The Research Society on Marijuana (RSMj) is a network of scientists with the shared goal of promoting understanding through empirical research of the determinants, correlates, consequences, contexts, and assessment of marijuana use as well as the treatment of problematic marijuana use, including cannabis use disorder.
RSMj Guiding Principles

1. We are first and foremost a research society. Thus, we are guided by research in the marijuana field, not by any personal or political agenda.

2. We are a nonprofit organization. We will not be influenced by the profit motive. There are other organizations that may be sympathetic to our mission, but to maintain objectivity, we will not accept sponsorship from any for-profit or political advocacy group.

3. We are a society concerned with improving human adversity. Therefore, we focus most of our attention on furthering research that has immediate benefit to reduce human suffering or improve human well-being.

RSMj Advisory Board (in alphabetical order):

Adrian J. Bravo (Secretary-Treasurer)

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Matthew R. Pearson (President)

Kristina T. Phillips (Conference Program Committee)

Ryan Rahm-Knigge (Student Representative, Conference Program Committee)

Helene R. White (Epidemiology Division Leader)
Research Society on Marijuana’s
Opening Plenary

Health Effects of Cannabis: What We Know and What We Don’t Know

R. Lorraine Collins, PhD

University at Buffalo

Associate Dean for Research, School of Public Health and Health Professions

Professor, Department of Community Health and Health Behavior
The U.S. Approach to Cannabis Research: Will the Horse Ever Catch Up With the Cart?

Kent Hutchison, PhD

University of Colorado Boulder
Professor, Department of Psychology and Neuroscience
Research Society on Marijuana’s Clinical Education Workshop

Cognitive Behavioral Therapy for Substance Use Disorders and Addictive Behaviors

Bruce S. Liese, PhD, ABPP

University of Kansas Medical Center

Professor, Departments of Family Medicine and Psychiatry

University of Kansas

Courtesy Professor, Department of Psychology

This workshop provides participants the opportunity to learn about the latest developments in cognitive-behavioral therapy (CBT) for substance use disorders (SUDs) and addictive behaviors. We focus on five essential components of individual and group CBT: structure, collaboration, case conceptualization, psychoeducation, and techniques. We also present ethics issues that are particularly salient when working with people with addictions.

The Society of Addiction Psychology (SoAP) is approved by the American Psychological Association to sponsor continuing education for psychologists. SoAP maintains responsibility for this program and its content.


**THURSDAY PRE-CONFERENCE**

4:00pm – 6:00pm  
Check-In/Registration *(Ram’s Horn, Academic Village, CSU Campus)*

6:00pm – 10:00pm  
Check-In/Registration  
Social Event: The Colorado Room  
642 S College Ave Fort Collins, Colorado 80524, Phone: (970) 682-1163

**FRIDAY RESEARCH PROGRAM**

8:00am – 9:00am  
Breakfast

9:15am – 9:30am  
Conference Introduction  
Matthew R. Pearson, *University of New Mexico*  
President, Research Society on Marijuana (RSMj)

9:30am – 10:15am  
Opening Plenary  
Health Effects of Cannabis: What We Know and What We Don’t Know  
R. Lorraine Collins, *University at Buffalo, State University of New York*
In the last decade, research addressing the cognitive effects of adult-onset chronic cannabis use has advanced greatly. However, the proliferation of cannabis-related literature has produced more questions than answers. In particular, due to equivocal research findings, the extent to which chronic cannabis use affects adult cognitive functioning remains unclear - some studies show small effects, while others, including recent meta-analyses, show none. In this symposium, to clarify the literature, the authors will present several studies investigating compelling factors that may explain the conflicting research findings: effort/motivation to perform well on neuropsychological testing and experimenter expectancy effects. First, we will present a study in which chronic cannabis users received a motivation-enhancing statement prior to testing (i.e., a reminder of the research’s contribution to marijuana legislation), which resulted in significantly better performance on learning, memory, and effort tests. We will then explore effort as a mediator between cannabis-use variables and learning/memory performance, presenting findings that effort mediates the relationship between frequency of cannabis use and learning/memory performance. Regarding expectancy effects, we first demonstrated that neuropsychologists can differentiate between users and non-users based on a photograph alone. Further, we will present results showing that the examiners in our studies, despite being blind to user status, were able to guess participants’ user status with up to 75% accuracy. Importantly, those judged as users performed worse on cognitive testing, even after controlling for actual user status. The Implications of these findings and future directions of the research will be discussed.

Enhancing Neuropsychological Performance in Chronic Cannabis Users: The Role of Motivation
Rayna Hirst, Palo Alto University

Trying to Remember: Effort Mediates Relationship between Frequency of Cannabis Use and Memory
Alexis Rosen, Palo Alto University

The Myth of the “Jay-Dar”: Identifying Cannabis User Status from a Photograph and Memory Stereotypes
Dylan Baughn, Palo Alto University

Examiner Expectancy Effects: Judgments of Cannabis Use Status Predict Neuropsychological Performance
Rayna Hirst, Palo Alto University

Discussant: Staci Gruber, Harvard Medical School

12:00pm – 1:00pm
NETWORKING LUNCH: MEET THE BOARD
Matthew R. Pearson (President), Robert D. Dvorak (Vice President, Editor of Cannabis), Adrian J. Bravo (Treasurer-Secretary), Bradley T. Conner (Conference Program Chair), Kristina T. Phillips (Conference Program Co-Chair), Godfrey Pearlson (Neuroscience Division Leader), Yifrah Kaminer (Youth Treatment Division Leader), Ryan Rahm-Knigge (Student Representative), Renee M. Cloutier (Student Representative)
FRIDAY RESEARCH PROGRAM

1:00pm – 2:00pm  

POSTER SESSION 1

1. Pain Patients’ Experiences using Medical Cannabis  
Meghan Morean, Oberlin College, Yale School of Medicine  
Julia Birenbaum, Oberlin College  
Emma Blackman, Oberlin College

2. Self-Generated Protective Strategies Have Predictive Value Over and Above a Standard List of Strategies  
Mark A. Prince, Colorado State University  
Adrian J. Bravo, University of New Mexico  
Matthew R. Pearson, University of New Mexico  
Protective Strategies Study Team  
Marijuana Outcomes Study Team

3 Extending APIS - Policies Legalizing Cannabis for Recreational Use  
Jonathan Schuler, The CDM Group, Inc.  
Michael Klitzner, The CDM Group, Inc.  
Sue Thomas, Pacific Institute for Research and Evaluation

4. Colorado’s Cannabis Users Survey on Health (CUSH)  
Elyse Contreras, Colorado Department of Public Health and Environment  
Allison Rosenthal, Substance Abuse Mental Health Services Administration and Council of State and Territorial Epidemiologists  
Katelyn E. Hall, Colorado Department of Public Health and Environment  
Daniel I. Vigil, Colorado Department of Public Health and Environment  
Mike Van Dyke, Colorado Department of Public Health and Environment

5. Biomarker Discovery for Marijuana Use Utilizing Modified Aptamer and Metabolomic Panels  
Christian Hopfer, University of Colorado  
Kristen Raymond, University of Colorado  
Laura Saba, University of Colorado  
Jost Klawitter, University of Colorado  
Uwe Christians, University of Colorado

6. Identifying the Scientific and Clinical Training Practices of Cannabis Dispensaries  
Dustin Kieschnick, PGSP-Stanford Psy.D. Consortium, Palo Alto University  
Kayla Jimenez, PGSP-Stanford Psy.D. Consortium, Palo Alto University  
Shelby Scott, PGSP-Stanford Psy.D. Consortium, Palo Alto University  
James E. Sottile, Pacific Graduate School of Psychology, Palo Alto University  
Robin Brody, PGSP-Stanford Psy.D. Consortium, Palo Alto University  
Rebecca Rothenberg, PGSP-Stanford Psy.D. Consortium, Palo Alto University  
Kimberly A. Babson, National Center for PTSD, VA Palo Alto Healthcare System  
Marcel O. Bonn-Miller, University of Pennsylvania Perelman School of Medicine  
Nancy A. Haug, PGSP-Stanford Psy.D. Consortium, Palo Alto University, Stanford University School of Medicine
FRIDAY RESEARCH PROGRAM

7. Effectiveness of Brief Interventions Targeting Marijuana Outcomes among Mandated College Students
   Tess Kilwein, University of Wyoming
   Luci Dumas, University of Wyoming
   Monica Keele, University of Wyoming
   Michaela Tratos, University of Wyoming
   Greg Sandman, University of Wyoming

8. One-Year Trajectory of Marijuana Use in Undergraduate Students: Sensation Seeking as Risk Predictor
   Sha Liu, South China Normal University
   Ryan Rahm-Knigge, Colorado State University
   Bradley T. Conner, Colorado State University

9. Daily Use as a Predictor of Marijuana Use Outcomes in Two Legal Recreational States
   Clara R. Lewis, Washington State University Vancouver
   Renee E. Magnan, Washington State University Vancouver
   Benjamin O. Ladd, Washington State University Vancouver

10. Seeing the Forest with the Trees: Using Regression Trees to Identify Risk of Cannabis Use Disorder
    Jesus Schink, University of New Mexico
    Adrian J. Bravo, University of New Mexico
    Matthew R. Pearson, University of New Mexico
    Marijuana Outcomes Study Team

11. Marijuana Attitudes and Norms: The Moderating Role of Impulsivity-Like Facets among College Students
    Angela K. Stevens, Texas Tech University
    Brittany E. Blanchard, Texas Tech University
    Andrew K. Littlefield, Texas Tech University

12. The Moderating Effect of Risk Seeking on Marijuana Use and Risky Behavior
    Shane D. Kentopp, Colorado State University
    Madison Zander, Colorado State University
    Sage Mednansky, Colorado State University

13. Regulatory Focus and Hazardous Marijuana Use
    Mallorie Carroll, University of Southern Mississippi
    Kray Scully, University of Southern Mississippi
    Michael B. Madson, University of Southern Mississippi
Given recent state legalization of recreational marijuana use and majority popular opinion favoring these laws, it is important to identify strategies that may mitigate harms related to marijuana use among those young people who choose to use the drug. In this symposium, we feature four researchers who have examined the use of marijuana protective behavioral strategies - behaviors that one engages in before, during, after, or instead of using marijuana to reduce the harms of use - among young adult college students and veterans. Using large and diverse samples of young adults, researchers examined how use of these strategies mitigates harms through several different pathways and among individuals with various mental health symptoms, motives for marijuana use, and personality traits, as well as how perceived effectiveness of these strategies and timing of strategy use impacts experience of negative marijuana outcomes. Findings suggest that use of marijuana protective strategies may moderate the effects of mental health symptoms on negative consequences among young adult veterans and they may buffer the effects of risk factors and enhance the effects of protective factors on marijuana-related outcomes among college students. Findings also demonstrate that college students are more likely to use marijuana protective behavioral strategies if they perceive them to be effective, that the protective effect of strategy use is strongest among students who perceive them to be effective, and students experience less harm from their marijuana use on days which they use a higher number of protective strategies. Clinical and research implications will be discussed.

**Use of Protective Behavioral Strategies among Young Adult Veteran Marijuana Users**
- Eric R. Pedersen, *RAND*
- Margo Villarosa, *University of Southern Mississippi*
- Mark A. Prince, *Colorado State University*

**Marijuana PBS as a Moderator and Mediator of the Effects of Risk/Protective Factors on Marijuana Use**
- Adrian J. Bravo, *University of New Mexico*
- Mark A. Prince, *Colorado State University*
- Matthew R. Pearson, *University of New Mexico*
- Marijuana Outcomes Study Team

**Perceived Effectiveness of Marijuana Protective Behavioral Strategies and Marijuana-Related Outcomes**
- Mark A. Prince, *Colorado State University*
- Matthew R. Pearson, *University of New Mexico*
- Adrian J. Bravo, *University of New Mexico*
- Marijuana Outcomes Study Team

**A Daily Diary Examination of Marijuana Protective Behavioral Strategies among College Students**
- Adam D. Wilson, *University of New Mexico*
- Matthew R. Pearson, *University of New Mexico*
- Adrian J. Bravo, *University of New Mexico*
- Bradley T. Conner, *Colorado State University*
- Jamie E. Parnes, *Colorado State University*
This symposium features four talks that address the acute and short term effects of different forms of cannabis across a range of important outcomes that are highly relevant to public health, including driving ability, motor control, cognition, and mental and physical health effects. Given the increasing prevalence of marijuana recreational and medicinal and changing legal policies, understanding the acute effects of different forms of marijuana is an increasingly important topic. This symposium will examine the acute neurocognitive and public health effects of cannabis in recreational and medicinal users. Dr. Bidwell will present on the use of a mobile laboratory to collect data on the acute intoxicating and cognitive effects of forms of marijuana available on the legal market, such as high potency flower and dabs. Dr. Tracy will present on the use of a mobile laboratory to collect data on the acute effects after self-administration of high potency legally-marketed marijuana products on measures of motor control and balance that may impact marijuana-related driving-impairment. Dr. Pearlson will describe the impact of different potencies of vaporized cannabis on driving behavior and neurocognitive processing using an fMRI-based simulated driving paradigm. Dr. Gruber will discuss how health and brain functioning are affected after medicinal users initiate medical marijuana use. Dr. Hutchison, the discussant and chair, will integrate the presentations, discuss the public health implications of these findings, and consider the path forward for conducting rigorous and meaningful research.
FRIDAY RESEARCH PROGRAM

5:30pm – 6:30pm POSTER SESSION 2

1. State Medical Marijuana Laws and Youth Alcohol and Marijuana Use, 1991-2011
Julie K. Johnson, Johns Hopkins Bloomberg School of Public Health
Sion K. Harris, Harvard Medical School
Dominic Hodgkin, Brandeis University
Abena A. Jones, Johns Hopkins Bloomberg School of Public Health
Ann-Marie Matteucci, University of New Hampshire
Renee M. Johnson, Johns Hopkins Bloomberg School of Public Health

2. What’s in a Word? How Emerging Adults Refer to Cannabis Intoxication
Kyle M. Bennett, University of Illinois Urbana-Champaign
Douglas C. Smith, University of Illinois Urbana-Champaign

3. Marijuana Cognitions and Use in African American and White Girls from Early to Late Adolescence
Dawn W. Foster, Yale University School of Medicine
Feifei Ye, University of Pittsburgh
Tammy Chung, University of Pittsburgh
Alison E. Hipwell, University of Pittsburgh
Carolyn E. Sartor, Yale University School of Medicine

4. Underlying Factors of the Financial Strain and Cannabis Problems Relationship among Users
Daniel J. Paulus, University of Houston
Julianna B.D. Hogan, University of Houston
Michael J. Zvolensky, University of Houston

5. Latent Classes of Current Substance Use among American Indian and White Students
Randall C. Swaim, Colorado State University
Linda R. Stanley, Colorado State University

6. Patients Rate Medical Cannabis as the Most Effective Treatment for a Range of Medical and Psychological Conditions
Julia Birenbaum, Oberlin College
Meghan Morean, Oberlin College, Yale School of Medicine

7. Usability and Implementation of a Responsible Vendor Training for Recreational Marijuana Sales
David B. Buller, Klein Buendel, Inc.
W. Gill Woodall, Klein Buendel, Inc.
Robert Saltz, Pacific Institute for Research and Evaluation
Sophia Strickfaden, Klein Buendel, Inc.
8. Challenges to External Validity in Current Cannabis Research
Sarah M. Henry, University of California, San Diego
Eleni Kapoulea, University of California, San Diego
Erin E. Morgan, University of California, San Diego
Thomas Marcotte, University of California, San Diego

9. Moderating Effects of Sensation Seeking on the Relationship between Emotion Dysregulation and Consequences
Nicholas Johnson, Colorado State University
Cara Fresquez, Colorado State University
Shane Kentopp, Colorado State University
Marijuana Outcomes Study Team

Asia L. Ashley, University of Southern Mississippi
Kray Scully, University of Southern Mississippi
Mallorie C. Carroll, University of Southern Mississippi
Adrian J. Bravo, University of New Mexico
Michael B. Madson, University of Southern Mississippi
Protective Strategies Study Team

11. Effect of HIV and Exogenous Cannabis Use on the Endocannabinoid System
Brook L. Henry, University of California, San Diego
Rachel Schrier, University of California, San Diego

12. Examining the Non-Linear Relationship between Conformity Motives and Marijuana Use
Renee M. Cloutier, University of North Texas
Nathan Kearns, University of North Texas
Brittney Jackson, University of North Texas
Michelle Fresnedo, University of North Texas
Alisa Payne, University of North Texas
Heidemarie Blumenthal, University of North Texas

13. An Investigation of Reported Daily Activities in College Marijuana Users: Findings from EMA and Content Analysis
David R. Williams, University of Northern Colorado
Kerry D. Duck, University of Northern Colorado
Lillian Canfield, University of Northern Colorado
Arianna Weisen, University of Northern Colorado
James Hinshaw, University of Northern Colorado
Janelle Miller, University of Northern Colorado
Michael M. Phillips, University of Northern Colorado
Kristina T. Phillips, University of Northern Colorado
Motivation and Addiction Research Group

6:30pm – 9:00pm Social Event: Mayor of Old Town
632 S. Mason St., Fort Collins, CO 80524, Phone: 970-682-2410
Because of increasing legalization/decriminalization of cannabis and widespread use of medical cannabis, the rate of cannabis-intoxicated driving will rise significantly. Although cannabis-impaired driving is recognized as a potential public health challenge, public policy on this issue is neither well-rooted scientifically, nor consistent. Currently there are few guidelines to assess cannabis-related driving impairment reliably, and few facts to guide authorities or users. The symposium will provide an update on cannabis-impaired driving. Topics will include a) approaches to assessment of cannabis-impaired driving using driving simulators, b) relationships between intoxicated simulated driving and functional MRI-related acute drug challenges, and c) methods for detecting cognitive changes that might affect driving performance (laboratory-based measures, roadside field sobriety tests). Topics addressed will include the duration of impairment following acute drug exposure, effects of dose and cannabis use experience on performance, the relationship of impairment to blood and saliva levels of THC and its metabolites, subjective awareness of impairment, willingness to drive when intoxicated, and the effects of alcohol/cannabis interactions. Drs. Pearlson and Marcotte will focus on driving simulation (including during functional MRI) and considerations in constructing field sobriety tests. Dr. Stevens will focus on THC-related cognitive impairment and its assessment. Dr. Ranganathan will speak about differential effects of THC and CBD on driving-related cognition and discuss pilot data on effects of THC and alcohol on simulated driving. Dr. Ward will cover cultural factors of decision making to drive after using cannabis, and what cognitions influence a person's decision to drive under the influence of cannabis.

The Challenge of Assessing Driving Under the Influence of Cannabis
Thomas D. Marcotte, University of California, San Diego

Optimal Design Considerations for Cannabis Intoxicated Driving Research
Godfrey Pearlson, Yale University, Institute of Living

Neurocognitive Evidence that Guides Research of Driving Under the Influence of Cannabis
Michael C. Stevens, Yale University, Institute of Living

Interactive Effects of THC with CBD and ETOH on Cognition and Driving Performance
Mohini Ranganathan, Yale University

The Cultural Basis for Deciding to Drive Under the Influence of Cannabis (DUIC)
Nicholas Ward, Montana State University

11:00am – 11:45am
Diverse Perspectives on Marijuana as Medicine: An Open, Interactive Discussion
Panelists:
To Be Determined,
To Be Determined,
To Be Determined,
To Be Determined,
Moderator: Matthew R. Pearson, University of New Mexico
12:00pm – 1:00pm  NETWORKING LUNCH: CHAMPIONS OF SCIENCE

Participants to be determined

1:00pm – 2:00pm  POSTER SESSION 3

1. Compliance with ID Regulations by Retail Marijuana Outlets in Two U.S. States
   W. Gill Woodall, *Klein Buendel, Inc.*
   David B. Buller, *Klein Buendel, Inc.*
   Robert Saltz, *Pacific Institute for Research and Evaluation*
   Mary Klein Buller, *Klein Buendel, Inc.*

2. Treatment Outcome of Youth with Cannabis Use Disorders Referred by the Legal System
   Yifrah Kaminer, *University of Connecticut, School of Medicine*
   Christine Ohannessian, *University of Connecticut, School of Medicine*
   Rebecca Burke, *University of Connecticut, School of Medicine*

3. PTSD and Marijuana Use Outcomes: The Mediating Role of Coping and Conformity Motives
   Mallorie G Carroll, *University of Southern Mississippi*
   Hallie R Jordan, *University of Southern Mississippi*
   Margo C Villarosa-Hurlocker, *University of Southern Mississippi*
   Adrian J Bravo, *University of New Mexico*
   Michael B Madson, *University of Southern Mississippi*
   Protective Strategies Study Team

4. Perceived Norms Moderate the Effects of Sensation-Seeking and Negative Urgency on Marijuana Use
   Amber M. Anthenien, *University of Houston*
   Bradley T. Conner, *Colorado State University*
   Clayton Neighbors, *University of Houston*

5. Associations between Cannabis Use and UPPS-P Impulsive Traits by Gender
   Brittany E. Blanchard, *Texas Tech University*
   Angela K. Stevens, *Texas Tech University*
   Andrew K. Littlefield, *Texas Tech University*

6. Medical Cannabis Patients’ Perceptions of Cannabis- and Alcohol-Induced Driving Impairment
   Noah Lipshie, *Oberlin College*
   Meghan Morean, *Oberlin College, Yale School of Medicine*
Andrew Weinstein, University of New Mexico
Adrian J. Bravo, University of New Mexico
Matthew R. Pearson, University of New Mexico
Protective Strategies Study Team

8. College Student Marijuana Use Patterns: An Application of Latent Profile Analysis
Melissa Sotelo, University of New Mexico
Adrian J. Bravo, University of New Mexico
Matthew R. Pearson, University of New Mexico
Marijuana Outcomes Study Team

9. Correlates and Trajectories of Cannabis Withdrawal in Adolescence
Jarrod M. Ellingson, University of Colorado
L. Cinnamon Bidwell, University of Colorado
Kent E. Hutchison, University of Colorado
Angela D. Bryan, University of Colorado

10. Craving and Motives for Using Marijuana: Associations with Problem Use in College Students
Maryia M. Schneider, University of Northern Colorado
Kerry D. Duck, University of Northern Colorado
Katherine J.E. Tepper, University of Northern Colorado
Leah Wilson, University of Northern Colorado
Geoa Busto, University of Northern Colorado
Chelsea Banks, University of Northern Colorado
Jason Rose, University of Northern Colorado
Kristina T. Phillips, University of Northern Colorado
Michael M. Phillips, University of Northern Colorado
Motivation and Addiction Research Group

11. Using Deviance Regulation Theory to Target Marijuana Use Intentions
Robert D. Dvorak, University of Central Florida
Cody Raeder, Old Dominion University
Matthew Kramer, University of Central Florida
Emily Sargent, University of North Dakota
Brittany L. Stevenson, University of Central Florida

12. Search for Meaning in Life and Difficulty with Impulse Control on Marijuana Use
Cara Fresquez, Colorado State University
Mark A. Prince, Colorado State University

13. I Use Marijuana to Sleep: Relations to Frequency, Problematic Use, & Sleep Problems in Young Adults
Tess K. Drazdowski, UCLA Integrated Substance Abuse Programs
Marijuana use is quite common among college students in the United States, with 34% percent of students reporting past-month use and daily use at its highest level in the last 30 years (Johnston et al., 2015). With changing legislation, we have seen changing patterns in use, for instance, Colorado, one of the first two States to legalize recreational marijuana use, now ranks first in cannabis use among young adults (Hughes et al., 2015). A review of the cannabis prevention literature reveals few controlled trials for interventions that reduce problematic marijuana use among college student populations, with even fewer interventions considered "evidence-based." Marijuana eCHECKUP TO GO (e-TOKE), a fully customizable online program designed to reduce marijuana use among college students is modeled on the evidence-based Alcohol eCHECKUP TO GO and has recently been developed for licensing by colleges/ universities. There are currently 2 published studies by one research lab that support the efficacy and effectiveness of the e-TOKE intervention. This symposium will present data from a controlled trial of the e-TOKE program in a college sample in the State of Colorado. The initial presentation will introduce the study and the e-TOKE program. The second presentation will present primary study findings on the intervention. Our third talk will present results of mediational analyses. Finally, we will present data on dose-effects associated with multiple administrations of the e-TOKE protocol. The Implications of these findings and future directions of the research will be discussed.
SATURDAY RESEARCH PROGRAM

4:00pm – 4:45pm

Closing Plenary
Approach to Cannabis Research: Will the Horse Ever Catch Up With the Cart?
Kent Hutchison, University of Colorado Boulder

5:00pm – 6:00pm

POSTER SESSION 4

1. Examining the Relationship of Habit to Cannabis Use: The Self-Report Habit Index
Meghan Morean, Oberlin College, Yale School of Medicine
Dawn Foster, Yale School of Medicine
Kelly DeMartini, Yale School of Medicine
Julie Patock-Peckham, Arizona State University
Robert Leeman, University of Florida, Yale School of Medicine
Stephanie O’Malley, Yale School of Medicine

2. Spatial Distribution of Cannabinoids, Terpenes, and Others within Agricultural Cannabis Products
Joseph A. DiVerdi, Colorado State University

3. Sleep Difficulties and Duration Predicted Marijuana Use and Related Problems in Adolescents
Maria M. Wong, Idaho State University

4. Medical Marijuana Legalization and Marijuana Use among Youth in Oregon
Mallie J. Paschall, Prevention Research Center, Pacific Institute for Research and Evaluation
Joel W. Grube, Prevention Research Center, Pacific Institute for Research and Evaluation
Anthony Biglan, Oregon Research Institute
5. Descriptive and Injunctive Norms for College Student Marijuana Use: Overestimated and Underappreciated
Natalie M. Wendel, University of New Mexico
Adrian J. Bravo, University of New Mexico
Kevin S. Montes, University of New Mexico
Matthew R. Pearson, University of New Mexico
Marijuana Outcomes Study Team

6. When Clients Tell You What They Want to Change, Believe Them: Substance-Specific Effects of Speech
Jon M. Houck, University of New Mexico
Brigitte R. Stevens, University of New Mexico
Lauren N. Rowell, University of New Mexico

7. Relationships among Marijuana Frequency, Quantity, and Potency Using Two Assessment Techniques
Benjamin O. Ladd, Washington State University Vancouver
Renee E. Magnan, Washington State University Vancouver

8. Collegiate Athletes' Psychological Health and Marijuana Use Related to Sports Injuries
Miesha Marzell, Binghamton University
Anne E. Ray, Real Prevention LLC
Corrine Peek-Asa, University of Iowa
Nadine R. Mastroleo, Binghamton University

9. Marijuana Use in the Context of Risk Seeking, Experience Seeking, and Fun Seeking
Marielle L. Darwin, Colorado State University
Joey K. Smith, Colorado State University
Bradley T. Conner, Colorado State University

10. Marijuana Product Choices: Results of a Qualitative Pilot Study in Northern California
Catherine A. Hess, Prevention Research Center, Pacific Institute for Research and Evaluation
Juliet P. Lee, Prevention Research Center, Pacific Institute for Research and Evaluation

11. Medical Cannabis Patients' Preferences for Different Routes of Cannabis Administration
Emma Blackman, Oberlin College
Meghan Morean, Oberlin College, Yale School of Medicine

7:00pm – 9:00pm Social Event: Horse & Dragon Brewery
124 Racquette Drive, Fort Collins, CO 80524, Phone: 970-631-8038
Transportation Provided
SUNDAY RESEARCH PROGRAM

9:15am – 10:30am

Symposium
Using EMA and Daily Process Methods to Examine Marijuana Motives and Craving among Young Adults
Chair: Kristina T. Phillips, University of Northern Colorado

Retrospective reports of marijuana use and associated behaviors can be problematic due to issues with memory recall and patterns of bias in estimating behavior. To improve on such limitations, ecological momentary assessment (EMA) and daily diary methods are being used increasingly to assess complex behaviors closer to the moment. This symposium will provide an introduction to these methodologies and will discuss findings from four studies focused on young adults, with a focus on implications for intervention. First, Phillips will provide a brief introduction to intensive longitudinal methods and applications to marijuana research. She will discuss preliminary data from an EMA study focused on the role of craving and mood on marijuana use among college students in-the-moment. Second, Bonar will report on daily diary data from a community sample that examines associations between motives and quantity of marijuana consumed. Bravo will present on daily diary data with college students that examines day-to-day variability in marijuana use motives and their associations with marijuana-related outcomes. Finally, Prince will discuss EMA data with young adults from a community sample and will examine episode-level motives and craving related to marijuana use during and after an intervention. All speakers will discuss the implications of their findings for interventions with young adults in future research, including those that focus on the real-world context.

Marijuana Use, Mood, and Craving: A Study using EMA with College Students
Kristina T. Phillips, University of Northern Colorado
Michael M. Phillips, University of Northern Colorado
Trent L. Lalonde, University of Northern Colorado

Daily Relationships between Marijuana Motives and Marijuana Consumption
Erin E. Bonar, University of Michigan
Jason E. Goldstick, University of Michigan
James A. Cranford, University of Michigan
Rebecca M. Cunningham, University of Michigan
Maureen A. Walton, University of Michigan

Why I Get High: A Daily Diary Examination of Marijuana Use Motives among College Students
Adrian J. Bravo, University of New Mexico
Matthew R. Pearson, University of New Mexico
Bradley T. Conner, Colorado State University
Jamie E. Parnes, Colorado State University

Physical Activity may buffer the Relation between Episode-Level Motives and Marijuana Use
Mark A. Prince, Colorado State University
R. Lorraine Collins, University at Buffalo, State University of New York
Sandy D. Wilson, University at Buffalo, State University of New York
Paula C. Vincent, University at Buffalo, State University of New York

Discussant: R. Lorraine Collins, University at Buffalo, State University of New York
There is growing research on the relations between marijuana and a range of individual characteristics, e.g., personality traits (Parnes et al., 2017), mental health diagnoses (Buckner et al., 2016), and simultaneous poly-substance use (Smith et al., 2016). With increased availability and use of marijuana, the number of individuals enduring marijuana-related consequences may also increase (Hopfer, 2014). One intervention that has been shown to alter marijuana use and consequences is Protective Behavioral Strategies (PBS) (Bravo et al., 2017). PBS consists of behaviors that individuals engage in that can reduce substance use and consequences. This symposium will present research from investigators primarily interested in predictors and consequences among college students; as well as what strategies can be used to reduce marijuana use and consequences. The first presentation will present a latent profile analysis of social anxiety and personality traits to examine if personality variables moderate the relation between social anxiety and marijuana use. The second presentation will demonstrate how simultaneous use of marijuana and alcohol moderates the relation between marijuana use and marijuana consequences. The final two presentations examine the mediating role of PBS in the relation between personality and marijuana consequences, as well as the relation between marijuana use motives and marijuana consequences experienced. Furthering our understanding of personality traits, mental health diagnoses, and simultaneous marijuana and alcohol use allows for appropriate planning and intervention for these individuals. Additionally, bolstering the literature with the moderating effects of PBS allows greater insight into successful strategies to reduce marijuana use and consequences.

**Examining the Relations between Social Interaction Anxiety and Marijuana Use among College Students**  
Ryan L. Rahm-Knigge, *Colorado State University*  
Mark A. Prince, *Colorado State University*  
Bradley T. Conner, *Colorado State University*

**Relation of Marijuana-Related Consequences with Simultaneous Alcohol and Marijuana Use**  
Joey K. Smith, *Colorado State University*  
Jamie E. Parnes, *Colorado State University*  
Bradley T. Conner, *Colorado State University*

**Protective Behavioral Strategies Mediate Sensation Seeking & Marijuana-Related Consequences Relation**  
Ryan T. Neugebauer, *Colorado State University*  
Mikdalia J. Oh, *Colorado State University*  
Mark A. Prince, *Colorado State University*  
Bradley T. Conner, *Colorado State University*  
Marijuana Outcomes Study Team

**Item-Level Protective Behavioral Strategies Mediate Marijuana Use Motives and Consequences Relation**  
Kirstyn N. Smith-LeCavalier, *Colorado State University*  
Elaina L. Keegan, *Colorado State University*  
Mark A. Prince, *Colorado State University*  
Marijuana Outcomes Study Team
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<th>Time</th>
<th>RESEARCH PROGRAM</th>
<th>CLINICAL EDUCATION WORKSHOP</th>
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<td>Workshop Introduction; Advancements in diagnosis/treatment</td>
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<td>Conference Introduction <em>(Long’s Peak)</em></td>
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<td>Opening Plenary: “Health Effects of Cannabis:</td>
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<td>What We Know and What We Don’t Know” <em>(Long’s Peak)</em></td>
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<td>Symposium: “Neuropsychological Performance in Chronic</td>
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<td>Cannabis Users: Seeing Through the Smoke” <em>(Long’s Peak)</em></td>
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<td>Poster Session 1 <em>(Room 304-306)</em></td>
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<td>Five Components of CBT <em>(Room 300)</em></td>
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<td>Symposium: “Use of Marijuana Protective Behavioral</td>
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<td>Strategies by Young Adults” <em>(Long’s Peak)</em></td>
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<td>Symposium: “Flower, Vapor, and Dabs (Oh My): Acute</td>
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<td>and Short-Term Effects of Cannabis in the Real World”</td>
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<td>Social Event: Mayor of Old Town <em>(6:30pm-9:00pm)</em></td>
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<td>Individual and Group CBT for SUDs and addictive behaviors (Room 300)</td>
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<td>Symposium: “Driving Under the Influence of Cannabis: Theoretical Issues, Impact, and Methods of Detection” (Long’s Peak)</td>
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<td>Ethical issues in treating individuals with SUDs and addictive behaviors (part I) (Room 300)</td>
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<td>Lunch (Ram’s Horn Dining Hall)</td>
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<td>Ethical issues in treating individuals with SUDs and addictive behaviors (part II) (Room 300)</td>
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<td>Symposium: “A Controlled Pilot Study of the Marijuana eCHECKUP To Go Protocol” (Long’s Peak)</td>
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<td>Closing Plenary: Kent Hutchison “The U.S. Approach to Cannabis Research: Will the Horse Ever Catch Up With the Cart?” (Long’s Peak)</td>
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<td>Symposium: “Predictors, Consequences, and Protective Behavioral Strategies for Marijuana Use with College Students” (Long’s Peak)</td>
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