drug and Alcohol Research Centre, University of New South Wales (UNSW), Australia; [2]The Kirby Institute, UNSW, Australia; [3]Centre for Health Research, University of Western Sydney, Australia; [4]Prince of Wales Clinical School, UNSW, Australia

256 *Association of alcohol use with drug use and weapon carrying among Thai adolescents*

O. Saiphoklang[1,2], K. Wongboonsin[1,2], P. Wongboonsin[1], U. Perngparn[1], L. B. Cottler[1,2]. [1]College of Population Studies, College of Public Health Sciences, Chulalongkorn University, Thailand; [2]Substance Abuse Training Center in Public Health, University of Florida, United States

Prevention

427 *Factors associated with participation in HIV case management intervention among Russian drug users*

O. Toussova[1], D. M. Cheng[2], E. Blokhina[1], C. Bridden[3], N. Gnatienko[3], E. Quinn[2], A. Raj[4], T. Kiriazova[5], K. Lunze[2], A. Y. Walley[2,3], E. M. Krupitsky[1,6], J. H. Samet[2,3]. [1]First St. Petersburg Pavlov State Medical University, Russia; [2]Boston University, United States; [3]Boston Medical Center, United States; [4]University of California, San Diego, United States; [5]Future without AIDS–Odessa, Ukraine; [6]St. Petersburg Bekhterev Research Psychoneurological Institute, Russia

Treatment

520 *Comprehensive women-centered treatment for substance use in Georgia: Initial examination of drug use and HIV risk*

I. Kirtadze[1], D. Otiashvili[1], K. O'Grady[2], W. Zule[3], E. Krupitsky[4], W. Wechsberg[3], H. E. Jones[5]. [1]Addiction Research Center, Alternative Georgia, Georgia; [2]Department of Psychology, University of Maryland, United States; [3]RTI International, United States; [4]Department of Addictions, Bekhterev Research Psychoneurological Institute, St. Petersburg, Russia; [5]University of North Carolina (UNC) Horizons, Department of Obstetrics and Gynecology, UNC at Chapel Hill, United States

545 *Factors associated with illicit methadone injecting in a Canadian setting*

D. Tucker[1], M-J. Milloy[1,2], K. Hayashi[1,2], R. Lung[1], P. Nguyen[1], T. Kerr[1,2], E. Wood[1,2]. [1]British Columbia Centre for Excellence in HIV/AIDS, St. Paul's Hospital, Canada; [2]Department of Medicine, University of British Columbia, Canada

Tuesday, June 16, 2015

CPDD/INRC Plenary

AZ Biltmore Ballroom
8:00 - 9:00 AM

Drug abuse and addiction research: progress, priorities and challenges
Nora Volkow, Director, National Institute on Drug Abuse

Poster Session II

(Lunch)

Frank Lloyd Wright Ballroom
11:30 - 1:30 PM

Odd-numbered posters manned first hour;
Even-numbered, second hour

Set-up time begins Monday 3:00 PM
Must be removed at 2:00 PM Tuesday

SEX DIFFERENCES

6 *Sex difference in behavioral effects of the THC agonist CP55,940*
H. T. French[1,2], A. Klambatsen[1,2], C. Chan[2], S. Jenab[1,2], V. Quinones-Jenab[1,2], [1]Psychology, Graduate Center of the City University of New York, New York, NY, [2]Psychology, Hunter College CUNY, New York, NY

7 *Sex differences in dopamine and serotonin activation of brain pathways in adolescent rats exposed to social partners or amphetamine*
V. G. Weiss[1], R. S. Hofford[1], J. R. Yates[2], M. T. Bardo[1], [1]University of Kentucky, Lexington, KY, [2]Northern Kentucky University, Newport, KY

8 *Sex differences in reinstatement of cocaine-seeking in rats after acute treatment of progesterone and atomoxetine*
N. Swalve[1], N. Zlebnik[1], H. Veglahn[1], M. E. Carroll[2], [1]Psychiatry, Univ of Minnesota, Minneapolis, MN, [2]University of Minnesota, Mahtomedi, MN

9 *Age and gender effects on subjective drug effect of d-amphetamine*
R. Pang[1], M. Kirkpatrick[3], N. Goldenson[1], C. Guillot[1], A. Leventhal[1], [1]University of Southern California, Los Angeles, CA, [2]Department of Preventive Medicine, University of Southern California, Azusa, CA, [3]Preventive Medicine, University of Southern California, Los Angeles, CA

10 *Gender differences in associations between neurocognitive impairment and cocaine use among high-risk cocaine-dependent methadone-maintained patients*
R. Shrestha[1], T. B. Huedo-Medina[2], M. Copenhaver[2], [1]Community Medicine & Health Care, University of Connecticut Health Center, Farmington, CT, [2]Allied Health Sciences, University of Connecticut, Storrs, CT

11 *Sex differences in intrinsic connectivity during fMRI Stroop in cocaine-dependent and healthy comparison subjects*
M. R. Mitchell[1], E. E. DeVito[1], I. Balodis[1], C. Lacadie[2], D. Scheinost[3], R. Constable[2], R. Malison[1], K. M. Carroll[1], M. N. Potenza[1], [1]Psychiatry, Yale University School of Medicine, New Haven, CT, [2]Diagnostic Radiology, Yale University School of Medicine, New Haven, CT, [3]Biomedical Engineering, Yale University School of Medicine, New Haven, CT

12 *Gender differences in Stroop performance following guanfacine versus placebo in early abstinent cocaine- dependent men and women*
V. Milivojevic[1], N. Jayaram-Lindstrom[2], R. Sinha[1], H. C. Fox[1], [1]Psychiatry, Yale University School of Medicine, New Haven, CT, [2]Karolinska Institute, Solna, Sweden

13 *Impact of yohimbine and cocaine-cues on executive function in cocaine-dependent men and women*
M. Moran-Santa Maria[1], K. T. Brady[2,3], A. McRae-Clark[2], J. Prisciandaro[2], N. Baker[4], [1]Psychiatry and Behavioral Sciences, MUSC, Charleston, SC, [2]Psychiatry, Medical University of South Carolina, Charleston, SC, [3]Ralph H Johnson VAMC, Charleston, SC, [4]Department of Public Health Sciences, Medical University of South Carolina, Charleston, SC

14 *Gender differences in methamphetamine use in a Mexico-U.S. border city*
O. Loza[1], J. Ferreira-Pinto[3], R. Ramos[2], M. Ramos Rodriguez[4], [1]Public Health Sciences, UT El Paso, El Paso, TX, [2]Alliance of Border Collaboratives (ABC), El Paso, TX, [3]UTEP College of Health Sciences, El Paso, TX, [4]Programa Compañeros, A.C., Ciudad Juárez, Mexico

15 *The Israeli club drug culture: A qualitative examination of gender differences in substance use and sexual risk behaviors*
M. Lawental[1], S. P. Kurtz[3], M. E. Buttram[2], [1]School of Social Work, University of Haifa, Haifa, Israel, [2]Center for Applied Research on Substance Use and Health Disparities, Nova Southeastern University, Miami, FL, [3]ARSH: Center for Research on Substance Use and Health Disparities, Nova Southeastern University, Miami, FL

16 *Risk of sexual abuse among ecstasy users differs by gender and other drug use*
S. R. Khan[2], C. W. Striley[2], J. Copeland[3], S. P. Kurtz[1], L. Cottler[2], [1]ARSH: Center for Research on Substance Use and Health Disparities, Nova Southeastern University, Miami, FL, [2]Epidemiology, University of Florida, Gainesville, FL, [3]NCPIC, University of NSW, Sydney, NSW, Australia

17 *Substance use outcomes of girls with ADHD in a 10-year follow-up of a prospective longitudinal study*
K. Belendiuk[1], S. Hinshaw[1,2], [1]University of California, Berkeley, CA, [2]University of California, San Francisco, CA

18 *Liability for violence in young women*
M. D. Reynolds, S. P. Knopf, L. Kirisci, R. E. Tarter, School of Pharmacy, University of Pittsburgh, Pittsburgh, PA

19 *Prevalence and correlates of spousal sexual violence against married women in India*
V. Murugan, Social Work, Washington University St. Louis, Ladue, MO

20 *Gender differences among MST survivors on chronic opioid therapy*
S. Lin, D. Plott, Mental Healthcare Line, Cincinnati VAMC, Cincinnati, OH

21 *Gender differences in mortality among treated opioid-dependent patients*
E. Evans[2], L. Li[2], J. Min[1], D. Y. Huang[2], D. Urada[2], Y. Hser[2], B. Nosyk[1], [1]BC Centre for Excellence in HIV/AIDS, Vancouver, BC, Canada, [2]UCLA Integrated Substance Abuse Programs, Los Angeles, CA

22 *Sex differences in alcohol use disorders and risky drinking among chronic non-cancer pain patients receiving opioid therapy*

B. Larance[1], A. Peacock[2], G. Campbell[1], R. Bruno[2], N. Lintzeris[3], M. Cohen[1], S. Nielsen[1], W. Hall[4], R. P. Mattick[1], L. Degenhardt[1], [1]National Drug and Alcohol Research Centre, University of New South Wales, Sydney, NSW, Australia, [2]School of Psychology, University of Tasmania, Hobart, TAS, Australia, [3]Langton Centre, South Eastern Sydney and Illawarra Local Health District, Sydney, NSW, Australia, [4]University of Queensland, Brisbane, QLD, Australia

23 *The gendered risk environment for injection drug use: An event specific analysis of injection risk behvaior*

P. Janulis, Department of Epidemiology and Biostatistics, Michigan State University, Lansing, MI

24 *Medical and mental health needs of lesbian, gay, and bisexual clients in substance abuse treatment*

A. Flentje[1], N. Livingston[2], J. Roley[3], J. Sorensen[1], [1]University of California, San Francisco, San Francisco, CA, [2]University of Montana, Missoula, MT, [3]Drexel University, Philadelphia, PA

PHARMACOKINETICS

27 *Pharmacokinetics of bupropion sustained release in pregnancy and postpartum at steady state*

V. M. Fokina[1,3], X. Wang[1], E. Rytting[1], M. S. Ahmed[1], C. Oncken[2], G. Hankins[1], T. Nanovskaya[1], [1]OB&GYN, UTMB, Galveston, TX, [2]Medicine, University of Connecticut Health Center, Farmington, CT, [3]Pharmacology & Toxicology, UTMB, Galveston, TX

32 *The role of carbonyl reductases in biotransformation of bupropion and 4-methylnitrozamino-1-(3-pyridyl)-1-butanone by human placenta*

T. Nanovskaya[1], V. M. Fokina[1,2], X. Wang[1], C. Oncken[3], M. S. Ahmed[1], G. Hankins[1], [1]OB&GYN, UTMB, Galveston, TX, [2]Pharmacology & Toxicology, UTMB, Galveston, TX, [3]Medicine, University of Connecticut Health Center, Farmington, TX

NICOTINE TREATMENT

50 *A tobacco cessation readiness group increases initiation of quitting in residential treatment patients*

J. Guydish[1], V. Gruber[1], T. Le[1], B. Tajima[1], B. Andrews[1], H. Leo[2], J. Tsoh[1], [1]University of California San Francisco, San Francisco, CA, [2]Yale University, New Haven, CT

PRESCRIPTION OPIOIDS

59 *Correlates of prescription opioid legitimacy estimations among community pharmacists in Tennessee*

N. E. Hagemeier[1], A. Alamian[2], M. M. Murawski[3], R. P. Pack[4], [1]Pharmacy Practice, East Tennessee State University, Johnson City, TN, [2]Biostatistics and Epidemiology, East Tennessee State University, Johnson City, TN, [3]Pharmacy Administration, Purdue University, West Lafayette, IN, [4]Community and Behavioral Health, East Tennessee State University, Johnson City, TN

PROGRAM DESCRIPTION

72 *Women's Intervention to Stop HIV/HCV (WISH)*
M. Staton-Tindall[5], M. Webster[3], C. Leukefeld[2], J. R. Havens[4], C. B. Oser[1], [1]Sociology, Univ of Kentucky, Lexington, KY, [2]University of Kentucky, Lexington, LA, [3]Behavioral Science, University of Kentucky, Lexington, KY, [4]Center on Drug and Alcohol Research, University of Kentucky, Lexington, KY, [5]Social Work, University of Kentucky, Lexington, KY

79 *International standards on the treatment of drug use disorders*
A. Busse[2], G. Gerra[1], I. Koutsenok[2], E. Saenz[2], [1]Drug Prevention and Health Branch, UNODC, Vienna, Austria, [2]Prevention, Treatment and Rehabilitation Section (PTRS), United Nations Office on Drugs and Crime (UNODC), Vienna, Austria

ADOLESCENT I

103 *Energy drink compounds differentially affect anxiety, locomotion, depression and cognition in adolescent and adult female rats*
K. Chauhan[1], S. Perez[2], M. Chrisphonte[1], M. Evelyn[1], M. Guzman[1], D. Woo[1], U. Akpara[1], H. Saleh[1], A. Alexander-Street[2], K. Salas-Ramirez[1], [1]Physiology, Pharmacology and Neuroscience, The City College of New York, New York, NY, [2]Biology, Lehman College, CUNY, Bronx, NY

106 *The role of the $\alpha 7$ and $\alpha 4\beta 2$ nicotinic receptors in nicotine sensitization and neural plasticity of adolescent rats neonatally treated with quinpirole*
D. J. Peterson, C. M. Bardo, E. D. Cummins, R. W. Brown, Psychology, East Tennessee State University, Johnson City, TN

107 *Genetic and environmental influences on initiation and heaviness of smoking from adolescence to adulthood*
C. B. Bares, K. S. Kendler, H. Maes, Virginia Commonwealth University, Richmond, VA

110 *The impact of e-cigarette advertisements on e-cigarette initiation among middle and high school students*
K. M. Gutierrez, D. R. Camenga, G. Kong, D. A. Cavallo, P. Simon, R. Wu, C. Connell, S. Krishnan-Sarin, Yale University, New Haven, CT

117 *School context and marijuana use among Maryland high school students*
E. Parker[1], R. M. Johnson[1], S. Lindstrom Johnson[2], C. Bradshaw[3,4], [1]Department of Mental Health, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, [2]Department of Pediatrics, Johns Hopkins School of Medicine, Baltimore, MD, [3]Curry School of Education, University of Virginia, Charlottesville, VA, [4]Johns Hopkins Center for the Prevention of Youth Violence, Baltimore, MD

EPIDEMIOLOGY I

122 *Are early-onset users of inhalants at excess risk of developing inhalants dependence soon after onset of inhalant use: Estimates for the United States, 2002-2011*
R. Brosig, J. C. Anthony, Michigan State University, Rochester, MI

136 *Parallel development of longitudinal tobacco smoking and alcohol consumption: The Amsterdam Growth and Health Longitudinal Study*
C. Lederhos, O. Brooks, A. Lamp, C. Barbosa-Leiker, T. Hoekstra, S. Murphy, M. Layton, J. Roll, S. McPherson, Program of Excellence in Addictions Research (PEAR), Washington State University, Spokane, WA

137 *Perceived approval of substance use in soldiers vs. civilians*

G. G. Homish, D. Homish, K. Cummings, S. A. Cercone, E. Read, R. Daws, D. Saltino, Community Health & Health Behavior, State University of New York at Buffalo, Buffalo, NY

Symposium VII

BEHAVIORAL ECONOMICS OF HEALTH DISPARITIES IN ADDICTION

McArthur Ballroom 1/2
1:30 - 3:30 PM

Chairs: Adam Leventhal and Stephen T. Higgins

2:20 *Behavioral economics: Improving outcomes among disadvantaged women and infants*
Stephen T. Higgins, University of Vermont, Burlington, VT

Oral Communications 8

McArthur Ballroom 4
1:30 - 3:30 PM

MOMMAS WHO ABUSE: PERINATAL DRUG ABUSE

Chairs: Sarah H. Heil and Sarah A. Cercone

1:30 *Correspondence between self-reported and biochemical measures of cigarette smoking in pregnant women*
S. H. Heil, L. J. Solomon, J. M. Skelly, I. M. Bernstein, S. T. Higgins, Vermont Center on Behavior and Health, University of Vermont, Burlington, VT

1:45 *Individual characteristics and social process in influencing maternal smoking behavior: A longitudinal analysis of a national birth cohort*
W. Liu, E. Mumford, Public Health, NORC at University of Chicago, Bethesda, MD

2:00 *Prenatal tobacco exposure predicts child's internalizing behavior*
S. A. Cercone[1], G. G. Homish[1], R. D. Eiden[2], J. L. Derrick[2], [1]Community Health & Health Behavior, State University of New York at Buffalo, Buffalo, NY, [2]Research Institute on Addictions, Buffalo, NY

2:15 *Second-hand smoke exposure during pregnancy and anxiety disorder in children at age 11-13*
J. Liu, H. Liu, W. Liu, School of Nursing, University of Pennsylvania, Philadelphia, PA

2:30 *Hospital admissions for alcohol use disorders in pregnancy*
C. L. Breen[1], F. Xu[2], L. Burns[1], [1]NDARC, UNSW, Sydney, NSW, Australia, [2]UNSW, Simpson Centre for Health Services Research, Sydney, NSW, Australia

2:45 *Prevalence and predictors of antenatal alcohol use prior to awareness of pregnancy*
C. McCormack[1], D. Hutchinson[1], L. Burns[1], J. Wilson[1], E. Elliott[2], S. Allsop[3], J. Najman[4], C. Olsson[5], S. Jacobs[6], A. Bartu[7], R. P. Mattick[1], [1]National Drug and Alcohol Research Centre, University of New South Wales, Sydney, NSW, Australia, [2]Paediatrics and Child Health, Sydney Medical School, University of Sydney, Sydney, NSW, Australia, [3]National Drug Research Institute, Curtin University of Technology, Perth, WA, Australia, [4]Queensland Alcohol and Drug Research Education Centre, University of Queensland, Brisbane, QLD, Australia, [5]Centre for Social and Early Emotional Development, Deakin University, Melbourne, VIC, Australia, [6]Department of Obstetrics, Royal Prince Alfred Hospital, Sydney, NSW, Australia, [7]School of Nursing and Midwifery, Curtin University, Perth, WA, Australia

3:00 *Prevalence of heavy fetal alcohol exposure during pregnancy in Canada: A population-based meconium study*
K. Delano[1,2], E. Pope[2,3], B. Kapur[2], G. Koren[1,2], [1]Pharmacology and Toxicology, The University of Toronto, Toronto, ON, Canada, [2]Clinical Pharmacology and Toxicology, Hospital for Sick Children, Toronto, ON, Canada, [3]Health Sciences, McMaster University, Hamilton, ON, Canada

3:15 *Maternal age and trajectories of marijuana use over 17 years*
N. De Genna[1], L. Goldschmidt[2], N. Day[1], M. Cornelius[1], [1]Psychiatry, University of Pittsburgh School of Medicine, Pittsburgh, PA, [2]Western Psychiatric Institute and Clinic (WPIC), University of Pittsburgh Medical Center (UPMC), Pittsburgh, PA

Oral Communications 9

McArthur Ballroom 5/6
1:30 - 3:30 PM

MISTY ASPIRATIONS: VAPING

Chairs: Olga Rass and Michael A. Taffe

1:30 *Use patterns, perceptions of relative harm, and gender effects in dual users of electronic and tobacco cigarettes*
O. Rass, L. R. Pacek, P. S. Johnson, M. W. Johnson, Psychiatry and Behavioral Sciences, Johns Hopkins University School of Medicine, Baltimore, MD

Oral Communications 10

McArthur Ballroom 5/6
3:45 - 4:45 PM

MALLEABLE AGE: INFANTS AND CHILDREN

Chairs: Loretta Finnegan and Jillian Hardee

3:45 *Surveying lactation professionals regarding breastfeeding and marijuana use*
C. L. Bergeria[3,2], S. H. Heil[3,1,2], [1]Psychiatry, University of Vermont, Burlington, VT, [2]Psychology, University of Vermont, Burlington, VT, [3]Vermont Center on Behavior and Health, Burlington, VT

4:00 *Gender differences in the development of emotion circuitry in youth at risk for substance abuse: A longitudinal fMRI study*
J. Hardee, L. M. Cope, R. Zucker, M. Heitzeg, Psychiatry, University of Michigan, Ann Arbor, MI

4:15 *Drug- and alcohol-exposed pregnancies: Maternal and infant outcomes*
M. Tuten[1], S. Moore[1], H. Fitzsimons[2], M. Velez[3], M. S. Chisolm[2], L. Jansson[3], H. E. Jones[4], [1]School of Social Work, UMB, Baltimore, MD, [2]Psychiatry and Behavioral Sciences, JHU, Baltimore, MD, [3]Pediatrics, JHU, Baltimore, MD, [4]OB/GYN, UNC Chapel Hill, Chapel Hill, NC

4:30 *Gender differences in associations between childhood sexual abuse and illicit drug use in adulthood*
S. Gao[1], J. D. Scheidell[2], T. Campion[1], K. Vaddiparti[1], S. McGorray[1], M. R. Khan[2], [1]Colleges of Public Health & Health Professions and Medicine, University of Florida, Gainesville, FL, [2]Population Health, New York University, New York, NY

Oral Communications 11

AZ Biltmore Ballroom
3:45 - 5:45 PM

MANAGING AGONY: OPIOIDS AND PAIN

Chairs: Silvia L. Cruz and Kate McHugh

4:45 *Predictors for high dose chronic opioid therapy*
D. Plott, S. Miller, MHCL, VHACIN, Cincinnati, OH

Workshop IX

McArthur Ballroom 1/2
7:00 - 9:00 PM

THE INTERTWINING EPIDEMICS OF DRUG USE AND HIV/AIDS: THE HIV/AIDS WORKGROUP

Chairs: Adam W. Carrico and Don C. Des Jarlais

Gender-specific HIV prevention interventions for women who use alcohol and other drugs: The evolution of the science and future directions
Wendee Wechsberg, Research Triangle Institute, Research Triangle Park, NC

Wednesday, June 17, 2015

Grant-Writing Workshop
(Pre-Registrants Only)

AZ Biltmore Ballroom
8:00 - 12:00 PM

Animals in Research Forum

McArthur Ballroom 1/2
10:00 - 12:00 PM

Chairs: Marilyn E. Carroll and Bert Weiss

The use of both female and male animals in NIH-funded research
Cora Lee Wetherington, NIDA, Bethesda, MD

Poster Session III
(Lunch)

Frank Lloyd Wright Ballroom
12:00 - 2:00 PM

Odd-numbered posters manned first hour;
Even-numbered, second hour

Set-up time begins Tuesday 3:00 PM
Must be removed at 2:00 PM Wednesday

PSYCHIATRIC COMORBIDITY

15 *Incentivizing attendance to prolonged exposure in methadone maintenance*
J. M. Peirce[1], R. L. Schacht[2], R. K. Brooner[1], V. L. King[1], M. S. Kidorf[1], [1]Psychiatry and Behavioral Sciences, Johns Hopkins University, Baltimore, MD, [2]Psychology, University of Maryland, Baltimore County, Baltimore, MD

18 *Gender influence on comorbidity and clinical features of cocaine-dependent patients*
C. Roncero[1,3,2], C. Daigre[1,2], L. Grau-López[1,2,3], E. Ros-Cucurull[1,2,3], L. Rodriguez-Cintas[1,2,3], C. Barral[1,2,3], N. Martinez-Luna[1,2,3], J. Pérez-Pazos[1,2,3], A. Egido[1,2], M. Prat[1,2,3], J. Gonzalez[5], A. Alfonso[4], J. Alvarós[1,2], N. Tarifa[1,2], M. Casas[2,3], [1]Outpatient Drug Clinic, ASPB, Barcelona, Spain, [2]Psychiatry, Hospital Vall Hebron, Barcelona, Spain, [3]Psychiatry, Universidad Autónoma de Barcelona, Barcelona, Spain, [4]Psychiatry, Universidad Nacional de asunción, Asunción, Paraguay, [5]Psychiatry, Centro de Investigaciones del SNC, Bogota, Colombia

19 *Comorbidity and functioning of substance-dependent women with sexual abuse history in the Stage II Women's Recovery Group therapy trial*
D. E. Sugarman[1,2], B. Iles[2], S. F. Greenfield[1,2], [1]Harvard Medical School/McLean Hospital, Belmont, MA, [2]Division of Alcohol and Drug Abuse; Division of Women's Mental Health, McLean Hospital, Belmont, MA

22 *Applying SBIRT to new settings: Preliminary findings of substance use disorder risk in community mental health settings*
S. E. Spear[2], M. Karno[3], S. Glasner-Edwards[3], R. Rawson[3], R. Saitz[1], B. Dominguez[3], [1]Community Health Sciences, Boston University and Boston Medical Center, Boston, MA, [2]Health Sciences, California State University, Northridge, Northridge, CA, [3]Psychiatry, UCLA Integrated Substance Abuse Programs, Los Angeles, CA

24 *Black-white disparities in risk for cannabis use and problems in women: The role of early tobacco use, trauma type and psychiatric pathology*
K. B. Werner[1], V. V. McCutcheon[2], C. E. Sartor[3], E. C. Nelson[2], A. C. Heath[2], K. K. Bucholz[2], [1]Social Work, Washington University (WU), St. Louis, MO, [2]Psychiatry, WU School of Medicine, St. Louis, MO, [3]Psychiatry, Yale School of Medicine, West Haven, CT

ADOLESCENT II

30 *Alcohol and tobacco use among Brazilian high school students: The role of psychiatric symptomatology*
T. M. Fidalgo[2], Z. M. Sanchez[3], S. Caetano[2], E. Carlini[3], S. S. Martins[1], [1]Epidemiology, Columbia University, New York City, NY, [2]Psychiatry, Federal University of Sao Paulo, Santos, Brazil, [3]Preventive Medicine, Universidade Federal de Sao Paulo, Sao Paulo, Brazil

31 *Association of alcohol use with drug use and weapon carrying among Thai adolescents*
O. Saiphoklang[1], K. Wongboonsin[1], P. Wongboonsin[1], U. Perngparn[3], L. Cottler[2], [1]College of Population Studies, Chulalongkorn University, Bangkok, Thailand, Patumwan, Thailand, [2]Epidemiology, University of Florida, Gainesville, FL, [3]College of Public Health Sciences, Chulalongkorn University, Patumwan, Thailand

35 *Underage drinking diversion: Characterizing risk with latent class analysis*
N. Mendoza, E. Anthony, D. Row-Sepowitz, Arizona State University, Phoenix, AZ

38 *Gender differences in the longitudinal development of normative beliefs for tobacco, alcohol and marijuana use among middle and high school students*
H. Petras[1], Z. Sloboda[2], [1]Health and Social Development, American Institutes for Research, Washington, DC, [2]Applied Prevention Science, Inc., Ontario, OH

39 *A gender-stratified analysis of adolescent substance use on violence trajectories*
J. Lim, UCLA Integrated Substance Abuse Programs, Los Angeles, CA

40 *Role of gender in age of initiation of nonmedical use of prescription drugs among youth 10 to 18 years*
S. O. Lasopa, C. W. Striley, L. Cottler, Epidemiology, University of Florida, Gainesville, FL

HIV II / HCV

62 *Diagnosis of hepatitis C virus infection after entry to opioid substitution therapy*
S. Larney[3], J. Grebely[4], M. Falster[5], A. Swart[6], J. Amin[4], L. Degenhardt[2], L. Burns[1], C. Vajdic[6], [1]NDARC, UNSW, Sydney, NSW, Australia, [2]National Drug and Alcohol Reseacrh Centre, University of NSW, Sydney, NSW, Australia, [3]National Drug and Alcohol Research Centre, University of New South Wales, Randwick, NSW, Australia, [4]The Kirby Institute, University of NSW, Sydney, NSW, Australia, [5]Centre for Health Research, University of Western Sydney, Sydney, NSW, Australia, [6]Prince of Wales Clinical School, University of NSW, Sydney, NSW, Australia

OPIOID TREATMENT

65 *Counselors' views of providing patient-centered methadone treatment in a clinical trial*
S. G. Mitchell[1], L. Monico[1], E. Lertch[1], J. Gryczynski[1], S. M. Kelly[1], K. E. O'Grady[2], J. H. Jaffe[1], R. P. Schwartz[1], [1]Friends Research Institute, Baltimore, MD, [2]University of Maryland, College Park, MD

72 *Determining menstrual phase in substance use research: A review with recommendations*
A. M. Allen[3], A. McRae-Clark[2], M. E. Saladin[1], K. M. Gray[2], C. Wetherington[4], S. A. McKee[6], S. Allen[5], [1]Health Sciences and Research, Med. Univ. of SC, Charleston, SC, [2]Department of Psychiatry and Behavioral Sciences, Medical University of South Carolina, Charleston, SC, [3]Family Medicine & Community Health, University of Minnesota, Minneapolis, MN, [4]NIDA, Bethesda, MD, [5]University of Minnesota, Minneapolis, MN, [6]Psychiatry, Yale, New Haven, CT

75 *Drug-free period from non-opioids before start of the treatment with methadone or buprenorphine for heroin-dependence improves efficacy*
O. M. Hoffmann[1], T. Ljungberg[2], F. Frisell[1], [1]Addiction Center, Psychiatric Clinic Eskilstuna, Stockholm, Sweden, [2]Center for Clinical Research, Psychiatric Clinic, Nyköping, Sweden

PREVENTION

83 *Constrained choices:The care-decision-making experience for pregnant opioid-dependent women*
H. G. Howard, Social Work, Women & Infants Hospital, Lincoln, RI

84 *Postpartum contraceptive behavior of opioid-maintained pregnant women*
H. S. Melbostad[1,2], S. H. Heil[1,3,2], [1]Vermont Center on Behavior and Health, University of Vermont, Burlington, VT, [2]Psychological Sciences, University of Vermont, Burlington, VT, [3]Psychiatry, University of Vermont, Burlington, VT

85 *A SMART design: Response to reinforcement-based treatment intensity among pregnant, drug-dependent women*
H. Fitzsimons[1], M. Tuten[2], K. O'Grady[3], M. S. Chisolm[1], H. E. Jones[4], [1]Psychiatry and Behavioral Sciences, Johns Hopkins University, Baltimore, MD, [2]School of Social Work, University of Maryland Baltimore, Baltimore, MD, [3]Psychology, University of Maryland, College Park, MD, [4]OB/GYN, UNC Chapel Hill, Chapel Hill, NC

86 *Correspondence between self-reported and biochemical measures of smoking in opioid-dependent pregnant women*
C. A. Arger, S. T. Higgins, S. H. Heil, Vermont Center on Behavior and Health, Burlington, VT

87 *Effects of prenatal cocaine and nicotine on maternal white matter integrity in early postpartum*
M. Leming, M. Styner, K. M. Grewen, Psychiatry, UNC, Chapel Hill, NC

88 *Characteristics of smoking pregnant women in Guadalajara, Mexico*
O. Campollo[1], F. Hernandez-Mora[2], E. Angulo-C[3], A. Guzman[2], A. Munguia[1], M. Garcia[1], J. K. Cunningham[4], [1]Center of Studies on Alcohol and Addictions, University of Guadalajara, Guadalajara, Mexico, [2]Obstetrics and Gynecology, AHCG, Guadalajara, Mexico, [3]Neonatology, AHCG, Gdl., Mexico, [4]Family and Community Medicine, University of Arizona, Tucson, AZ

89 *Pregnancy, tobacco use, and access to health care*
Q. Brown[1], K. Keyes[1], D. S. Hasin[1], O. Ravenell[2], D. S. Fink[1], S. S. Martins[1], [1]Epidemiology, Columbia University, New York, NY, [2]Kraemer Women's Care, Columbia, SC

90 *Smoking and mental health from first prenatal visit to postpartum*
V. H. Coleman-Cowger[1,2], B. Koszowski[1], K. Mark[2], M. Terplan[3], [1]Health & Analytics, Battelle, Baltimore, MD, [2]Obstetrics, Gynecology, and Reproductive Sciences, University of Maryland, Baltimore, MD, [3]Behavioral Health System Baltimore, Baltimore, MD

91 *Perinatal attentional retraining intervention for smoking - A pilot study*
D. W. Foster[1], A. J. Waters[2], A. Forray[1], [1]Psychiatry, Yale School of Medicine, New Haven, CT, [2]Medical and Clinical Psychology, Uniformed Services University of the Health Sciences, Bethesda, MD

92 *Psychiatric symptoms among pregnant and newly postpartum women receiving financial incentives for smoking cessation*
I. A. Zvorsky[1], A. A. Lopez[3], T. J. White[1], J. M. Skelly[2], S. T. Higgins[1], [1]Psychiatry, University of Vermont, Burlington, VT, [2]Biostatistics, University of Vermont, Burlington, VT, [3]Psychology, Virginia Commonwealth University, Richmond, VA

93 *A comparison of meconium screening outcomes as an indicator of the impact of state-level relaxation of marijuana policy*
J. T. Jones, A. Baldwin, I. Shu, Lab, United States Drug Testing Laboratories, Des Plaines, IL

ALCOHOL

95 *A longitudinal mediational study of the stability of alexithymia among alcohol treatment seekers*
F. A. Thorberg[1,3], R. M. Young[4], K. Sullivan[4], M. Lyvers[2], J. Connor[5], E. P. Noble[7], E. London[7], R. Tyssen[3], G. Feeney[6], [1]Natnl Centre Dual Diagnosis, Innlandet Hosp Trust, Hamar, Norway, [2]Bond University, Gold Coast, QLD, Australia, [3]University of Oslo, Oslo, Norway, [4]Queensland University of Technology, Brisbane, QLD, Australia, [5]University of Queensland, Brisbane, QLD, Australia, [6]Princess Alexandra Hospital, Brisbane, QLD, Australia, [7]University of California Los Angeles, Los Angeles, CA

99 *Exposure to ethanol in Brazilian gasoline station attendants*
R. P. Limberger[4], B. T. Borille[4], T. R. Fiorentin[4], B. C. Coppe[4], E. Comiran[4], A. B. Jacques[4], T. R. Sousa[2], G. Pasa[1], F. H. Kessler[3], F. P. Pechansky[3], S. M. Castro[4], [1]Center for Drug and Alcohol Research - Federal University of Rio Grande do Sul - Hospital de Clinicas de Porto Alegre, Porto Alegre, Brazil, [2]Center for Drug and Alcohol Research, CPAD - Federal University of Rio Grande do Sul - UFRGS, Porto Alegre, Brazil, [3]Psychiatry, Center for Drug and Alcohol Studies at HCPA/UFRGS, Porto Alegre, Brazil, [4]Pharmacy, Federal University of Rio Grande do Sul, Porto Alegre, Brazil

104 *Prevalence, correlates, and substance use and psychiatric predictors of regularly drinking alcohol before sex among adults in the United States*
N. R. Eaton[3], R. G. Thompson[2], M. Hu[4], D. S. Hasin[1], [1]Epidemiology, Columbia University, New York,, NY, [2]Psychiatry, Columbia University, New York, NY, [3]Psychology, Stony Brook University, Stony Brook, NY, [4]Columbia University, New York, NY

POLYDRUG ABUSE

108 *Inhibitory processing in relation to age of first substance use and age of first regular substance use*
A. L. Paz, J. Conniff, B. Gonzalez, M. Rosselli, Florida Atlantic University, Miami, FL

120 *How do gender and race/ethnicity influence perceived barriers to help-seeking for substance use problems?*
C. E. Grella[1], A. Otiniano Verissimo[2], [1]Integrated Substance Abuse Programs, UCLA, Los Angeles, CA, [2]California State University, San Bernardino, San Bernardino, CA

122 *Comprehensive women-centered treatment for substance use disorders in Georgia: Initial examination of sex risk*
H. E. Jones[2], I. Kirtadze[3], D. Otiashvili[3], W. Zule[4], W. Wechsberg[4], E. Krupitsky[1], [1]KG Consulting, St. Petersburg, Russian Federation, [2]OB/GYN, UNC Chapel Hill, Chapel Hill, NC, [3]Addiction Research Center, Union Alternative Georgia, Tbilisi, Georgia, [4]RTI International, Rtp, NC

Symposium XII

McArthur Ballroom 1/2
2:00 - 4:00 PM

ENVIRONMENTAL AND SOCIAL INFLUENCES ON DRUG-TAKING: THE GOOD, THE BAD AND THE UGLY

Chairs: Minda Lynch and Michael T. Bardo

2:00 *Differential effects of enrichment on stimulant reward in males and females*
Sari Izenwasser, University of Miami Miller School of Medicine, Miami, FL

Oral Communications 13

McArthur Ballroom 5/6
2:00 - 4:00 PM

MULTIPLE ADVERSITIES: COMORBIDITY

Chairs: Kristen D. Seay and Steven L. Batki

2:00 *A comparison of male and female caregivers: Caregiver depression as a mediator in the pathway from caregiver problematic drug use to child internalizing behaviors*
K. D. Seay, College of Social Work, The University of South Carolina, Columbia, SC

3:30 *ADHD and substance use disorders: Subtype and gender differences*
H. Hurmic, R. Debrabant, C. Kervran, F. Serre, M. Auriacombe, M. Fatseas, Addiction Psychiatry (CNRS USR 3413), Universite Bordeaux, Bordeaux, France

Thursday, June 18, 2015

Poster Session IV
(Breakfast)

Frank Lloyd Wright Ballroom
8:00 - 10:00 AM

Odd-numbered posters manned first hour;
Even-numbered, second hour

Set-up time begins Wednesday 3:00 PM
Must be removed at 12:00 Noon Thursday

BENZODIAZEPINES

1 *Gender effects on zolpidem efficacy and safety*
T. Roehrs[1,2], T. Roth[1,2], [1]Sleep Disorders Center, Henry Ford Health System, Detroit, MI, [2]Dept of Psychiatry, Wayne State University, School of Medicine, Detroit, MI

3 *Reinstatement of drug-seeking behavior in rats trained to self-administer intravenous injections of midazolam*
B. W. Gunter[1], D. Platt[1], D. Rueedi-bettschen[1], K. Freeman[1], J. Rowlett[1,2], [1]Psychiatry and Human Behavior, Univ. Mississippi Medical Center, Jackson, MS, [2]Tulane National Primate Research Center, Covington, LA

4 *Problematic pregabalin and gabapentin use: Results from the Canada Vigilance Adverse Reaction Online Database*
M. Zhang[1,2], B. Sproule[1,2], [1]Centre for Addiction and Mental Health, Toronto, ON, Canada, [2]University of Toronto, Toronto, ON, Canada

ABUSE LIABILITY

8 *Designing a human abuse potential study for a drug with a novel mechanism of action*
K. Bonson, M. Klein, Controlled Substance Staff, Food and Drug Administration, Silver Spring, MD

THC

22 *Cannabidiol and tetrahydrocannabinol interactions on antinociception in male and female rats*
S. Britch, Psychology, Washington State University, Pullman, WA

25 *Magnitude and duration of cue-induced craving for marijuana in volunteers with cannabis use disorder*
L. H. Lundahl[2], M. Greenwald[1], [1]Psychiatry, Wayne State University, Detroit, MI, [2]Psychiatry and Behavioral Neuroscience, Wayne State University School of Medicine, Detroit, MI

34 *The point of a joint: A multivariate classification of marijuana use motives*
A. Ketcherside, F. Filbey, Behavior and Brain Sciences, University of Texas at Dallas, Dallas, TX

IMAGING

47 *Cortical thinning in adolescent females with substance and conduct problems*
P. Boulos[1], M. Dalwani[1], J. Tanabe[1], S. K. Mikulich-Gilbertson[1], M. T. Banich[2], T. J. Crowley[1], J. Sakai[1], [1]University of Colorado, Aurora, CO, [2]University of Colorado Boulder, Boulder, CO

50 *Neural correlates of attentional bias for cannabis cues: Influence of sex*
T. Franklin[1], R. R. Wetherill[1], K. Jagannathan[1], N. Hager[1], J. Suh[1], A. Childress[1], [1]Psychiatry, Perelman School of Medicine at the University of Pennsylvania, Philadelphia, PA

53 *Positive association between cingulate brain volume and sensation seeking in young adults*
T. H. Kelly[1], M. J. Wesley[1], C. E. Emurian[1], C. A. Martin[1], J. E. Joseph[2], J. A. Lile[1], [1]University of Kentucky, Lexington, KY, [2]Medical University of South Carolina, Charleston, SC

ETHNIC DIFFERENCES

74 *The truth about marijuana is all rolled up in a blunt: Prevalence and predictors of blunt use among young African-American adults*
L. Montgomery[1], O. Oluwoye[2], [1]Counseling/Substance Abuse Counseling, University of Cincinnati, Cincinnati, OH, [2]Health Promotion and Education, University of Cincinnati, Cincinnati, OH

76 *Association of gender and genetic ancestry with frequency of methamphetamine use among methamphetamine-dependent Hispanic and Non-Hispanic Whites*
K. Heinzerling[1], L. Demirdjian[1], M. Briones[1], A. Swanson[2], Y. Wu[1], S. Shoptaw[1], [1]UCLA, Los Angeles, CA, [2]Stanford University, Stanford, CA

EPIDEMIOLOGY II

86 *Polysubstance combinations involving prescription opioids and rationales for combining among people who use Internet drug discussion forums*
T. Green[1], M. Doe-Simkins[2], M. Barratt[3], T. A. Cassidy[1], S. F. Butler[1], [1]Inflexxion, Inc., Newton, MA, [2]Prescribetoprevent.org, Chicago, IL, [3]Curtin University, Perth, WA, Australia

87 *Trajectories of nonmedical prescription medication use among youth*
C. Boyd[1], J. A. Cranford[1], S. E. McCabe[1], [1]University of Michigan, Ann Arbor, MI

99 *Trait, state, and place: The role of personality and environment in drug use*
K. A. Phillips[1], D. Louie[2], M. A. Furnari[1], W. J. Kowalczyk[1], D. Epstein[1], K. L. Preston[1], [1]NIDA, Baltimore, MD, [2]UCSF, San Francisco, CA

RISK

108 *Women can force men to have sex? Forced sex tactic and substance use among sexually victimized men*
M. Cook, Integrated Substance Abuse Programs, University of California, Los Angeles, Los Angeles, CA

109 *Contraceptive use and risky sexual behavior varies with frequency of cocaine, crack cocaine, or methamphetamine use*
D. J. Hand, S. H. Heil, Vermont Center on Behavior and Health, University of Vermont, Burlington, VT

110 *Trichomonas vaginalis infection and drug abuse risk for women*
D. G. Fisher[1], G. L. Reynolds[1], P. Xandre[2], [1]Center for Behavioral Research & Services, California State University, Long Beach, Long Beach, CA, [2]Nursing, California State University, Long Beach, Long Beach, CA

114 *A qualitative investigation comparing sexual effects of alcohol and marijuana among adults*
J. J. Palamar[1,2], P. Acosta[1], V. Falb[1], D. C. Ompad[2,3], [1]Department of Population Health, New York University Langone Medical Center, Astoria, NY, [2]Center for Drug Use and HIV Research, New York University College of Nursing, New York, NY, [3]Global Institute of Public Health, New York University, New York, NY

115 *Non-medical prescription opioid use and commercial sex work among adults in residential substance use treatment*
A. K. Matusiewicz[1,2,3], A. S. Bohnert[1,2,3], E. E. Bonar[2], M. Ilgen[1,2,3], [1]VA Center for Clinical Management Research, Ann Arbor, MI, [2]Psychiatry, University of Michigan Medical School, Ann Arbor, MI, [3]VA Ann Arbor Healthcare System, Ann Arbor, MI

BEHAVIOR

118 *Staff acceptability of contingency management to promote longer breastfeeding duration at WIC*
Y. Washio[1], M. Humphreys[2], D. Zeigler[2], [1]Treatment Research Institute, Philadelphia, PA, [2]Temple University, Philadelphia, PA

Oral Communications 15

McArthur Ballroom 5/6
10:00 - 12:00 PM

MEDICATIONS ANTIRETROVIRAL LEVELS AND FUNCTIONALITY: HIV/AIDS

Chairs: Richard Saitz and David S. Festinger

10:00 *The microbiota-gut-brain axis as a potential therapeutic approach for HIV-1+ cocaine abuse*
S. B. Harrod, S. J. Bertrand, C. F. Mactutus, D. Booze, Psychology, University of South Carolina, Columbia, SC

BRUNCH WITH CHAMPIONS
(PRE-REGISTRANTS ONLY)

Aztec
12:15 - 1:15 PM

Oral Communications 18

McArthur Ballroom 5/6
1:30 - 2:30 PM

MUST ACT, LITTLE FORETHOUGHT: IMPULSIVITY

Chair: Ayca Coskunpinar

2:15 *Sex differences in effects of trait impulsivity on vulnerability to substance dependence*
A. Coskunpinar[3], J. Vassileva[2], E. Martin[1], [1]Psychiatry, Rush University Medical Center, Chicago, IL, [2]Virginia Commonwealth University, Richmond, VA, [3]Behavioral Sciences, Rush University Medical Center, Chicago, IL

POSTER AND ORAL PRESENTATION ABSTRACTS

SEX, DRUGS, AND VIOLENCE: AN ANALYSIS OF WOMEN IN DRUG COURT

A.Acheampong[2], C. W. Striley[3], D. O. Fakunle[1], L. Cottler[3], [1]Mental Health, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, United States, [2]University of Florida, Gainesville, FL, United States, [3]Epidemiology, University of Florida , Gainesville, FL, United States.

This analysis examines exposure to violence and substance use disorders among women in drug court who are: current sex traders (CST), former sex traders (FST), or women who have never traded sex. Data comes from 319 women recruited from a Municipal Drug Court System in the Midwest. Women were interviewed about sex trading, violence, and drug use. Women who traded sex in the past 4 months for drugs, alcohol, or other resources were classified as CST, while women who previously traded sex but not in the past 4 months were classified as FST. Multinomial logistic regression determined the association between DSM-IV substance use disorder, violence, and current sex trading. Women were equally divided by trading status: 31% CST, 35% FST, and 34% never traded. Being physically attacked and emotionally abused in the past 4 months were significantly associated with sex trading status-whereas CST reported the highest rates. DSM-IV alcohol, opioid, and cocaine use disorders were also significantly associated with sex trading status and greater in CST. In an adjusted multinomial model, having at least one instance of violence increased the odds of CST (AOR 27.7) and FST (AOR 9.9) compared to those who did not report an instance of violence. Meeting the DSM-IV criteria for alcohol use disorder (CST: AOR 2.60; FST AOR: 2.59) and cocaine use disorder (CST: AOR 22.24; FST: AOR 22.17) also predicted sex trading status. Other significant variables were: having less than a high school diploma (CST: AOR 4.54; FST AOR: 2.41), 75+ lifetime sexual partners (CST: AOR 27.70; FST AOR: 9.78), and unstable housing (CST: AOR 4.33; FST AOR: 3.60). Future interventions should take into account the uneven rates of alcohol/drug use and violence in this population. Interventions tailored specifically to CST and FST are needed.

LIFETIME VICTIMIZATION AND SEXUAL RELATIONSHIP POWER AMONG SUBSTANCE-ABUSING AFRICAN AMERICAN WOMEN

C.Ahuama-Jonas[1], K. Burlew[1], [1]University of Cincinnati, Taylor Mill, KY, United States.

The goal of the current study was to assess the associations between lifetime victimization (physical, adult sexual, and child sexual abuse) and sexual relationship power in substance abusing African American (AA) women. It is hypothesized that women who endorse any form of victimization would also report less relationship control (RC) and decision-making dominance (DMD), two subtypes sexual relationship power (SRP). The current study was a secondary analysis of baseline data collected from the National Institute on Drug Abuse Clinical Trials Network 0019 (CTN 0019) (Tross, Campbell, Cohen, Calsyn, Pavlicova, Miele, et al., 2008). The CTN 0019 protocol was a multi-site randomized clinical trial that assessed the intervention of Safer Sex Skills Building (SSSB) in women substance abusers on reducing HIV sexual risk. The current study consists of 124 AA women from the CTN 0019 dataset. Participation eligibility required women to be at least 18 years of age, proficient in English, enrolled in substance abuse treatment, and to acknowledge unprotected heterosexual intercourse within the past 6 months.

In the current sample, over 90% of the women endorsed some form of abuse (adult physical, child sexual, and adult sexual abuse) in their lifetime. Seventy percent of the participants (N=87) endorsed lifetime physical abuse from a male sexual partner. Sixty-three percent (N=79) of the women endorsed adult sexual abuse, and 52.4% (N=65) of the sample endorsed child sexual abuse. Multiple regression analyses suggests that two (child and adult sexual abuse) of the three types of abuse in the model predicted SRP ($R2=.078$, $F(3, 120) = 3.4$, $p<.05$) but not adult physical abuse. The current study is among the first to examine the relationship between victimization and SRP among substance-abusing AA women. The findings from this study provide evidence that substance abuse interventions may benefit from activities promoting the development of sexual relationship power in substance-abusing AA women who have experienced victimization.

DETERMINING MENSTRUAL PHASE IN SUBSTANCE USE RESEARCH: A REVIEW WITH RECOMMENDATIONS

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Menstrual phase is significantly associated with a several substance use related outcomes, including withdrawal, pharmacokinetics, and cessation. Unfortunately, identification of menstrual phase in biobehavioral clinical research has not been standardized. Thus, we aimed to review the current strategies being used to identify menstrual phase and provide recommendations that will enhance methodological uniformity. We conducted a literature review via PubMed for "menstrual cycle" and "menstrual phase." We excluded articles that focused on exogenous hormones, postpartum, menstrual-related problems, and infertility. We also excluded articles that included either younger (<18) or older (>45) study samples. A total of 370 articles were initially identified. After exclusionary criteria were applied 32 articles remained, among which six different methods (self-report of onset of menses, basal body temperature (BBT), urinary luteinizing hormone (LH) testing, sex hormones via saliva samples, sex hormones via blood samples, and transvaginal ultrasound). Most articles employed more than one method (22/33 articles). The most common method used was self-report of onset of menses (31/32 articles). The least common methods used were BBT (1/32 articles) and transvaginal ultrasound (1/32 articles). There is a lack of consistency in methodology used to determine menstrual phase. We recommend combining several methods to improve accuracy of phase identification, minimize costs and burden, and reduce selection bias and confounding. The adoption of these recommendations will yield a decrease in misclassification bias and facilitate cross-study comparisons.

CORRESPONDENCE BETWEEN SELF-REPORTED AND BIOCHEMICAL MEASURES OF SMOKING IN OPIOID-DEPENDENT PREGNANT WOMEN

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Smoking exacerbates adverse outcomes among opioid-dependent pregnant women (e.g., a more severe neonatal abstinence syndrome in exposed neonates). Vermont birth certificate data for opioid- dependent pregnant women indicates a significant decrease in their self-reported smoking rate over the course of pregnancy, from a mean of 17.9 cigarettes per day (CPD) prior to pregnancy to 13.8, 10.9, and 9.7 in the first, second and third trimesters, respectively. This study examined self-reported smoking rate and biochemical measures of smoking to test whether self-reported decreases in smoking were paralleled by decreases in biochemical measures. Participants were 18 opioid-dependent pregnant women enrolled in clinical trials for smoking cessation. All women continued to smoke throughout their pregnancies. Self-reported CPD prior to pregnancy were collected at the Intake Assessment. CPD, breath CO, and urine cotinine were collected at intake, at a second assessment 1 month later (Early Pregnancy Assessment), and again at the end of pregnancy (≥ 28 weeks gestation; Late Pregnancy Assessment). Like birth certificate data, self-reported smoking rates decreased from a mean of 22.6 prior to pregnancy to 15.5 at intake. During pregnancy, self-reported CPD decreased significantly from 15.5, 7.5, and 9.0 at Intake and Early and Late Pregnancy Assessments, respectively ($p < .001$). However, parallel changes were not evident in biochemical measures of smoking. Mean CO was 13.3, 10.0, and 12.3 ppm ($p = .11$) and mean urine cotinine was 1422.8, 1387.8, and 1294.1 ng/ml ($p = .71$) at the three assessments. Discrepancies between self-report and biochemical measures may be explained by misrepresentation of self-reported smoking or reductions in CPD offset by changes in smoking topography (i.e., compensatory smoking). Further research is needed to understand changes in smoking among opioid-dependent pregnant women.

PREVALENCE AND CORRELATES OF DRUG USE IN WOMEN PATIENTS OF COMMUNITY HEALTH CENTERS IN TIJUANA, MEXICO AND LOS ANGELES, USA

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To describe the prevalence of, and sociodemographic and health correlates associated with, illicit drug use and nonmedical use of prescription drugs among women patients of community health centers in LA and Tijuana. Adult patients 18 and over who came in for a visit were asked to take a self- administered version of the WHO ASSIST (Alcohol, Smoking and Substance Involvement Screening Test) on a touchscreen tablet computer. We present an

adjusted multinomial regression model for levels of drug use and was limited to those born in the US or Mexico. All Tijuana women were Latina as were 94% of LA women. Most were 45 years old or younger. 20% had ever used drugs. Living in LA was associated with a higher prevalence of drug use. As compared to women who were born and lived in Mexico, women living in Los Angeles who were born in the US had the highest odds of risky drug use (OR=20, CI=13.61-109.67), women living in the US but born in Mexico also had higher odds of risky drug use (OR=2). While women in both cities were similar in terms of their cultural origins, living in LA was associated with higher prevalence of most substance use indicators. These differences point to the importance of the social environment in shaping the epidemiology of substance use. The results are consistent and extend to those of the general and immigrant populations. It is imperative to develop and evaluate strategies to detect the at-risk women population as early as possible and offer them preventive strategies. The primary care centers are places for early detection and implementing prevention services, especially for women where drug use prevention should be included as part of routine reproductive healthcare.

VALIDITY OF THE EATING SECTION FOR THE MODIFIED ADDICTION SEVERITY INDEX (M-ASI)

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To assess the validity of the Eating section of the modified Addiction Severity Index(mASI). Within the Aquitaine Addiction Cohort (an ongoing cohort of addiction treatment seeking patients) we selected participants who reported at least one day of food problem past 30 days at intake; and randomly selected participants who did not report food problem but sought treatment in the same time period. They were assessed with the mASI, a craving scale, DSM-5 criteria for eating disorders and putative Food Addiction (FA) criteria modeled on DSM-5 substance use disorder criteria, and Body Mass Index (BMI) was calculated. 313 subjects were included, 46.2% males, 40.9 y.o. (SD=10.9), seeking treatment for alcohol (24.0%), polysubstance (22.0%), cannabis (11.2%), tobacco (10.5%), opiates (7.3%), cocaine (1.9%), eating disorder (11.8%), gambling (5.8%). Although a minority sought treatment for eating disorder, 49.5% reported at least one day of eating problem past 30 days, They were more likely women ($c2= 60.58$, $p<.0001$), younger ($t=2.92$, $p=.004$), and more likely to exhibit an abnormal BMI ($c2= 6.78$, $p=.03$). Subjects who received an Eating severity score of the mASI higher than 4 (need for additional treatment) reported significantly more days ($t=16.79$, $p<.0001$) and more years of food problem ($t= 11.44$, $p<.0001$), were more bothered by food problem ($t=25.19$, $p<.0001$), and were more likely to report craving for food ($c2= 9.85$, $p=.002$). They met significantly more often DSM-5 eating disorder diagnoses ($c2= 166.34$, $p<.0001$) and FA criteria ($c2= 7.62$, $p=.006$). The mASI appeared to be a useful and valid tool to evaluate eating behavior in substance-related or addictive disordered patients.

GENETIC AND ENVIRONMENTAL INFLUENCES ON INITIATION AND HEAVINESS OF SMOKING FROM ADOLESCENCE TO ADULTHOOD

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Previous studies examining the genetic architecture of adolescent cigarette use initiation and its relationship to subsequent heaviness of cigarette use have been primarily focused on adults and few have examined developmental changes during a vulnerable time for the initiation of substance use. The aim of the present study was to examine how additive genetic, shared and non-shared environmental influences on smoking initiation and smoking quantity change across adolescent and young adult development. Data came from 740 adolescent twin pairs (age14-33) from the National Longitudinal Study of Adolescent to Adult Health. We ran a series of age specific causal-contingent-common pathway models to examine whether additive genetic, shared and unique environmental influences on smoking initiation are shared with those on smoking quantity, if sex differences exist in the role of genes and environment and if their contributions change across adolescence and into young adulthood. For each age group, we fitted saturated models and tested twin model assumptions. The results indicate no sex differences in the genes/environment contribution to the variance in smoking initiation for males and females or in the magnitude of additive genetic effects. For the youngest age group (ages 14-15) genetic and environmental influences on smoking initiation were independent of those that contribute to heaviness of smoking. During late adolescence (ages 16-17), the shared environment contributed to smoking initiation and to smoking quantity through the common pathway. In adulthood, however, genetic factors influenced smoking initiation and smoking quantity and their influence was correlated. These findings provide evidence of the causal process underlying the liability to smoke. With age, there

is greater overlap in the gene/environment factors that influence the initiation of smoking and the number of cigarettes that are smoked.

PSYCHOSOCIAL SYNDEMIC AFFECTING WOMEN LIVING WITH AND AT-RISK FOR HIV

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Women in the U.S. continue to be affected by HIV, particularly through heterosexual contact. High-risk sexual behaviors are hypothesized to be associated with syndemic, or mutually reinforcing, problems including childhood sexual abuse, emotional distress, illicit substance use, violence and financial hardship. We evaluate relationships between the aforementioned syndemic problems and the number of self-reported sexual risk behaviors (e.g., unprotected and transactional sex) over the past 6 months and interactions between problems. We hypothesized that violence would interact with substance use to predict rate of endorsed risk behaviors. Using baseline data from a cohort of women with and at-risk for HIV (n=620; 52% HIV+), we conducted Poisson regression to assess the associations of syndemic problems with rate of risk behaviors and interactions between significant predictors, controlling for age and HIV-status. Endorsing illicit substance use in the past 6 months (Incidence Rate Ratio [IRR] = 1.5; 95%CI:1.4-1.6), reporting a history of childhood sexual abuse (IRR = 1.1; 95%CI:1.0-1.2), and history of physical violence as an adult (IRR = 1.1; 95%CI:1.0-1.2) were associated with greater rates of risk behaviors. Endorsement of both recent substance use and violence was associated with a 27% elevated rate of risk behaviors over the past 6 months (IRR = 1.3; 95%CI:1.1-1.5). HIV-status did not moderate this relationship. The co-occurrence of substance use and trauma are important drivers of risk behavior among women. Together illicit substance use and violence are associated with a higher rate of risk behaviors, beyond either problem separately. Within a syndemic framework, interventions targeting substance use and trauma should be prioritized to more effectively reduce HIV-related sexual risk behaviors among underserved urban women with and at-risk for HIV.

SUBSTANCE USE OUTCOMES OF GIRLS WITH ADHD IN A 10-YEAR FOLLOW-UP OF A PROSPECTIVE LONGITUDINAL STUDY

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To compare differences in substance use among young women with different patterns of attention-eficit/hyperactivity disorder (ADHD) in a 10-year prospective follow-up. A diverse childhood-ascertained sample of girls with (n=124) and without (n=86) ADHD was followed 10 years later (ages 17-24 years; 95% retention rate). Childhood ADHD status was measured via structured interview; adult hyperactive/impulsive (HI) symptom severity was measured by self- and maternal-report on a validated rating scale. Substance use was measured by clinician-assisted administration of the Substance Use Questionnaire, assessing onset, frequency, and quantity of substances (alcohol, nicotine, marijuana, other illicit drugs, misuse of prescription drugs) used in the last 12 months. Girls with childhood ADHD were more likely than girls without to try smoking cigarettes ($p<0.01$), to smoke more cigarettes when they smoke ($p<0.05$), to have been daily smokers ($p<0.01$) and to have seriously tried to quit cigarettes ($p<0.05$). Girls with persistent ADHD were more likely to be daily cigarette smokers ($p<0.01$), smoke more often ($p<0.01$), and smoke more cigarettes ($p<0.05$). In addition, girls with ADHD showing higher levels of adult HI symptoms consumed a more alcohol per drinking occasion ($p = 0.05$), drank alcohol more frequently ($p < 0.05$), binge drank more frequently ($p < 0.05$), were more likely to be drunk ($p < 0.05$) and were drunk more often ($p < 0.05$) than girls with lower HI symptoms. HI was also associated with earlier age of first marijuana use ($p < 0.05$), lifetime cocaine use ($p < 0.05$), selling stimulant medication ($p < 0.05$), using narcotics without a prescription ($p < 0.05$), and seeking drug treatment ($p < 0.05$). Childhood ADHD and persistent ADHD are associated with smoking behaviors in girls; HI severity is associated with more severe substance use in girls. Future studies should examine symptom persistence and severity to identify young women who may be susceptible to negative substance use outcomes.

SURVEYING LACTATION PROFESSIONALS REGARDING BREASTFEEDING AND MARIJUANA USE

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Guidelines state that women who use illicit drugs should not breastfeed (ABM, 2009; AAP,2012). While this recommendation has traditionally included marijuana, this drug's changing legal status and the limited scientific

research regarding marijuana's effect on breastfeeding (Hale & Rowe, 2014) leave it unclear what recommendations lactation professionals make to clients who use marijuana. In addition, to our knowledge, there are no data estimating the prevalence of marijuana use among breastfeeding women, making it difficult to assess how significant a problem it is. To begin understanding this issue, we will (1) assess recommendations around breastfeeding and marijuana use and (2) calculate an estimate of the prevalence of marijuana use among breastfeeding women. A convenience sample of lactation professionals who practice throughout New England and were attending the 2014 Vermont Lactation Consultant Association conference were offered the opportunity to complete a 5-item survey. Of 120 conference attendees, 74 completed the survey. Of these, 39% percent reported that they recommend continued breastfeeding because the benefits outweigh the harms. Another 43% said their recommendation depended on factors like the severity of maternal marijuana use. The remaining 18% reported recommending that a woman should stop breastfeeding if she cannot stop using marijuana. Participants estimated that 16% (1203/7843) of their breastfeeding clients in the past year used marijuana. Lactation professionals vary widely in their recommendations to breastfeeding clients who use marijuana. The estimate of prevalence also suggests this is a relatively common issue. More research is needed to validate and assess the generalizability of these findings.

CORRELATES OF SPECIFIC PERSONALITY AND ALCOHOL USE WITH NONMEDICAL USE OF PRESCRIPTION STIMULANTS IN COLLEGE STUDENTS

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To identify personality predictors that might place a person at increased risk for nonmedical prescription stimulant (NPS) use. Participants (N = 521; M age = 18.51; 34.8% male; 82.4% Caucasian) were recruited through a psychology research pool at a large southeastern university. Following consent, participants were directed to an external website (surveymonkey.com) to complete the survey. Participants completed demographics, AUDIT, Goldberg's Big 5, and answered questions about personal NPS use. Participation lasted one hour and participants were awarded class credit. Findings revealed that 16.7% of students reported lifetime NPS use with 72.1% reporting use in the past six months and 62.8% reporting future plans to use NPS. Approximately 8% of students who did not endorse NPS history stated they would likely use NPS in the future. Participants with a history and desire for future use were labeled as "at-risk." Demographic characteristics, including gender and Greek membership, correlated with risk status and used as covariates in all analyses. AUDIT scores were significantly higher for the at-risk group compared to the low risk group, $F(25, 494) = 5.01$, $p < .001$. At-risk students were more likely to know a person with NPS history comparatively, $F(2, 515) = 10.76$, $p < .001$. Findings support prior research linking increased alcohol and NPS use, along with correlations between NPS, gender and Greek membership. With the knowledge that students who use NPS obtain the drugs from peers, findings suggest that at-risk individuals are more likely to abuse stimulants because of the increased acceptability of peer NPS use. Interestingly, Big 5 personality factors did not differentiate between the groups. Future research should continue to identify personality factors that correlate with NPS use to create help deter at-risk students from using.

DESIGNING A HUMAN ABUSE POTENTIAL STUDY FOR A DRUG WITH A NOVEL MECHANISM OF ACTION

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The FDA safety evaluation of a CNS-active new molecular entity under the 21st Century Review process requires that the drug undergo an abuse potential assessment. If there are positive signals from abuse-related preclinical studies or abuse-related adverse events in clinical studies, it is typically necessary for the drug to be tested in a human abuse potential study. When a test drug has a novel mechanism of action, there are scientific challenges in designing the protocol for such a study. In a human abuse potential study, individuals with a history of recreational drug use are evaluated using abuse-related subjective measures in a crossover design in which they receive single doses of a test drug, a placebo, and a positive control drug. When the test drug has similarity in mechanism of action to FDA- approved controlled substances, protocol design will be based on standard procedures developed over the past 30 years. But when the test drug has a novel pharmacology, methodological choices may be complicated but will still hold to the principles delineated in the 2010 FDA Guidance for Industry: Assessment of the Abuse Potential of Drugs. This presentation will discuss the necessary considerations regarding each aspect of a human abuse potential study design when a test drug that has a novel mechanism of action. We will focus on issues such as

appropriate selection of the positive control drug, the specific drug history of subjects, the subjective measures to be used, the number/gender/race of subjects, and adverse events that should be monitored. It is critical to correctly design a human abuse potential study with a drug that has a novel mechanism of action, in order to adequately evaluate the safety of the test drug for regulatory purposes. Although there are challenges, an appropriate design with these unusual drugs is possible using the principles of regulatory science.

CORTICAL THINNING IN ADOLESCENT FEMALES WITH SUBSTANCE AND CONDUCT PROBLEMS

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Some individuals have onset of substance use disorders early in adolescence, develop multiple substance use disorder diagnoses, and have severe persistent courses. Although such youths exhibit more impulsivity, risk-taking, and problems of inhibition, relatively little is known about brain differences seen in such youths. This is especially true of adolescent females. The aim of this study was to investigate potential brain differences in cortical thickness. We recruited 22 patients from a university-based treatment program for youths with serious substance and conduct problems and 21 community controls, all female and aged 14-19 years. We obtained T1 structural brain images using a 3T MRI scanner and assessed for group differences in cortical thickness across the entire brain using FreeSurfer's QDEC program and for 3 regions-of-interest (ROI) bilaterally (6 comparisons). These regions of interest were defined by the Desikan's atlas, chosen based on a priori predictions from the literature, and included: 1) medial orbitofrontal cortex; 2) rostral anterior cingulate cortex; 3) middle frontal gyrus. Age and IQ were entered as nuisance factors for all analyses. Using a vertex-level threshold of p=0.005 and Monte Carlo Simulation-determined cluster threshold (250mm2) we demonstrated on whole-brain analyses that one region, including the left pregenual rostral anterior cingulate cortex extending into the left medial orbitofrontal region (356 mm2 in size) was significantly thinner in patients. ROI analyses yielded no group differences. Adolescent females with serious substance and conduct problems may have reduced cortical thickness in pregenual regions of the left rostral anterior cingulate and medial orbitofrontal cortex These regions have been associated with poor behavioral control in past studies.

TRAJECTORIES OF NONMEDICAL PRESCRIPTION MEDICATION USE AMONG YOUTH

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To identify trajectories of nonmedical prescription medication use (NMU) of four scheduled drug classes among youth. We used an accelerated longitudinal design to examine changes in NMU over time among youth. Participants were middle- and high-school students enrolled in five schools in two school districts in Southeastern Michigan. Data were collected at four time points approximately one year apart. At each wave, all students in grades 7-12 were eligible to complete the web-based, self-administered Secondary Student Life Survey, which included questions about past 12-months NMU. The cumulative sample size was 5,217. The sample ranged from 12.7 years to 17.9 years old; about 50% were female; 61% were Caucasian, and 34% were African American. Among participants in the prospective panel cohort, 75.2% completed all four waves of data collection. We conducted repeated measures latent class analysis (RMLCA) using the SAS PROC LCA procedure to examine longitudinal changes in past 12-months NMU from grades 7 to 12. Results from a series of RMLCAs indicated that a 2-class solution best fit the data: 1) the No NMU group had very low probabilities of any NMU across all grades, and 2) the Any NMU group showed a roughly linear increase in the probability of any NMU over time. Multiple groups RMLCA showed that the 2-class solution was invariant across gender and race/ethnicity. White females were more likely to be in the Any NMU class (20.4%), followed by non-white females (16.9%), white males (9.4%), and non-white males (9.3%). For white females and males, the probability of any NMU increased with age, with a sharp rise during the transition from middle- to high-school. Results identified two subgroups of youth based on any NMU that were invariant by gender and race. Among the NMU class, patterns of change in NMU were discontinuous and suggest that school- based prevention efforts should start in middle school.

HOSPITAL ADMISSIONS FOR ALCOHOL USE DISORDERS IN PREGNANCY

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To examine hospital admissions for alcohol use disorders (AUD) during pregnancy over a decade in NSW, Australia. Population based cohort study using linked routinely collected population data from the NSW Perinatal Data Collection (PDC) and the NSW Admitted Patients Data Collection (APDC). All women who gave birth in

NSW between 1 January 2001 and 31 December 2010 were included (n=560 987). All hospital admissions for AUD in pregnancy were identified. Descriptive statistics and logistic regression were used to calculate hospital admission rate, difference over time and to analyze risk factors associated with AUDs. In the ten year study period, there were 509 women with a total of 759 hospital admissions for any AUD diagnosis in pregnancy. The majority of the women (82%) and over half of admissions (61%) did not have a principal diagnosis of AUD. Admission rates for AUD remain low with no significant change over time for principal diagnosis of AUD. There was a decreasing but variable trend for all diagnosis of AUD in pregnancy. Readmission for AUD during pregnancy is high and admissions are accounted for by minority of women: approximately 10% of women had three or more admissions, accounting for 42% and 30% of admissions for principal and all diagnoses respectively. Factors associated with AUD in pregnancy include previous psychiatric disorder (including substance use), smoking, being unmarried, being over 30 and living in remote or regional locations. Despite a reported increase in the proportions of women abstaining from alcohol consumption during pregnancy in the past decade, this data suggests little change among those most at risk. The rate of admission to hospital for a principal diagnosis of AUD during pregnancy has remained stable and the readmission rate is high. Improvements in the detection and treatment of women with AUD are required to reduce the impacts of alcohol exposed pregnancies.

CANNABIDIOL AND TETRAHYDROCANNABINOL INTERACTIONS ON ANTINOCICEPTION IN MALE AND FEMALE RATS

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The purpose of this study is to determine how cannabidiol (CBD) and tetrahydrocannabinol (THC) interact on tests of acute nociception in male and female rats. Adult Harlan Sprague Dawley rats, 60-90 days old were used (N=156). Intraperitoneal injection of vehicle or CBD (10 or 30 mg/kg) was followed 15 min later by an intraperitoneal injection of vehicle or THC (1.8, 3.2, 5.6 or 10 mg/kg). Rats were tested for antinociception using warm water (50 degrees F) tail withdrawal and paw pressure tests, at 15, 30, 60, 120, 240 and 360 min post-THC injection. Locomotor activity was also measured for 10 min after nociceptive testing at each time point. CBD alone produced no effects on tests of antinociception or locomotor activity. THC produced dose- and time-dependent antinociceptive and sedative effects; THC's effects were significantly greater in females than in males on the tail withdrawal test. Overall, CBD slightly enhanced THC's antinociceptive effects on both tail withdrawal and paw pressure tests and significantly enhanced THC-induced sedation (locomotor test). CBD enhancement of THC effect tended to be greater in males than in females, but sex differences in CBD-THC interactions were not statistically significant. The present results suggest that, although THC tends to be more potent in female than in male rats, CBD enhancement of THC's effects is comparable between the sexes.

ARE EARLY-ONSET USERS OF INHALANTS AT EXCESS RISK OF DEVELOPING INHALANTS DEPENDENCE SOON AFTER ONSET OF INHALANT USE: ESTIMATES FOR THE UNITED STATES, 2002-2011

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Use of inhalant drugs often is been viewed as a transitory feature of the childhood and adolescent years, of little public health importance. Nonetheless, a dependence syndrome attributed to use of inhalant drugs has been described and estimated. Here, the aim is to study newly incident cases of inhalant drug use (InhDU) occurring soon after InhDU onset, with a hypothesized excess risk of InhDU dependence when use starts before age 16 years. Data are from the United States (US) National Surveys of Drug Use and Health conducted 2002-2011, each with a nationally representative sample of non-institutionalized civilians age 12 years and older (n>50,000 each year, with cumulative total of ~7500 newly incident inhalant users). Weighted data with complex survey variance estimates yield year-specific 95% confidence intervals (CI). Meta-analysis is used to summarize estimates from year-pairs across 2002-2011. Meta-analyses disclosed emergence of excess risk of inhalant dependence among early-onset inhalant users who started before age 16 (2.5%; 95% CI = 1.8%, 3.1%) relative to 0.9% with onset between the 16th and 20th birthdays (95% CI = 0.4%, 1.4%), and 1.1% for 20-24 year old initiates (95% CI = 0.04%, 2.1%), with $p < 0.05$. Statistically robust male-female differences are found as well, when contrasting newly incident female inhalant users (3.2%; 95% CI = 2.2%, 4.1%) versus males (1.0%; 95% CI = 0.5%, 1.5%). This epidemiological evidence projects light into a black box of possibilities. Is it possible that NSDUH assessments of inhalant dependence do not have measurement equivalence across earlier- versus later-onset users, or across male and female subgroups of new initiates? Supposing measurement artifacts can be set aside, there are some underlying sex-associated neurobiological and neuropsychopharmacological mechanisms to be discussed in relation to this facet of inhalants epidemiology. Clearly, there is an agenda for future research.

PREGNANCY, TOBACCO USE, AND ACCESS TO HEALTH CARE

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Access to health insurance may reduce tobacco use among pregnant women via prenatal visits, which represent opportunities to engage in smoking cessation programs and other anti-smoking resources covered by health insurance. This study assessed 1) if pregnant women with health insurance were less likely to use tobacco in the past month (e.g. cigarettes, cigars) and 2) if type of insurance matters. Pregnant women (n=2,505) were sampled from three years (2010-2012) of the National Survey of Drug Use and Health. Logistic regressions were used to test the hypothesis that insurance coverage (i.e., any insurance, Medicaid/CHIP, military/VA insurance, private insurance) is inversely associated with past month tobacco use controlling for demographic (e.g., age, race) and other substance use variables. About 17% of pregnant women in the US used tobacco in the past month. Most pregnant women were insured (90%), 37% had Medicaid/CHIP, 50% private insurance, and 4% had VA or military insurance. Any insurance versus no insurance (adjusted odds ratio [aOR]=1.97; 95% confidence interval [CI]=1.15, 3.36) and Medicaid/CHIP versus any insurance or no insurance (aOR=2.21; 95% CI=1.43, 3.40) were associated with increased odds of past month tobacco use, while military/VA (aOR=1.91, 95% CI=0.62, 5.91) and private insurance (aOR=0.64, 95% CI=0.34, 1.21) were not associated with past month tobacco use controlling for past year alcohol, marijuana, other drug use, education, income and other demographics. Insurance type is differentially associated with tobacco use among pregnant women. Further research is needed to understand why tobacco use is pervasive among pregnant women, especially women receiving Medicaid/CHIP. Failure to engage pregnant women in smoking cessation programs would be an opportunity missed, especially given insurance coverage.

INTERNATIONAL STANDARDS ON THE TREATMENT OF DRUG USE DISORDERS

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Substance abuse and dependence is a public health, developmental and security problem both in industrialized and developing countries. In the framework of the UNODC-WHO Programme on Drug Dependence Treatment and Care, UNODC and WHO together with their international partners have initiated a process to develop International Standards for the Treatment of Drug Use Disorders. The Standards will build on existing publications such as the UNODC-WHO Principles of Drug Dependence Treatment (2009) and incorporate evidence and experience gathered worldwide. The aim is to provide UN Member States with a practical and comprehensive technical tool that will help to guide policy development; plan, organize and manage drug treatment services within and beyond the health system; develop the capacity of human resources; and evaluate service and system level interventions. The International Standards for the Treatment of Drug Use Disorders will promote treatment strategies that are based on the best available science, humane, and respect human rights and dignity and this way improve the service for individuals affected by drug use disorders. A first outline will be presented for discussion with the international scientific community.

CHARACTERISTICS OF SMOKING PREGNANT WOMEN IN GUADALAJARA, MEXICO

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The aim of this study was to examine the pattern of smoking in a group of pregnant women in a major pre-natal care clinic of a large university hospital in Guadalajara, Mexico. We interviewed 235 women who smoked to investigate the pattern of tobacco use, out of 1481 women screened for tobacco use.Randon urine cotinine tests were performed in a group of patients.Patients were referred to a tobacco cessation program and follow up was carried out. Most of the women were non-working unmarried women with a low educational background with a mean age of 23.5 (± 6.5) years. Mean duration of their pregnancy was 6.6 (±1.9) months. Smoking commonly first started between 13 to 17 yrs (68.6 % cases), and was often motivated by friends (34.5 %) and curiosity (33 %). Current smoking was every day (2.1 %), some days (14.5 %) and don't smoke (82.1 %) and 14.5 % had smoked more than 100 cigarettes in their lifetime. Preferred type of cigarettes were: regular (78.7 %), light (11.9 %); menthol (20.9 %); 5.5 % smoked their first cigarette within 5 min after waking up; most of the women (82.1 %) defined as smokers here stopped smoking when they knew they were pregnant without treatment (92 %), of which 44.4 % did it during the first month of pregnancy. A large number of women were exposed to second hand smoke from relatives at home (64.3

%) while 43.8% worked or socialized with smokers. There was no history of major obstetric or pediatric complication in 98% of them. Our results suggest low prevalence of smoking. Most patients did not have signs of major nicotine dependence nor of previous complications. However, a large group were exposed to second hand smoke as well as other factors which could influence smoking. As the smoking prevalence is increasing among the females, prevention programs should be directed to groups like pregnant women.

EFFECTS OF CULTURAL CONGRUITY ON ALCOHOL USE SEVERITY AMONG HISPANIC EMERGING ADULTS IN COLLEGE

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Examined direct associations of behavioral acculturation, behavioral enculturation, and cultural congruity (the perception of cultural fit between the values of the academic institution and the student's personal values) with alcohol use severity. Aim 2 tested if gender moderated those associations. Participants voluntarily consented and completed self-report measures in an anonymous online survey. A hierarchical linear regression and moderation analyses were conducted on a sample of 167 Hispanic emerging adults (ages 18 to 25) enrolled in institutions of higher education. Gender was dummy coded (0) for men and (1) for women. 20.9% of the variance in alcohol use severity was accounted for by all predictor variables entered in the regression model. After controlling for demographic variables and depressive symptoms, behavioral acculturation and enculturation did not have statistically significant associations with alcohol use severity. Further, gender did not moderate either of these associations. Conversely, greater perceptions of cultural congruity were associated with lower scores of alcohol use severity ($\beta = -.20$, $p < .05$). A moderation analysis with 10,000 bootstrap iteration indicated that cultural congruity had a beneficial effect in lowering alcohol use severity for men ($\beta = -.20$, $p \leq .001$, 99% CI [-.35, -.05]), but not among women ($\beta = -.04$, $p > .05$, 99% CI [-.13, .05]). This was the first known study to examine the association of cultural congruity with alcohol use. Findings highlight the value of examining contextual factors of culture and moving beyond reductive measures of cultural orientation.

EFFECTS OF PARENTAL ALCOHOL VERSUS TOBACCO AND MARIJUANA USE ON EARLY ADOLESCENT ONSET OF ALCOHOL USE

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Studies of effects of parental substance use on offspring alcohol use have predominantly focused on effects from parental alcohol use only, rather than also examining effects of use of other substances. Further, effects of both maternal and paternal substance use are rarely examined together. The present study examined whether use of tobacco and marijuana by fathers or mothers predicted onset of alcohol use in their offspring over and above effects of parental alcohol use. Method: The study included 146 children of 93 parents (n = 90 fathers and n = 85 mothers). The fathers were originally recruited as boys to the Oregon Youth Study (OYS), a study of community, familial, and individual risk factors for delinquency. Children were interviewed regularly in adolescence and five binary variables were created denoting alcohol use onset response patterns for onset prior to age 11 years and onset during four periods of adolescence (ages 11-13, 13-15, 15-17, and 17-19 years). Children's alcohol use onset across adolescence was modeled using discrete-time survival analyses. Only mothers' but not fathers' alcohol use was associated with children's age of onset. Mothers' tobacco use predicted children's age of onset and fathers' marijuana use interacted with their alcohol use to do so. These effects were observed when controlling for parent education, child gender, and child antisocial behavior, a general developmental risk factor for substance use onset in adolescence. Mothers' substance use played a major role in child onset of alcohol use, yet the role of maternal substance use as a risk factor for their children has previously received less attention than the role of paternal substance use. Also, the findings imply that it may be important to identify children of polysubstance using parents for targeted prevention programs.

THE RISKS OF GANG ASSOCIATION AMONG DRUG-USING WOMEN IN CAPE TOWN, SOUTH AFRICA

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Western Cape has an entrenched gang culture that is strongly associated with drugtrafficking and manufacture. There is concern that women who are associated with gangs are more likely to be exposed to violence, and have substance use problems, but little research has been conducted on this. Baseline data on 720 disadvantaged drug-using women in Cape Town was collected as part of a randomized controlled trial. We compared the proportion of women who lived near gang members and had a main sexual partner who was a gang member to those that did not on substance use variables. The findings indicated that women who lived near gang members were significantly more likely to use methamphetamine ($X2=83.19$, $p<0.001$), report having a drug problem ($X2=11.08$, $p<0.001$), have previously gone to drug treatment ($X2=13.47$, $p<0.01$), and used alcohol or drugs the last time they had sex ($X2=67.59$, $p<0.001$) than women who did not live near gang members. Women who had main partners who were gang members were significantly more likely to have used methamphetamine ($X2=32.72$, $p<0.01$) and to report using alcohol or drugs the last time they had sex ($X2=16.21$, $p<0.001$) relative to women whose partners were not gang- affiliated. Findings show that women living near gang members or in a sexual relationship with a gang member were more likely to use methamphetamine and report drug-related sex risks relative to women who were not as exposed to gangs. Future interventions that target substance-using women should also consider addressing environment risk factors, including gang activity.

COCAINE SELF-ADMINISTRATION IN MALE AND FEMALE MONKEYS, TREATMENT WITH PROGESTERONE AND ENRICHED ENVIRONMENT

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The first study examined sex differences in oral cocaine self-administration in male and female rhesus monkeys and compared cocaine intake in females during the follicular and luteal phases of their menstrual cycle to males. The effect of environmental enrichment was also studied by comparing concurrent access to a nondrug reward, saccharin (SACC) vs. water. In a second study male and female monkeys were treated with im injections of progesterone while self-administering oral cocaine. Cocaine and water were concurrently available during daily 3-hr sessions from two drinking spouts under concurrent fixed-ratio (FR) 2, 4, or 8 schedules. Cocaine self-administration was then tested when SACC (vs. water) was concurrently available with cocaine. In the second study progesterone (0.3 mg/kg) was administered prior to the cocaine session for 4 days in males and in females during the luteal and follicular phase. Cocaine deliveries were similar in males and females during the females' luteal phase, but they were higher in females during the follicular phase. Concurrent SACC and water deliveries did not vary by cocaine concentration, sex, or hormonal conditions. SACC reduced cocaine deliveries in the follicular phase in females and cocaine intake (mg/kg) in males and in females during both phases of the menstrual cycle. Treatment with progesterone reduced cocaine self-administration in females in both menstrual phases and in males. Females in the follicular phase of their cycle consumed more cocaine than in the luteal phase or than males. Treatment with the nondrug reward, SACC (vs. water), reduced cocaine intake (mg/kg) in females during both phases and in males. These effects were specific to cocaine self-administration and were not reflected in SACC or water intake. Treatment with a nondrug reward for cocaine self-administration varied by sex and menstrual cycle phase in females, while progesterone reduced oral cocaine self-administration in both males and females.

EVENT-LEVEL ANALYSIS OF ANTECEDENTS TO FIREARM VIOLENCE AMONG DRUG-USING ED YOUTH

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To examine/compare antecedents (substance use, motivations) of firearm violence (FV) and non-weapon (NFV) peer violence events among drug-using ED youth utilizing an event-level analysis 14-24-y/o youth screening positive for past 6-mo drug use and seeking ED care for assault (AIG) or as part of a proportionally sampled comparison group (non-assault injured) were enrolled (n=599) in a 2-year longitudinal study. TLFB substance use/aggression modules were completed at baseline, 6, 12, 18 and 24- mos. FV (aggression/victimization;

threats/use) and NFV events were combined across time points and analyzed cross-sectionally. Generalized linear mixed modeling (GLMM) using event-level data, nested by individual/time point, analyzed antecedents of FV events as compared to NFV events. 139 youth (mean age=19.7; 82% male; 78% African-American; 73% public assistance; 84% AIG) reported 196 FV events and 243 youth (mean age=19.9; 57% male; 61% African-American; 73% public assistance; 65% AIG) reported 592 NFV events. 24% of FV events involved aggression/93% victimization, with 37% of youth in FV events endorsing firearm possession (90% illegally). Most common motivation for firearm aggression was retaliation (53%), while "personal belongings" (25%) and “got shot for no reason” (30%) were the most common reasons for firearm victimization. 38% of FV events were preceded (within 3 hrs) by marijuana use, 17% by alcohol use, 10% by binge drinking. 61% of FV events resulted in injury requiring medical care. GLMM identified male gender (OR=4.63), African-American (OR=3.49), AIG (OR=4.32), marijuana (OR=2.22), retaliation (OR=3.75) and personal belongings (OR=2.79) as more likely correlated with FV when compared to NFV. Drug-using youth have high rates of FV events with differential motivations & types of drug/alcohol use preceding the event. Tailored interventions specifically addressing marijuana use and retaliation as precursors to FV may decrease high firearm violence rates among drug-using youth.

CRIMINAL ARRESTS AMONG DRUG-USING ASSAULT-INJURED YOUTH SEEKING ED CARE: A PROSPECTIVE COHORT STUDY

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Describe rates/characteristics of criminal arrest among assault-injured and non-assault injured drug-using youth during the 36-mos (12-mo. before/24-mo. after) surrounding an ED visit 14-24 y/o youth screening positive for past 6-mo drug use and presenting for an assault (AIG) or as part of a proportionally-sampled comparison group (CG) of non-assaulted youth were enrolled (n=599) in a 2-year longitudinal study. Validated measures were administered at baseline and follow-up (6, 12, 18, 24- mo). Objective arrest data (for >18 y/o) was obtained from the Law Enforcement Information Network. Survival analysis was used to characterize arrest rates; parametric modeling identified baseline characteristics predictive of arrest. 599 youth (82% participation) completed the baseline survey; 97% (n=584) were ≥18 y/o during the study and were included in the analysis. At baseline, 59% were male, mean age 20, 65% African- American, 97% marijuana use, and 57% drug use disorder. Over 36-mo, the AIG had 30% greater risk of arrest than the CG (47%-vs.36%; RR 1.30, $p<0.05$), with 77% arrested during the 24-mo follow-up. The AIG had a higher mean # of arrests (2.23-vs.-1.72, $p<0.01$) with 50% of those arrested experiencing multiple arrests. 42% of arrests (n=509) involved a violent/weapon related crime; 28% property crime; and 22% drug-related crime. 63% of arrests resulted in no formal charges, 14% in jail/prison time, 11% in probation and 19% in judicial fines/restitution. Parametric modeling found that age (RR=1.04), male gender (RR=1.92), African-American race (RR=1.22) and a diagnosis of Drug Use Disorder (RR=1.25) and assault (RR=1.30) increased risk for criminal arrest. Drug-using youth presenting to an Urban ED for assault have high rates of criminal arrest; Interventions at an index ED visit for assault addressing drug use and violence correlates may limit subsequent CJ outcomes and their associated long-term consequences.

PRENATAL TOBACCO EXPOSURE PREDICTS CHILD’S INTERNALIZING BEHAVIOR

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Prenatal tobacco exposure (PTE) often has long-term, negative effects on child development. This may be expected given nicotine’s teratological effects, but not all children with PTE have the same poor responses. One outcome of particular interest is internalizing behavior, a summary of children’s depressed, anxious and withdrawn behaviors. Variety may be from timing and dose of exposure, as well as environmental factors, such as maternal depression (MD). This work examines whether PTE predicts greater internalizing behavior, and if so, whether MD acts as a moderator. The nationally-representative, longitudinal dataset The Fragile Families and Child Wellbeing Study was used. Internalizing behavior was measured with Achenbach’s Child Behavior Checklist, and MD was measured using the Composite International Diagnostic Interview; both were assessed at children’s ages 3, 5 and 9. For children with PTE, multilevel modeling was used to determine if there was a dose response between PTE and higher maternal reports of children’s internalizing behavior (N=306). Further, we examined if MD moderated the association between PTE and child internalizing problems. Maternal race, income, education, age and relationship status were used as covariates to account for oversampling of ethnic minorities and single-parent families.PTE significantly predicted greater internalizing scores. This association was significantly moderated by MD. MD exacerbates the effect of PTE, such that children with greater PTE and increased MD had the greatest internalizing

behaviors. Results indicate that greater PTE is predictive of greater internalizing behaviors in children, and that a synergistic effect exists with PTE and MD. These results provide insight into the relationship between tobacco addiction and maternal depression on children's outcomes, and may allow providers to address patients at risk for internalizing behaviors.

ENERGY DRINK COMPOUNDS DIFFERENTIALLY AFFECT ANXIETY, LOCOMOTION, DEPRESSION AND COGNITION IN ADOLESCENT AND ADULT FEMALE RATS

K.Chauhan[1], S. Perez[3], M. Chrisphonte[1], M. Evelyn[1], M. Guzman [1], D. Woo[1], U. Akpara[1], H. Saleh[1], A. Alexander-Street[3], K. Salas-Ramirez[2], [1]Physiology, Pharmacology and Neuroscience, The City College of New York, New York, NY, United States, [2]Physiology, Pharmacology and Neuroscience, The City College of New York, New York, NY, United States, [3]Biology, Lehman College, CUNY, Bronx, NY, United States. In the US, nearly 75% of children under the age of 18 consume caffeine, not just in coffee, soda and tea, but also in energy drinks that also contain taurine. Energy drinks promise to improve mood, cognition and motor performance. More recently, energy drinks have been shown to decrease the subjective effects of impairment and increase binge drinking. This study aimed to determine the individual and combined effects of caffeine and taurine on locomotion, anxiety and depression, cognitive function in adolescent and adult female rats. 32 adolescent and 32 adult female subjects were randomly divided into four groups (1) caffeine (20mg/kg/day; ip), (2) taurine (100mg/kg/day; ip), (3) caffeine & taurine (as a cocktail/day; ip) or (4) saline (ip/day). Treatment was initiated on PND 33 in adolescent females and PND 68 in adult females. One week after treatment began; consecutive behavioral assessments were performed while the females continued to be exposed to these compounds. Two-way ANOVAs determined adolescent females treated with caffeine showed increased locomotor activity ($P < 0.05$) and decreased anxiety ($P < 0.001$), while taurine and the cocktail had no effects. In adults, the compounds found in energy drinks increased anxiety ($P < 0.001$). In both age groups, caffeine alone, and combined with taurine, decreased depression ($P < 0.001$). Working memory remained unaffected. These data suggest that active compounds found in energy drinks can have differential effects on emotional regulation, dependent on time of exposure, which in turn can impact behavioral outcomes related to addiction.

BSAFER: A WEB INTERVENTION FOR WOMEN IN THE ED WITH DRUG USE AND IPV

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In a pilot RCT of BSAFER, an intervention for women with drug use and intimate partner violence (IPV) in the emergency department (ED), our aims were to: 1) Demonstrate the technical usability of the Web program and the feasibility and acceptability of the Web program and telephone booster; 2) Evaluate how well the Web program and booster adhered to the principles of motivational interviewing (MI) We recruited adult female patients in an urban ED who screened positive for recent drug use and IPV. Participants randomized to BSAFER self-administered a brief Web program that gave feedback on drug use, linked drug use to core values, led to selection of a change goal, advised support for IPV, and offered referrals to community resources and video testimonials by women with drug use and IPV. Those randomized to control took a time-matched Web program on home fire safety. Within 2 weeks, participants received an interventionist-led telephone booster. Usability measures (SUS) were obtained after the Web program and measures of satisfaction (CSQ-8) and adherence to MI principles (12-item instrument) after the Web program and booster. Of 40 participants, 21 were randomized to BSAFER. Mean age was 30 years, 50% were non-White and 28% Hispanic. The most common drugs were marijuana (88%) and cocaine (30%); 45% reported physical abuse and 33% severe combined physical/sexual abuse. 39 (98%) completed the ED program; 20 (75%) completed the booster. Among BSAFER participants, average SUS score for the Web program was 83.5 (95%CI 78.1-88.9) of 100; average CSQ-8 score was 27.7 (95%CI 26.3-29.1) of 32; and adherence to MI principles was high (≥80% agreed with 9 of 12 MI characteristics). For the booster, average CSQ-8 score was 29.2 (95%CI 27.7-30.7);≥80% agreed with 9 of 12 MI characteristics. A Web program and telephone booster intervention was feasible and acceptable to women in the ED with drug use and IPV and maintained most key elements of MI.

IMPULSIVENESS AND SEX TRADING FOR DRUGS, MONEY, BOTH, OR NEITHER

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The authors hypothesized that different patterns of results will emerge between those who sex trade for drugs, money, both, or neither. 1,060 females were recruited in Long Beach, CA and were administered the Risk Behavioral Assessment and the Barratt Impulsivity Scale. Sex trading was categorized by sex trading for drugs only

(n= 35), money only (n =124), or both drugs and money (n =275). Those who did not sex trade for drugs or money (n = 626) were used as the reference category. The generalized logit model included four factors: Sex trading for drugs only: impulsiveness (OR=2.33) crack use in the last month (OR=3.60), amphetamine use in the last month (OR=3.77) history of drug treatment (OR=4.91); Sex trading for money only: impulsiveness (OR=2.42), crack use in the last month (OR=3.10), and history of drug treatment (OR=1.9); Sex trading for both drugs and money: impulsiveness (OR=2.41), crack use in the last month (OR=5.89), history of drug treatment (OR=5.75). This is the first study that models sex trading that uses those who do not sex trade as comparison. Amphetamine was only in the model for those only trading sex for drugs.

SMOKING AND MENTAL HEALTH FROM FIRST PRENATAL VISIT TO POSTPARTUM

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The study aims to describe the trajectory of smoking and mental health from first prenatal visit through 3 months postpartum and compare postpartum outcomes based on intake smoking status. The sample of 130 participants was drawn from pregnant women attending their first prenatal visit at a low-income obstetrics clinic. Intake and 3 month postpartum assessments were collected. Postpartum smoking status was based on self-report and urine cotinine validation. 'Current smokers' and 'recent quitters' were contrasted on demographic, smoking behaviors, and psychological variables. The sample was predominately African-American (80%), never married (74%), currently smoking (69%), with a mean age of 26. Intake and postpartum data were available for 97 (75% follow-up rate). At intake current smokers reported smoking 66 of the past 90 days and 11 times per day (TPD); women who recently quit reported smoking 13 of the past 90 days and 7 TPD (between-group difference at $p<.01$). Current smokers reported more depressive and stress symptoms at intake than recent quitters and less motivation to quit ($p<.05$). Postpartum current smokers reported smoking 64 of the past 90 days and 8 TPD; women who had quit at intake smoked 1 of the past 90 days and 0.2 TPD (all at $p<.01$). Depressive symptoms were not different between groups postpartum but stress symptoms were ($p<.05$). Motivation to quit declined for both groups postpartum ($p<.05$).The same women who had quit at intake remained quit postpartum (28%), though 65% reported having quit smoking for at least one week during their pregnancy. Pregnant women who quit smoking prior to their first prenatal visit are more likely to be abstinent postpartum. Those who continued to smoke maintained a similar level of smoking postpartum, though a majority stopped smoking at least once during pregnancy, suggesting motivation to quit during pregnancy diminishes postpartum.

EXPOSURE TO ETHANOL IN BRAZILIAN GASOLINE STATION ATTENDANTS

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This study aimed to assess the potential exposure to inhalant ethanol of gasoline station attendants to this harmful drug, using breathalyzer and oral fluid (OF) analysis by headspace gas chromatography/mass spectrometry (HS-GC/MS). Cross-sectional study with a target sample of 162 GSA which were invited to respond a questionnaire covering the socio demographic profile of the study population and the pattern of drinking and driving behavior, followed by a breath test and OF collection. Categorical variables were described by absolute and relative frequency, and compared between groups of gender using Fisher's exact test. Ethanol was found in all samples, and 72.83% was positive by HS-GC/MS (above quantification limit of 0.00125 g/dL), while only one sample (0.62%) had a positive result (0.03 mg/L) in the breath tests. The results presented here demonstrate the ethanol occupational exposure of the GSA and the importance of confirmatory analysis for the breathalyzer by HS-GC/MS. Moreover, the study suggests that may be relevant to develop psycho educative strategies in order to prevent brain and other clinical injuries caused by chronic exposure to ethanol in this vulnerable population.

WOMEN CAN FORCE MEN TO HAVE SEX? FORCED SEX TACTIC AND SUBSTANCE USE AMONG SEXUALLY VICTIMIZED MEN

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Sexual violence towards men by women has been grossly understudied in the literature. Moreover, the tactics used to force sex among men is virtually unknown. The aims were to investigate: (1) the tactics used to force men to have sex and (2) the role of substance use on forced sex and the tactics employed. I used data from the National Survey for Family Growth (2006-2010) to investigate the association between forced sex and substance use among men who reported forced sex by a woman and the association between tactic used during the sexual attack and substance use in the last year. Six tactics were ranked according to force exhorted: given drugs/alcohol, bigger/older, threats to relationship, threaten physical harm, held down, physically hurt. The analytic sample was 8,108 and I used logistic regression to test the hypotheses. Five percent of men (N= 501) reported forced sex by a woman. The top 3 tactics endorsed were verbal pressure (69%), given drugs/alcohol (38%), and being held down (32%). Results indicate a difference in rates of marijuana use ($p=0.02$), crack use ($p<0.001$), crystal meth use ($p<0.001$) and a marginal difference for binge drinking ($p=0.058$) between men who reported forced sex and those who did not. Being given drugs or alcohol as a means of forced sex was associated with binge drinking (OR=1.76) and cocaine use (OR=3.04). Being held down was associated with marijuana (OR=2.04) and cocaine use (OR=2.89). Men who reported forced sex had higher rates of substance use compared to men with no forced sex history. Although substance use was associated with force tactics at statistically significant levels, a clear trend of stronger tactics being associated with substance use was not observed. Longitudinal analysis of sexual practices should be conducted to better understand the role of alcohol/drug consumption preceding a forced sex event and to examine whether there is a cycle in which substance use increases risk of future sexual violence and thus violence increases risk of substance use among men.

SEX DIFFERENCES IN EFFECTS OF TRAIT IMPULSIVITY ON VULNERABILITY TO SUBSTANCE DEPENDENCE

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Trait level impulsivity is a core feature of addictive processes. Research with non-clinical populations suggests that different components of impulsivity are most prominent among men (sensation seeking:SS) and women (negative urgency:NU). This study investigated potential sex differences in the relationship between sensation seeking, negative urgency and substance use among 271 participants with substance use disorders (SUDs). 139 men and 132 women completed the UPPS-P Impulsive Behavior Scale as part of a larger study of sex differences in neurocognition and drug dependence. DSM-IV TR diagnoses were obtained using the SCID-Substance Abuse Module. All subjects were verified abstinent by toxicology screening. As predicted, men scored significantly higher on the SS ($p = .02$) (Cohen's $d = 0.50$) while NU scores were significantly higher for women ($p < .001$) (Cohen's $d = 0.3$). Among women, higher NU scores were significantly associated with past alcohol dependence, $p = .01$. By contrast, higher SS scores were significantly associated with cocaine dependence among men, $p = .004$. These results were unchanged when controlling for depression. NU is an index of behavioral dyscontrol triggered by negative affect and SS is the tendency and openness to try new and exciting activities that vary in danger level. NU had a significant positive relationship with past alcohol dependence only for women and this effect could not be attributed to nonspecific effects of psychological distress, while SS was significantly associated with cocaine dependence, but only among men. These findings suggest that specific components of impulsivity interact with vulnerability to substance use disorders differently among men and women and that effective prevention and treatment strategies for alcohol and cocaine dependence may benefit from sex and substance specific tailoring.

MATERNAL AGE AND TRAJECTORIES OF MARIJUANA USE OVER 17 YEARS

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Teen mothers engage in higher rates of marijuana use than adult mothers, including earlier use and delayed desistence (Carroll Chapman & Wu, 2013; De Genna et al., 2014; Gillmore et al., 2006). They may "age out" of substance use later, using marijuana while raising their children. However, no studies have examined the effect of maternal age on long-term patterns of marijuana use. Pregnant women (ages 12-42) were recruited from an urban

prenatal clinic and interviewed twice during pregnancy, providing data on marijuana use one year prior to pregnancy (N = 690). Mothers were re-assessed at delivery and during follow-up visits 6, 10, 14, and 16 years later. A growth mixture model (GMM) was applied (maternal use one year prior to pregnancy, first trimester, third trimester, and postnatal years 6, 10, 14 and 16) to examine variation in trajectories of use. GMM revealed a cubic growth curve with 5 patterns: low/non-use (53%), increased use after pregnancy (9%), chronic use including use during pregnancy (14%), pre-pregnancy use decreasing after pregnancy (22%), and chronic use with abstinence during pregnancy (3%). In a polytomous regression controlling for maternal race and educational attainment, the youngest mothers were significantly more likely to be in classes marked by increasing marijuana use after pregnancy and chronic marijuana users who abstained during pregnancy. These results demonstrate that teen mothers are significantly more likely to use marijuana chronically before and after pregnancy. Importantly, a subset of them increase use for over a decade beyond the target pregnancy. These findings have implications for the next generation. Teen mothers should be screened for marijuana use up to 16 years post-pregnancy.

PREVALENCE OF HEAVY FETAL ALCOHOL EXPOSURE DURING PREGNANCY IN CANADA: A POPULATION BASED MECONIUM STUDY

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Alcohol consumption during pregnancy is associated with Fetal Alcohol Spectrum Disorder (FASD), which is a continuum of neurological disabilities. Meconium is the first stool passed by a neonate and allows for objective analysis of mainly third, and potentially second, trimester prenatal exposures. The established biomarker of in utero alcohol exposure, fatty acid ethyl esters (FAEEs), is used to objectively measure heavy maternal alcohol consumption during pregnancy. It is hypothesized that 3% of pregnancies in Canada involve heavy maternal alcohol consumption as the 1% prevalence of FASD in Canada is thought to only represent 40% of heavily exposed neonates. In collaboration with the MIREC study, 2000 pregnant women were recruited from 10 cities across Canada, with 1537 consenting to meconium sample analysis. Meconium samples were analyzed for 4 FAEEs via GC-MS analysis. Any sample with a total [FAEE] greater than 2nmol/g is deemed positive for heavy fetal alcohol exposure. In addition to meconium sample collection, participating women completed questionnaires during pregnancy that included a section on alcohol consumption, which will serve as maternal self-report. Meconium sample analysis is currently ongoing at the Motherisk Laboratory. Thus far 782 samples have been processed with 696 eligible for analysis. After accounting for meconium sample collection time, the incidence rate of heavy fetal alcohol exposure in Canada is 2.17%. Fifty women reported above social level drinking and one reported binge drinking during pregnancy. As these findings represent second and third trimester exposures when the pregnancy is known, the women who continue to consume alcohol are at risk of having alcohol dependence problems and their children of being impacted by FASD. This study is the first of its kind to objectively measure the rate of heavy fetal alcohol exposure in Canada.

FACEBOOK AS A LOCATING AND TRACKING STRATEGY AMONG RURAL DRUG-USING WOMEN

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The popularity of social media has exploded among the public in recent years, with Facebook (FB) leading the way. Individuals living in rural communities are just as likely as those living in urban areas to be FB users (71% vs. 75%; Duggan & Smith, 2013). Despite its popularity, FB has been underutilized in public health research to maintain contact with research participants. This study examines FB use among a sample of rural drug-using women transitioning to the community from jail. Specifically, the study 1) profiles rural drug-using women FB users and non-users and 2) examines predictors of utilizing FB as a successful locating and tracking strategy. Face-to-face interviews were conducted with 267 randomly selected and screened women from rural jails in one Appalachian state. Analysis focused on bivariate differences between FB users and non- users, as well as a regression model to examine predictors of FB as a successful locating/tracking tool for follow-up. About half (56.2%) of participants were FB users. FB users were significantly younger than non-users, with women younger than 26 years old being significantly more likely to use FB ($p<.05$). FB users were also significantly more likely to be located for follow-up (72.0% vs. 25.6%; $p<.00$). Among FB users, 35.3% were successfully located for follow-up using a confidential study site. The only significant predictor for follow-up locating success using FB was number of previous

incarcerations (OR = 1.159). Study findings indicate that FB is a widely used and well-accepted mode of social networking among drug-using women in rural areas. While these study findings indicate that Facebook may strengthen study methodologies for long-term follow-up, it also suggests the possibility of social media platforms like FB for delivering effective interventions to rural drug-using women.

PREVALENCE, CORRELATES, AND SUBSTANCE USE AND PSYCHIATRIC PREDICTORS OF REGULARLY DRINKING ALCOHOL BEFORE SEX AMONG ADULTS IN THE UNITED STATES

N.R.Eaton[3], R. G. Thompson[2], M. Hu[4], D. S. Hasin[1], [1]Epidemiology, Columbia University, New York, , NY, United States, [2]Psychiatry, Columbia University, New York, NY, United States, [3]Psychology, Stony Brook University, Stony Brook, NY, United States, [4]Columbia University, New York, NY, United States. Drinking alcohol before sex increases the likelihood of engaging in sexual risk behaviors and risk for HIV infection. However, the prevalence, correlates, and predictors of this behavior have not been established in the United States. This study determined the prevalence, correlates, and substance use and psychiatric predictors of regularly drinking alcohol before sex in a nationally representative adult sample. Participants were 17,491 sexually active adult drinkers from Wave 2 of the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC). Logistic regression models estimated the prevalence, correlates, and substance use and psychiatric predictors of regularly drinking alcohol before sex. Regularly drinking alcohol before sex was defined as drinking alcohol most or all of the time prior to sexual activity. Past year prevalence of regularly drinking before sex was 1.8% (approximately 4.3 million American adults). A variety of sociodemographic (i.e., age, gender, race, education, family income, marital status, employment status), substance use (i.e., alcohol, cannabis, nicotine, and other drug dependence; drinking frequency) and psychiatric (i.e., major depressive, dysthymic, generalized anxiety, and antisocial personality disorders) variables were associated with regularly drinking before sex at the bivariate level. After controlling for covariates, alcohol dependence (AOR=2.35; 95%CI=1.85-2.99) and generalized anxiety disorder (AOR=1.51; 95%CI=1.07-2.12) remained significant predictors of regularly drinking before sex. This study can serve as a benchmark for future studies on substance use and psychiatric disorders as risk factors for regularly drinking alcohol prior to sexual activity. Substance abuse treatment should address co-occurring psychiatric disorders in efforts to reduce rates of regularly drinking before sex.

GENDER DIFFERENCES IN MORTALITY AMONG TREATED OPIOID DEPENDENT PATIENTS

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To assess gender differences in mortality rates, causes of death, and predictors of death among treated opioid-dependent patients. Mortality data were obtained on all patients first enrolled in publicly-funded pharmacological treatment for opioid dependence in California from 2006 to 2010. Crude mortality rates (CMR) and standardized mortality ratios (SMR) were calculated by gender. Cox proportional hazards models with time-varying covariates were fitted to determine the effect of gender on the hazard of all-cause mortality, controlling for a range of covariates. Death occurred among 259 of 11,564 women (2.2%) and among 772 of 20,758 men (3.7%) over a median follow-up of 2.6 years (interquartile range: 1.4 - 3.7), corresponding to a CMR of 9.5 (95% CI: 8.4, 10.7) deaths per 1,000 person-years among women, and 15.7 among men (95% CI: 14.6, 16.8). Women had a greater increase of mortality risk compared to the general population (SMR 5.1 95% CI: 4.5, 5.7) than men (SMR 4.3 95% CI: 4.0, 4.6). The relative risk of death for women compared with men was 1.18 (95% CI: 1.02, 1.36). Similar percentages of women and men died of drug overdose (47.1%, 42.5%). As a main effect, women had a lower instantaneous hazard of all-cause mortality than men (HR 0.58, 95% CI 0.50, 0.68). A significant interaction effect indicated that concurrent opioid and ethamphetamine/cocaine use increased mortality risk among women and decreased mortality risk among men. Understanding factors that influence mortality risk differentially by gender has important implications for addressing gender-specific treatment needs, thereby aiding efforts to eliminate gender disparities in opioid-related morbidity and mortality.

ALCOHOL AND TOBACCO USE AMONG BRAZILIAN HIGH SCHOOL STUDENTS: THE ROLE OF PSYCHIATRIC SYMPTOMATOLOGY

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To investigate tobacco and alcohol use patterns of 15 to 18 year-old high school students in Brazil and to estimate associations with psychiatric symptoms. A 2013 cross-sectional survey of 4034 high school students. The sample was drawn from 150 public and private schools in the São Paulo State in Brazil. All answered questions on

substance use patterns and the Strengths and Difficulties Questionnaire (SDQ). Weighted data was analyzed through logistic regressions, stratified by gender and by socio-economic status. Almost forty-nine percent were male, most (81.3%) from public schools. There were no significant differences between males and females in past-year (64.4% vs. 66.7 %,), past month (37.6% vs. 38.5%), frequent (6.8% vs. 5.5%) or heavy alcohol use (3.7% and 2.8%). A positive SDQ total score (aOR = 1.33 [1.09, 1.62]) was significantly associated with past year alcohol use. Studying in a public vs. private school (aOR = 1.28 [1.00, 1.65) and having a positive SDQ total score (aOR = 1.41 [1.17, 1.71]) were significantly associated with past month alcohol use. There were no differences between males and females in past-year (13.9% vs. 14.7%), past month (9.5% vs. 8.6%), frequent (1.4% for both male and female) or heavy tobacco use (2.2% and 2.1%). Having a positive SDQ score was significantly associated with past year (aOR = 1.99[1.50, 2.64],) and past month (aOR = 1.70 [1.19, 2.42]) tobacco use. Studying in a public school (aOR = 6.36[1.41, 28.76]) was significantly associated with heavy tobacco use (aOR = 3,89 [1.35, 11.24]). Psychiatric symptoms were associated with alcohol and tobacco use. Such findings might help prevention specialists, as they prompt the need for interventions focused on mental health care conditions.

TRICHOMONAS VAGINALIS INFECTION AND DRUG ABUSE RISK FOR WOMEN

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Trichomoniasis is considered to be the “neglected” sexually transmitted disease (STD). We clarify the drug risk for this infection. 2272 women were administered the Risk Behavior Assessment, and a subset had their blood tested for hepatitis A, B, and C, and HIV. Those who had Tvi were more likely to have ever used crack, powder cocaine, marijuana, heroin, speedball, and other opiates. They were also more likely to have been diagnosed with hepatitis B (HBV), gonorrhea (GC), syphilis, Chlamydia (CT), HPV, herpes, and yeast infection. For those who had been tested for other infections, there was a significant association with hepatitis B. The multivariate model included GC OR=2.9), Black vs. Hispanic (OR=2.6), crack (OR=2.4), CT (OR=2.2), Syphilis (OR=1.8), and HPV (OR=1.6). The associations of Tvi with drugs other than crack, and with HBV, herpes, HPV, and yeast infection in the US is a contribution to new knowledge and clarifies the risk profile for this infection.

A SMART DESIGN: RESPONSE TO REINFORCEMENT-BASED TREATMENT INTENSITY AMONG PREGNANT, DRUG-DEPENDENT WOMEN

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Multiple randomized trials demonstrate that Reinforcement-Based Treatment (RBT) is an efficacious multi-component treatment. However, it is unclear whether some patients may respond to less intensive forms of RBT. Adaptive treatment designs may help to evaluate whether multi-component treatments can be tailored to patient response. The primary aim of the study was to evaluate different variants of RBT tailored to early treatment response. 254 pregnant women enrolled in outpatient drug treatment provided informed consent to participate. In a sequential multiple assignment trial (SMART) 220 participants were randomized to receive treatment-as-usual RBT (n=109) or reduced-intensity RBT (n=111). After two weeks, participants were assessed for early treatment response based on drug use and treatment compliance. Early responders were randomized to receive the same (n=53) or decreased (n=52) RBT intensity; early non-responders were randomized to receive the same (n=56) or increased (n=59) RBT intensity. Primary outcomes assessed included maternal treatment utilization, drug use, and risk behaviors, infant birth outcomes, and infant hospitalization stay. Statistical Analysis. 7 planned comparisons were conducted to test 4 hypotheses related to tailoring treatment. Given the SMART design, the statistical model is an incomplete factorial with 8 cells on which the planned comparisons were conducted. Binary outcomes were analyzed with logistic regression, continuous outcomes with multiple regression, and repeated discrete outcomes with a GEE approach. None of the planned comparisons for any primary outcome was significant (all p-values>.05). RBT treatment tailoring did not impact maternal or infant outcomes for pregnant women enrolled in outpatient substance abuse treatment.

MEDICAL AND MENTAL HEALTH NEEDS OF LESBIAN, GAY, AND BISEXUAL CLIENTS IN SUBSTANCE ABUSE TREATMENT

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This study identified the physical and mental health needs and service utilization of lesbian, gay, and bisexual (LGB) individuals relative to heterosexual counterparts in substance abuse treatment. Based on prior research and the minority stress model (Meyer, 2003), we hypothesized that LGB individuals would have higher rates of physical and mental health problems and service utilization relative to heterosexual individuals. Physical and mental health problems and service utilization were examined within a database documenting 13,211 individuals who entered substance abuse treatment between 2007 and 2009 within San Francisco, CA. Differences between LGB (n=1,441) and heterosexual (n=11,770) individuals were identified using logistic regression, covarying race, ethnicity, and age, with separate models for males and females. Gay men (adjOR:1.42, 99.9% CI:1.07,1.88) and bisexual women (adjOR:1.70, 99.9% CI:1.06,2.74) were more likely than heterosexual counterparts to report recent physical health problems; this difference was not evident for bisexual men or lesbian women. Among men, gay (adjOR:4.26, 99.9% CI:2.72,6.66) and bisexual (adjOR:2.62, 99.9% CI:1.15,5.93) status predicted higher health care utilization; there were no differences among women. LGB status was predictive of higher rates of mental health diagnoses (adjOR range across LGB groups 1.86-4.00) and current mental health prescription medications (adjOR range 1.79-4.99) for LGB men and women. Both gay (adjOR:3.38, 99.9% CI:2.22,5.16) and bisexual men (adjOR:2.59, 99.9% CI:1.14,5.85), but not lesbian or bisexual women, were more likely to be receiving mental health treatment. LGB individuals have greater physical and mental health needs, while lesbian and bisexual women do not have corresponding higher physical and mental health service utilization. These disparities could be addressed in substance abuse treatment settings.

PHARMACOKINETICS OF BUPROPION SUSTAINED RELEASE IN PREGNANCY AND POSTPARTUM AT STEADY STATE

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The use of bupropion sustained release (BUP SR) as an aid for smoking cessation during pregnancy is currently being evaluated at UTMB. The pregnancy-induced changes in maternal physiology may alter pharmacokinetics (PK) and pharmacodynamics (PD) of BUP, and consequently its effectiveness for smoking cessation during pregnancy. Therefore, the objective of the current study is to determine the pharmacokinetics (PK) of bupropion SR in pregnant women at different gestational ages as well as during postpartum (with or without lactation) and postlactation periods. Pregnant patients received an oral dose of BUP SR 150 mg twice per day. After reaching steady state, the PK of BUP SR was studied following a single oral dose. Blood samples were taken prior to dosing and at 0.5, 1, 1.5, 2, 3, 4, 6, 8, 10, and 12 hours post-dosing. Urine samples were collected over the same 12- hour interval. The plasma and urine levels of BUP and its metabolites hydroxybupropion (OH-BUP), threo-, and erythrohydrobupropion (TB and EB) were determined by liquid chromatography-mass spectrometry (LC-MS). The PK parameters were calculated using noncompartmental analysis. Relative to the postpartum period, the average late-pregnancy clearance of BUP SR was greater (0.35 ± 0.13 vs. 0.21 ± 0.05 L/h) and the average AUC0-12 values (491.5 ± 187.2 vs. 754.2 ± 180.5 h•ng/ml) were lower ($p<0.05$). The higher ratio of AUCs for OH-BUP over BUP during late pregnancy (23.8 ± 9.9) as compared to postpartum period (16.2 ± 9.5) suggests that the observed increase in the clearance of BUP during late-pregnancy could be associated with a pregnancy-induced increase in its biotransformation to OH-BUP.

PERINATAL ATTENTIONAL RETRAINING INTERVENTION FOR SMOKING - A PILOT STUDY

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Almost half of women who smoke prior to pregnancy achieve abstinence during pregnancy, but nearly 50% relapse within 2 weeks of delivery. Despite considerable study, there are few strategies that effectively combat smoking relapse in this population. Thus, we tested a novel technique: the use of smartphones to administer attentional retraining (AR) as an ecological momentary assessment intervention for relapse prevention in postpartum women. We hypothesized that relative to control, women randomized to AR would show less attentional bias (AB) toward

smoking-related stimuli, and a decrease in craving. Women (N=11) were recruited during pregnancy and carried a smartphone as they went about their daily lives for 1-2 weeks in the last month of pregnancy and immediately postpartum. Participants were randomized to receive AR (N=6) or attentional control (N=5). The smartphone randomly alerted participants (4 times/day) to respond to questions assessing subjective states, followed by AR (or control) procedures utilizing a visual probe task. Outcome measures included attentional bias for smoking and craving. Participants carried a smartphone for a mean of 20.2 days, completed 444 assessments (60.14% pregnancy; 39.86% post-partum) and 2.92 assessments per day. Craving increased from pregnancy (M=1.40, SD=1.23) to postpartum (M=2.28, SD=2.27); postpartum participants reported having smoked since the last assessment on 12.64% of assessments, and 8 women reported smoking at least 1 cigarette during the study. AB was more negative in the AR group (n=35 assessments, M=-52.6 ms, SD=122) vs. controls (n=44 assessments, M=18.5 ms, SD=146) ($p<0.05$, using a linear mixed model). Findings suggest that AR reduced AB to smoking cues and that women in the AR group attended away from smoking cues. This study demonstrates that AR can be administered on a mobile device, women experience craving postpartum, which is associated with AB, and AR can reduce AB to smoking cues in perinatal women.

NEURAL CORRELATES OF ATTENTIONAL BIAS FOR CANNABIS CUES: INFLUENCE OF SEX

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Attentional biases (AB) interfere with decision making processes and AB to drug cues is a cardinal feature of addiction that may contribute to relapse. Thus it is critical to identify the neural correlates of AB for improving interventions. Cue responsivity and AB differ between males and females suggesting the neural correlates of AB to drug cues may also be sex-specific. We explored associations between AB for cannabis cues (CCs) and neural responses to CCs among males (n=24) and females (n=14) seeking treatment for cannabis use disorder (CUD). CUDs were exposed to CCs and comparison cues (500 msec duration; 48 images of each cue type) presented in a quasi-random order in a BOLD fMRI fast event-related paradigm. Males and females did not differ in demographic or drug use characteristics. Male and female CUDs also completed a visual dot-probe AB task, which contained pictures of CCs and nondrug cues to examine whether sex influences AB and to investigate relationships between AB and neural responses to CCs. CUDs showed an AB to CCs (22.8 ± 4.7msec), which was not sinificantly different between males and females. Neural responses to CCs were strongest in the ventral striatum in females and the amygdala in males. Males showed positive correlations between AB and increased CC-induced brain activity in visual cortex and bilateral parahippocampus whereas females showed positive correlations (all bilateral) in the insula, lateral orbitofrontal cortex, dorsolateral prefrontal cortex and middle temporal cortex. (T values range from 3-6,p=0.01). Results suggest that AB to CCs has different brain correlates for men and women. Thus, strategies to address AB may need to target sex-specific brain vulnerabilities for maximum impact on relapse.

SEX DIFFERENCE IN BEHAVIORAL EFFECTS OF THE THC AGONIST CP55,940

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Sexual dimorphism exists at different levels of the cannabinoid system and THC induced responses, including receptor distribution, metabolic processing of THC, and analgesic responses. Anxiety responses in both human and animal males are dose dependent: low acute doses of cannabinoids are anxiolytic while high and/or chronic doses are anxiogenic. In this study we aimed to examine if the biphasic behavioral effects of cannabinoids that have been demonstrated in males are also present in females. Male and female Wistar rats (8 weeks old) received 0, 0.001, 0.01, 0.075 or 0.125 mg/kg i.p. of the THC agonist CP55,940—n=10-11 per group. Thirty minutes later, animals were placed in the elevated plus maze (EPM) for 10 minutes, and their behavior analyzed by Med Associates tracking software. A significant main effect of CP55,940 doses was observed [$F(4, 92) = 6.863$, $p < 0.01$];0.075 mg/kg showed a significant reduction in percent time in open arms compared to vehicle ($p = 0.05$). Furthermore, 0.001mg/kg showed significantly more time in open arms than: 0.01 ($p = 0.045$), 0.075 ($p < 0.01$) and 0.125 ($p < 0.01$). Sex differences were observed in the effect of CP55,940 on anxiogenic and anxiolytic responses. Although males showed biphasic dose dependent responses to this THC agonist, female rats showed only an anxiogenic response to CP55,940. Our work is in agreement with previous studies suggesting sex- dependent behavioral effects

of cannabinoids. Further research is needed to understand the underlying mechanisms responsible for these differences.

GENDER DIFFERENCES IN ASSOCIATIONS BETWEEN CHILDHOOD SEXUAL ABUSE AND ILLICIT DRUG USE IN ADULTHOOD

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We examined gender differences in the association between a history of childhood sexual abuse (CSA) and illicit drug use in adulthood in a nationally-representative sample of adults aged 24-32 years living in the United States. We used data from the National Longitudinal Study of Adolescent to Adult Health to measure CSA by a parent or adult caregiver before the age of 18, which was assessed retrospectively at Waves III (emerging adulthood; ages 18-26 years) and IV (adulthood; ages 24-32 years). History of cocaine and crystal methamphetamine use and non-medical use of prescription drugs was reported during adulthood. Data from Waves I (ages 7th-12th grade), III, and IV were used to measure covariates, including age, race, education, emotional and physical abuse, and poverty. Using survey methods to obtain nationally-representative estimates, we used logistic regression to measure gender-specific associations between CSA and adulthood drug use. CSA was reported more commonly among females (11%) than males (7%) (p value=<0.0001). Among females, in unadjusted and adjusted analyses, CSA was associated with adulthood use of cocaine (adjusted odds ratio (AOR)= 1.46, 95% CI: 1.12-1.90), crystal methamphetamine (AOR=1.45, 95% CI: 1.03-2.04), and non-medical use of prescription drugs (AOR=1.55, 95% CI: 1.16-2.07). In contrast, CSA was not an independent correlate of use of these illicit drugs among males. CSA appears to influence the risk of adulthood illicit drug use among females but not males. The findings suggest incorporation of trauma-informed approaches may improve drug use prevention interventions for females.

POLYSUBSTANCE COMBINATIONS INVOLVING PRESCRIPTION OPIOIDS AND RATIONALES FOR COMBINING AMONG PEOPLE WHO USE INTERNET DRUG DISCUSSION FORUMS

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Prescription opioids alone or in combination with other substances are associated with a majority of unintentional drug overdose deaths. This study sought to explore prevalent combinations of prescription opioids with other drugs, and motivations for combining, according to opioid users frequenting an internet discussion forum. Users of an online drug discussion forum were offered a survey in winter, 2013 about opioid use and motivations for combining medications. Chi square tests assessed differences by drug combination and gender. Among 695 respondents, 266 (38%) reported past year prescription opioid use, 154 of whom reported 252 combinations involving hydrocodone IR, oxycodone IR, oxycodone ER or oxymorphone ER plus additional substances. Immediate release opioids were more frequently combined than extended release opioids (81.3% vs 18.7%); benzodiazepines were the most commonly combined (50.4% of combinations). Females reported muscle relaxer-opioid combinations at higher rates than males (42.2% vs 26.2%) and males reported more cocaine- opioid combinations than females (20.6% vs. 2.2%). There were no gender differences for other combinations. Common combination rationales included attaining a desirable sensation (n=143) and boosting effects (n=112). A substantial minority took combinations as prescribed (n=52), reported inadequate pain relief from prescribed medications (n=46) or to self-treat mental (n=53) or physical (n=42) conditions. A substantial proportion of respondents combine prescription opioids with other substances for medical and non-medical reasons. Interventions to reduce opioid overdose risk, including take-home naloxone, should ensure equal coverage of men and women. Prevalence of combining substances to self-treat health conditions indicates that efforts to engage substance users in health care may be an important initiative in advancing opioid safety.

HOW DO GENDER AND RACE/ETHNICITY INFLUENCE PERCEIVED BARRIERS TO HELP-SEEKING FOR SUBSTANCE USE PROBLEMS?

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The goal of this study was to examine differences by gender and race/ethnicity in perceived barriers to seeking help for substance use problems. Data are from the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC), a general population survey conducted in 2001–02. The study sample includes African Americans, Latinos, and whites who had not sought help for problems related to their use of alcohol (N=1,012) or drugs

(N=532). Reasons were categorized as: (a) financial, (b) stigma, (c) fear of treatment, (d) pessimism, (e) minimizing problem, (f) structural barriers, (g) natural recovery, and (h) continue to use. Logistic regression models for each reason were fit separately for alcohol and drugs and included covariates for background characteristics. The most frequently cited reasons for not seeking help for alcohol or drug problems referred to problem minimization (66%). Alcohol: males were less likely than females to cite financial, stigma, fear, and natural recovery, but more likely to refer to structural barriers (AOR=1.56). Compared with whites, African Americans were less likely to endorse financial, stigma, and fear; more likely to cite pessimism and natural recovery; and twice as likely to cite structural barriers. Latinos had lower odds of citing financial reasons, natural recovery, and continued use than whites, but were 30% more likely to cite pessimism. Drugs: males had lower odds of endorsing financial, fear, and natural recovery as reasons, but had higher odds of minimizing problems and structural barriers. African Americans were less likely than whites to cite financial problems and natural recovery, but more likely to minimize problems (AOR=1.72). Latinos were less likely than whites to cite financial, stigma, fear, natural recovery, and continued use, but were more likely to cite pessimism and structural barriers. [all: $p < .05$] Strategies are needed to encourage help seeking that address health disparities by gender and race/ethnicity.

REINSTATEMENT OF DRUG-SEEKING BEHAVIOR IN RATS TRAINED TO SELF-ADMINISTER INTRAVENOUS INJECTIONS OF MIDAZOLAM

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Benzodiazepines (BZs) are positive allosteric modulators of the GABAA receptor and are commonly prescribed anxiolytics and anticonvulsants; yet their use is associated with side effects such as abuse and dependence. In the preclinical literature, there are few reports of self-administration of BZs in rodents and only with unlimited access to drug. In addition, to our knowledge, there are no reports of BZ-induced reinstatement of drug seeking, a phenomenon thought to model aspects of the relapse process. We sought to establish i.v. self- administration and reinstatement of the short-acting BZ midazolam in rats. Ten Sprague-Dawley male rats with chronic i.v. catheters were trained to self- administer 0.3 mg/kg/injection of midazolam under a 2-response, fixed ratio (FR2) schedule of i.v. drug injection during daily 3-h sessions. Following three days of stable responding on the active lever (<25% of mean, no upward/downward trends, ≥ 10 injections/day) rats underwent extinction training. Active lever presses during extinction sessions had no programmed consequences. Once responding on the active lever decreased to ≤50% of active lever pressing during self-administration sessions, rats received a non-contingent i.v. priming injection of midazolam (0.01-1 mg/kg/injection) or vehicle along with restoration of the drug-paired stimuli (i.e., reinstatement test). Acquisition of self-administration at FR2 occurred within 21 days in 9/10 rats. Extinction criteria were met after an average of 7.7 days (±2.4 SEM). Midazolam induced dose-dependent reinstatement of drug seeking in 7/9 rats, engendering active lever presses significantly higher than observed during extinction. These results show that a BZ can function as a positive reinforcer in rats under limited access conditions, and that reinstatement of BZ taking is robust and dose dependent. Furthermore, these results establish a new platform for systematic study of relapse to BZ-taking in a preclinical rat model.

THE IMPACT OF E-CIGARETTE ADVERTISEMENTS ON E-CIGARETTE INITIATION AMONG MIDDLE AND HIGH SCHOOL STUDENTS

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Little is known about the impact that e-cigarette ads have on adolescents' initiation of e-cigarettes. The present study examines whether exposure to e-cigarette ads predicts initiation of e-cigarettes in middle and high school students. A total of 1750 participants (52% female, Mage = 14.16, SD = 1.94) who did not report e-cigarette use at baseline were included in this analysis. Data were drawn from a larger study examining attitudes about various tobacco products among middle and high school students. Baseline surveys were conducted in fall 2013 and follow-up surveys were conducted in spring 2014. The following variables were included in a logistic regression analysis: age, gender, cigarette smoking history, exposure to e-cigarette ads on Facebook, Twitter,YouTube, Pinterest, Google Plus, television/radio, billboards, magazines, stores, mall kiosks, and tobacco shops (e.g., Where have you recently seen advertisements or the following tobacco products being sold? Response options included "yes" or "no") where each site/location was entered as a separate predictor. The criterion was e-cigarette use at follow-up. Among never e-cigarette users in the fall 2013 sample, 9.7% reported e-cigarette initiation at follow-up. Analyses revealed that older age ($p < .001$), history of cigarette smoking ($p < .001$), and recent exposure to ads on Facebook ($p = .016$), Pinterest ($p = .039$), and stores ($p = .008$) significantly predicted initiation of e-cigarettes at follow-up. Findings

suggest that regulation of e-cigarette ads on social media and at convenience stores may reduce e-cigarette initiation among youth.

A TOBACCO CESSATION READINESS GROUP INCREASES INITIATION OF QUITTING IN RESIDENTIAL TREATMENT PATIENTS

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To test the feasibility and efficacy of a novel 3-session Readiness Group (RG) to encourage smokers in addiction treatment to initiate tobacco cessation. The study was conducted in two women-focused residential programs. RGs were conducted in 12 cohorts (2-12 participants per cohort), which incorporated the Prochange Expert Systems intervention in combination with a 24- hour practice quit attempt. Each cohort was randomly assigned to receive or not receive small incentives ($5 gift cards) for completing tobacco self-assessment tasks. Pre- and post-RG surveys included measures of smoking behavior, tobacco related risk perception, and smoking related attitudes and services received. 80 women enrolled in the RGs and 66 (82%) completed the post-RG survey. The rate of initiating tobacco cessation services, defined as attending at least one smoking cessation group, was 39% overall. The rates for incentive and control participants were, respectively, 33% and 45% ($p = 0.30$). Demographic characteristics, smoking behavior, and smoking attitudes and services pre-RG did not predict initiation of smoking cessation. Perceived risk of lung cancer (66% v 55%: $p < .05$) and mean number ofRG sessions attended (2.5 v. .9: $p = .01$) were higher among those who initiated use of cessation services than those who did not. For the 66 women who completed post-RG surveys, a significant decrease was observed in self-reported smoking status (99% v. 80%, $p < .01$), and CPD (10.9 v. 7.3, $p < .001$), but not for mean expired CO (18.0 v. 16.1ppm, $p = 0.14$). Significant pre-post increases were observed in quit attempts, use of nicotine replacement therapy, and use of tobacco cessation services, which were components of the RG. A brief 3-session tobacco cessation readiness group promoted quit attempts and smoking cessation service use.

CORRELATES OF PRESCRIPTION OPIOID LEGITIMACY ESTIMATIONS AMONG COMMUNITY PHARMACISTS IN TENNESSEE

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Community pharmacists have a corresponding responsibility to evaluate and verify prescription legitimacy prior to dispensing. Yet, our previous research indicates pharmacists dispense prescriptions perceived to be illegitimate. We examined practice- and pharmacist-specific correlates of prescription opioid (PO) legitimacy estimations among Tennessee community pharmacists. A cross-sectional study of 2000 Tennessee pharmacists was conducted to elicit pharmacists' self-reported attitudes, beliefs, and behaviors specific to PO dispensing and legitimacy. Pharmacist (e.g., gender, years in practice, hours worked per week) and practice (e.g., prescription volume, setting, geographic region) characteristics were obtained. PO legitimacy estimations were defined in tertiles as "low" (0-29%), "moderate" (30- 79%), and "high" (80-100%) legitimacy. Multinomial logistic regression techniques were used to investigate correlates of low and moderate perceived legitimacy against the reference of high perceived legitimacy. Being female, practicing in a chain or independent practice setting, fear of employer disciplinary action if PO legitimacy is questioned, and self-confidence in one's ability to detect PO abuse increased the odds of low (vs. high) PO legitimacy estimation. Employment in chain and independent pharmacies, having POs as a greater percent of total prescriptions filled, and having the perception of PO abuse as a problem in the practice setting were significant positive correlates of moderate (vs high) PO legitimacy estimation. Both modifiable and non-modifiable correlates were statistically significantly associated with PO legitimacy perceptions. Distinct correlates were noted across low and moderate as compared to high estimations of PO legitimacy.

CONTRACEPTIVE USE AND RISKY SEXUAL BEHAVIOR VARIES WITH FREQUENCY OF COCAINE, CRACK COCAINE, OR METHAMPHETAMINE USE

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Illicit drug-using women use contraceptives less often than non-drug using women andthose who do use contraceptives tend to rely on condoms and less effective methods. It is unclear how contraceptive use, method choice, and risky sexual behavior vary within drug-using women. We examined this by comparing contraceptive use and sexual behavior among women reporting different frequencies of illicit drug use. Data from the 2006-2010

National Survey of Family Growth were analyzed. Women aged 15-44 reported demographics, sexual activity, contraceptive use and method choice at last heterosexual intercourse, and frequency of cocaine, crack cocaine, and methamphetamine use in the past year. Analyses were restricted to women who were not currently pregnant, not trying to become pregnant, and heterosexually active in the past year. Of 8538 respondents who provided complete data, 187 reported low rates of cocaine, crack cocaine, or methamphetamine use (1-2x/year), 79 reported moderate rates of use (several times/year), and 43 reported high rates of use (≥1x/month). Nearly half (43%) of the high-frequency drug users reported not using any contraceptive at their last intercourse vs. 13-14% of lower-frequency and non-drug users. Among those who used contraceptives, 21% of high-frequency drug users reported using a prescription method vs. 31-40% of lower- frequency and non-drug users. High-frequency drug users also had sex twice as often with three times as many partners as lower-frequency and non-drug users. Nearly all drug-using women also reported smoking cigarettes and marijuana and binge drinking. Women who use cocaine, crack cocaine, or methamphetamine more often appear to be at risk of drug-exposed pregnancies due to nonuse of effective contraceptives and frequent engagement in risky sexual behavior. Risk of polydrug exposure may also be elevated in this population given high rates of cigarette smoking and binge drinking. Increasing effective contraceptive use in this population could prevent many unintended, polydrug-exposed pregnancies.

GENDER DIFFERENCES IN THE DEVELOPMENT OF EMOTION CIRCUITRY IN YOUTH AT RISK FOR SUBSTANCE ABUSE: A LONGITUDINAL fMRI STUDY

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Youth with a family history of substance use disorders (SUD) often have particular emotional and behavioral traits that are early predictors of later problem substance use. There is substantial evidence for a gender difference in risk trajectories such that females tend toward negative affectivity and males tend toward impulsivity. Gender differences in substance use are also evident during adolescence, concurrent with the appearance of gender-based developmental differences in the brain, indicating there may also be gender-specific neural predictors in those at-risk for developing SUD. Longitudinal fMRI was conducted in males (n=18) and females (n=18) with a family history of SUD starting at ages 8–13yrs. Participants performed an emotional arousal word task during fMRI at 1- to 2- yr intervals (3–4 scans/participant), covering the age range of 8–17.5yrs. Emotional words were positive, negative, or neutral, and participants were required to press a button indicating they understood the word when it appeared on the screen. A voxel-by-voxel analysis was conducted in SPM8 using a multiple regression model, designed to represent mixed linear effects and identify age-related changes between groups. For performance measures, females demonstrated a significant reduction in reaction time to negative, positive, and neutral words across age, while males showed no change. Significant age-related differences were found between groups in the right premotor cortex (BA6) and right amygdala for the negative vs. neutral contrast, where males showed a significant decrease in activation with age (premotor: p=.006; amygdala: p=.001) and females non-significantly increased in activation (premotor: p=.111; amygdala: p=.351). These results reveal developmental differences in brain functional responses in emotional arousal between males and females at-risk for SUD. These differences may underlie gender differences in behavioral risk trajectories for SUD.

THE MICROBIOTA-GUT-BRAIN AXIS AS A POTENTIAL THERAPEUTIC APPROACH FOR HIV-1+ COCAINE ABUSE

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Dopamine transporter (DAT) proteins are significantly reduced in cognitively impaired HIV-1+ patients and DAT function is reduced further in HIV-1+ cocaine abusers. The HIV-1 Tg rat provides chronic exposure of the brain to HIV-1 viral proteins under the control of the natural promoter in disease appropriate cells; this resembles the aviremic state in HIV-1+ patients on combined antiretroviral therapy. The HIV-1 Tg rat was used to assess a therapeutic approach for the interactions of HIV-1 proteins with cocaine. Adult female, ovariectomized Tg and F344 rats were randomly assigned to S-equol (TgE=10; F344E=11) and Control (TgC=9; F344C=10) groups. Rats were treated with S-equol (0.2mg or vehicle), a metabolite of daidzein, produced via the gut-microbiome. There were 3 cocaine self-administration phases: FR1 schedule, 0.2 mg/kg/inj for 5 days; PR schedule, 0.75mg/kg/inj for 14 days; and PR schedule (0.01-1.0 mg/kg/inj), for 12 days. We hypothesized that S-equol (phases 1 and 2) would resolve genotype differences in cocaine responding. S-equol treatment differentially affected cocaine responding in HIV-1 Tg vs. F344 rats. Phase 1: A significant day x genotype interaction ($p \leq .05$) confirmed HIV-1 Tg earned more infusions than F344 rats ($p < .01$), with no S-equol x genotype interaction. Phase 2: Overall, cocaine responding increased over the 14 day period ($p \leq .05$) with HIV-1 Tg earning more infusions than F344 ($p < .02$). S-equol was

differentially effective in altering cocaine responding as a function of genotype (TgEp<.01 whereas F344E>F344C p<.001). Phase 3: After the end of S-equol treatment, HIV-1 Tg rats showed less sensitivity and response vigor than F344 and there was an increased sensitivity to cocaine regardless of genotype. Chronic exposure of the brain to HIV-1 viral proteins altered responding to cocaine. Active S-equol treatment had beneficial effects on sensitivity to cocaine, but a prior history of S-equol per se did not maintain the therapeutic benefit.

GENDER DIFFERENCES IN CRAVING AND INTERNALIZING SYMPTOMS IN METHAMPHETAMINE DEPENDENCE

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Methamphetamine (MA) users often have substantial psychiatric comorbidities, with nearly a third reporting lifetime mood disorders and over a quarter reporting anxiety disorders (Salo et al., 2011). Female MA users are more likely to endorse depression (Glasner-Edwards et al., 2009) and anxiety compared to men. Craving has received attention as a marker of substance disorders and has been shown to be related to psychiatric symptoms in MA users (Nakama et al., 2008); however, the impact of gender on this relationship is yet unknown. Therefore, the aim of this study is to examine the role of gender in the relationship between comorbid depression and anxiety symptomatology with craving. Participants (n=126) were non-treatment seeking MA dependent users, recruited from the Los Angeles community for enrollment in a larger pharmacotherapy trial. At screening visit, participants completed the Methamphetamine Urge Questionnaire (MUQ), the Beck Depression Inventory (BDI-II), the Beck Anxiety Inventory (BAI), the Timeline Followback (TLFB), and a demographic questionnaire. Data was analyzed using Proc GLM in SAS 9.3. A significant gender x BDI interaction was observed ($F = 4.5$, $p = 0.036$), such that male participants with higher BDI scores reported greater craving as compared to males with lower BDI scores or females. Similarly, a significant gender x BAI interaction was observed ($F = 4.12$, $p = 0.044$) where males reporting greater BAI scores also reported greater craving. These results suggest that men with greater affective symptomatology may be experience heightened craving compared to men with lower comorbid symptomatology or women. Given craving's propensity to predict relapse, these initial findings indicate the necessity of treating comorbid psychiatric problems in male MA users which may in turn assist in the attenuation of craving.

CORRESPONDENCE BETWEEN SELF-REPORTED AND BIOCHEMICAL MEASURES OF CIGARETTE SMOKING IN PREGNANT WOMEN

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The majority of female smokers are unable to quit on their own when they find out they are pregnant, but report reducing their cigarettes per day (CPD) by ~50% before entering prenatal care, typically ~6 weeks gestation. Without intervention, the majority will continue to smoke for the remainder of the pregnancy, but it is unclear whether they make additional reductions in smoking over the remaining ~34 weeks of the pregnancy and if so, whether the decreases are paralleled by changes in biochemical measures of smoking. To answer these questions, this study examined self-reported smoking rate and biochemical measures of smoking in pregnant women participating in clinical trials for smoking cessation. Self-reported CPD, breath CO, and urine cotinine were collected at the intake assessment (~10 weeks gestation), at a second assessment 1 month later (Early Pregnancy Assessment), and again at the end of pregnancy (≥ 28 weeks gestation; Late Pregnancy Assessment). Of 289 total trial participants, 156 (54%) reported smoking at each of these assessments and were included in the analysis. Self-reported CPD decreased from 10.6 to 7.0 and 7.6 at Intake and Early and Late Pregnancy Assessments, respectively ($p < .001$). Mean CO was 11.8, 10.7, and 11.3 ppm ($p = .13$) and mean urine cotinine was 1112.3, 971.7 and 1044.3 ng/ml ($p = .004$), respectively. Overall, self-reported CPD decreased ~31% while CO and cotinine declined only ~8%. Potential explanations for discrepancies between self-report and biochemical measures include misrepresentation of smoking or actual reductions in cigarettes per day offset by changes in smoking topography (i.e., compensatory smoking). Either way, these data suggest that the many female smokers not only continue to smoke throughout pregnancy, but are exposing themselves and their offspring to a similar level of toxicants despite reports of reducing their smoking rate.

ASSOCIATION OF GENDER AND GENETIC ANCESTRY WITH FREQUENCY OF METHAMPHETAMINE USE AMONG METHAMPHETAMINE DEPENDENT HISPANIC AND NON-HISPANIC WHITES

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Higher pre-treatment methamphetamine use frequency is associated with poor treatment outcomes for methamphetamine use disorders. We examined potential influences of gender and genetic ancestry on methamphetamine use frequency. 263 Hispanic and Non-Hispanic White methamphetamine dependent volunteers self- reported number of days with methamphetamine use in the past 30 days prior to entering one of several clinical trials in Los Angeles. Genetic ancestry was assessed via genotyping a panel of ancestry informative markers. Logistic regression was used to examine potential effects of gender and proportion Native American ancestry on frequency of methamphetamine use. Male gender (B = -5.9, S.E. = 1.3, p = 1.2 x 10-5) and greater proportion of Native American ancestry (B = -9.4, S.E. = 2.9, p = 0.001) were significantly associated with lower mean number of days with methamphetamine use in the past 30 days after controlling for age and use of alcohol, tobacco, and marijuana. Future studies should investigate the contribution of biological versus social factors underlying observed differences in methamphetamine use by gender and genetic ancestry.

GENDER DIFFERENCES IN CANNABIS WITHDRAWAL SYMPTOMS AMONG TREATMENT-SEEKING CANNABIS USERS

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Over 300,000 individuals enter treatment for cannabis use disorders (CUDs) in the U.S. annually, and treatment outcomes are generally poor. Cannabis withdrawal has been associated with functional impairment and relapse, but few studies have examined gender differences in withdrawal. The aim of this study is to examine gender differences in cannabis withdrawal symptoms among treatment-seeking cannabis users. Treatment-seeking cannabis users (62 women/120 men) completed a demographics/substance use questionnaire and a Marijuana Withdrawal Checklist (MWC; Budney et al., 2003) to retrospectively characterize withdrawal experienced during their most recent quit attempt. Questionnaire data, MWC sum scores, and scores on individual MWC items were compared between women and men (significance determined by $p<0.05$). Women and men did not significantly differ on current use of cannabis (2.5 vs. 3.2 grams/day) alcohol (3.9 vs. 3.5 drinks/week) or cigarettes (4.3 vs. 4.1 cigarettes/day). Women first used cannabis at a later age than men (16.0 vs. 14.2 years old), but women and men did not differ on years of regular cannabis use (17.0 vs. 15.9). MWC sum scores were significantly higher among women than men (13.6 vs. 11.0). Women had significantly higher scores than men on five individual items, which clustered in two areas, gastrointestinal symptoms (decreased appetite, nausea) and mood symptoms (violent outbursts, irritability, restlessness). Women seeking treatment for CUDs reported experiencing more severe gastrointestinal and mood symptoms of cannabis withdrawal than men during their most recent quit attempt. Prospective studies of gender differences in cannabis withdrawal are warranted, and inform the development of gender-specific pharmacotherapies for CUDs.

DRUG-FREE PERIOD FROM NON-OPIOIDS BEFORE START OF THE TREATMENT WITH METHADONE OR BUPRENORPHINE FOR HEROIN- DEPENDENCE IMPROVES EFFICACY

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To investigate if the length of the drug-free period from non-opioids before start of the treatment with methadone or buprenorphine influences the treatment efficacy. All patients who started treatment with methadone or buprenorphine for heroin dependency in Sörmland County 2006-2011 were included in the study. During this period there were different physicians/psychiatrists running the programs and they had different demands on the patients. We considered this a form of randomization, since the length of the drug-free period depended on the physicians/psychiatrists and not on the patient. Data were collected from the files for fourteen months, two months before treatment and twelve month after start of the treatment. The data collected were: gender, age at the start, duration of heroin dependency, the result of the urine samples during the observation period. The patients were divided into three groups depending on the drug-free period from non-opioid drugs before start of the treatment. < 1 month before start 1-2 months before start > 2 month before start There were 51 initiated in treatment (12 female and 39 male) during this period of which 34 received buprenorphine and 14 who received methadone. Three patients switched from buprenorphine to methadone under the observation period. Successful treatment was defined as 12

months retention and less than 3 % positive urine samples for illicit drugs. The statistical analysis showed significant better outcome for those patients who were free from non-opioids longer before treatment start ($p< 0,05$) but no difference concerning gender, age and length of opiate dependence. Illicit non-opioid drug abuse before treatment start is a risk factor for poor treatment outcome. The demand for a longer drug-free period from non-opioids before treatment improves outcome.

PERCEIVED APPROVAL OF SUBSTANCE USE IN SOLDIERS VS. CIVILIANS

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The prevalence of substance use in the military tends to differ greatly compared to civilians. One potential reason for this may be different expectations or perceived approval (i.e., norms) about substance use in military members compared to civilians. Further, previous work has suggested that, among civilians, a partner's expectations about substance use was directly related to one's own substance use. The objective of this work was to examine norms about substance use (alcohol, tobacco, illicit drugs and nonmedical use of prescription drugs) among a sample of US Army Reserve Soldiers and their partners. Data are from the baseline assessment of Operation: SAFETY (Soldiers and Families Excelling Through the Years), an ongoing longitudinal study of Reserve Soldiers and partners. For each substance, participants were asked if people who were important to them would approve of their use of the substance and if those same people would want them to use the substance. Among female soldiers, there was less approval of the use of tobacco compared to civilian women ($p < .05$). However, regardless of perceived approval, both civilians and soldiers reported that their social network would not want them to use tobacco. There was also some evidence that female soldiers, compared to civilian women, reported lower approval of the use of illicit drugs ($p=.08$). Similarly, regardless of perceived approval, both civilians and soldiers reported that their network would not want them to use illicit drugs. Among women, partner's military status did not impact one's own approval of substances. For men, there were no differences in perceived approval of substance use between soldiers and civilians. Despite the differences in prevalence rate for various substance use among soldiers vs. civilians, there does not appear to be large differences in the perceived approval/disapproval of substance use among social network members of military vs. civilian populations.

CONSTRAINED CHOICES: THE CARE-DECISION-MAKING EXPERIENCE FOR PREGNANT OPIOID DEPENDENT WOMEN

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The aim of the study was to understand the role of pregnant opioid dependent women participating in medical decision making regarding their prenatal care and the postpartum period while addressing their addiction. Qualitative health research was utilized to gain information about pregnant opioid dependent women's perspectives on their process of seeking health care. The data analysis was an interpretative phenomenological analysis which focused on the women's attempts to make meaning out of their experience. The sample consisted of N=20 post partum women who were opioid dependent from the Eastern New England region. The age range of the participants was 20-38 years with an average age of 28 years. All of the women in the study reported their race and ethnicity as White, all indicated they held Medicaid insurance, and 80 % stated they were unemployed. The majority of the women had a polysubstance use history. Results were analyzed with the use of NVIVO 10 and the theoretical lens of self-determination and stigma theories. The women in the study shared the many perceptions and feelings they had about their addiction and fears related to having a child while receiving Opioid Replacement Therapy (ORT), as well as their experiences of internal and external stigma that impacted their prenatal and postpartum experience. Given the following factors, there are a range of implications that would suggest further research, possible clinical practices that might be evaluated, and potential policy changes that could be implemented: shared decision making (SDM) is being promoted in health care. The participants recommended increasing awareness about the potential for prescription opioid addiction and improved collaboration between providers and patients. Due to the complexity and multifaceted issues surrounding opioid addiction and pregnancy it is recommended to add Decision Aid Tools to routine obstetrical care in assisting the pregnant opioid dependent women.

ADHD AND SUBSTANCE USE DISORDERS: SUBTYPE AND GENDER DIFFERENCES

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Attention deficit hyperactivity disorder (ADHD) and substance use disorders (SUD) are highly comorbid. However there is a lack of knowledge regarding the impact of gender and ADHD subtype on addiction severity and psychiatric comorbidity. This study aims to describe sociodemographic, addiction and psychiatric characteristics in a population of SUD treatment-seeking patients with ADHD and to highlight differences according to gender and ADHD subtype. Newly admitted patients to an outpatient addiction clinic were interviewed with the Addiction Severity Index (ASI)

for substance use history and addiction severity, the Mini International Neuropsychiatric Interview for DSM-IV Axis I psychiatric disorders and antisocial personality disorder (ASPD), and Conners' Adult ADHD Diagnostic Interview for DSM-IV (CAADID) for the diagnosis of lifetime ADHD. 58 patients with ADHD and current SUD were included between March 2011 and October 2014 (mean age: 31.1 y.o. (±8.8); 82.2% male). Interviewer ASI severity rates did not differ between gender, however the combined ADHD subtype (C subtype) was associated with higher rate for ASI Legal (p=.013). Regarding psychiatric comorbidities, borderline personality disorder was more prevalent in female (62.5% vs. 21.3%; p=.02), polyaddiction was more prevalent in the C subtype (84.6% vs. 39.1% in hyperactivity/impulsivity (HI) and 52.4% in inattentive (IN) subtype) and ASPD tended to be more prevalent in the C and HI subtype groups. We observed that the prevalence of the HI subtype was higher in women than in men (60.0% vs. 35.4%), however this difference was not statistically significant. Results suggest the existence of differences in psychiatric comorbidities according to gender and differences in psychiatric comorbidities and addiction severity according to ADHD subtype. This highlights the needs of further studies with a larger sample to better define these patterns and to confirm the unusual ADHD subtype distribution in women.

PRESCRIPTION OPIOID DEATH RATES ARE GREATER FOR FEMALES THAN MALES

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In July 2013, the CDC showed prescription opioid deaths increased 400% for females compared to 265% for males from 1999-2010. We examined data from the RADARS® System Poison Center Program for similar trends.
We included data from the RADARS System Poison Center Program (49 poison centers) for adult deaths from January 2006-June 2014 mentioning oxycodone, hydrocodone, fentanyl, hydromorphone, morphine, oxymorphone, tapentadol, or tramadol. Death rates were analyzed using Poisson regression adjusting for gender-specific population and prescriptions dispensed. Covariates included gender, linear and quadratic terms for year-quarter, and linear and quadratic year-quarter by gender interactions. The trend in number of prescriptions per population was examined by gender using polynomial regression. Average quarterly changes in prescriptions per population were compared between genders. Prescriptions per population increased for both genders from 2006- 2011, then leveled out. On average, females were dispensed 31.5% more opioid prescriptions per population ($p<0.001$). Population adjusted death rates increased for both genders until July 2010 then declined. Prescription adjusted death rates increased until October 2009 then declined. The death rates were higher for women than men in any given quarter, with the population adjusted death rate 45.2% higher for females than males ($p<0.001$), and the prescription adjusted death rate 10.5% higher for females ($p=0.069$). Quadratic models were significant for population and prescriptions rates and a cubic model was significant for prescriptions per population. While trends in prescription opioid deaths are similar between genders, population and prescription adjusted rates of prescription opioid deaths were higher for females than males. The higher death rates in females may be due to greater drug availability.

THE GENDERED RISK ENVIRONMENT FOR INJECTION DRUG USE: AN EVENT SPECIFIC ANALYSIS OF INJECTION RISK BEHAVIOR

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Previous research on injection risk behavior has largely focused on who is most likely to engage in these behaviors rather than examining when, where, and with whom individuals may be at heightened risk. The current study uses event specific data on injection drug use episodes to examine dyadic, network, and situational characteristics associated with injection risk behavior. Data on multiple observations of injection episodes nested within participants (participant n = 784, episodes n = 1778) were used to examine both within and between person variation in injection risk behavior via multilevel structural equation modeling. Injection risk behavior was measured using a single latent variable with the following observed indicators: receptive sharing, distributive sharing, dividing drugs, non-syringe related sharing. Random slopes were estimated for the effect of gender concordance and sexual partnership on injection risk behavior to examine the variability of these associations across male and female injection drug users (IDUs). Results indicate that gender concordance was a significant predictor of injection risk behavior for females ($\gamma = 1.10$, $p = 0.001$) but not males ($\gamma = -0.51$, $p = 0.060$) and sexual partnership was a significant predictor of injection risk behavior for both males ($\gamma = 1.07$, $p < 0.001$) and females ($\gamma = 1.07$, $p < 0.001$). However, sexual partnership was more positively associated with injection risk behavior for females as compared to males. The current study provides further evidence that IDUs injecting with sexual partners tend to be at higher levels of injection risk behavior. Furthermore, the effect of sexual partnership and gender concordance on injection risk behavior varied across male and female IDUs suggesting these dyadic characteristics may be more detrimental

to female IDUs. However, future studies are required to further explore situational and dyadic predictors of injection risk behavior given that substantial within-person variability remained after including all predictors in the final model.

COMPREHENSIVE WOMEN-CENTERED TREATMENT FOR SUBSTANCE USE DISORDERS IN GEORGIA: INITIAL EXAMINATION OF SEX RISK

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Evaluate a comprehensive women-centered intervention to reduce illicit substance use and HIV risk among women in Georgia. Two-group randomized controlled trial compared an adapted comprehensive women-centered intervention Reinforcement Based Treatment and Women's Co-Op (RBT+WC) to usual care (UC). Participants: 128 women met eligibility criteria: sexually active and injection of illicit drugs in the past 30 days. Procedures: RBT+WC participants received a structured 12-session intervention focusing on reducing substance use and risky sex, and improving mental and physical health. UC participants received 12 sessions of case management and informational pamphlets focused on the same topics noted above. Assessments were conducted at baseline, treatment completion, and 3-month follow-up. Hypotheses: Relative to UC participants, RBT+WC participants will, on average, show significant decreases in unprotected sex acts and increases in self-efficacy beliefs regarding abilities, proper condom use behaviors and negotiating safe sex encounters after treatment. GEE models with a between-groups Treatment factor (RBT+WC v. UC) and a within-groups Time factor (baseline v. treatment completion v. 3-month follow-up) revealed only a significant decrease over Time for past 30-day number of unprotected sex acts ($p<.05$). Likelihood of unprotected sex at the most recent encounter, condom self-efficacy, or safe-sex self-efficacy were no significant ($ps>.1$ for all effects). Further evaluation of comprehensive women-centered interventions for reducing sex risk for substance-using women in Georgia is needed.

A COMPARISON OF MECONIUM SCREENING OUTCOMES AS AN INDICATOR OF THE IMPACT OF STATE-LEVEL RELAXATION OF MARIJUANA POLICY

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A November 2012 ballot initiative allowing full commercialization which included large-scale production and statewide distribution went into effect in January of 2014. This study addresses the impact of relaxed marijuana policy on maternal marijuana use. The objectives of this study were two-fold. First, has there been an increase in the proportion of THCA positive meconium specimens? Second, has there been an increase in the concentrations observed for THCA in marijuana positive meconium originating from Colorado hospitals? Meconium from high-risk newborns were collected and forwarded to USDTL. The specimens were homogenized, subjected to solid phase extraction, and the extracts were analyzed for cannabinoids using immunoassay. Presumptive positives were confirmed for THCA using GC/MS. The database query was limited to specimens originating from hospitals within Colorado and the first 9 months of the years 2012 and 2014. The data were analyzed for changes in the proportion of positive outcomes and the mean concentrations of THCA, the primary metabolite of marijuana, for each time period. The THCA positivity rate for all specimens in our database originating in Colorado increased from 10.6% to 11.7%, representing a 10.4% increase of positive specimens. The means of the determined concentrations of THCA in the meconium increased 69% with means of 213 ng/g ± 230.9 ng/g and 361 ng/g ± 420.3 ng/g for 2012 and 2014, respectively. The data presented here showed that there was an increase of maternal marijuana users between the years 2012 and 2014. Also, it appeared that exposed neonates experienced substantially more exposure to marijuana in utero. The effects of prenatal marijuana exposure and the impact of state-wide marijuana policy on maternal marijuana use are largely unknown. This study demonstrated the need for more research to describe the effects of prenatal marijuana exposure and the need for policy makers to be aware of the unintended consequences of state-level marijuana policy.

POSITIVE ASSOCIATION BETWEEN CINGULATE BRAIN VOLUME AND SENSATION SEEKING IN YOUNG ADULTS

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The impulsivity dimensions of Sensation Seeking (SS) and Disinhibition (DIS) are factors associated with drug use. Identifying neural correlates of these constructs during critical phases of brain development can inform clinical neuroscience-based efforts to understand and prevent transitions to substance abuse. We used voxel-based morphometry to examine relationships between SS, DIS, and grey matter volume (GMV) in 87 young adults (45f,

42m; average age: 22.7 years). Non-correlated measures of SS and DIS, along with age and sex, were regressed in general linear models against modulated and smoothed brain maps representing tissue volume. Probability-based cluster corrections were performed. Based on well-established gender differences in brain development, analyses of correlations between SS, DIS and GMV were conducted separately for males and females. Analyses revealed a significant positive correlation between SS and GMV in clusters in the anterior and mid cingulate in males. A similar association was observed in females but did not reach statistical significance. These data demonstrate that increased GMV in the cingulate cortex is associated with increased sensation seeking in young adults. Ongoing analyses are examining the relationship between GMV and functional measures of impulsivity. These results clearly identify the anterior and mid cingulate as a developmentally critical region associated with the biological expression of impulsivity – a well-established risk factor for drug abuse.

THE POINT OF A JOINT: A MULTIVARIATE CLASSIFICATION OF MARIJUANA USE MOTIVES

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The marijuana-using population is highly heterogeneous, and understanding the factors that lead individuals to use marijuana (MJ) is the first step in preventing and treating cannabis use disorders (CUDs). We hypothesized that motives for MJ use would classify populations of MJ users, across demographic and cannabis use factors, personality, psychopathology and problems related to MJ use. To that end, we used multiple correspondence analysis to identify relationships between MJ use motives (Marijuana Motives Measure) and age, age of onset of MJ use, frequency of MJ use, personality traits (NEO Five Factor Inventory), depression (Beck Depression Inventory), anxiety (Beck Anxiety Inventory), stress (Perceived Stress Scale), and, indicators of problematic MJ use (Marijuana Problem Scale) in 90 current, heavy MJ users (mean age = 26.25, 62 males, mean duration of use = 11.86 years). Bootstrap confidence intervals were calculated to determine significance. The results indicated five significant components. Component 1 differentiated older (> 30 years old), casual users from younger users with CUDs and who use MJ to cope with stress. Component 2 differentiated introverted users who use MJ to be social from those who use MJ to expand their creativity and awareness. Component 3 differentiated educated, introverted females who have social problems associated with MJ use from social, less educated males who use MJ to conform. Component 4 differentiated social users who have trouble fulfilling responsibilities from those with MJ withdrawal symptoms and who use MJ to cope with depression and anxiety. Component 5 differentiated older, educated women who started using MJ in their late teens from casual male users who started before the age of 13. These results demonstrate clear distinctions between various factors that promote MJ use and the effects that result from MJ use. In conclusion, effective treatment strategies should take into account individual factors that surround MJ use, including MJ use motives, age, age of onset, gender, personality, education, and mood.

RISK OF SEXUAL ABUSE AMONG ECSTASY USERS DIFFERS BY GENDER AND OTHER DRUG USE

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Ecstasy users espouse PLUR (peace, love, unity, and respect) and may have lower risk for sexual abuse than other drug users. We hypothesized that among ecstasy and marijuana users, those who use other illicit drugs have a higher likelihood of experiencing lifetime sexual abuse, especially females. Data come from the Tri-City study which recruited 644 recent ecstasy users, 16 to 59 years of age, from three sites in Florida, Missouri and Australia. Self-reported lifetime alcohol, marijuana, and other drug use (cocaine, heroin, sedatives, stimulants, opium, PCP, inhalants, hallucinogens, and steroids), lifetime sexual abuse, sex with a same sex partner, exchanging club drugs for sex, and number of sex partners were among the variables assessed. Analysis was restricted to 18 to 35 year olds (n=608) to reduce variance in years at risk. Overall, 38% endorsed ecstasy and marijuana use only, of which 12% reported lifetime sexual abuse. Among 62% who endorsed additional illicit drug use, 20% reported lifetime sexual abuse. Multivariate analysis showed an increased risk of lifetime sexual abuse for females, those having more sex partners, and same sex partners, and for those who used additional drugs. Separate logistic regression analyses showed that among women, having 3 or more sex partners versus less than 3 increased the odds of reporting sexual abuse (OR=3.0). Among men, additional drug use (OR=4.1) and exchanging club drugs for sex (OR=3.2) increased the risk of sexual abuse compared to their counterparts. The risk of lifetime sexual abuse is higher among ecstasy and marijuana users who use additional illicit drugs than ecstasy and marijuana users alone. Gender differences in lifetime sexual abuse indicate a possible need for gender-specific interventions to reduce the risk of sexual abuse among ecstasy users. Further studies are needed to assess temporality.

COMPREHENSIVE WOMEN-CENTERED TREATMENT FOR SUBSTANCE USE IN GEORGIA: INITIAL EXAMINATION OF DRUG USE AND HIV RISK

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The aim of the study is to develop a comprehensive women-centered intervention to reduce illicit substance use and the rate of HIV infection among women. Randomized controlled trial compared a Reinforcement Based Treatment and Women's CoOp (RBT+WC), to usual care (UC). Treatment and Women's CoOp (RBT+WC), to usual care (UC). 128 sexually active women who injected illicit drugs in the past 30 days. The RBT+WC condition provided a structured 12- session intervention designed to reduce HIV/HCV risk and drug and alcohol use, and improve mental and physical health, while the UC condition provided information booklets on a same topics as in the RBT+WC condition and case management for 12 sessions. Urine drug screening was conducted at each session and at 3-month follow-up. Assessments were conducted at baseline, treatment completion and 3-month follow up. Hypotheses: Compared to participants in the UC condition, participants in the RBT+WC condition will, on average, show significant decreases in frequency of sharing syringes and other injection paraphernalia, frequency of use of opioids, stimulants and alcohol. Sharing of needles and injection paraphernalia rarely occurred in the sample, precluding inferential analyses. The decrease in past 30-day opioid use days from baseline to treatment completion to 3-month follow-up was larger in the RBT+WC (Means = 9.6 to 2.7 to 0.6) than in the UC condition (12.2 to 6.1 to 3.0), p=.047. RBT+WC represents a promising comprehensive women-centered intervention for reducing drug use and HIV risks for substance-using women in Georgia.

GENDER DIFFERENCES IN HISTORY OF SEXUAL AND PHYSICAL ABUSE IN RELATION TO ADDICTION SEVERITY

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Many individuals with substance use disorders (SUD) have a history of sexual and/or physical abuse. We hypothesized a stronger association between abuse and addiction severity in women versus men. Using baseline data from six SUD treatment studies in the National Drug Abuse Treatment Clinical Trials Network (CTN 01, 02, 04, 05, 06, and 07; total 589 women and 810 men), t-tests and regression modeling were used to examine gender differences in the association between lifetime report of sexual and physical abuse in relation to subscale composite scores of the Addiction Severity Index (ASI). Women had higher scores than men on severity ratings for the drug (p=0.002), employment (p=<0.0001), family/social (p<0001), medical (p<0.0001), and psychiatric (p<0.0001) composites of the ASI. For men and women, sexual and physical abuse were associated with higher severity on medical, family/social, and psychiatric composites. In women only, abuse was associated with higher severity on the legal composite (0.16 vs. 0.10 for sexual abuse, p=0.0008; and 0.14 vs. 0.11 for physical abuse, p=0.03); however, in regression models, the gender interaction terms were not significant. Women with no history of abuse had significantly better scores on the legal composite (range 0.10-0.11) than both genders with abuse history and men without reported abuse (range 0.14-0.16). While abuse history was associated with higher ASI severity in many domains, only the legal composite subscale demonstrated a stronger association for women between history of abuse and greater addiction severity. This composite is based partially on illegal activities for profit, suggesting that the constellation of experiences associated with a history of abuse in women are related to increased engagement in illegal activity for profit to the level seen in men. More research is warranted to more closely investigate the specific illegal activities (e.g. drug dealing, prostitution), as these may differ significantly between men and women.

INFLUENCE OF REPRODUCTIVE HORMONES ON SOCIAL RANK AND VULNERABILITY TO COCAINE REINFORCEMENT IN FEMALE CYNOMOLGUS MONKEYS

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The present study utilized female cynomolgus monkeys and examined whether estrogen (E2), progesterone (P4) and total testosterone (T) predicted eventual social rank, changed following hierarchy establishment, or was associated with susceptibility to cocaine self-administration. Blood serum was collected for three months prior to social housing, then for one month once hierarchies were stable. Following stable hierarchy formation, monkeys were

trained to respond for food under a fixed-ratio 30 schedule of reinfocement and then given access to ascending doses of cocaine (0.0003-0.1 mg/kg/inj). Prior to social housing, E2 exposure across the menstrual cycle was greater in eventual subordinate compared to eventual dominant monkeys, while there were no differences in P4 concentrations. After stable hierarchies formed (4 monkeys/pen), E2 in subordinates decreased and differences between groups were no longer observed. Furthermore, dominant animals had decreases in P4 after hierarchies stabilized, whereas subordinate animals showed increases in P4 following stable social group formation. T concentrations did not predict or differ between ranks; decreases in T concentrations were observed across all ranks following stable hierarchy formation. Subordinate monkeys acquired cocaine self-administration at lower doses than dominant monkeys. This effect could be driven by higher circulating E2 since there was an inverse relationship between E2 concentrations and dose of cocaine at which acquisition occured. These results enhance our understanding of an individual's response to environmental manipulations, such as attainment and occupation of social ranks and between-rank variation in hormone dysregulation as well as their relationship to cocaine self-administration. Such information will aid in the development of pharmacological treatment strategies for drug addiction.

THE EFFECTS OF ESTROUS CYCLING ON COCAINE SELF-ADMINISTRATION IN SOCIALLY HOUSED MALE-FEMALE DYADS

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Previous studies have reported that cocaine self-administration in female rats varies across the estrous cycle, with cocaine intake increasing during estrus. One limitation of these studies is that they have only examined cocaine self-administration in females housed and tested in isolation. Consequently, we do not know if the presence of a male partner influences cocaine self-administration in females, or whether estrous cycling in females influences cocaine self-administration in a male partner. The purpose of the present study was to examine cocaine self-administration in socially housed male-female dyads. Male and female rats were housed and tested in pairs using custom-built operant conditioning chambers that separated the two rats using a wire screen. The wire screen allowed visual, auditory, olfactory, and limited tactile contact between the two rats 24 hours/day, but prevented the two rats from mating. After acclimation to housing, rats were implanted with intravenous catheters and trained to self-administer cocaine on a progressive ratio schedule of reinforcement. Estrous cycle was monitored daily for the duration of the study. Cocaine self-administration varied across the estrous cycle in females, peaking on the night of estrus as previous studies have reported. In contrast, cocaine self-administration in males was stable and did not vary according to the estrous cycle of their female partners. These data indicate that the presence of a male partner does not influence the effects of estrous cycling on cocaine self-administration in females, and that estrous cycling of females does not influence cocaine self-administration in their male partners.

SEX DIFFERENCES IN ALCOHOL USE DISORDERS AND RISKY DRINKING AMONG CHRONIC NON-CANCER PAIN PATIENTS RECEIVING OPIOID THERAPY

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Chronic non-cancer pain (CNCP) patients receiving opioid therapy may be at increased risk of alcohol-related harm. This study aimed to examine (i) the prevalence of lifetime alcohol use disorders (AUD),(ii) current patterns of drinking, and (iii) sex differences. Baseline data from the Australian POINT cohort study of 1,423 persons prescribed strong opioids for CNCP were utilized. ICD-10 lifetime AUD were assessed using the CIDI. The sample was grouped according to past 12 month drinking patterns: 'Non-drinkers' (n=593), 'Non-risky drinkers' (n=488), 'Occasional risky drinkers' (n=233) and 'Regular risky drinkers' (n=110). 33% of the sample reported lifetime AUD (20% harmful use and 13% dependence). Lifetime AUD were more frequently reported by males (49%; 95% CI: 45-53) than females (19%; 95% CI: 17-22), although females were more likely to report past 12 month symptoms (6% vs. 2%). Males (17%: 95% CI: 14-20) were more likely to report onset of chronic pain prior to onset of AUD compared to females (11%; 95% CI: 9-13). Males (14%) were more likely than females (8%) to be in the 'Regular risky drinkers' group (OR 5.3, 95% CI: 3.3-8.5). There is a high prevalence of lifetime AUD among CNCP patients and males typically report riskier patterns of alcohol consumption.

DIAGNOSIS OF HEPATITIS C VIRUS INFECTION AFTER ENTRY TO OPIOID SUBSTITUTION THERAPY

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Hepatitis C virus (HCV) infection is highly prevalent among people who inject drugs (PWID). With the advent of effective short-course HCV therapies, elimination of this disease among PWID may be possible. Strategies are needed to enhance diagnosis of HCV infection among people who inject drugs to improve engagement in antiviral therapy, and stem the growing burden of HCV-related morbidity and mortality. This was a retrospective observational cohort study using linked administrative data in New South Wales (NSW), Australia. In NSW, all entries to opioid substitution therapy (OST) are recorded in the Pharmaceutical Drugs of Addiction System, and positive HCV test results must be notified to the Notifiable Conditions Information Management System. We linked these two databases, and calculated rates of incident HCV notifications among people entering OST, and compared HCV notification rates in and out of OST. Following adjustment for sex, age and year, rates of incident HCV diagnosis were significantly higher during periods of OST, compared to periods out of OST (adjusted incident rate ratio: 1.70; 95% confidence interval: 1.63, 1.77). This effect was seen across multiple treatment periods. HCV notifications were highest among women and people aged under 25 years. Routine HCV testing within OST settings increases diagnosis of HCV infection in the high-risk population of PWID.

ROLE OF GENDER IN AGE OF INITIATION OF NONMEDICAL USE OF PRESCRIPTION DRUGS AMONG YOUTH 10 TO 18 YEARS

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Early onset of substance use is linked to later dependence and poorer health outcomes.This association may vary by gender. Identification of factors associated with age of nonmedical use of prescription medication (NMU) initiation will be critical in ascertaining pathways to prevent or delay use. The study aims to examine gender specific factors associated with initiation age of NMU of stimulants, benzodiazepines or opioids using a hazards model. Youth aged 10 to 18 years (N=11,048) from 10 US cities were surveyed in the National Monitoring of Prescription Stimulants Study using an entertainment venue intercept method. Age of NMU initiation was determined by self-report of NMU of stimulants, benzodiazepines or opioids. NMU was defined as medication use more than prescribed, that belonged to someone else, by non-oral routes, or to get high. Assessments included socio- demographic characteristics and age of initiation of smoking and alcohol. The hazard of NMU initiation stratified by gender was estimated. Cox proportional hazards models were used to assess factors associated with NMU initiation. Overall, 5.6% of youth reported past 30 day NMU; 52% of the sample were female. The hazard of NMU initiation differed by gender; females had 1.15 increased hazards of initiating NMU compared to
males. Females with ADHD and early alcohol use initiated NMU 1.3 and 2.8 times earlier than their counterparts. Males who had initiated alcohol use earlier were more likely to initiate NMU than later alcohol users (Hazard Ratio 2.1). It is important to understand more about early onset of NMU. This national sample of over 11,000 youth helps us understand gender differences in vulnerability to NMU initiation. Findings have implications for targeted programs to prevent or delay NMU onset. Financial Support (Must be completed): Fogarty International Centre Indo-US Training Program in Non-Communicable Diseases (D43-TW009120; Lasopa, Fellow; PI: Cottler). N-MAPSS was conducted under contract with Pinney Associates, with provided funding by Shire Pharmaceuticals and Noven Pharmaceuticals.

THE ISRAELI CLUB DRUG CULTURE: A QUALITATIVE EXAMINATION OF GENDER DIFFERENCES IN SUBSTANCE USE AND SEXUAL RISK BEHAVIORS

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This preliminary study examines gender differences in substance use and sexual risk behavior among men and women participants in Israeli club drug culture. Data include in depth qualitative interviews with men and women who were over age 18 and reported recent (past 90 days) and regular use of club drugs (e.g., cocaine, ecstasy, LSD,

GHB, ketamine, or methamphetamine) and attendance at large Israeli nightclubs. In depth qualitative interview respondents were between the ages of 22-35 and both genders reported binge drug and alcohol use and the trendiness of cocaine, MDMA (ecstasy), and other hallucinogens. Most were students and also part-time employed in clubs, bars and/or restaurants. Women described common cultural practices, such as trading sex for drugs inside club restrooms, and being in control of "being out of control." Straight men described paying substantial amounts of money for drugs, and consequently for sex with female club-goers. Men who self-identified as either gay or bi-sexual described that is common practice in the gay-scene to use GHB with potential partners before engaging in sexual activity. Women, on the other hand, described GHB as a drug they would never knowingly take. However, they also describe a milieu in which they take various drugs from men they do not know, without knowing exactly what they are being given. Additional themes were identified and will be presented. The interviews suggest that, both in groups and alone, women are particularly vulnerable to negative consequences of drug use, including victimization, substance use disorders, and transmission of HIV or other sexually transmitted infections. Prevention efforts must address multiple social ecological factors to increase safety and decrease risk exposure for young adults in the Israeli club drug scene.

ALCOHOL AND DRUG USE AMONG PATIENTS OF HIV SERVICES IN HANOI, VIETNAM

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In countries where the HIV epidemic is driven by drug use, early screening of drug use among patients of HIV services may be a useful first step in intervening to improve HIV clinical outcomes. This study describes prevalence of alcohol and substance use among patients of HIV services who were screened with ASSIST, the instrument developed by WHO. 592 patients (62.3% males, 37.7% females) of one voluntary testing center (VCT, n =200) and two HIV outpatient clinics (OPC, n = 392) were recruited. The study translated and used the instrument Alcohol, Smoking, and Substance Involvement Screening Test (ASSIST) to ask about their alcohol and substance use during their lifetime and 30 days before the screening. Patients recorded their responses on PC tablets that were specifically programmed for this study. Use of alcohol, amphetamine type stimulant (ATS), and opioid during past 30 days among VCT patients (66.8%, 13.1%, and 17.1%, respectively) was higher compared to OPC patients (60.4%, 5.33%, 6.85%). Higher percentage of VCT patients reportedly used alcohol at hazardous levels (36.7%) as compared to OPC patients (24.11%). This difference also applied to ATS, but not to opioid. Multivariate analyis showed that during past 30 days men had higher risk of using alcohol (aOR: 2.77; 95%CI: 1.73 - 4.43), ATS (aOR: 2.32; 95%CI: 1.12-4.81), and opioid (aOR: 3.87; 95%CI:2.1-7.14) than women. Unemployment and experiences with compulsory drug rehabilitation were factors that increase use of opioid (aOR: 5.79; 95%CI:3.42-9.81) and amphetamine (aOR: 2.66; 95%CI: 1.42-4.99). Alcohol and substance use are major issues at both HIV testing and HIV care settings in Vietnam. It is essential for doctors and health care professionals to provide routine assessment of drug and alcohol use among patients, and provide effective intervention to address these problems.

PARALLEL DEVELOPMENT OF LONGITUDINAL TOBACCO SMOKING AND ALCOHOL CONSUMPTION: THE AMSTERDAM GROWTH AND HEALTH LONGITUDINAL STUDY

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The primary aim of this investigation was to examine the longitudinal, parallel change in alcohol consumption and tobacco use among a young adult population, from the ages of 21 to 32 years old. Data for this investigation came from participants (n=484) enrolled in the Amsterdam Growth and Health Longitudinal Study. Individuals in this sample were community-dwelling adults in an epidemiologic investigation examining disease across the lifespan. We utilized parallel latent growth modeling in order to assess the potential time-varying relationship between alcohol (grams/week) use and tobacco (grams/week) use across more than 11 years. The linear change for alcohol use was significantly related to linear change in tobacco use over time (β=11.33, $p<0.05$). In addition, initial smoking status at age 21 was predictive of alcohol use over time (β=-131.45, $p<0.05$) and alcohol use at age 21 was predictive of smoking over time (β=-131.45, $p<0.05$). There were also significant sex differences observed such that females exhibited significantly more decline in alcohol use over time (β=3.94, $p<0.05$) and females also exhibited significantly less alcohol use at initial status (β=-64.13, $p<0.05$). There were no sex differences found in linear change in tobacco use over time or for initial smoking status. Change in tobacco use and change in alcohol use over time (age 21 to age 32) were significantly related to one another in a community sample of young adults. This

relationship bolsters recent calls for a better understanding of the relationship between alcohol and nicotine use over time. This data will inform interventions for the effective treatment of alcohol and nicotine co-addiction.

EFFECTS OF PRENATAL COCAINE AND NICOTINE ON MATERNAL WHITE MATTER INTEGRITY IN EARLY POSTPARTUM

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Cocaine exposure (CE) in pregnancy disrupts postnatal nurturing critical for offspring development, and is linked to child neglect/abuse, maternal hostility and depression. CE interrupts birth-induced changes in mid-brain that are thought to encode maternal neural circuitry underlying optimal maternal behavior. Our aim is to assess CE effects on maternal brain white matter (WM) tract integrity assessed with diffusion tensor imaging (DTI). Since prenatal cigarette smoking occurs in >90% of CE mothers, we compared 19 CE to 33 drug-free mothers (CTL) and 15 with prenatal nicotine without CE (NIC). Subjects were scanned at 3 months postpartum (3T Siemens Allegra; 42-direction diffusion-weighted images; b=1000). We used FSL's TBSS for hypothesis generation; UNC-Utah NA-MIC fiber analysis toolkit for detailed analysis. TBSS yielded regions of potential group differences in fractional anisotropy (FA) maps. A high-quality, unbiased study-specific DTI atlas was built; fibers associated with significant regions were tracked on this atlas; subject-specific FA tract profiles were extracted and statistically analyzed with fiber statistic tool FADTTS. Results are corrected for multiple comparisons ($p < 0.05$). FA was significantly lower in right lateral posterior corticospinal tract (CST) and left posterior inferior fronto occipital fasciculus (IFOF) in CE compared with NIC or CTL mothers. Both CE and NIC had significantly lower FA in central left fornix, inferior right medial CST and cerebral peduncle compared with CTL. We found CE-specific deficits in WM integrity/organization in visual and auditory integration and motor tracts which may contribute to aberrant responses to infant cries and cues that are reported in CE mothers. We observed lower FA in fornix in NIC and CE. This may impair hippocampal connection to hypothalamus, thalamus, nucleus accumbens and cingulate, thus contributing to altered reward value or memory of infant stimuli involved in encoding salience of infant contact.

GENDER DIFFERENCES AMONG MST SURVIVORS ON CHRONIC OPIOID THERAPY

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Military sexual trauma (MST) recognition is increasing among US veterans. Survivors of MST (MST-S) are at greater risk of lifelong sequelae, affecting physical and mental health. In addition, patients receiving chronic opioid therapy (COT) has increased. However, prescription opioid use among MST-S has not been completely described. The purpose of this project is to further define possible associations between gender and COT among MST-S. After IRB approval, we identified patients who received at least 3 consecutive, monthly opioid prescriptions during a 90 day period at the Cincinnati VAMC and defined them as COT patients. For each subject, we also obtained patient demographic data and all ICD-9 codes. We then calculated the average daily opioid dose in morphine equivalents (ME) for every subject. Categorical variables were compared using Fisher's exact testing and continuous data were compared using either ANOVA or Kruskal-Wallis testing. Complete dosing data was available for 815 subjects, of which 37 subjects (4.6%) were MST-S. In the entire COT cohort, 66 (8.2%) were females. Of the female COT subjects, 22 (33.3%) were MST-S, while 15 (2.0%) of the male COT subject were MST-S. Female MST-S were significantly over-represented in the COT population (p=0.000). The median daily opioid dose for female MST-S was 31.4 (IQR 21, 59)mg ME/day. For males, the median dose was 21.5 (IQR 11.8, 36)mg ME/day (p=0.147). In terms of age, male COT MST-S had a mean age of 56.7 (SD=7.4) while female COT MST-S had a mean age of 49.2 (SD=8.3) (p=0.008). For chronic health of MST COT subjects, 54.5% of females versus 13.3% of males had a Charlson score of 0-1 (p=0.044). Female COT subjects were more likely to be MST-S versus male COT subjects. Although females trended towards a higher dose, the difference was not statistically different. However, the female COT MST subjects were significantly younger and had lower Charlson index scores. Therefore, their cumulative exposure to risks of COT may be greater. This work supports the need for increased recognition allowing risk reduction in MST-S.

A PRE–POST COMPARISON IN HEALTHCARE SERVICE UTILIZATION AMONG HEROIN USING WOMEN IN THE METHADONE MAINTENANCE TREATMENT IN TAIWAN

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The present study aims to (i) investigate the differences in healthcare service utilization between women in the Methadone Maintenance Treatment (MMT) and general population, and (ii) examine potential pre-post MMT enrollment differences and explanatory predictors among female heroin users. Building on the National MMT database in Taiwan, we identified 3482 heroin- dependent women who received the first methadone treatment

during the calendar years of 2006- 2008. For comparison, a total of 34820 age-, income-, and residence-matched women were randomly drawn from the National Health Insurance Research Database (NHIRD). Through encrypted identification number, healthcare utilization records for both groups were obtained from the NHIRD. An estimated 29% and 16% of women in MMT have utilized emergency and inpatient cares in the year preceding MMT enrollment, significantly higher than the estimates of their matched counterparts (15% and 8%, $p<0.001$); however their rate of outpatient care was significantly lower (71% vs. 78%, $p<0.001$). After the MMT enrollment, a slight elevation was noted in both healthcare visit and hospital stay. Having no treatment history in heroin-related problems (e.g., substance use disorder, alcohol use disorder, mental disorders, and hepatitis C) before enrollment was associated with an increased change (e.g., outpatient department: 2.07-4.75 visits, $p<0.01$). Heroin-using women had excess utilization of emergency room and inpatient care, regardless of MMT enrollment status. History of medical care prior to the MMT enrollment prominently affected the change in health care utilization. Reducing barriers in accessing integrated healthcare to address unmet health needs due to substance use problems should warrant further attention when designing and delivering methadone treatment.

A GENDER STRATIFIED ANALYSIS OF ADOLESCENT SUBSTANCE USE ON VIOLENCE TRAJECTORIES

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This study examines the effect of substance use in adolescence on longitudinal patterns of violence from adolescence through adulthood. It considers how this process differs by gender. Using data from Waves 1-4 of the Add Health study, group trajectory analyses were conducted to identify violence trajectories separately for males (n=5,077) and females (n=6,086). These trajectory groups were then used as outcome variables in gender stratified multinomial logistic regression models to determine whether and the extent to which adolescent (Wave 1) substance use affects the probability of membership in these trajectory groups. Adolescent substance use measures were: regularly drinking alcohol, smoking marijuana, and smoking cigarettes. Four trajectories were identified for males and females: early desister, late desister, chronic perpetrator, and adult escalator. Although the names of the trajectories are the same, the shapes and distributions differ by gender. The early desister group for each gender was the reference group in the respective stratified analyses because it is the largest and least violent one. Gender differences in the relationship between substance use and violence trajectories were found. Drinking alcohol, smoking marijuana, and smoking cigarettes increased the risk of membership in the female late desister than the early desister group ($p<.05$), however only drinking and smoking marijuana increased this risk in the male late desister group ($p<.05$). Similarly, all three behaviors increased the risk of being in the male chronic perpetrator group than the early desister group ($p<.05$) whereas smoking marijuana was not significant in the respective female group. None of the behaviors increased the risk of being in the male adult escalator group whereas all three were significant in the female adult escalator group ($p<.05$). Adolescent substance use is associated with higher adolescent violence, adult onset violence, and persistent violence from adolescence into adulthood. The effects of the specific substances on violent patterns vary for males and females.

SECOND HAND SMOKE EXPOSURE DURING PREGNANCY AND ANXIETY DISORDER IN CHILDREN AT AGE 11-13

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While the impact of active maternal smoking during pregnancy on child health has been well investigated, the effect of maternal passive smoking, AKA, environmental tobacco smoke (ETS), or second-hand smoke, is less clear. Particularly, few studied the association between ETS and specific types of child emotion and behavior disorder. This study addresses this gap by examining the association between maternal ETS exposure during pregnancy and children anxiety disorder. A sample of 591 mother-child pairs from Jintan China Cohort Study were used in the analysis. Mother's self-reported exposure to tobacco smoking at home, the workplace, and other places during pregnancy (as a measure of ETS, 65.57% of mothers reported some exposure during pregnancy) was assessed when children were 5 years old, and Screen for Child Anxiety Related Disorders(SCARED) were reported by mothers when the children were 11-13 years old. Logistic regression models were constructed to examine the adjusted association between maternal exposure to ETS during pregnancy and SCARED scales, adjusting children's age and gender. After adjusting age and gender of the children, ETS exposure was associated with higher risk of total anxiety disorder (OR=1.55, 95% Confidence interval[CI] 1.02-2.35), panic disorder(OR=1.50, 95% CI 1.01-2.22), and generalized anxiety disorder(OR=1.54, 95% CI 1.05-2.26) in the exposed mothers. However, EST exposure was not significantly associated with separation anxiety disorder, social anxiety disorder, and significant school avoidance. This study suggests that maternal ETS exposure during pregnancy is associated with overall child anxiety disorder as well as some specific subtypes of anxiety disorders but not others. Results have important

implications to the identification of risk factors for specific types of anxiety disorders and the development of preventive intervention strategies tailored to individual needs.

INDIVIDUAL CHARACTERISTICS AND SOCIAL PROCESS IN INFLUENCING MATERNAL SMOKING BEHAVIOR: A LONGITUDINAL ANALYSIS OF A NATIONAL BIRTH COHORT

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The purpose of this study is to a) describe longitudinal patterns of maternal smoking before, during, and after pregnancy through the early childhood parenting years, as well as heterogeneity in these patterns; and b) relate baseline individual characteristics and social process predictors to these patterns. Among 9,050 mothers of a national birth cohort, we estimated trajectories of maternal smoking with general growth mixture model (GGMM), and examined how baseline predictors are associated with these patterns over a 5 to 6 year period beginning three months prior to pregnancy. Social process is measured by social support and connectedness experienced by mothers, and their involvement in community activities, and individual characteristics include social demographic variables as well as behavioral variables such as breastfeeding and postpartum depression. A 5-class solution identified trajectories of nonsmokers (70.5%), temporary quitters (9.4%), pregnancy-inspired quitters (3.3%), delayed initiators (5.1%), and persistent smokers (11.7%). Modifiable risk factors included postpartum alcohol consumption and co-resident smokers, while breastfeeding beyond six months and religious service attendance were protective characteristics. While individual characteristics are the strongest predictors of maternal longitudinal patterns of smoking during the critical perinatal period, expanding the identifying characteristics of such patterns beyond individual characteristics may serve to enhance identification of those at risk as well as inform program design for both prevention and cessation.

GENDER DIFFERENCES IN METHAMPHETAMINE USE IN A MEXICO-U.S. BORDER CITY

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Identify ways, forms, and paraphernalia (works) for methamphetamine (meth) use and how these differ by gender in Cd. Juarez, a Mexican city in the Mexico-U.S. border. A cross-sectional study assessed socio-demographic characteristics and measures for meth use including ways (ingested, smoked, inhaled, snorted, injected, anally), forms (tablet/pill, liquid, powder, rock, smoke), and works (pipe, light bulb, syringe, straw, foil). Sample includes Mexican adults (age >21) who used meth in the past three months, recruited through convenience and snowball sampling. Descriptive statistics of the first 88 participants (target N=150) and bivariate analysis by gender are provided. Median age of participants is 28; 64.8% are men and 35.2% are women and transgender women; 87.5% were born in Mexico; 28.4% crossed the border to the U.S. in last 12 mo. In their lifetime, 67% had been in jail and 27.6% had acquired meth or money in exchange for sex. Median age of first use was 18 and days since last meth use was 5. Most had also used alcohol (97%), cocaine/crack (94%), marihuana (93%), or tobacco (93%). Most common use forms were tablet/pill (69%) and powder (60%); works were light bulb (58%) then pipe (49%); and meth was smoked (68%) and ingested (67%). There were significant gender differences for rock and power use, and snorting by nose ($p<0.05$), and high rates of poly-drug use. These findings have implications for future interventions and harm reduction efforts among meth users, which would need to be tailored by gender, particularly the type of paraphernalia used. These findings may also be indicative of meth using behaviors among Hispanic populations living in cities on the U.S.-Mexico border region.

MAGNITUDE AND DURATION OF CUE-INDUCED CRAVING FOR MARIJUANA IN VOLUNTEERS WITH CANNABIS USE DISORDER

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Evaluate whether subjective and physiologic response magnitude to neutral and marijuana (MJ)–related cues vary by gender, and duration of these cue-induced responses. 33 volunteers (16 F) who met DSM-IV criteria for Cannabis Abuse or Dependence were exposed to neutral (first) then MJ-related visual, auditory, olfactory and tactile cues. Changes in mood, drug craving and physiology were assessed as a function of gender and cue type. Data were collected at baseline, post- neutral, post-MJ and 15-min post MJ cue exposure. For a subset of participants (n=16; 8 F), measures of craving and physiology were collected at 30-, 90-, and 150-min post-MJ cue to examine duration of cue-effects. Main effects for cue type were observed for visual analog scale (VAS) items craving for, urge to use, and desire to use MJ, Total and Compulsivity subscales of the Marijuana Craving Questionnaire (MCQ), self-rated

anxiety, and diastolic blood pressure (BP). Posthoc analysis indicated these indices were significantly elevated following MJ cue vs. neutral cue exposure, and remained elevated 15 min post-MJ cue exposure. Estimates of observed power were large (range .68 – 1.00). Subset analyses indicated that MJ-cue induced elevations in desire and urge to use MJ remained significantly elevated at 30-, 90- and 150-min post cue exposure, relative to baseline and neutral cue exposure. For example, mean urge to use MJ was 75.2 during MJ cue, and 71.9, 69.0 and 69.9 at 30-, 90- and 150-min post-MJ cue exposure. There were no gender differences. Presentation of poly-sensory marijuana cues increased self-reported MJ craving, anxiety and diastolic BP relative to baseline and neutral cues. MJ craving remained elevated up to 150-min after MJ cue presentation. This finding confirms that carry-over effects from drug cue presentation must be considered in cue reactivity studies.

VERBAL MEMORY IS IMPAIRED AMONG HIV+ FEMALE, BUT NOT HIV+ MALE COCAINE USERS

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Use of crack cocaine by HIV+ women uniquely predicts accelerated disease progression and cognitive impairment, but a parallel association has not been investigated among HIV+ men. We addressed this question by comparing verbal memory among 213 HIV+ and HIV- men and women with a history of cocaine dependence. The sample consisted of 84 HIV+ and 129 HIV- adults, including 114 men and 109 women, enrolled in a larger study of neurocognitive effects of sex and HIV status among crack users. All subjects met DSM-IV criteria for cocaine dependence but were verified abstinent by toxicology screening. Subjects completed measures of addiction severity and psychiatric comorbidity, as well as a neurocognitive battery that included the Hopkins Verbal Learning Test, a standardized memory task requiring subjects to learn a 12-item word list over 3 learning trials. The four groups were comparable in racial composition, estimated verbal IQ, prevalence of alcohol and cannabis history, and comorbid psychiatric disorders. We analyzed total words recalled using a Sex x HIV Serostatus x Trial mixed-model analysis of variance. We found a significant interaction of sex and HIV serostatus, $p < .05$. HIV+ women recalled significantly fewer words compared with HIV+ men and both HIV- groups, $p < .05$. consistent with expectation HIV- women significantly outperformed HIV- men. Among HIV+ and HIV- crack cocaine users, HIV+ women showed a verbal memory deficit compared with HIV+ men and both HIV- groups. This finding suggests that HIV's neurotoxic effects are more deleterious among female compared with male crack cocaine users; however, similar studies of alcohol or opioid dependence and additional neurocognitive functions are needed to determine the extent that neuroAIDS appears to manifest itself differently among men and women and investigate if this pattern is specific to stimulant addiction.

NON-MEDICAL PRESCRIPTION OPIOID USE AND COMMERCIAL SEX WORK AMONG ADULTS IN RESIDENTIAL SUBSTANCE USE TREATMENT

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High rates of substance use have been documented among individuals involved in commercial sex work (CSW) and a significant proportion of adults seeking substance use treatment report prior CSW. Little is known about the relationship between CSW and non-medical prescription opioid use (NMPOU), as research in this area was conducted before the escalation NMPOU in the US. The aims of this study were to describe the prevalence of recent CSW in a large residential substance use treatment center; and examine the association between NMPO use and CSW after controlling for demographic and clinical risk factors. Participants were 504 adults recruited from a residential treatment center between 2009-2013. Participants completed self-report measures of CSW, NMPOU, substance use and psychiatric symptoms. Bivariate and multivariate logistic regressions were used to examine the relationship between CSW and NMPOU, before and after adjusting for demographic and clinical correlates of CSW. Results indicated that 14% (n = 71) of participants engaged in CSW in the previous month. NMPOU use was more common in those with a history of CSW (84% of sex workers vs. 54% of non-sex workers; OR = 4.48, $p < .05$). In the multivariate model, CSW was associated with female gender, ethnic minority status, global psychiatric symptom severity and cocaine use. After controlling for these factors, NMPOU remained significantly more common in those who engaged in CSW (OR = 2.39, $p < .05$). Individuals engaged in sex work reported extremely high rates of NMPOU, and NMPOU was associated with sex work after adjusting for psychiatric symptoms and other substance use. Residential treatment provides a unique opportunity to address the complex psychosocial and psychiatric needs

of substance users involved in CSW, but continued work is needed to develop interventions for this vulnerable group.

PREVALANCE AND PREDICTORS OF ANTENATAL ALCOHOL USE PRIOR TO AWARENESS OF PREGNANCY

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Adverse effects of heavy alcohol exposure to the fetus are well established, including cognitive, behavioral and physical deficits. Despite public health guidelines advising abstinence, many women consume alcohol during pregnancy. Contributing to this is the high rate of pregnancies that are unplanned, and high levels of alcohol use amongst women of childbearing age. The purpose of this study was to examine prevalence and predictors of alcohol use by women prior to awareness of their pregnancy. 1200 women and their partners from antenatal clinics completed detailed interviews about alcohol and drug use in each trimester. Alcohol consumption before and after awareness of pregnancy was recorded separately. Between conception and awareness of pregnancy, 59.7% of women consumed alcohol. At least one occasion of binge drinking in this period was reported by 13% of the sample. Following awareness of pregnancy to the end of the first trimester, the rate of consumption decreased to 21.4% of women. Factors associated with alcohol use included income, age, education, smoking, partner alcohol consumption and IQ. Most women reduce or cease consumption after becoming aware of the pregnancy. Strategies to reduce drinking in early stages of pregnancy may be needed. Demographic and social factors are related to alcohol use during this period.

THE RELATIONSHIP OF ATTITUDES TOWARDS CONDOM USE TO UNPROTECTED SEX: AGE AND GENDER DIFFERENCES

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The first aim is to examine age differences in the relationship of condom barriers and unprotected sex among African American substance users. It is hypothesized that perceptions that condoms reduce sexual experience will be predictive of unprotected sex among older adults and partner barriers will be predictive of unprotected sex for younger adults. The second aim is to determine if gender moderates the relationship between perceptions of condom use and unprotected sex. It is hypothesized that perceptions that condoms reduce sexual experience will result in more unprotected sex for men. This study will be a secondary analysis of the baseline data from two Clinical Trial Network data sets assessing the efficacy of gender specific interventions to reduce HIV risk (CTN 0018 and CTN 0019). All participants were enrolled in substance use treatment, were at least 18, and reported unprotected sex in the last 6 months. Only African American participants will be analyzed (N=250). Preliminary data from our lab found that substance using African American men who perceive condoms as negatively impacting sexual experience were more likely to report unprotected sex with casual partners ($F [3,51] =3.16$, $p=.03$; Wilson, et.al in press). However, that study did not examine age or gender differences. For this study, multiple regression will be used to test whether age moderates the relationship between condom barriers and unprotected sex. All condom barriers will be included as predictors along with education as a covariate (research suggests that education is related to condom use). Only significant predictors will be included in subsequent tests along with age, an age/barrier interaction term, and education. The analyses considering gender differences will be similar to the first except gender will replace age. Identifying age and gender differences regarding the impact of perceptions of condom use for this population will contribute to developing age and gender appropriate HIV interventions. Analysis will be completed by June 2015.

POSTPARTUM CONTRACEPTIVE BEHAVIOR OF OPIOID-MAINTAINED PREGNANT WOMEN

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Unintended pregnancies are associated with greater risk of adverse maternal and child outcomes and result in over $12 billion in added costs each year. Approximately 80% of opioid-dependent pregnant women report unintended pregnancies, yet their contraceptive behavior remains understudied. The aims of this study are to characterize how pregnant women who received agonist treatment for opioid dependence utilized postpartum reproductive health care services and identify the prevalence rate and contraceptive methods of this population. Data on contraceptive use were collected around the time of the postpartum OB visit for participants in the MOTHER (Maternal Opioid Treatment: Human Experimental Research) study for this secondary analysis. Among the 175 MOTHER participants, data about contraceptive method were only available for 43% (n=76) of the sample and many reported not attending their postpartum OB visit. Among those with data, 45% of participants (n=34) reported not using any contraception. Among those reporting contraceptive use, methods included Depo-Provera shots (13%; n=10), oral contraceptives (12%; n=9), IUDs (12%; n=9), tubal ligations (9%; n=7), condom use (8%; n=6), and natural family planning (1%; n=1). These results suggest opioid-maintained pregnant women frequently utilize postpartum reproductive health services inadequately and indicate current strategies to address their reproductive health needs may not be the most efficacious. Predictors of contraceptive use postpartum need to be identified and treatment strategies revised to support prompt initiation of effective contraception. Due to regulations around opioid maintenance treatment, opioid-maintained women attend their treatment clinic on a regular basis, even early in the postpartum period. This situation may present a unique opportunity to engage opioid-dependent pregnant women about their reproductive health needs, optimize postpartum contraceptive use, and integrate their health care services.

UNDERAGE DRINKING DIVERSION: CHARACTERIZING RISK WITH LATENT CLASS ANALYSIS

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Alcohol and drug use of youths in late adolescence (YLA) is associated with serious safety and risk factors that can lead to numerous harmful consequences throughout the life cycle. Little is known about the heterogeneity among YLAs entering diversion programs and the impact of client characteristics on clinical decision making and program completion. This study utilized latent class analysis (LCA) and non-parametric tests to characterize program participants. Aims of the study were to: 1) identify subgroups of YLAs in the Southwest based on demographics and substance use characteristics and 2) examine the differences among groups based on clinical decision making, treatment type, and program completion. The current study is a secondary analysis of an Underage Drinking and Alcohol Possession Diversion Program in the Southwest. Available data included 1,260 court-referred YLAs (2009-2011). Data related to alcohol and drug problems were collected via Substance Abuse Subtle Screening Inventory. LCA demonstrated a three-class solution (AIC= 15729.37 , BIC= 15909.23, entropy = .92). Bootstrapped likelihood ratio and LMR tests were significant. The high risk group (5%; n=66) and the moderate risk group (35%; n=446) were characterized by higher use of alcohol and marijuana, being over the legal limit at arrest, and being male (compared to the low risk group). The moderate risk group was more likely to be white and have less education than the higher risk group. The low risk group (59%; n=748) was more likely to have attended college and be female. For the low risk group, chi-square tests demonstrated lower instances of referral to treatment decisions and higher program completion compared to moderate and high risk groups. Findings highlight heterogeneity of YLAs based on demographics and these group differences may have implications for clinical decision making, treatment type, and completion. Results underscore the need to adapt diversion programs to meet the needs of substantially different YLAs.

GENDER DIFFERENCES IN STROOP PERFORMANCE FOLLOWING GUANFACINE VERSUS PLACEBO IN EARLY ABSTINENT COCAINE DEPENDENT MEN AND WOMEN

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No FDA-approved medications currently exist for cocaine dependence (CD). Moreover, gender-specific treatments may be of value as women are more vulnerable to the development and the detrimental effects of CD. While “agonist therapies” and anxiolytics have shown some success, there are concerns regarding abuse potential and sedation-induced cognitive decrement, respectively. Alpha-2 agonism may demonstrate low stimulant and sedative properties as well as enhance inhibitory cognitive processes in the face of stress. Notably, based on prior findings, we also suggest that gender may moderate these effects. Forty inpatient treatment-seeking CD individuals

(13F/27M) were randomly assigned to receive either placebo (PLA) or up to 3mgs of guanfacine (GUAN) in a double-blind manner over four weeks. Three laboratory sessions were conducted in week 4, where patients were exposed to three 5-min personalized guided imagery conditions (stress -S, alcohol cue -C, neutral/relaxing -N), one per day, on consecutive days in a random, counterbalanced order. Cocaine craving, anxiety, negative mood and the Stroop task were administered at baseline and immediately following imagery exposure. Subjective measures were also administered at regular recovery timepoints. The GUAN women reported significantly reduced cocaine craving immediately following exposure to stress imagery compared with PLA women ($p=.003$). This effect was not observed in the GUAN men. GUAN also attenuated anxiety ($p<.0001$) and negative mood ($p<.05$) in women, but not men. Similarly, GUAN women also improved their performance on the Stroop task following exposure to all 3 imagery conditions compared with PLA women ($p=.05$). Again, this improvement in cognitive inhibitory performance was not observed in the GUAN males. Attenuating anxiety and enhancing the ability to cognitively regulate in the face of stress, may be key targets for medications development in CD women.

SEX DIFFERENCES IN INTRINSIC CONNECTIVITY DURING FMRI STROOP IN COCAINE DEPENDENT AND HEALTHY COMPARISON SUBJECTS

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Previously we found cocaine-dependent (CD) versus control subjects (HC) showed greater mean-adjusted connectivity in the ventral striatum, putamen, inferior frontal gyrus, anterior insula, thalamus and substantia nigra. However, the extent to which women and men showed differences in functional connectivity was not previously examined. This study investigated sex differences in intrinsic connectivity distribution (ICD) in CD subjects during fMRI Stroop performance. 38 current CD (19 female) and 38 matched HC subjects (19 female) completed an fMRI Stroop task. Mean-adjusted ICD analyses were conducted to identify sex differences. Both increases and decreases in connectivity were observed in all four comparisons (Females CD-HC; Males CD-HC; CD Males-Females; HC Males-Females), and an interaction between gender and diagnostic group implicated connectivity differences in the orbitofrontal cortex (OFC), ventral striatum, precuneus/cuneus, cingulate gyrus, and occipital lobe. Out-of-scanner behavioral Stroop data did not reveal differences between males and females between diagnostic groups, but did show sex differences within the CD group but not the HC group. Differences in intrinsic connectivity involved the OFC, cingulate, and striatum, areas implicated in cocaine dependence and cognitive processes including decision-making and inhibitory control. Differences in regions associated with language and visual processing were also observed. The extent to which these patterns of connectivity relate to clinically relevant measures of cocaine dependence warrants additional investigation.

COUNSELORS' VIEWS OF PROVIDING PATIENT-CENTERED METHADONE TREATMENT IN A CLINICAL TRIAL

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To examine the views of methadone program counseling staff regarding the impact of providing a patient-centered treatment approach on their clinical roles and treatment processes. In-depth, semi-structured interviews were conducted in a clinical trial comparing methadone treatment-as-usual to patient-centered methadone (PCM) treatment in which the counselor's supervisor enforced clinic rules and counseling services were designed to be flexible in frequency and duration. The eight participants included counselors and clinical supervisors with the sample predominantly female (75%) and African American (63%). Participants were interviewed at baseline and 12-month follow-up. Data were analyzed in Atlas.ti using an iterative process to capture and code emergent and anticipated themes. Counselors reported being most affected during PCM by removal of their role as the program rule enforcer. In some cases, it permitted them to spend more time building a therapeutic alliance with patients because they were not dealing with non-adherence to program rules including missed counseling sessions. However, some counselors were frustrated by not being able to "hold" the patients' dose to require counseling attendance and some began to use more pro-active and innovative strategies for engaging patients. Sessions in PCM tended to include a broader range of counseling topics that were individually pertinent to each patient than were covered in TAU. PCM treatment changed the relationship between the counselor and patient providing more freedom for the patient to control the type and number of sessions. Adjusting to the new counselor role was challenging and required

counselors to shift tactics to try to engage some patients in counseling voluntarily. It also frustrated some of the counselors who were used to "holding" methadone doses to encourage counseling attendance.

THE TRUTH ABOUT MARIJUANA IS ALL ROLLED UP IN A BLUNT: PREVALENCE AND PREDICTORS OF BLUNT USE AMONG YOUNG AFRICAN AMERICAN ADULTS

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The present study was designed to examine the prevalence rates and predictors of blunt (i.e., hollowed-out cigars filled with marijuana) use among African American young adults. A secondary analysis of data from the 2012 National Survey on Drug Use and Health was conducted to examine prevalence rates and demographic and psychosocial predictors of blunt use among African American women (n = 246) and men (n = 312) between the ages of 18-25. Among participants who reported using marijuana in the past month, 74.4% of women and 82.7% of men used a blunt to smoke their marijuana in the past 30 days (current blunt smokers). Logistic regression analyses revealed that current blunt smokers, both men and women, were approximately 5 times more likely to drive under the influence of illicit drugs in the past year than former and non-blunt smokers. Future marijuana research should examine the dual use of marijuana and tobacco rather than focusing solely on marijuana use, especially among young African American men and women.

IMPACT OF YOHIMBINE AND COCAINE-CUES ON EXECUTIVE FUNCTION IN COCAINE-DEPENDENT MEN AND WOMEN

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Noradrenergic activity plays an important role in behavioral inhibition and attention. Data from previous studies suggest that noradrenergic dysregulation plays an important role in craving and relapse in cocaine-dependent women. The aim of this study was to examine the impact of yohimbine and cocaine cues on executive function in cocaine-dependent men and women. In a double-blind placebo controlled cross-over study, cocaine-dependent men (n=11), cocaine-dependent women (n=25), control men (n=31) and control women (n=25) received either yohimbine or placebo prior to two cocaine cue exposure sessions. Executive function was assessed using the Connors Continuous Performance Task. Yohimbine decreased omission errors as compared to placebo ($p=0.04$). Cocaine- dependent women exhibited more omission errors ($p<0.001$) and greater reaction times ($p<0.05$) than cocaine- dependent men. Control men exhibited greater omission errors than control women ($p<0.05$). These data suggest that cocaine-dependent women exhibit greater deficits in sustained attention compared to cocaine-dependent men. These data add to a growing literature demonstrating gender differences among cocaine-dependent individuals.

MEETING THE HIV AND HEPATITIS C NEEDS OF FEMALE DRUG COURT PARTICIPANTS IN THE CONTEXT OF THEIR TRAUMA

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Examine intervention sessions to better understand needs and impact of this health services research project. Staff recruited women from drug treatment court (DTC) and screened them for HIV and Hep C. The first 9 positive for either condition underwent the 6-session manualized intervention. Team members reviewed 45 taped sessions and conducted a consensus-based framework qualitative analysis. Themes were mapped onto a theoretical model integrating self-determination motivational theory (SDT) and the socioecological model (SEM). Among 52 women screened for HIV and HCV, 2 were HIV positive and 15 were Hep C positive. All had child and/or adult abuse histories, drug dependence, and unmet medical needs. SDT-related need support included: 1) autonomy: sobriety enhanced desire to address broad healthcare issues including HIV or Hep C; 2) competence: success in sobriety empowered women to address HIV or Hep C; 3) relatedness: relationships with partners, family, children, healthcare providers, and court staff combined could be overwhelming but enhanced motivation and support for treatment. Socioecological-related themes included: 1) intrapersonal: recent sobriety, structure of DTC, and supportive living situations contributed to stability that engendered self-care which trauma experiences undermined; 2) interpersonal: stability provided at times overwhelming options to assist oneself balanced against needs of children, partners, and family; 3) institutional: DTC increased sobriety but intermittent incarceration made women miss needed medical

appointments; 4) community: women in supportive, trauma informed recovery oriented transitional housing had enhanced sobriety. The SDT and SEM frameworks illuminate interpersonal, community, and court strategies which mobilize women to access needed healthcare.

PREVALENCE AND CORRELATES OF SPOUSAL SEXUAL VIOLENCE AGAINST MARRIED WOMEN IN INDIA

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This study examined the prevalence and correlates of spousal sexual violence against married women in India. We used a nationally representative sample of 65,502 married women of childbearing age from the 2005-2006 National Family Health Survey (NFHS-3) data. About 9% of the women had experienced sexual violence by their husbands. The risk of sexual abuse increased by over four and a half times for women whose spouses humiliated them (OR:4.52; CI: 4.24- 4.82). Also, the risk of sexual abuse increased by two times for women whose spouses controlled them (e.g., suspected of infidelity) (OR: 2.38; CI: 2.23-2.54). Women whose husbands consumed excessive alcohol were more likely to be sexually abused (OR=1.40; CI=1.31-1.49). Women who were married before the legal age of 18 were 23% more likely to be sexually abused that their counterparts were married at age 18 or later (OR:1.23; CI: 1.15-1.32). Preventing underage marriage will reduce the risk of sexual violence against women within marriage. Intervention programs should target women and their families across the life-span: teenage brides, women whose husbands control and humiliate them, and women whose husbands consume excessive alcohol.

THE ROLE OF CARBONYL REDUCTASES IN BIOTRANSFORMATION OF BUPROPION AND 4-METHYLNITROZAMINO-1-(3-PYRIDYL)-1- BUTANONE (NNK) BY HUMAN PLACENTA

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Bupropion sustained release (BUP SR) is being evaluated as an aid for smoking cessation during pregnancy. The predominant metabolic pathway of BUP in placenta is reduction to erythro- (EB) and threohydrobupropion (TB), the major placental metabolite of BUP; the reaction is catalyzed primarily by 11β- hydroxisteroid dehydrogenase (11βHSD) and aldoketoreductases. Maternal cigarette smoking has been associated with prenatal exposure to NNK, which is the most abundant and potent carcinogen of cigarette smoke. One of the metabolic pathways of NNK is carbonyl reduction to 4-methylnitrosamino-1-(3-pyridyl)-1-butanol (NNAL) that initiates NNK detoxification. The goal of the current investigation is to determine placental metabolism of NNK and to identify placental enzymes responsible for its reduction. Term placentas were collected from women who smoked during pregnancy and from non-smokers. NNK metabolism was determined in vitro using placental microsomal and cytosolic subcellular fractions; the formation of NNAL was quantified by HPLC-UV. The apparent Km and Vmax values for the reaction in placental subcellular fractions were determined. The formation of NNAL in placentas of heavy smokers was lower than in placentas of non-smokers:12.1 ± 3.5 vs. 17 ± 6.3 nmol.mgP-1 for cytosolic fraction ($p<0.05$) and 21 ± 2.7 vs. 23.6 ± 4.6 nmol.mgP-1 for microsomes. By contrast, the formation of TB in placentas of smokers, 447.9 ± 260 pmol.mgP-1, was higher than in placentas of non-smokers (300.6 ± 102.3 pmol.mgP-1), $p<0.05$. These data suggest that reductive metabolisms of NNK and BUP in placenta are catalyzed by different carbonyl reductases. The identification of placental enzymes catalyzing NNK reduction is currently under investigation.

THE RELATIONSHIP BETWEEN AFRICAN AMERICAN WOMEN'S HEALTH DISCUSSION NETWORKS & HIV RISK BEHAVIORS

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HIV is an epidemic in the African American community, where personal relationships are salient and can influence health behaviors. Yet, there is limited research examining egocentric social networks and African American women's HIV risk behaviors. This study examines the relationship between African American women's health discussion networks (size, composition, strength, and function) and HIV risk behaviors. Using data from the Black Women in the Study of Epidemics (B-WISE, n=344), multivariate models investigated associations between characteristics of health discussion networks and two risk behaviors: a positive drug screen and unprotected vaginal sex. The average participant was single, 35 years old, and the number of health discussion network members ranged from 0 to 5, with 22% having no one to talk to about their health (mean=1.39, S.D.=1.10). African American women were less likely to use drugs when they reported larger (AOR=.71; 95% CI: .55-.92) or closer (AOR=.79; 95% CI: .68-.92) networks, as well as those comprised of people who provided a variety of support functions including

instrumental (AOR=.52; 95% CI: .31-.88) or financial (AOR=.59; 95% CI: .34-.99) support, health information (AOR=.44; 95% CI: .25-.78), and discussing health (AOR=.51; 95% CI: .28-.90). In contrast, health discussion network variables were not associated with unprotected sex. It is concerning that almost one-quarter of women had no one to talk to about their health considering that larger, closer-knit, and more supportive networks are protective against drug use for African American women. Risky sexual behaviors are challenging to change, which is problematic as most new HIV infections among African American women are acquired via heterosexual contact. Future research should examine the characteristics of African American women's health discussion networks as predictors of drug treatment and include health discussion networks in HIV interventions.

A Qualitative Investigation Comparing Sexual Effects Of Alcohol And Marijuana Among Adults

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Alcohol and marijuana (cannabis) are the two most commonly used psychoactive drugs and each appears to have its own unique sexual effects on users. With marijuana use increasing in the United States, along with more liberal state-level policies, it is important to examine and compare sexual effects and sexual risk behavior associated with these drugs in order to inform prevention of HIV, other sexually transmitted infections and unplanned pregnancy. We conducted semi-structured interviews with 24 racially and ethnically diverse adults in New York City (mean age=27.4, SD=5.8). To be eligible, subjects must have 1) been between ages 18-35, 2) had sex while high on marijuana in the last 12 months, 3) had sex while not high on marijuana in the last 12 months; and 4) must not have used any other illicit drug in the last 12 months. All subjects self-identified as heterosexual and HIV- negative, and 50% were female. Thematic analysis yielded various themes. Many subjects described differences between the two drugs with regard to interactions and contexts in use before sex, partner choice, perceived attractiveness of self and others, disinhibition, adverse sexual effects and sexual dysfunction, and dose effects. Differences were also commonly described regarding libido, length and intensity of sex and orgasm, specific sexual behaviors (including risk behavior), and feelings such as regret after sex. Compared to marijuana, alcohol was more likely to be associated with atypical partner choice and lead to regret. Illegality of marijuana sometimes facilitated intimate encounters. Results can inform prevention efforts regarding specific sexual risks and allow us to design more realistic prevention programs and interventions to guide potential users to make safer choices.

AGE AND GENDER EFFECTS ON SUBJECTIVE DRUG EFFECT OF D-AMPHETAMINE

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Prior studies suggest that sex differences in d-amphetamine response are related to hormonal fluctuations that occur during the luteal phase. Thus, studies control for sex differences by running females during the follicular phase when hormones are relatively low. However, studies showing no sex differences under these conditions have relatively small sample sizes. Thus, it is still unclear if there are sex differences – unrelated to luteal phase hormonal fluctuations– in d-amphetamine response. Age may also be an important predictor of subjective drug response, as illicit drug use varies by age. Few experimental studies have investigated the effect of age on drug response. The present study assessed gender and age as predictors of subjective drug response. Healthy stimulant-naïve volunteers (n=75 normally cycling women in the follicular phase; n = 29 men) aged 18-35 completed this two-session, double-blind, within-subjects study during which they received a single dose of 20-mg oral d-amphetamine or placebo in counterbalanced order. Subjective measures of drug response were completed at repeated intervals before and after drug administration over a 4-hr period and under the curve drug response difference scores (e.g. d-amphetamine – placebo) computed. Partial correlations were run to evaluate relationships between sex, age, and subjective drug response. After controlling for age, males reported greater subjective responses on the Drug Effects Questionnaire (DEQ) 'Feel Drug', 'Like Drug' and 'Want More' (rs = .20 - .21, ps = .01-.04). After controlling for gender, younger individuals reported greater scores on the DEQ 'Want More' (r = -.26, p = .007). These results might suggest age and gender differences in abuse liability for young adults who may be prescribed d-amphetamine for clinical conditions (e.g., ADHD or narcolepsy) or start experiment with d-amphetamine recreationally.

SCHOOL CONTEXT AND MARIJUANA USE AMONG MARYLAND HIGH SCHOOL STUDENTS

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We examined: (1) whether the prevalence of marijuana use among high school students varied across schools, and (2) whether school-level risk factors were associated with student marijuana use, after accounting for individual-level covariates. Multilevel modeling was used to analyze data from 27,874 high school students participating in the 2013 Maryland Safe and Supportive Schools Climate Survey. Individual-level factors included gender, age, race/ethnicity, alcohol use, tobacco use, fighting, and perceptions of school safety and support. School- level factors included alcohol use prevalence, tobacco use prevalence, urbancity, suspensions, racial composition, fighting prevalence, student/teacher ratio, proportion receiving special education services and free/reduced price meals, and student mobility rate. 21% of youth reported marijuana use. Variance was greater at the classroom level (σ=0.15, SD=0.39) vs. the school level (σ=0.02, SD=0.13). Students at schools with a higher proportion of racial/ethnic minorities (AOR = 1.01, 95% CI: 1.00, 1.01), mobility rate (AOR = 1.02, 95% CI: 1.00, 1.04), and alcohol use prevalence (AOR = 1.03, 95% CI: 1.01, 1.04) were slightly more likely to report marijuana use. Individual-level factors were more strongly associated with marijuana use than school-level factors, including older age, Black race/ethnicity, alcohol use, tobacco use, and fighting. Marijuana use is common among high school students, despite differences in school-level factors. Given the continued loosening of marijuana policies, it is likely that adolescent marijuana use will increase. Schools may need to reconsider approaches to drug use prevention education.

INHIBITORY PROCESSING IN RELATION TO AGE OF FIRST SUBSTANCE USE AND AGE OF FIRST REGULAR SUBSTANCE USE

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The current project aims to identify that age of first regular substance use (AFRU), compared to age of first substance use (AFU), will significantly predict poor performance on three inhibitory processing subcomponents. Analysis consisted of preliminary baseline data of a 6-month longitudinal research study investigating the relationship between inhibitory processing and substance use. 186 young adults (109 females), ranging from 18-25 years old 20.94±1.88), were recruited from three undergraduate universities in South Florida, USA. Participant's inhibition (via Stop Signal, Go-No Go, and Simon task) and drug use history (e.g., alcohol and illicit drugs) were assessed at baseline. AFRU significantly differed from AFU for the following substances: alcohol consumption [t(167)= -14.32, p<.001], binge drinking [t(117)= -6.41, p<.001], marijuana [t(72)= -7.99, p<.001], and cigarettes [t(277)= -4.80, p<.001]. Among male users, AFRU for binge drinking significantly predicted poor performance on the Simon task, measured as the number of incongruent response errors, b= -.426, t(81)= -3.26, p<.001. Similar results were found with AFRU for marijuana, b= -.480, t(25)= -2.68, p<.01. Among female users, an opposite effect was found, albeit through the Simon effect. AFRU for alcohol consumption significantly predicted better performance on the Simon task, measured by the Simon effect (i.e., incongruent reaction time minus congruent reaction time), b=.204, t(98)= 2.06, p<.05. Similar results were found with AFRU for binge drinking, b= .277, t(69)= 2.36, p<.05. In conclusion, AFRU significantly predicted poorer inhibitory performance among male binge drinkers and marijuana users, while AFU did not. These findings, in combination with the significant differences found between AFRU and AFU, suggest that initiation of regular drug use is a better predictor of future inhibitory functioning among males than the age in which the substance was used for the first time.

INCENTIVIZING ATTENDANCE TO PROLONGED EXPOSURE IN METHADONE MAINTENANCE

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Determine whether voucher incentives increase methadone maintenance treatment patients' attendance to Prolonged Exposure (PE) therapy and are associated with greater improvement in posttraumatic stress disorder (PTSD) severity, treatment retention, and drug use. Patients with PTSD were randomized to receive PE therapy alone (PE) or receive voucher incentives (PE+I) to attend the sessions ($30 escalating to $60; max $480). Assessed at baseline, week 6, and week 12; methadone maintenance treatment retention was continuously monitored. Results are presented for the first 41 participants with data through week 12 (PE+I n=20, PE n= 21). Participants were mostly women (85%) and Caucasian (66%), with a mean age of 35. PE+I participants attended a mean (SD) of 7.4 (4.1)

sessions compared to 1.4 (1.6) for PE participants (p<.001). The higher rate of attendance corresponded to more exposure sessions [4.8 (3.4) vs. 0.2 (0.6); p < .001]. PE+I participants showed a trend toward greater improvement on the Clinician-Administered PTSD Scale between Baseline and Week 12 as [26 (21) points vs. 15 (21); p = .14], and were more likely to be retained in methadone maintenance treatment at 6 weeks (95% vs. 71%; p = .09) and 12 weeks (75% vs. 52%; p = .13). PE+I participants also reported no change in drug use while PE participants reported a small increase, although the difference was not significant [-0.1 (6.0) vs. 0.8 (12.9) ; p = .79]. Voucher incentives increase attendance to an otherwise poorly-attended PTSD treatment, including attendance to exposure. In this partial sample, incentives were associated with nonsignificant but greater improvement in PTSD symptoms and better methadone maintenance treatment retention. Drug use did not appear to differ between groups. We expect to present data on the full sample at the meeting.

THE ROLE OF THE A7 AND A4B2 NICOTINIC RECEPTORS IN NICOTINE SENSITIZATION AND NEURAL PLASTICITY OF ADOLESCENT RATS NEONATALLY TREATED WITH QUINPIROLE

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We have established that neonatal treatment with quinpirole, a dopamine D2/D3 agonist, results in increases of dopamine D2 receptor sensitivity throughout the animal's lifetime and has a number of consistencies with schizophrenia. Analyze the roles of α7 and α4β2 nicotinic receptors in nicotine sensitization in adolescent male and female rats neonatally treated with quinpirole. The roles of the α7 and α4β2 nicotinic receptors were analyzed in their effects on Brain-Derived Neurotrophic Factor (BDNF) and mammalian target of rapamycin (mTOR) in rats neonatally treated with quinpirole and sensitized to nicotine. Animals were neonatally treated with quinpirole or saline from postnatal days (P)1-21. Beginning on P33, animals were ip injected with nicotine (0.5 mg/kg free base) or saline and tested every second day from P33-49. Approximately 15-30 min before the nicotine or saline injection, animals were ip injected with either the α7 nicotinic receptor (nAChR) antagonist methllycacontine (MLA; 2 or 4 mgkg) or the α4β2 nAChR antagonist dihyro-β (DhβE; 1 or 2.5 mg/kg) erythrodine. Brain tissue was taken 24 h after the last day of testing. Neonatal quinpirole enhanced nicotine sensitization and DhβE blocked nicotine sensitization regardless of neonatal treatment and was more effective in blocking sensitization in males versus females. MLA failed to block nicotine sensitization. Howeer, MLA blocked the acute hypoactive response to nicotine in males, and the higher dose of MLA reduced sensitization in males. Neonatal quinpirole sensitized the accumbal BDNF response to nicotine, but neonatal quinpirole resulted in a decrease of mTOR in both brain areas. The α4β2 receptor plays a critical role in adolescent nicotine sensitization. Interstingly, the α7 nAChR appears to be important in the acute response to nicotine and is more important in nicotine sensitization in males. Both nAChRs appear to be important in accumbal BDNF and their roles will be analyzed in the mTOR response.

GENDER DIFFERENCES IN THE LONGITUDINAL DEVELOPMENT OF NORMATIVE BELIEFS FOR TOBACCO, ALCOHOL AND MARIJUANA USE AMONG MIDDLE AND HIGH SCHOOL STUDENTS

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Gender specific sequential General Growth Mixture Models for ordinal outcomes will be estimated to characterize developmental patterns in normative beliefs as well as developmental transitions between middle and high school. Data comes from the Adolescent Substance Abuse Prevention Study (Sloboda et al., 2009). The focus is on control students who were 12-13 years of age. Of the 4411 students, 43.8% were male and 32.2% had used at least one of the three substances (alcohol, nicotine, marijuana) at baseline. Data were collected using self-administered surveys completed by study participants over the five-year study period at seven time points. For both genders, three developmental profiles during middle and high school were supported by the data, i.e., lower-, medium- and high levels of normative beliefs about tobacco use (Results for alcohol and marijuana will be presented at the conference). During middle school, females were more likely than males to perceive cigarette use as medium to highly normative (68.7% versus 58.6%). During high school these differences were less pronounced (Female: 74.4%; Male: 79.8%). With respect to transitions, females were more likely than males to remain in the high (82.9% versus 70.7%) and the low profile (72.5% versus 64.2%). In comparison, males were more likely than females to remain in the medium group (80.6% versus 71.5%). Heterogeneity in normative beliefs might moderate the receptivity to substance use prevention programming and standard evaluations using mediation analysis might have to be augmented by moderated mediation analyses acknowledging the existence of subgroups in longitudinal profiles.

TRAIT, STATE, AND PLACE: THE ROLE OF PERSONALITY AND ENVIRONMENT IN DRUG USE

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Addiction is complex with both environmental and inherited causation factors. The environment, particularly neighborhood, and personality traits may contribute to drug use. We sought to determine the influence of trait, state, and place on drug use. Participants were administered the NEO Five Factor Inventory to assess 5 personality factors – neuroticism, extraversion, openness, agreeableness, and conscientiousness, and the Addiction Severity Index to assess personal and family drug use history. Environment was assessed with the Neighborhood Inventory for Environmental Typology (NIfETy) a standardized inventory assessing the incidence and prevalence of environmental indicators of physical, social, and drug-related disorder (1 lowest to 8 highest disorder). Analysis was done with Stata 10 and included t tests, Pearson X2, Fisher's exact and multivariate logistic regression.

Participants included 104 current opioid/stimulant users (CDUs) and 88 non drug users (NDUs). The groups differed in age ($p<0.001$) and gender ($p<0.001$) but not race ($p=0.109$). Neuroticism percentiles were higher in the CDUs ($p<0.001$); and extraversion, openness, agreeableness, and conscientiousness percentiles were lower (all $p<0.001$). NIfETy scores were higher for CDUs (mean(SD) 5.1(1.5) vs. 3.9(1.8), $p<0.001$). In the multivariate model predicting drug use status, age (OR 1.10, CI(1.05,1.17), $p<0.001$), gender (OR 0.22, CI(0.07,0.66), $p=0.007$), years of cannabis use (OR 1.26, CI(1.12,1.42, $p<0.001$), nuclear family history of addiction (OR 4.34, CI(1.49,12.6), $p=0.007$), openness (OR 0.97, CI(0.95, 0.99), $p=0.007$), agreeableness (OR 0.98, CI(0.96, 1.00), $p=0.03$), and NIfETy scores (OR 1.53, CI(1.08, 2.16), $p=0.017$) were significant. While state, trait, and place determined drug use status, a nuclear family history of addiction and neighborhood physical, social, and drug-related disorder were stronger predictors than personality.

PREDICTORS FOR HIGH DOSE CHRONIC OPIOID THERAPY

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Chronic opioid therapy (COT) and associated complications are a major health problem. Practitioners must balance treating chronic pain with mitigating risks. Risk mitigation strategies appear to be underutilized. Prior studies have shown COT patient characteristics that categorize individuals at risk for misuse. One identified risk factor for misuse is high dose COT. Therefore, we hypothesize that clinical features exist that separate high dose from low dose COT subjects. The purpose of this study is to identify characteristics that differentiate these cohorts. After IRB approval, we identified patients who received at least 3 consecutive, monthly opioid prescriptions during a 90 day period at the Cincinnati VAMC and defined them as COT patients. For each subject, we obtained patient demographic data and all ICD-9 codes. After obtaining the average daily opioid dose in morphine equivalents (ME), subjects were stratified into high dose (>100mg ME/day) and low dose (<100mg ME/day) COT cohorts. We then utilized logistic regression to identify characteristics that differentiated the 2 cohorts. Complete dosing data was available for 815 subjects. The range of opioid dosing was 0.45 to 983.5 mg ME/day, median dose (IQR) was 28.13 (13.35, 63.33)mg ME/day, and mean dose (SD) was 61.32 (96.57)mg ME/day. Variables assessed in univariate analysis: age, race, sex, tobacco use, BMI, MST, Charlson score, and psychiatric diagnoses. Age 30 to 60yo (OR=1.85; 95%CI 1.27, 2.70; p=0.001) and tobacco use (OR=1.77; 95%CI 1.20, 2.61; p=0.004) were significantly associated with high dose COT. The final multivariate model met adequacy criteria. Predictors significantly associated with high dose COT were female gender (OR=0.45; 95%CI 0.21, 0.98; p=0.045), tobacco use (OR=1.57; 95%CI 1.05, 2.32; p=0.027) and age 30 to 60yo (OR=1.83; 95%CI 1.24, 2.71; p=0.002). Potential predictors for high dose COT include male gender, tobacco use, and age 30 to 60. Identification of those at risk for dose escalation may allow early referral for primary prevention and harm reduction. This data supports the need for further studies on this important topic.

PREDICTORS OF CAFFEINE-WITHDRAWAL HEADACHE IN COLLEGE STUDENTS

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The purpose of this study was to examine whether reports of caffeine-withdrawal headache varied by gender, daily caffeine use, alcohol use, and nicotine use in a sample of college freshmen. We hypothesized that gender, daily caffeine use, current alcohol use, and current cigarette use would predict caffeine- withdrawal headache. Participants were N=1958 freshmen (age 18 and older) who completed an on-line research survey (Spit for Science*) and reported recent caffeine use. The present study focused on survey demographic items, type(s) of caffeinated beverages consumed (coffee, tea, sodas, energy drinks (e-drinks) and occurrence of caffeine withdrawal symptoms (e.g., headache, fatigue, anxiety, depression, and/or nausea after stopping all caffeine for a day or more). Descriptive statistics were used to characterize caffeine use and occurrence of caffeine withdrawal. Logistic regression analysis was used to assess whether gender, daily caffeine use, and current alcohol and nicotine use

predicted participant report of caffeine-withdrawal headache. One-fifth (20.6%) of current caffeine users reported 1+ symptoms of withdrawal, with headaches most prevalent (15.6%). A test of the full model against a constant-only model was significant, c2(4, N=423) = 17.24, p = .002, indicating that as a set, the predictors reliably distinguished between those with and without caffeine-withdrawal headache. According to Wald tests, only gender (c2(1) = 9.21, p = .002) and nicotine use (c2(1) = 7.80, p = .005) reliably predicted caffeine-withdrawal headache. Not as predicted, gender and current nicotine use significantly predicted caffeine- withdrawal headache, while current alcohol use and daily caffeine use did not.

PSYCHOLOGICAL TRAUMA AND INCREASED SUBSTANCE ABUSE RISK IN MIX-RACE ADULTS

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Racially-mixed adolescents are at higher risk of substance abuse; the evidence is not clear from adult large surveys. Data on two indigenous populations (Native Americans and Native Hawaiians) with the highest rates of racial admixture suggest mixed race individuals are more prone to traumatic events than their origin race counterparts. This study examines the relationship of psychological trauma and substance abuse outcomes in self-identified mixed- compared to mono-race Whites, Blacks and Asians. We analyzed subsamples including the three races (n=33,504), using two waves of the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC, 2001-2005). A total of 24 questions on traumas were classified into 4 categories (assaultive violence, other injuries or shocking experience, traumas to others and sudden expected death of close party/relative). Two DSM-IV phenotypes, alcohol abuse/dependence and illicit drug/dependence with covariates including age, gender, DSM-IV diagnoses of depression and posttraumatic stress disorder (PTSD) were analyzed with SUDAAN. Differences of the trauma rates across mixed and their origin races (e.g., Asian, Asian- White mixed, & Whites) were all significant across four categories of traumas. For severe traumas, mixed-race rates exceeded those of either origin races (e.g., 36.0% among White-Black mixed race compared to 32.2% among Blacks and 29.7% among Whites for assaultive violence). In the multivariate logistic analyses with respective mixed race as the reference group, odds ratios were significant for mono-races, e.g., OR=0.41 and 1.84 for Asians and Whites respectively for alcohol abuse/dependence. Results were less clear for illicit drug abuse/dependence. All four categories of traumas were significant. Gender and depression were strong predictors across racial combinations. A variety of psychological traumas likely contribute to excess risk among mixed- race adults across major racial categories and should be included in substance abuse health disparity research.

USE PATTERNS, PERCEPTIONS OF RELATIVE HARM, AND GENDER EFFECTS IN DUAL USERS OF ELECTRONIC AND TOBACCO CIGARETTES

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Awareness and use of e-cigarettes is increasing. Concerns regarding potential positive (e.g., smoking reduction/cessation) and negative (e.g., delay of cessation) public health consequences may be informed by studying dual users of e-cigarettes and tobacco cigarettes. An online survey assessed demographics, product use patterns, and beliefs about product benefits and harms among male (n=184) and female (n=166) dual users. Descriptive statistics described survey results; t-tests/chi-square analyses evaluated gender effects. Females used tobacco cigarettes for more years and more frequently than males, however both groups showed similar use patterns and harm perceptions of tobacco cigarettes and e-cigarettes. Participants reported a 30% reduction in tobacco cigarette smoking since using e-cigarettes. Compared to tobacco cigarettes, e-cigarettes were used less often and associated with lower dependence. Reported primary reasons for e- cigarette use were harm reduction and smoking cessation. E-cigarette use was reported as more likely in settings with smoking restrictions and when others' health could be adversely affected. Participants reported using tobacco cigarettes more often than e-cigarettes in hedonic situations, outdoors, or when stressed. Participants were twice as likely to report wanting to quit tobacco cigarettes than e-cigarettes and intended to quit tobacco cigarettes sooner. Tobacco cigarettes were described as more harmful and addictive, but also more enjoyable, than e-cigarettes. Participants provided evidence consistent with both positive and negative public health consequences of e-cigarettes, highlighting the need for experimental laboratory research and clinical trials. E- cigarettes were associated with a major reduction in smoking. Use patterns and reasons were generally insensitive to gender. Policies should consider potential public health benefits of e-cigarettes, in addition to potential harms.

LIABILITY FOR VIOLENCE IN YOUNG WOMEN

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Substance use and violence are often intertwined. Previous work with male subjects indicated that transmissible liability for substance use disorders was also an indicator of future commission of violent offenses. Currently, we have developed an index of transmissible liability for female adolescents (F-TLI) by harmonizing data from CEDAR's female sample (N=228) with two other longitudinal NIDA-funded projects at the University of Pittsburgh. The F-TLI scores predicted future cannabis use disorder (CUD) in the CEDAR group. The current analyses are being conducted to examine the ability of the F-TLI to predict future perpetration of violence in young adulthood (ages 19-25) among females. Violence data were compiled for N=228 female subjects from several instruments which contained questions regarding perpetration of violence across up to 3 timepoints, ages 19, 22 and 25. Summary variables were created to indicate the following categories of perpetration of violent acts: child abuse or neglect (8 items), intimate partner violence (33 items), sexual assault (9 items), other acts of violence (e.g. fighting, assaults, use of a weapon) (32 items). Preliminary 1.8% admitted to perpetrating child abuse or neglect, 18.1% IPV, 29.1% sexual abuse, and 42.3% perpetrated other acts of violence. Bivariate correlations indicate that F-TLI is significantly correlated with perpetration of IPV ($r=.244$, $p<.001$) and of other types of violence ($r=.234$, $p<.001$). Regression analyses indicated that F-TLI predicted future IPV perpetration, and other types of violent acts, and neither relationship was mediated by affiliation with violent peers at age 16. Further analyses are to be conducted. Transmissible liability measured at age 12 previously shown to predict CUD in females by age 22 is also predictive of perpetration of violent acts in young adulthood, regardless of affiliation with violent peers in adolescence. Intervention with these identifiable high risk girls may prevent future criminality.

GENDER EFFECTS ON ZOLPIDEM EFFICACY AND SAFETY

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Gender-related PK differences in zolpidem have been reported. In May 2013 the FDA issued an advisory for reducing zolpidem doses in women (5 mg). Few studies have assessed gender-related PD differences. In post hoc analysis of data assessing 12 months nightly 10 mg zolpidem in insomnia, we evaluated gender effects. Insomniacs (N=89) meeting DSM-IV-TR criteria and sleep efficiency (SE) of <85%, ages 23-70 yrs, without psychiatric disease or drug dependency were randomly assigned to receive 10mg zolpidem or placebo, double-blind, nightly for 12 months. In months 1 & 8, efficacy and safety was assessed with a 8hr nocturnal polysomnogram (NPSG) and Multiple Sleep Latency Test (MSLT). Also dose escalation and rebound insomnia were assessed at months 1, 4, and 12. Three efficacy measures (SE, sleep latency, wake during sleep) and 3 safety measures (MSLT for residual effects, # capsules self-administered (SA) for dose escalation, SE < screening SE for rebound) were analyzed by gender [male (n=33), female (n=56)] and zolpidem (n=47) versus placebo (n=42). Zolpidem improved SE ($p=0.001$), sleep latency ($p=0.001$) and wake during sleep ($p=0.002$) in months 1 and 8 with no gender x drug interactions. No main effects of zolpidem or gender on MSLT were found. In months 8 and 12 there was a gender by zolpidem interaction ($p=0.05$), with zolpidem reducing MSLT in men, but not in women. More zolpidem was SA than placebo ($p=0.04$), but there was no dose escalation and no gender differences in SA. Zolpidem discontinuation did not induce rebound insomnia and there were no gender differences in rebound. Gender-related PK differences do not translate into gender-related zolpidem efficacy and safety differences.

GENDER INFLUENCE ON COMORBIDITY AND CLINICAL FEATURES OF COCAINE-DEPENDENT PATIENTS

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Cocaine dependence disorder is certainly well-documented, though differences due to gender have not been studied as broadly. We performed a cross-sectional, observational study in 1014 patients (35.8 yo, 20.7% women) with a cocaine dependence according DSM-IV criteria, seeking treatment between 2005 and 2014. Socio- demographic and clinical variables were collected. The SCID-I, SCID-II, EuropASI and a structured interview about cocaine-induced psychosis were performed. Descriptive statistics were carried out for demographic and clinical data, a bivariate

analysis was made to compare the main variables by sex and, finally, logistic regression was performed. In the bivariate (but not the multivariate) analysis, women were found to be less severe in the legal subscale and more so in the psychological area (p= .0001) , as well as having used less cocaine in the month prior to the study (p= .009) greater history of sedative use (p= .002), and more affective(p= .009), anxiety(p=.019) and dependent-personality disorders (p= .004). In the bivariate (as well as the multivariate) analysis, women tended to be married or with a couple (p= .011) and to have made more suicide attempts(p= .0001), as well as having more employment problems(p= .0001), food and eating disorders(p= .0001) , histrionic (p= .017) and borderline (p=.0001) personality disorders, and less antisocial personality disorders(p= .004) . Gender significantly determines the clinical features of cocaine-dependent patients. Female addicts often present more social and emotional troubles and display less antisocial behaviour. Sedative dependence and anxiety/affective disorders should be investigated in cocaine-dependent women in order to treat these conditions.

ASSOCIATION OF ALCOHOL USE WITH DRUG USE AND WEAPON CARRYING AMONG THAI ADOLESCENTS

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Alcohol, drug use, and weapon carrying are a public health concern especially among students because they can have deleterious effects on physical and mental health. This study determined the prevalence of and gender specific factors associated with these behaviors among Thai adolescent students. A cross-sectional study in high school and vocational school in Bangkok, Thailand was conducted in 2014. Self-administrated questionnaires assessed past 30 day behaviors among students between 11 and 18 years of age (2,561 students from 26 schools). Overall, one fourth (24.4%) of students reported past 30 day alcohol use, 2.5% reported drug use, and 7.8% reported weapon carrying. Older youth were more likely to report drinking than those younger (p<.0001). Multivariate logistic regression analyses showed that alcohol use was almost four times higher among drug users than nondrug users (OR 3.93). Students who carried a weapon had nearly three times the risk of drinking than their counterparts (OR 2.74). Overall, females who used drugs or who carried a weapon were 7.94 and 3.15 times respectively to report drinking compared to males. All other factors adjusted for were also more strongly associated with drinking among females than males; factors include number of friends who smoke (OR 2.66 vs OR 1.77), weight issues (OR 2.10), smoking (OR 5.36 vs OR 4.59), and energy drink use (OR 3.41 vs OR 2.04). An increased association of drug use and weapon carrying with alcohol use was found for adolescent females in Thailand. Findings indicate gender specific interventions are needed for adolescents for these behaviors.

TAURINE EFFECTIVELY INHIBITS COCAINE PREFERENCE IN MALE AND FEMALE RATS: CANDIDATE FOR SUD TREATMENT

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Cocaine (COC) is a commonly abused psychostimulant that causes alterations to the mesocorticolimbic circuitry and addiction-related behaviors characterized by loss of inhibition to use. Females have been shown to be more vulnerable to the effects of COC when compared to males, requiring lower doses and less time of exposure before the onset of addiction. Taurine (TAU) is an organic acid with neuroprotective and neuromodulatory roles.Thi study aimed to determine if taurine could reduce cocaine preference in male and female subjects. Male and female rats were pretreated with TAU (pre-tau; 100mg/kg) for two weeks before undergoing a conditioned place preference protocol. They were randomly divided into four groups (n=9/group):(1) TAU pretreatment (pre-TAU) and TAU + COC co-administration during conditioning, (1) pre-TAU and COC during conditioning, (3) pre-TAU and TAU during conditioning, and (4) COC during conditioning. Males and females that were not pre-treated with COC showed a significant preference to the COC-paired chamber. Neither male nor female subjects showed a preference to the TAU-paired chamber. Taurine was effective in inhibiting cocaine preference in both male and female subjects after the pre-TAU; however, females show a significant preference towards the cocaine-paired chamber when TAU and COC are co-administered. Coc-induced behaviors often persist for years after abstinence and the best form of treatment is yet to be determined. This study provides evidence that taurine might deserve study as a treatment for cocaine addiction; however, sex may influence its efficacy. Further studies will be performed to assess possible mechanisms by which taurine inhibits cocaine preference, its relationship to gonadal hormones.

A COMPARISON OF MALE AND FEMALE CAREGIVERS: CAREGIVER DEPRESSION AS A MEDIATOR IN THE PATHWAY FROM CAREGIVER PROBLEMATIC DRUG USE (PDU) TO CHILD INTERNALIZING BEHAVIORS (CIB)

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Among families reported to child protective services (CPS), caregiver PDU is a common concern that has been associated with negative outcomes for children, including CIB. Comparing female to male caregivers, this paper tests the role of caregiver depression as a mediator in the relationship from caregiver PDU to CIB. Using data from the National Survey of Child and Adolescent Well-Being II (NSCAW II), path analysis models were conducted utilizing a subset of the NSCAW II in which the children remained in the home following a CPS investigation. A random half sample was drawn (n=1087) to conduct two separate models for female and male caregivers. Results were confirmed on the second half of the sample. PDU was measured continuously with the 20-item Drug Abuse Screening Test. Caregiver depression was measured with the Composite International Diagnostic Interview-Short Form. CIB was measured continuously with the internalizing subscale of the Child Behavior Checklist. Control variables were child age, child gender, and family poverty. Analyses accounting for stratification, clustering, and weighting were conducted with Mplus 7.0. Standardized estimates and asymmetrical confidence intervals are reported. Female caregivers' depression was found to fully mediate the relationship from PDU to CIB (μ=.048, σ=.015, 95% CI .021-.081). Among male caregivers, depression was not a significant mediator in the relationship from PDU to CIB (μ=.007, σ=.039, 95% CI - .068-.099). Fit for the female caregiver model was strong (RMSEA=.000, p=.99; CFI=1.00). Among families reported to CPS where a female caregiver is engaged in PDU, the presence of comorbid depression is an important indicator of need for intervention. Addressing these comorbid disorders may lead to decreases in CIB. Unavailable in this dataset, future research should examine anxiety as another potential mediator.

GENDER DIFFERENCES IN ASSOCIATIONS BETWEEN NEUROCOGNITIVE IMPAIRMENT AND COCAINE USE AMONG HIGH-RISK COCAINE DEPENDENT METHADONE-MAINTAINED PATIENTS

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Previous research suggests possible gender-related interactions between cognitive-deficits and cocaine use; however, no studies specifically explain gender-based differences in neurocognitive impairment (NCI) among cocaine-users receiving clinical-care. Knowledge about this association can aid in the development of targeted prevention strategies to reduce adverse health outcomes. This study was designed to examine the role of gender in the relationship between NCI and cocaine-use among cocaine-users receiving substance-abuse treatment. The Neuropsychological Impairment Scale (NIS) was administered to 199 cocaine- dependent methadone-maintained patients (98 males; 101 females) to assess NCI by identifying patients' awareness of neuropsychological symptoms. T-test comparison was done to find neurocognitive differences between males and females and multiple regression analysis was used to explore the relative contribution of gender to NCI. Consistent with prior work, high NCI was evident within this sample, as indicated by high scores on most of the NIS subscales. Females reported greater impairment than did males as evidenced by significantly higher scores on several NIS subscales, after controlling for age and years of cocaine-use. Interestingly, cocaine craving significantly predicted NCI among males but not among females, as suggested by significant association between cocaine craving and all except one of the NIS subscales. These findings suggest that cocaine-users enter into treatment with a range of NCI–with women having significantly more neurocognitive deficits than men - that may contribute to differential treatment outcomes. This highlights the need to include additional services, such as neuropsychological screening and gender- specific treatment programs, to optimally reduce adverse health outcomes in these high-risk cognitively impaired patients.

TREATING IMPULSIVITY FOR COCAINE AND FOOD IN FEMALE AND MALE RATS BY REPURPOSING THERAPEUTICS

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The ability to engage in recreation drug use requires one to forgo drug use until an appropriate time and place. For instance, many problem users are prone to consume drugs throughout the day, including at work. Treating such compulsions is an important component in treating individuals with drug abuse problems. The present research modeled impulsive choice for cocaine and food in rats. Specifically female and male rats were given a choice between a larger-later and smaller-sooner alternative. In some conditions, choices were between amounts of food (1 or 3 food pellets) and in others, doses of cocaine (.3 mg/kg or .9 mg/kg infusions of cocaine). In both conditions,

once preference for the large alternative was established, delays to the large alternative were introduced and increased each session in ascending order (7.5, 15, 30, 60 sec). Following establishment of a delay gradient (large preference decreased across delay), rats were treated with Progesterone (.05 mg/kg), Atomoxetine (1.5 mg/kg) or together as a combination treatment to determine how they altered impulsivity for food and cocaine. Rats' preference for the large alternative decreased with increases in large-alternative delay to form a delay gradient. When choosing between doses of cocaine, treatment with Atomoxetine and Progesterone decreased impulsivity (increased large alternative preference relative to baseline) compared to vehicle control in female rats. However, when choosing between amounts of food, neither treatment altered impulsive choice compared to baseline. The initial findings suggest that both Progesterone and Atomoxetine reduce impulsivity for cocaine, but not impulsivity for food. A mechanism thought to the effect is that these treatments reduce the reinforcing efficacy of cocaine; follow-up studies employing a progressive ratio schedule were conducted to examine this possibility. These findings suggest the treatments employed could serve as an effect component in the treatment of cocaine addiction.

THE EFFECTS OF STRENGTH TRAINING ON HEROIN SELF-ADMINISTRATION

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Previous studies have reported that voluntary wheel running decreases drug self- administration in laboratory rats, suggesting that aerobic exercise might be an effective intervention in substance abuse treatment programs. The purpose of the present study was to examine the effects of resistance exercise (i.e., strength training) on heroin self-administration in rats responding on a fixed ratio (FR1) schedule of reinforcement. Female, Long-Evans rats were obtained as young adults and assigned to exercising or sedentary conditions. Exercising rats climbed a vertical ladder wearing a weighted vest and were trained 6 days/week for the duration of the study. Training in this group used a three-set "pyramid" in which the number of repetitions and amount of resistance varied across three sets: 8 climbs carrying 70% body weight (BW), 6 climbs carrying 85% BW, and 4 climbs carrying 100% BW. Sedentary control rats were placed repeatedly on the ladder turned horizontally on its side to equate handling and exposure to the apparatus. After 3 weeks, rats were implanted with intravenous catheters and heroin self-administration was examined on an FR1 schedule of reinforcement. Heroin self-administration was significantly lower in exercising rats than sedentary rats when responding was maintained by low and moderate doses of heroin. These effects were not due to nonspecific differences in operant responding because no differences were observed in responding during a saline substitution test. These data indicate that resistance exercise decreases the positive reinforcing effects of heroin and suggest that strength training may be an effective intervention for opioid use disorders.

CHILDHOOD ADVERSITY, STRESS-SENSITIZATION, AND LOWER LIKELIHOOD OF CIGARETTE SMOKING CESSATION IN A U.S. NATIONALLY REPRESENTATIVE SAMPLE: A STUDY OF SEX DIFFERENCES

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Research has documented important sex differences in relation to early stress, stress-sensitization, and psychiatric outcomes. The current study was the first to investigate whether sex differences in stress-sensitization extended to cigarette smoking cessation. Data were analyzed from the National Epidemiologic Survey on Alcohol and Related Conditions (waves 1 and 2), selecting for current smokers at wave 1 (n = 3,751 men; n = 4,155 women). The primary statistical tests of interest were three-way interactions between sex, childhood adversity, and stressful life events in the prediction of smoking cessation. Among women, stressful life events (financial stress, interpersonal violence/crim victimization, and moving/having someone come live with you) were more strongly related to smoking cessation among those with childhood adversity than those without. This interaction was not found among men. The interaction between childhood adversity and stressful life events (i.e., stress- sensitization) may be more saliently related to smoking cessation among women than men.

APPLYING SBIRT TO NEW SETTINGS: PRELIMINARY FINDINGS OF SUBSTANCE USE DISORDER RISK IN COMMUNITY MENTAL HEALTH SETTINGS

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Screening, Brief Intervention, and Referral to Treatment (SBIRT) has not yet been tested in community mental health treatment settings despite the elevated risk of substance use disorders (SUD) among individuals with mental

health disorders. This presentation reports on preliminary findings of SUD risk among 334 adult participants treated in community mental health clinics in Southern California. SUD risk was calculated from the AUDIT and DAST-10 screening tools. All participants are currently enrolled in a randomized controlled trial of SBIRT. Participants were recruited from four outpatient clinics and one inpatient clinic. High risk for SUDs was defined by scores on the AUDIT (≥13 for women and ≥15 for men) and the DAST-10 (≥3 for women and men). Associations between SUD risk and presence of mood disorders, anxiety disorders, and psychotic disorders were examined using chi-square tests. Results showed that 37% of participants were at high risk for alcohol disorders and 66% of participants were at high risk for illicit drug use disorders. Alcohol disorder risk was significantly associated with mood disorders ($X2=13.25$, $p<.01$) and anxiety disorders ($X2=8.6$, $p<.05$). Illicit drug use disorder risk was significantly associated with anxiety disorders ($X2=25.96$, $p<.001$). Presence of psychotic disorders was not associated with SUD risk. High rates of SUD risk in this community mental health sample were found. Participants with mood and/or anxiety disorders were found to be at high risk of SUDs. Subsequent research will test the efficacy of SBIRT for reducing SUD risk and linking participants with possible SUDs to treatment.

WOMEN'S INTERVENTION TO STOP HIV/HCV (WISH)

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The Appalachian region has been the focus of national media highlighting the serious problems arising from prescription opiate abuse. Rural drug users report that injection is the primary method of drug administration in this area. Injection drug use creates significant public health concern among an understudied and vulnerable group of high-risk rural women and their risks associated with HIV and HCV. Thus, there is significant need to implement evidence-based practices focused on rural HIV/HCV risks. The overall aim is to describe the implementation of an evidence-based intervention (Motivational Interviewing for HIV Risk Reduction) with high-risk incarcerated rural women. Program description: The program uses rural jails to outreach to drug-using rural women at high-risk for HIV/HCV. Participants are randomly selected, screened for substance use using the NIDA-modified ASSIST, and randomly assigned to four brief jail intervention sessions using MI-HIV or to the NIDA education comparison group. MI-HIV includes four private individual sessions in the jail. Sessions are recorded and reviewed to ensure intervention fidelity. The therapist follows a basic structure to guide each session. This presentation will highlight session content, describe fidelity approaches, and review adaptations for this culturally unique population of high-risk women in the jail context. Little is known about implementing evidence-based practices in non- therapeutic environments such as jails. This program is promising as an approach to high-risk drug use behavior in Appalachia among vulnerable women. Considering service limitations in the area, this program utilizes a real-world setting to identify and intervene with high-risk women drug users.

COMORBIDITY AND FUNCTIONING OF SUBSTANCE DEPENDENT WOMEN WITH SEXUAL ABUSE HISTORY IN THE STAGE II WOMEN'S RECOVERY GROUP THERAPY TRIAL

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The Women's Recovery Group (WRG) Study is a Stage 2, RCT comparing single-gender group therapy (WRG) to mixed-gender group therapy (Group Drug Counseling; GDC) for substance use disorders (SUD). Women were randomized to the WRG (n = 52) or Group Drug Counseling (GDC; n = 48), and men were assigned to GDC (n = 58). Characteristics of women with a history of sexual abuse were examined in these post-hoc analyses. Participants ≥18 years with SUDs were included if they used substances in past 60 days. Sexual abuse (SA) history was assessed using the Life Experiences Questionnaire; functioning with the Global Assessment of Functioning (GAF) scale; and the CIDI was used to determine psychiatric diagnoses. Of the 100 women in the trial, 39% reported a history of SA. Compared to women without a history of SA, those with a SA history had lower GAF scores ($t=2.7$, $df=98$, $p<.01$) and higher rates of major depressive disorder (85% vs. 64%; $\chi2(1)=5.05$, $p<.05$), PTSD (39% vs. 13%; $\chi2(1)=8.63$, $p<.01$), and panic disorder (26% vs. 8%; $\chi2(1)=5.68$, $p<.05$). We divided women into 3 groups: (1) no history of SA, (2) SA either before OR after age 16, and (3) SA before AND after age 16. Women with abuse before and after had the lowest GAF scores ($M=56$, $SD=4.7$), followed by those with one type of abuse ($M=59$, $SD=5.7$); women with no history had the highest GAF scores ($M=61$, $SD=5.3$). Women assigned to the GDC group who had a history of SA rated the helpfulness of having men and women in the group as significantly lower than those without a history of SA ($t=-2.4$, $df=40$, $p<.05$); women in the WRG rated the helpfulness of the all-women group composition as high

regardless of SA history. Women with SA history had lower functioning and greater psychiatric comorbidity. Single-gender SUD group composition was endorsed as helpful by those with and without SA history but may be especially important for those who have experienced sexual abuse.

SEX DIFFERENCES IN REINSTATEMENT OF COCAINE-SEEKING IN RATS AFTER ACUTE TREATMENT OF PROGESTERONE AND ATOMOXETINE

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Male and female rats show differences in cocaine-seeking behavior that are influenced by hormonal fluctuations. Progesterone (PRO) decreases cocaine self-administration and reinstatement in female rats, but the effects of progesterone on male rats were inconsistent in initial studies. In addition, progesterone and atomoxetine have never been studied in combination to determine if there is an additive or synergistic effect between therapeutics. The purpose of this study was to determine sex differences in treatment effects of progesterone, atomoxetine (ATO) and a combination treatment on reinstatement of cocaine-seeking behavior. Adult male and female Wistar rats (n=6-11 per group) were trained to lever-press on a FR1 schedule for cocaine infusions (0.4 mg/k/ inf, 20-second timeout following infusion). After 14 days of stable responding in daily 2-hour sessions, rats were placed on extinction for 21 days. Rats were then separated into four groups based on the treatments given on reinstatement days (PRO+vehicle [VEH], PRO+ATO, VEH+ATO, VEH+VEH). Progesterone, atomoxetine and the corresponding vehicle injections were given 30 min prior to reinstatement sessions. Reinstatement to cocaine, caffeine, and cues as well as the combination of drugs and cue were tested after extinction. Male and female rats showed differential responsiveness to treatment with progesterone and atomoxetine, specifically when presented in a combination treatment. Sex and group differences depended on the type of reinstatement, with caffeine and cocaine producing disparate results between males and females. The effectiveness of progesterone and a progesterone/atomoxetine combination treatment is dependent on sex and the stimulus used to induce reinstatement; however, progesterone shows potential as a therapy for relapse for both males and females.

A LONGITUDINAL MEDIATIONAL STUDY OF THE STABILITY OF ALEXITHYMIA AMONG ALCOHOL TREATMENT SEEKERS

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Up to 67% of alcohol-dependent patients have alexithymia, a trait associated with emotion regulation difficulties. Although alexithymia may have a negative impact on treatment outcomes, research investigating sex differences in its stability as well as underlying mechanisms are scarce. Such research is essential to explore whether alexithymia may be amenable to change. As social learning processes contribute to and maintain alcohol problems, the reinforcement of alcohol expectancies (AE) is a plausible mechanism that links the emotional difficulties related to alexithymia and alcohol use. The objective of the present study, therefore, was to evaluate this association, to examine whether AE mediate the stability of alexithymia, and to test for sex differences in the findings. 92 consecutively enrolled patients (72% male), 18-66 years of age in Cognitive- Behavioral Therapy for alcohol-dependence, were assessed before the commencement (baseline) and at the end (12 weeks-follow-up) of a treatment program. Participants were detoxified prior to assessment, and completed the Toronto Alexithymia Scale (TAS) and the Drinking Expectancy Profile (DEP). TAS total score, Difficulties Identifying Feelings (DIF) and Difficulties Describing Feelings (DDF) decreased significantly over time with a larger decrease in alexithymia scores for females. Path analyses showed that the stability of TAS total score, DIF and DDF were mediated through assertion AE. These findings highlight the importance of AE as a longitudinal mediator of the stability of alexithymia in those with alcohol-dependence. Additional research is needed to determine the most appropriate model of care for alcohol treatment seekers with alexithymia.

SMOKING TOPOGRAPHY IN MEN AND WOMEN WITH AND WITHOUT CURRENT DEPRESSION: FINDINGS FROM A 10-SITE CLINICAL TRIAL

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Depression is associated with heightened risk of nicotine dependence and smoking persistence. Women have higher rates of depression than men, and have greater difficulty quitting smoking. Little is known about mechanisms that underlie these associations. One basic question is whether men and women with and without depression differ on smoking topography, i.e., patterns of puffing behavior. We used data collected during a clinical trial conducted at 10 sites across the US to examine the separate and combined effects of gender and depression symptom severity on smoking topography. The trial enrolled 839 smokers who smoked at least 5 cigarettes per day (CPD). At a baseline session, depression symptoms were assessed using the CESD scale, on which a score ≥ 16 indicates high current depression severity. Topography data were collected from a subset of participants (n = 762; 42% women) who smoked a usual-brand cigarette through a handheld topography device. ANOVAs were used to investigate the effects of gender and current depression on topography. Analyses indicated: (1) a gender x depression interaction ($p < .05$) on CPD indicating that high-depression women smoked more CPD than low-depression women, whereas high- vs. low-depression men did not differ on CPD; (2) effects of gender on several variables (all p's $< .01$): total puff number (higher in women), average puff volume and puff duration (both lower in women); (3) a trend for a gender x depression interaction on total puff volume ($p = .13$) indicating that high-depression women tended to have greater total puff volume than low- depression women, whereas high- vs. low-depression men did not differ on this variable. These findings suggest that, among women, current depression symptoms are associated with experiencing stronger reinforcing effects of smoking, a mechanism that may contribute to their low cessation rates.

FACTORS ASSOCIATED WITH PARTICIPATION IN HIV CASE MANAGEMENT INTERVENTION AMONG RUSSIAN DRUG USERS

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Linking HIV-infected people with a history of drug use to HIV care can be challenging. In the Russian LINC study (n=349), patients in an addiction treatment hospital were randomized to strengths-based case management (CM) to facilitate HIV care initiation. We sought to determine if individual characteristics were associated with engagement in CM . In exploratory analyses we examined whether gender, the main independent variable, and other baseline factors (age, education, employment, relationship status, drug dependence, depressive symptoms, anxiety, impulsivity, CD4 cell count) were associated with participation in CM. Completing multiple sessions (2-5 vs 0-1) was the primary outcome and number of completed intervention sessions (0-5) was the secondary outcome. Separate multiple logistic and proportional odds models were fit including each potential predictor and adjusting for age, gender, education, and employment 174 participants were randomized to the intervention: mean age 34 years (range 22-50); 75% males; 7.5% with university education; 36% currently employed, and 35% with a partner. Completed CM sessions were 11% for 0 sessions, 14% for 1, 11% for 2, 9% for 3, 6% for 4 and 49% for 5. Age was associated with participation in a greater number of sessions (AOR=2.47 per 10 year increase, 95% CI: 1.35 – 4.52, p-value <0.01). Gender was not associated with intervention participation. Older individuals had higher odds of participating in multiple CM sessions to link HIV-infected people who use drugs to HIV care. Extra efforts may be necessary to engage younger subjects in such activities.

FACTORS ASSOCIATED WITH ILLICIT METHADONE INJECTING IN A CANADIAN SETTING

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We examine the prevalence of and risk factors associated with injection of methadone in an urban population. Between December 2005 and November 2013, data were derived from two open prospective studies of persons who inject drugs (PWID) in Vancouver, Canada. Generalized estimating equations (GEE) logistic regression was used to determine factors independently associated with illicit methadone injecting. Over the study period, 1911

individuals were recruited, including 34% women. Of these, 134 (7%) participants reported methadone injecting at least once. In the multivariable analysis, Caucasian ethnicity [adjusted odds ratio (AOR) = 1.90, 95% confidence interval (CI) = 1.21 – 3.00]; homelessness (AOR = 1.50, 95% CI = 1.12 – 1.99); drug dealing (AOR = 2.13, 95% CI = 1.53 – 2.98); ≥ daily heroin injection (AOR = 1.59, 95% CI = 1.10 – 2.29); ≥ daily crack smoking (AOR = 2.06, 95% CI = 1.44 – 2.94); and being a victim of violence (AOR = 1.54, 95% CI= 1.08 – 2.20) were independently and positively associated with methadone injection. Conversely, female gender (AOR = 0.48, 95% CI = 0.30 – 0.77) was negatively associated with methadone injecting. Diversion of methadone for illicit injection was prevalent in this urban setting and was associated with several markers of addiction severity and other health and social vulnerabilities. These findings underscore the need to ensure methadone accessibility while limiting diversion-related risk.

DRUG AND ALCOHOL EXPOSED PREGNANCIES: MATERNAL AND INFANT OUTCOMES

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The primary aim of this study was to describe the maternal treatment and infant birth outcomes for pregnancies exposed to alcohol and drugs (ADE: n=91) versus those exposed to drugs only (DE: N=566). N=657 pregnant women enrolled in substance abuse treatment in Baltimore between 2007 and 2013. Data included psychosocial variables, urinalysis results, and maternal and infant outcomes. Chi- square was used for dichotomous variables and ANOVA was used for continuous variables. ANCOVA was used to control for pre-treatment differences. The ADE group was more likely to be African American, older, and to enter treatment earlier in gestation than the DE group (p values <.05). The ADE and DE groups did not differ on daily number of cigarettes smoked. However, the ADE group reported more problematic use of cocaine and marijuana compared to the DE group (p values <.05). The ADE women were more likely to report a history of domestic violence, and to have a diagnosis of major depression (p values <.05). The two groups did not differ on rates of within-treatment drug use. On obstetrical measures, the ADE women were more likely to deliver pre-term and to remain in the hospital longer post-delivery (p values <.05). Infant outcomes for the ADE group were significantly compromised. There were more fetal deaths in the ADE group compared to the DE group (0.9% vs 5.7%, p=.009). ADE group infants had lower birth weight, lower Apgar scores, and spent more days in the neonatal intensive care unit than DE infants (p values <.05). There were no differences between groups on rates of neonatal abstinence syndrome. Alcohol is commonly abused by pregnant women enrolled in substance abuse treatment, and results in adverse maternal and infant birth outcomes. The extent of adverse outcomes cannot be determined at birth, indicating a need for long term follow up for alcohol exposed infants.

TOPIRAMATE EFFECT ON WEIGHT GAIN DURING METHADONE MAINTENANCE

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Methadone maintenance [MM] is associated with weight gain. Topiramate [Top] combined with other agents has been approved for obesity treatment. A randomized controlled trial of Top vs placebo [P] during MM for opioid and cocaine dependence found Top ineffective for decreasing cocaine use. We now report on weight change of 114 individuals (46% Top) retained in the 20-week study. Participants (34% AA, 48% F, 42 ± 7 ys old, 11.3 ± 1.7 ys education) were inducted onto MM (100 mg daily) over 3-weeks. Top (or P) was inducted weeks 6–12, with Top steady at 300 mg daily weeks 12–20. Weight was measured at weeks 0, 4, 8, 12, 16, 20 and 24. Change from baseline was calculated for weight (kg) and Body Mass Index (BMI; kg/m2). Repeated measures ANOVAs evaluated the effects of Top and time on weight change from baseline. Gender and cocaine use severity (high use: ≥ 40% cocaine positive urine samples) were entered in the model. Over 20 weeks, P participants (n=62) experienced more weight gain (6.2±7.8 kg, p<0.0001), compared to Top participants (n=52; 1.9±6.5 kg, p=0.045). The effects of Top ($F_{1,596} = 20.4$, p<0.0001), Time ($F_{1,596} = 29.0$, p<0.0001) and Top x Time interaction ($F_{1,596} = 12.2$, p=0.0.0005) on weight change were statistically significant. One way ANOVA at each time point showed statistically significant Top effect at week 16 (4.7±6.6 vs 1.2±5.1 kg; $F_{1,106}=9.18$; p=0.0031) and 20 (6.2±7.8 vs 1.9±6.5 kg; $F_{1,112}=10.1$, p=0.002), i.e. during steady Top 300 mg daily dosing. Adding gender and cocaine use severity did not change the significance of Top and Time. Cocaine use (high/low) had a significant effect on weight. Gender had no effect on weight change. Topiramate minimized weight gain during methadone maintenance.

FEASIBILITY OF WEB-BASED TREATMENT DELIVERY FOR COCAINE USE DISORDER: PROFILE OF INTERNET ACCESS BY ACTIVE COCAINE USERS

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Web-based interventions have received recent attention for the treatment of substance abuse disorders. This study sought to determine the availability of Internet access in cocaine users undergoing screening to participate in human behavioral pharmacology studies as a means for assessing feasibility of such interventions. Internet-use data were examined for 66 (27 female) subjects aged 19-55, screened during a one-year period (09/01/2013-08/31/2014) to participate in studies based at the University of Kentucky. All subjects were current cocaine users verified by a cocaine-positive urine. The relationship between Internet access and subject profiles were analyzed using descriptive statistics, independent samples t-tests, and Fisher's exact tests. Over 2/3 of subjects (~69%) reported regular Internet access. These subjects most typically used library services (~59%) and reported accessing the web approximately 17 days per month. Younger individuals were more likely to report Internet access than older subjects (M = 38.8 & 44 years). Internet access did not differ as a function of other demographic variables (e.g., gender, education). The proportion of other drug positive urine screens was generally higher in Internet users than non-users. Likewise, self-reported cigarette and other drug use was significantly higher in Internet users. Overall, a majority of cocaine using individuals screened for participation reported regular Internet use. Demographic profiles generally did not impact Internet usage patterns, but younger individuals were more likely to report Internet access. Internet users were more likely to report other drug use. These data suggest that Internet-based interventions will likely be feasible in cocaine-using populations, especially younger cocaine users.

STAFF ACCEPTABILITY OF CONTINGENCY MANAGEMENT TO PROMOTE LONGER BREASTFEEDING DURATION AT WIC

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The current study conducted a qualitative feasibility interview with staff at the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) in a mid-Atlantic region to apply contingency management (CM) for health behavior such as breastfeeding. We surveyed 10 WIC staff at the two WIC offices that are part of the ongoing pilot study to increase breastfeeding duration among Puerto Rican mothers. The survey asked whether they would support the weekly peer support group meetings and CM, whether they think these programs might be helpful to Puerto Rican mothers to breastfeed, and whether perceived barriers and pro-CM beliefs influence their decision making to implement CM. More than half the participants answered that they would be willing to help weekly peer support group meetings (i.e., seven out of 10 participants) and CM program (i.e., eight out of 10 participants) to increase breastfeeding among Puerto Rican mothers, and all thought that these programs would be helpful (Scale 3-5). Except for one participant, all other participants rated a higher percentage of survey items in the category of pro-CM beliefs than that for perceived barriers as strong influence or very strong influence to make a decision to implement CM. This study demonstrated that the CM program in conjunction with weekly peer support meetings to increase breastfeeding duration among Puerto Rican mothers at a WIC setting was acceptable to WIC staff, increasing the potential to implement and sustain such programs within WIC programs that are available nation-wide.

SEX DIFFERENCES IN DOPAMINE AND SEROTONIN ACTIVATION OF BRAIN PATHWAYS IN ADOLESCENT RATS EXPOSED TO SOCIAL PARTNERS OR AMPHETAMINE

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Adolescent male rats show socially-induced conditioned place preference (CPP). When rats were allowed a choice between a social and drug paired compartment concurrently, males preferred the social paired compartment, whereas females showed no preference for either compartment. The current experiment determined if these behavioral differences relate to sex-dependent differences in activation of monoamine brain systems. Experiment 1 Adolescent male and female rats were habituated to a CPP chamber for 30 min. The next day, half of the subjects were placed into a chamber alone for 30 min, and the other half were paired with a sex-matched conspecific for 30 min. Immediately following the session, brains were dissected into medial prefrontal cortex (mPFC), nucleus accumbens (NAcc), midbrain, and hypothalamus; brain levels of the metabolites DOPAC and 5-HIAA were quantified by HPLC-EC. Experiment 2 Procedure was similar to Experiment 1, except instead of social interaction, rats were given either amphetamine (1 mg/kg s.c.) or saline before being placed into a chamber for 30 min. Using a

2x2 ANOVA (treatment x sex), results showed that social interaction increased 5-HIAA in the mPFC (p=0.038) and hypothalamus (p=0.01) and females had greater 5-HIAA and DOPAC levels than males in NAcc (p<0.01; p<0.01) and hypothalamus (p=0.036; p<0.01). Following amphetamine, there was a main effect of sex for 5-HIAA (p=0.023), with females having greater levels than males. These results show that adolescent females show higher metabolism of 5-HT during social interaction and following amphetamine administration than adolescent males, particularly in regions associated with reward. These data suggest that the ability of social interaction to decrease amphetamine preference in males, but not females, may be due to reduced amphetamine-induced activation of reward systems in males.

BLACK-WHITE DISPARITIES IN RISK FOR CANNABIS USE AND PROBLEMS IN WOMEN: THE ROLE OF EARLY TOBACCO USE, TRAUMA TYPE AND PSYCHIATRIC PATHOLOGY

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To examine racial disparities in the risk of cannabis use and time to first cannabis use disorder (CUD) symptom by considering the contribution of early tobacco use, trauma exposure type, posttraumatic stress disorder (PTSD), and major depressive disorder (MDD). Data are from wave 4 of the Missouri adolescent female twins study (N = 3787) where 14.6% identified as African American (AA) and 85.4% as European American (EA); mean age = 21.7 (range 18 – 29). Early tobacco use (before age 16), trauma type, PTSD, and MDD were modeled as time-varying predictors of first cannabis use and transition from first use to first CUD symptom onset using Cox proportional hazards regression analysis. Violations of proportional-hazards assumptions were assessed. AAs were more likely to use cannabis (X2=4.57, p = .03), and experience a CUD symptom (X2=8.27, p = .004). Early tobacco use increased risk of using cannabis regardless of race [AA: HR=3.68 (2.03-6.70); EA: HR=2.79 (1.92-4.06)]. Only in the EAs, experiencing a sexual assault, physical assault, natural disaster, or witnessing an assault before age 17 increased risk for cannabis use. Of those who ever used cannabis, MDD was associated with progression to a CUD symptom both in EA [HR=1.65 (1.20-2.67)] and AA [HR=2.76 (1.53- 4.96)] females. However, PTSD [HR=1.9 (1.21-3.09)], but not trauma without PTSD, significantly increased the hazard of CUD symptoms only in the EA sample. Our results indicate delaying initiation of tobacco use could reduce the risk of cannabis initiation in both AA and EA participants. MDD did not predict initiation of cannabis use, but did increase the hazard to CUD symptoms in both EA and AA females above early onset cannabis. Screening for cannabis use in females with MDD and EA females with PTSD could be useful in identifying those at increased risk for cannabis symptoms.

PROBLEMATIC PREGABALIN AND GABAPENTIN USE - RESULTS FROM THE CANADA VIGILANCE ADVERSE REACTION ONLINE DATABASE

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Pregabalin and gabapentin are increasingly used gamma-aminobutyric acid (GABA) analogues indicated for the treatment of anxiety, seizures, and neuropathic pain. Both are being investigated as treatments for opioid, alcohol, and benzodiazepine withdrawal and dependence. Analyses of adverse drug reaction registries in Germany and Sweden have demonstrated problematic pregabalin use since 2008. The aim of this study was to evaluate trends and characteristics of reports of problematic pregabalin or gabapentin use in Canada. A search for adverse effects suspected to have been caused by pregabalin and gabapentin was completed using the Canada Vigilance Adverse Reaction Online Database (1965 to 30 June 2014). Adverse effects are classified by the Medical Dictionary for Regulatory Activities (MedDRA) v.17.0. Reports listing terms suggesting problematic gabapentinoid use (i.e., Drug abuse, Euphoric mood, Drug dependence, Intentional drug misuse) or possible problematic use [i.e., (Drug) withdrawal syndrome, Drug tolerance (increased)] were evaluated. Cases of Intentional drug overdose were reviewed separately. The total number of unique cases suggesting problematic use of pregabalin was 48 (earliest 2006), and for gabapentin was 18 (earliest 2003). Where data was available, results showed that problematic users of pregabalin were predominantly female (65.1%), mean age 52±15 years, with mean daily doses interpreted as 552 mg/day (range 25 to 3750mg/day), and concurrent use of other psychoactive substances in 56% of cases (opioids in 41% of cases). Problematic users of gabapentin also tended to be female (78%), mean age 54±16 years, with mean daily doses interpreted as 1650mg/day (range 300 to 4200mg/day), and concurrent use of psychoactive substances in 78% of cases (opioids in 67% of cases). Intentional drug overdose was reported in 4 cases with pregabalin and 6 cases with gabapentin. Problematic use of pregabalin and gabapentin has been reported in Canada since 2003 and 2006, respectively.

PSYCHIATRIC SYMPTOMS AMONG PREGNANT AND NEWLY POSTPARTUM WOMEN RECEIVING FINANCIAL INCENTIVES FOR SMOKING CESSATION

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Financial incentives for smoking cessation increase smoking abstinence and decrease Beck Depression Inventory (BDI) ratings among depression-prone pregnant and newly postpartum women. The aim of the present study was to use the Brief Symptom Inventory (BSI) to investigate whether this treatment effect impacts a broader array of psychiatric symptoms than BDI ratings. Participants (N = 289) were smokers at the start of prenatal care who participated in four controlled clinical trials on the efficacy of financial incentives for smoking cessation. Women were assigned to either an intervention wherein they earned vouchers exchangeable for retail items contingent on abstaining from smoking or a control condition wherein they received vouchers of comparable value independent of smoking status. BSI ratings were examined across 8 antepartum/postpartum assessments. Women who reported a history of prior depression or had BDI scores > 17 at the start of prenatal care were categorized as Depression-Prone (Dep+) while those meeting neither criterion were categorized as Depression-Negative (Dep-). Treatment effects on BSI ratings were analyzed in a three-way repeated measures ANCOVA. There was a significant three-way interaction of treatment, depression status, and time ($p < .0001$) on BSI Total scores, with the contingent incentives intervention decreasing Total scores below scores in the control condition from late-antepartum through 12-weeks postpartum among Dep+ but not Dep- women. Peak effects occurred at 8-weeks postpartum and included significant reductions across the BSI Depression, Anxiety, Phobic Anxiety, Somatization, Interpersonal Sensitivity, and Psychoticism subscales. This incentives-based intervention reduces the severity of a broad array of psychiatric symptoms among depression-prone women.

National Institute on Drug Abuse

Women and Sex/Gender Differences Research

Women and Sex/Gender Differences Funding Opportunity Announcements

- Women and Sex/Gender Differences in Drug and Alcohol Abuse/Dependence
  - PA-14-038 (R01) http://grants.nih.gov/grants/guide/pa-files/PA-14-038.html
  - PA-14-037 (R03) http://grants.nih.gov/grants/guide/pa-files/PA-14-037.html
  - PA-14-036 (R21) http://grants.nih.gov/grants/guide/pa-files/PA-14-036.html

- Research Supplements to Promote Re-Entry into Biomedical and Behavioral Research Careers (Admin Supp)
  - PA-12-150 http://grants.nih.gov/grants/guide/pa-files/PA-12-150.html (Reissuance expected October 1, 2015)

For additional information:

- on these announcements, contact: Dr. Cora Lee Wetherington (wetherington@nih.gov; 301-435-1319) or Dr. Samia Noursi (snoursi@nih.gov; 301-594-5622)
- on other NIDA funding opportunities, visit NIDA's homepage at http://www.nida.nih.gov
- visit the women and sex/gender differences site on NIDA's homepage at http://www.drugabuse.gov/about-nida/organization/offices/office-nida-director-od/women-sexgender-differences-research-program

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Accumulating evidence indicates that the antecedents, consequences, and mechanisms of drug abuse and dependence often differ in males and females and that sex/gender may be an important variable in treatment and prevention outcomes. To foster research on women and sex/gender differences in all areas of drug abuse research, both human and animal, NIDA encourages the submission of abstracts on this topic for the 2016 annual meeting of the College on Problems of Drug Dependence (CPDD).

Special NIDA travel awards of $1000 will be available to up to 20 junior investigators whose CPDD abstract on women or sex/gender differences is accepted for a poster, oral session, or symposium at the 2015 annual meeting in Palm Springs, California, June 11-16.

ELIGIBILITY:

- Graduate and medical students, post-doctoral students, medical residents, and investigators who are no more than five years past the doctoral degree or residency are eligible.
- Applicant MUST either be first author on the CPDD abstract or speaker in a symposium
- Minority investigators and male investigators are especially encouraged to apply.
- Priority may be given to those who have not previously received this award or held an R01.
- Federal employees are ineligible.

ELECTRONIC APPLICATION PROCEDURES:

Follow the CPDD instructions for abstract submission. Then send an e-mail to Dr. Samia Noursi at snoursi@nida.nih.gov in the following format and with the required attachments:

- E-mail subject line: CPDD 2016 Women & Sex/Gender Junior Investigator Travel Award Application
- Attach a copy of the abstract that you submitted to CPDD, including title and authors (In Word)
- Attach your curriculum vitae (list all NIH grant support if applicable) (In Word). Please include your mailing address, telephone number and e-mail address.
- Attach a cover letter stating (1) your eligibility, (2) your interest in continuing to pursue research on women and/or sex/gender differences, and (3) your career goals (In Word).

DEADLINE FOR APPLICATIONS: Same as CPDD abstract due date. Check CPDD website.

For additional information about this annual award, contact:

- Dr. Samia Noursi - telephone 301-594-5622; snoursi@mail.nih.gov, or
- Dr. Cora Lee Wetherington - telephone 301-435-1319; wetherington@nih.gov

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