



COLLABORATIVE
PERSPECTIVES on
ADDICTION

COLLABORATIVE PERSPECTIVES ON ADDICTION



Celebrating 10 Years of CPA

Pushing the Boundaries for Innovation and Inclusivity

**April 7-9, 2022
The Benson Hotel
Portland, Oregon, USA**

**ONLINE PROGRAM
(UPDATED MARCH 17, 2022)**



#CPA2022 | @APADivision50



COLLABORATIVE PERSPECTIVES ON ADDICTION 2022

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ABOUT CPA

Addiction is a significant public health problem that impacts many individuals and families in the United States and globally. The Collaborative Perspectives on Addiction (CPA) conference was launched 10 years ago to bring together scientists and practitioners from the Society of Addiction Psychology (SoAP) and peer divisions in the American Psychological Association to highlight cutting-edge research on the psychology of addiction. The goal of CPA is to use science to enhance the prevention and treatment of addiction and foster collaborative relationships.

WELCOME STATEMENT

Welcome to CPA 2022! We are thrilled to have you join us for the 10th anniversary of the Collaborative Perspectives on Addiction conference. With so many uncertainties and turmoil over the last two years, we are excited to be gathering again in person. This will be the first time CPA is hosted in the beautiful Pacific Northwest. The Program Committee has worked hard to plan and execute this year's conference amidst the backdrop of the global pandemic and its many uncertainties. We thank the Executive Committee of the Society of Addiction Psychology for the support throughout this process.

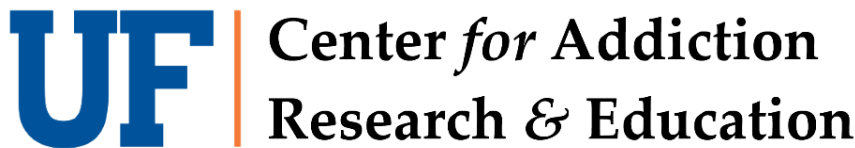
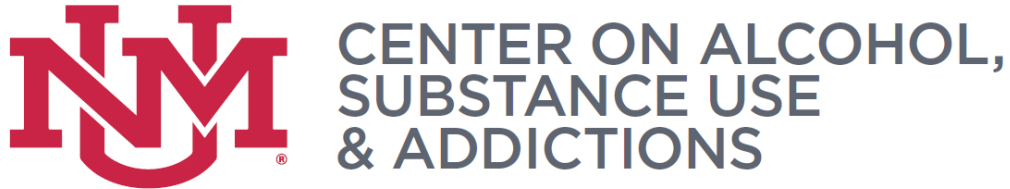
We are proud to be hosting a variety of symposia, panels, workshops, and poster presentations. In reflecting on the past ten years of CPA and envisioning the next decades of addiction psychology, we hope to push the boundaries for innovation and inclusivity. With this in mind, we introduced the new presentation format named the Program Chairs' Choice Papers. The paper presentations are organized around three thematic areas that we would like to highlight: (1) diversity considerations in addiction research, (2) novel and underused approaches in addiction psychology research, and (3) open science in addiction psychology. We continue our diversity enhancement efforts through systematic integration of diversity considerations in the abstract review process, the Inclusion Travel Award for Underrepresented Scholars program, and the introduction of a poster award competition that highlight exceptional research with historically underrepresented minority or underserved populations.

We also have numerous social activities planned—to help us all try to remember how to network and socialize again after so much time on Zoom! On Thursday night following the poster session, come join us for a social hour followed by a student “speed-networking” event. We especially encourage first-time student attendees to come out and meet your colleagues. On Friday morning, we will have a run/walk event along the waterfront down a few blocks from The Benson Hotel. Per tradition, we will have our mentor-mentee lunch (requiring prior RSVP). In the evening following the poster session on Friday, there is another social hour sponsored by the ‘Promoting Underrepresented Minorities in Psychology’ (PUMP) program. Please consider stopping by and finding out more about this new program lead by APA Division 50's Diversity, Equity, and Inclusion Committee created to help us support, recruit, and retain scholars from underrepresented and marginalized backgrounds.

We thank all the volunteers who made this conference possible. We hope you enjoy all CPA 2022 has to offer this year!

Priscilla Lui, Ph.D. & Keanan Joyner, Ph.D.
Program Co-Chairs

THANK YOU TO OUR SPONSORS & FRIENDS OF CPA!



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Sponsorships and donations from friends of CPA make it possible for us to offer Travel and Registration Awards to trainees and early career professionals to present their work at the annual conference. We appreciate your support for the future of addiction psychology!

COVID PROTOCOL

General Policy

CPA2022 will follow public health guidelines and/or mandates put forth by the United States Centers for Disease Control and Prevention (CDC), the State of Oregon, and local government of Portland. These include, but are not limited to,

- Maximize distance between conference participants
- Require well-fitting face masks over nose and mouth in all indoor spaces
- Provide evidence of full vaccination status or negative COVID test results.

Details Of Guidelines

Maximize Distance in Conference Spaces

CPA2022 and the Benson Hotel will make provisions for safe spacing among conference presenters, attendees, and other participants. Room capacity and arrangements in meeting rooms will be adjusted accordingly. This measure will promote social/physical distancing in indoor spaces. Large sessions such as the opening reception, poster sessions, and award ceremony will take place in as large a meeting space as can be arranged by The Benson. CPA2022 scheduled events that involve food and beverages will take place in spaces that allow safe distancing.

Face Mask Requirement

All attendees are required to wear tight-fitting face masks (i.e., N95, KN95, KF94, surgical masks) throughout all CPA2022 scheduled events and while in public, indoor areas in The Benson Hotel. Masks must cover an individual's mouth and nose entirely. There will be no exceptions to this requirement. It is the responsibility of all CPA2022 attendees to obtain sufficient face masks prior to their arrival in Portland, OR.

Proof of Vaccination or Negative COVID Tests

All attendees are required to verify their full vaccination status or provide a negative COVID-19 test results upon check-in at CPA2022. Individuals who are unable to provide proof of vaccination or negative COVID tests will not be allowed to participate in the conference.

Per up-to-date CDC guidelines, full vaccination status will require completion of the two-dose series of Pfizer or Moderna COVID vaccines or the single-dose J&J vaccine, at least two weeks prior to the conference. For individuals with immunocompromised diseases and chronic illnesses that heighten the risk of COVID-19, full vaccination status means completion of three doses of the Pfizer or Moderna vaccines (or an additional dose of the Pfizer/Moderna in addition to the single-dose J&J vaccine) at least two weeks prior to the conference. We highly recommend that all CPA2022 attendees complete booster COVID shots at least two weeks prior to the conference for maximized protection. CPA2022 attendees will be required to upload an electronic copy of their official CDC COVID-19 vaccination card to the Registration site prior to the conference. The vaccination card must clearly show the attendee's full name and other pertinent details about the vaccination. Furthermore, CPA2022 attendees must present their vaccination card in person at the conference check-in desk for verification.

COVID PROTOCOL (cont.)

Conference attendees unable to provide proof of COVID vaccination will be required to present a negative test result (i.e., rapid, antigen test and polymerase chain reaction [PCR] test), obtained within 24-48 hours of check-in and retrieving conference badges. Should attendees obtain the negative test result from a clinic, results must be sent electronically to a secure email account monitored by the Program Committee. Additional information about how to show proof of a negative COVID (at-home) test result is forthcoming. Additionally, these attendees must be subjected to an antigen test and show a negative test result at the CPA2022 check-in desk.

Cleaned High Touch Areas

The Benson Hotel is committed to keeping high touch surface areas sanitized and cleaned as frequently as possible. These include registration areas, podiums, and doorknobs. Disinfecting supplies will be available.

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LOOKING FOR A DIVERSE COLLABORATIVE ENVIRONMENT?

UF CARE offers Addiction Science & Training Opportunities with mentors and trainees spanning 7 Colleges & 16 Departments at the University of Florida. Check us out and sign up for our newsletter:

addictionresearch.health.ufl.edu

SCHEDULE AT A GLANCE

THURSDAY, April 7, 2022

8:00am	REGISTRATION & CONTINENTAL BREAKFAST	
9:30am	OPENING CEREMONY	
9:45am	SYMPOSIUM: Veterans in the Era of COVID: Longitudinal Examinations of Alcohol Use, Mechanisms, and Risk Factors	SYMPOSIUM: Associations among Identity, Intersecting Identities, Stigma and Discrimination and Substance Misuse
11:00am	BREAK	
11:15am	WORKSHOP: Addiction Research with Communities of Color (Sponsored by CPA Diversity Committee)	
12:30pm	LUNCH ON YOUR OWN	
1:45pm	SYMPOSIUM: Autonomic Vulnerabilities for Substance Use Relapse: Risk Identification and Mitigation	SYMPOSIUM: Grant-Funded Student Research on Factors Impacting Substance Use: Opportunities and Accomplishments
3:00pm	BREAK	
3:15pm	PROGRAM CHAIRS' CHOICE PAPER SESSION 1: Expanding the Horizons in Addiction Research: Diversity Considerations	SYMPOSIUM: Innovative Brief Interventions for Substance Use Among Diverse Groups of Young Adults
4:30pm	POSTER SESSION 1	
5:30pm	SOCIAL HOUR	
6:30pm	STUDENT SPEED-NETWORKING EVENT	

FRIDAY, April 8, 2022

8:00am	REGISTRATION & CONTINENTAL BREAKFAST	SOCIAL WALK/RUN (Sponsored by Division 50 Student Committee)
9:45am	PROGRAM CHAIRS' CHOICE PAPER SESSION 2: Novel and Underused Approaches in Addiction Psychology I	SYMPOSIUM: Prescription Opioid Use and Misuse: Innovative Approaches to Understanding Etiology and Harms
11:00am	BREAK	
11:15am	SYMPOSIUM: Intensive Longitudinal Data: Predictors, Outcomes, and Methods in Substance Use Prevention	SYMPOSIUM: Using Epidemiological Data to Characterize the Substance Use Continuum from Risk to Recovery
12:30pm	MENTOR-MENTEE LUNCH (Registered Attendees Only)	LUNCH ON YOUR OWN
1:45pm	PANEL: Rationale, Opportunities, and Challenges of Open Science in Addiction Psychology: A Panel Discussion	
3:00pm	BREAK	
3:15pm	PROGRAM CHAIRS' CHOICE PAPER SESSION 3: Novel and Underused Approaches in Addiction Psychology II	SYMPOSIUM: Media, Sociality, and Substances: How we Talk about the Context of Drug Use During COVID-19 Matters
4:30pm	POSTER SESSION 2	
5:30pm	PUMP-SPONSORED SOCIAL HOUR	

SATURDAY, April 9, 2022

8:00am	REGISTRATION & CONTINENTAL BREAKFAST	
9:30am	SYMPOSIUM: Examining the Who, What, and When of Substance-Related Risk and Outcomes	SYMPOSIUM: Emerging Issues and Future Directions for Protective Behavioral Strategies Research
11:15am	BREAK	
10:30am	WORKSHOP: A Practical Guide to Open Science Practices in Addiction Research	
12:30pm	LUNCH ON YOUR OWN	
12:45pm	PROGRAM CHAIRS' CHOICE PAPER SESSION 4: Open Science in Addiction Research	SYMPOSIUM: The Role of US Tobacco Companies in Shaping the US Food System: Implications for Population Health
2:00pm	POSTER SESSION 3	
3:00pm	AWARDS & CLOSING CEREMONY	



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PLANNING COMMITTEE & VOLUNTEERS

Program Co-Chairs

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Keanan Joyner, Ph.D., University of California, Berkeley

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Julian Price, Ph.D., Rutgers University
Tim Janssen, Ph.D., Brown University

Sponsorship Coordinator

Ryan Carpenter, Ph.D., University of Missouri, St. Louis

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Byron L. Zamboaga, Ph.D., University of Arkansas
Fiona Conway, Ph.D., University of Texas at Austin
Jessica Perrotte, Ph.D., Texas State University
Neo Gebru, University of Florida

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Aaron Weiner, Ph.D. (President-Elect)

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Ian Frazier	James Murphy	Jessica Perrotte
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Liana Hone	Linda Rinehart	Lourah Kelly
Mary Beth Miller	Melissa Co	Michael Amlung
Min-Jeong Yang	Nicholas Livingston	Patrick Quinn
Rachael Tomko	Rory Pfund	Ryan Carpenter
Scott Young		

DIVERSITY STATEMENT

The Collaborative Perspectives on Addiction (CPA) Conference is committed to the inclusion of scientists, clinicians, and learners from diverse backgrounds who have a shared interest in understanding and treating addictive disorders. This mission is enhanced by a variety of perspectives, and our goal is to create an inclusive, respectful conference environment that invites participation from people of all races, ethnicities, genders, ages, abilities, religions, and sexual orientations. At CPA, we strive for every participant to feel welcome, included, and safe at the conference. To accomplish this, we actively seek to increase the diversity of our attendees, speakers, and sponsors through our calls for proposals, schedule of conference events, and through dialogue with the larger communities we serve. Based on attendee feedback from previous conferences, we are excited to continue implementing several initiatives for CPA. These include continuing to engage our CPA Diversity Committee in conference planning, offering a diversity-focused session in an expanded venue to allow for greater participation, continuing the Inclusion Travel Award for Underrepresented Scholars program, and reaching out to a broader community to enhance attendance by members of underrepresented groups. We believe that these initiatives can continue to move our conference in the right direction. We also recognize that this is an ongoing process that takes time and attendees are encouraged to speak with the Program Chairs regarding any concerns about diversity and inclusion at CPA.

DIVERSITY ENHANCEMENT EFFORTS

Diversity issues such as considerations about generalizability of results to various groups, central concerns or mechanisms pertinent to underrepresented minority or underserved populations, and methods commonly used in multicultural and (cross-)cultural studies are commonly neglected. These diversity considerations sometimes may be compartmentalized when evaluating the quality of addiction psychology research. To promote the integration of diversity considerations in addiction research, this criterion is used along three other existing criteria for evaluating and selecting proposals for inclusion into the CPA2022 program. All proposals are rated on a common metric in terms of (1) overall quality/importance, (2) innovation/originality, (3) approach/methodology, and (4) diversity considerations.

All travel and registration awards are determined based on reviewers' favorable evaluation of the proposals. Per the Inclusion Travel Award for Underrepresented Scholars program, special considerations are made to ensure that the award selections represent individuals' who come from underrepresented minority and disadvantaged backgrounds and who have demonstrated financial needs to attend CPA2022.

Additionally, we have introduced this year a poster award competition for presentations that highlight exceptional addiction research with historically underrepresented minority or underserved populations. The CPA Diversity Committee will evaluate the presentations and select the winner(s).



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- Understanding mechanisms of behavior change
- Enhancing service delivery for underserved populations
- Improving the health and safety of people who use substances

Training

- NIAAA-funded T32 (supporting 4 postdoctoral and 3 predoctoral trainees)
- UNM IMPOWR Center focused on chronic pain and opioid use disorder (supporting 2 postdoctoral trainees)

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CONTINUING EDUCATION

The Society of Addiction Psychology (SoAP) is approved by the American Psychological Association to sponsor continuing education (CE) credits for psychologists. The SoAP maintains responsibility for this program and its content. Sessions that have been approved for CE credit are indicated in the program next to session title (e.g., 1.5 CE). Please see the registration desk for more information about CE offerings at CPA2022, and the separate CE program.

TRAVEL & REGISTRATION AWARD RECIPIENTS

Travel Awards

Postdoctoral Fellow/Early Career Professional

Alena Kuhlemeier, Ph.D.

Jevon Rice, Ph.D.

Undergraduate/Graduate Student

Brittany Zaring-Hinkle

Peter Soyster

Registration Awards

Postdoctoral Fellow/Early Career Professional

Marilyn Piccirillo, Ph.D.

Undergraduate/Graduate Student

Madison Smith

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PROGRAM & ABSTRACTS

Program Chairs' Choice Paper Sessions

Thursday, April 7 at 3:15pm

Mayfair Ballroom

EXPANDING THE HORIZONS IN ADDICTION RESEARCH: DIVERSITY CONSIDERATIONS

Chair: Priscilla Lui, Ph.D.

1. TRAINING IN SUBSTANCE USE DISORDERS AMONG BLACK AMERICAN EMERGING ADULTS FOR PSYCHOLOGISTS

Jevon Rice, Psy.D.

Black American emerging adults are at high risk for substance use disorders (SUDs) and overdose; however, they continue to be an underserved population. They are more likely to enter treatment to address complex medical and mental health dynamics than to enter specifically for SUD treatment. Despite this, comprehensive training for psychologists in culturally aware SUD assessment, intervention, and treatment is lacking. There is no standardization among doctoral programs within the US and no universal requirement for training hours in substance use disorders to qualify for licensure as a psychologist in the US. This study is the first of its kind to assess doctoral students' culturally aware SUDs knowledge, training, and comfort when working with Black American emerging adults. Additionally, this study involved the creation of an original measure, the Rice-Graham Scale II, a 37 items questionnaire aimed to enhance the understanding of the possible relationship between culturally aware SUDs knowledge and training on level of comfort among doctoral trainees. Ninety-four psychology doctoral trainees from APA-accredited programs across the US participated in the study. Results supported previous research that doctoral students provide services to this at-risk underserved population without having taken SUDs related courses inside or outside their program. Results showed a statistically significant positive correlation between comfort level and training experience ($r = .253, p < 0.05$) and negative correlation between comfort level and training components, ($r = -.428, p < 0.00$). This study could not confirm a causal relationship between knowledge and comfort. Results indicate that when components of training programs increase to include culturally aware courses, the number of doctoral students reporting that their training experience needs improvement in such areas decreases, and their level of comfort increases.

2. INCREASING REPRESENTATION IN SUBSTANCE USE RESEARCH THROUGH STAKEHOLDER INPUT

Peter Soyster, M.A., Aaron J Fisher Ph.D.

In order to improve the quality of psychological research and the effectiveness of mental health interventions, the National Institute of Mental Health has recommended including stakeholders in all aspects of the research pipeline. Stakeholder collaboration can improve the validity, clarity, and appropriateness of research; can improve the utility of research

findings; and builds trust between the research community and the study population of interest. Because of the lack of participant diversity in much of psychological and medical science, it is likely that there are significant facets of substance use experiences that are not currently represented in the research literature. Stakeholder input can help researchers to identify these novel areas of inquiry while simultaneously improving the relevance of their current work. To illustrate this point, we present methods and results from two ecological studies of substance use that utilized stakeholder input (N = 519). The studies used in-person focus groups and digital qualitative methods to tailor study designs to participant populations of interest. Results indicate the feasibility and affordability of stakeholder involvement in substance use research. Challenges and opportunities will be described, and recommendations for increasing participant representation will be provided.

3. HARM REDUCTION ACCEPTABILITY AND FEASIBILITY IN A NORTH AMERICAN INDIGENOUS RESERVE COMMUNITY

Silvi Goldstein, M.A., Nichea S. Spillane, Ph.D., Tessa Nalven, M.A., Nicole H. Weiss, Ph.D.

Aims: North American Indigenous (NAI) communities experience high rates of alcohol-related mortality and morbidity. Approaches that focus on reducing alcohol-related harm offer an important step in reducing alcohol-related health inequities. The present study assessed community and culturally specific alcohol-related harm, as well as the acceptability and feasibility of harm reduction approaches to alcohol use in one reserve-based NAI community. **Methods:** Participants (N=17; 64.7% women; Mage=45.4) living on or near a NAI reserve in Canada. Semi-structured focus groups were conducted with healthcare workers (n=8, 75% NAI) and community members (n=9, 100% NAI). Self-report questionnaires measured acceptability and feasibility of harm reduction strategies. **Results:** Conventional content analysis revealed participants found loss of culture, disconnecting and disengaging from culture (e.g., spirituality), and not engaging in cultural activities due alcohol use as alcohol-related harm. Healthcare workers rated harm reduction approaches to be acceptable and feasible, while community participants were more mixed. Majority of participants felt some harm reduction strategies could provide opportunities for individuals who use alcohol to connect to Indigenous culture and traditions. However, there were mixed findings on whether harm reduction strategies are consistent with Indigenous cultural traditions and values. **Conclusion:** Though healthcare workers find harm reduction approaches as acceptable, it may contrast with community members' goals of abstinence for the community. Future research is needed to evaluate potential utility and culturally-adapted harm reduction approaches for NAI communities.

Friday, April 8 at 9:45am

Mayfair Ballroom

NOVEL AND UNDERUSED APPROACHES IN ADDICTION PSYCHOLOGY I

Chair: Keanan Joyner, Ph.D.

1. A GROUNDED THEORY OF THE PROCESS OF HEALING FROM OPIOID ADDICTION

James E. McDonald, Ph.D., Jennifer M. Cook, Ph.D., Bianca A Tocci, M.S.

Opioids are involved in almost 71% of all drug overdose deaths (CDC, 2021). Although researchers have investigated the characteristics, processes, and stages of recovery (Leamy

et al., 2011), they have provided limited explanation about how and when these elements coalesce in people's lives. Further, only one researcher to date (Banonis, 1989) utilized a qualitative methodology to investigate healing from addiction. We selected the word healing intentionally to denote what facilitated physical, mental, social, and spiritual health and wellbeing (Jonas et al., 2014), beyond maintaining abstinence. With the aim of expanding the work of prior researchers, we utilized a qualitative constructivist grounded theory methodology (Charmaz, 2014) to develop a biopsychosocial understanding of the process of healing from opioid addiction. Results showed four phases of healing (Inactive Healing, Early, Middle, and Late Active Healing), four Continuous Core Components of healing (12-Step Programs, Psychotherapy, Spirituality, and Relationships with Others), and 15 themes ranging from Substance Use Treatment to Effectively Processing Trauma to Self-Love. Participants' healing journey began during opioid addiction itself and continued through to the last phase of healing, wherein participants had transformed their lives and concretized a sense of personal empowerment. This study extends the findings of previous researchers (e.g., Banonis, 1989; Leamy et al., 2011) by showing an interconnection of categories and themes that work together synergistically to support the healing process.

2. JOURNALING TO SUPPORT ADDICTION RECOVERY: THE FEASIBILITY OF A POSITIVE PSYCHOLOGICAL APPROACH

Amy R. Krentzman Ph.D., Bettina B. Hoepfner, Ph.D., Susanne S. Hoepfner, Ph.D., Nancy P. Barnett, Ph.D.

While journaling is an intervention that appeals to individuals in treatment for addiction, sparse research on journaling to support addiction recovery causes its underuse in the field. In this paper, we will present two studies on Positive Peer Journaling (PPJ), a novel approach that combines behavioral activation with positive psychology to reinforce recovery and thereby discourage relapse. Both studies piloted PPJ among diverse samples of individuals (>25% BIPOC) with severe addiction histories. Study 1 used a single-group design among 15 women in residential treatment. From baseline to post-participation, we observed significant increases in satisfaction with life, well-being, happiness with recovery, and confidence to stay sober. Study 2 was a randomized controlled trial (N = 81; 52% women) of individuals in residential or outpatient treatment. PPJ compared to treatment as usual showed greater use of behaviors targeted in the journaling practice, including planning rewarding activities and writing gratitude lists. PPJ compared to treatment as usual also promoted an increased awareness that life contained more good than bad elements and that there was a lot to be thankful for. Both studies showed robust evidence of the feasibility and acceptability of PPJ with participants rating it as easy, pleasant, satisfying, and helpful. Empirical evidence for PPJ could provide the field with a novel and engaging tool to support sustained remission from substance use disorders.

3. CLINICAL AND BEHAVIORAL ECONOMIC PREDICTORS OF DRUNK DRIVING IN UNDERAGE COLLEGE WOMEN

Gideon Naude, Ph.D., Matthew Johnson, Ph.D., Justin Strickland, Ph.D., Meredith Berry, Ph.D., Derek Reed, Ph.D.

Behavioral economics offers unique tools for assessing value and motivation associated with college drinking. Tasks that model changes in consumption as a function of price (operant

demand) or the decline in an outcome's subjective value as a function of time-to-occurrence (delay discounting) provide valuable information that may supplement clinical instruments when characterizing alcohol use severity. The first aim of this investigation was to examine the extent to which at-risk drinking (measured using the AUDIT-C), demand for alcohol, and delay discounting of money and alcohol predict adverse consequences of drinking in underage college women (N = 72). The second aim was to determine whether these measures could predict past-month drunk driving, a serious public health concern due to increasing rates of binge drinking among women in their first years of college. Results showed that higher scores on the AUDIT-C, higher persistence and amplitude of demand, as well as preferring larger amounts of alcohol even when delayed (in the single-commodity discounting task) predicted consequences of past-month drinking. Moreover, higher scores on the AUDIT-C, higher amplitude of demand, and choosing immediately available alcohol at the expense of double the equivalent in delayed money (in the cross-commodity discounting task) predicted past-month drunk driving. We contend that operant demand along with single- and cross-commodity discounting can be viewed as intersecting measures of reinforcer value with clinical relevance to college women.

Friday, April 8 at 9:45am

Mayfair Ballroom

NOVEL AND UNDERUSED APPROACHES IN ADDICTION PSYCHOLOGY II

Chair: Keanan Joyner, Ph.D.

1. Interoceptive basis of alcohol related behaviors

Mateo Leganes-Fonteneau, Ph.D., Marsha Bates Ph.D., Jennifer Buckman Ph.D.

Interoception, the integration of bodily states in the brain, is hypothesized to support alcohol-related behaviors. However, there is little evidence on how cardiac interoceptive processes are affected by acute alcohol administration. Two sets of published studies examined how alcohol-induced changes in interoception shape alcohol-related responses. In two experiments (n=50, n=31) we found that alcohol modulates participants' ability to feel their own hearts, and that these changes correlate with perceived alcohol effects and mood changes. Further, changes in interoception correlate with anticipated effects of alcohol, as an index of alcohol expectancies. We propose that alcohol-induced interoceptive experiences build, over the course of drinking history, an expectancy about alcohol effects. These expectancies are in turn crucial for future drinking behaviors. Heart-rate variability indices allow studying the strength of heart-brain communication as a measure of interoceptive signaling. In an initial study (n=168) we found that, in participants with a family history of alcohol use disorder, cardiac signals and memories for alcohol stimuli correlated after alcohol administration. In a second study (n=31) we found that changes in cardiovascular states after alcohol administration correlate with alcohol attentional biases. This implies that alcohol effects on interoception support alcohol priming. These combined results build evidence for different interoceptive pathways underlying positive reinforcement mechanisms in addiction, and can help develop novel treatment and diagnostic tools within the growing field of embodiment and cognition.

2. PERSONALIZED MACHINE LEARNING MODELS TO PREDICT FUTURE ALCOHOL USE

Peter Soyster, M.A., Leighann Ashlock B.A., Aaron J Fisher Ph.D.

The specific factors driving alcohol consumption, craving, and wanting to drink, are likely different for different people. Group-level prediction models often exclude marginalized populations due to low power (e.g., LGBTQIA+ individuals, people with a disability). Idiographic approaches allow for increased representation in prediction modeling. The present study sought to apply statistical classification methods to idiographic time series data to identify person-specific predictors of future drinking-relevant behavior, affect, and cognitions. Participants were sent eight mobile phone surveys per day for 15 days. Each survey assessed the number of drinks consumed since the previous survey, as well as positive affect, negative affect, alcohol craving, drinking expectancies, perceived alcohol consumption norms, impulsivity, and social and situational context. Each individual's data were split into training and testing sets, so that trained models could be validated using person-specific out-of-sample data. Elastic net regularization was used to select a subset of a set of 40 variables to be used to predict either alcohol consumption, craving, or wanting to drink, forward in time. Averaging across participants, accurate out-of-sample predictions of future drinking were made 76% of the time. For craving, the mean out-of-sample R² value was 0.27. For wanting to drink, the mean out-of-sample R² value was 0.27. Using a person-specific constellation of psychosocial and temporal variables, it is possible to accurately predict drinking behavior, affect, and cognitions before they occur.

3. MODELING RECIPROCAL RELATIONS BETWEEN EMOTION DYSREGULATION AND ALCOHOL USE USING DSEM

Nicole H. Weiss, Ph.D., Leslie A. Brick, Ph.D., Shannon R. Forkus, M.A., Silvi C. Goldstein, M.A., Emmanuel D. Thomas, B.A., Melissa R. Schick, M.A., Nancy P. Barnett, Ph.D., Tami P. Sullivan, Ph.D.

The research body examining emotion dysregulation and alcohol use has increased exponentially over the past decade. However, these studies have been limited by their use of cross-sectional designs and narrow definitions of emotion dysregulation. The current study utilized state-of-the-art methodology (experience sampling methods) and statistics (dynamic structural equation modeling) to examine reciprocal associations between daily negative and positive emotion dysregulation and alcohol use. Participants were 145 community women (M age = 40.56, 40.3% white) experiencing intimate partner violence and using substances. Surveys were administered three times a day for 30 days using phone-based interactive voice recording. Findings showed significant contemporaneous effects between both negative and positive emotion dysregulation and alcohol use, indicating that negative and positive emotion dysregulation both co-occur with alcohol use. Conversely, cross-lagged effects between both negative and positive emotion dysregulation and alcohol use were not significant. Specifically, neither negative or positive emotion dysregulation predicted later alcohol use, nor did alcohol use predict later negative or positive emotion dysregulation. However, there was a significant variability among individuals with regards to the cross-lagged associations from negative and positive emotion dysregulation to alcohol use. Findings suggested that both negative and positive emotion dysregulation co-occurred with alcohol use and that intraindividual variability was significant. This latter finding underscores

the need for research that utilizes idiographic approaches to study intraindividual variation in emotion dysregulation and alcohol use.

4. DO SUBJECTIVE EFFECTS FROM ALCOHOL AND CANNABIS PRIME SIMULTANEOUS USE DURING A HYPOTHETICAL TASK?

Jack Waddell, M.A., William Corbin, Ph.D.

Simultaneous alcohol and cannabis use is associated with negative outcomes, yet little is known about what motivates event-level decisions to simultaneously use. One possibility is that early-episode subjective effects motivate an individual to simultaneously use to complement or replace the first substance's effects. The current study used a hypothetical decision-making task to test this hypothesis. College students (N=486) were presented scenarios characterized by alcohol/cannabis substance use effects (i.e., high/low arousal positive, high/low arousal negative), and asked their likelihood of co-using the other substance per scenario. Multilevel modeling tested whether subjective effect scenarios primed higher likelihood of simultaneous use and whether substance ordering moderated this association. Task-based simultaneous use likelihood was strongly associated with real-world simultaneous use, showing validity of task-related choice. High/low arousal positive scenarios were associated with higher likelihood of simultaneous use, whereas high/low arousal negative scenarios with lower likelihood. Alcohol-first days were associated with higher likelihood, and significant ordering interactions were observed for high/low arousal positive and high arousal negative scenarios. High arousal positive scenarios were associated with higher likelihood when cannabis was used first, low arousal positive scenarios with higher likelihood when alcohol was used first, and high arousal negative scenarios with lower likelihood when cannabis was used first. Beginning-of-episode subjective effects, primed via a decision-making task in this study, may motivate simultaneous use.

Saturday, April 9 at 12:45pm

Mayfair Ballroom

OPEN SCIENCE IN ADDICTION RESEARCH: CHALLENGES, OPPORTUNITIES, AND FUTURE DIRECTIONS

Chair: Priscilla Lui, Ph.D.

1. REGISTERED REPORTS AS TOOLS IN CONTENTIOUS RESEARCH DOMAINS: AN EXAMPLE WITH BEHAVIORAL "ADDICTION"

Joshua Grubbs, Ph.D., Christopher G. Floyd, M.S., Kaelyn R. Griffin, Todd L. Jennings, Shane W. Kraus, Ph.D.

Addiction psychology remains a highly contentious research domain, particularly given recent expansions in definitions of addiction to include certain behaviors (i.e., gambling, gaming, and sexual behavior). Recent reforms within psychology more broadly have provided several tools to investigate contentious topics in transparent and rigorous ways. Building on these reforms, the present work will provide an example of using open sciences practices to address an emergent controversy in behavioral addiction research. Using a registered report format, this work seeks to establish whether moral incongruence (defined as the interaction of moral disapproval of a behavior and the frequency of engaging in that

behavior) influences self-perceived feelings of addiction to both behaviors (i.e., pornography use and gambling) and substances (alcohol, nicotine, cannabis, prescription drugs, and illicit drugs). This work will make use of an upcoming study (data collection in March of 2022) involving a nationally representative sample of the U.S. population (n=2,500) and a sample of sports-wagering individuals in the U.S. (n=1,500). Interactions between moral disapproval and behavioral frequency will be tested for each addictive behavior/substance listed above to determine whether or not moral incongruence seems to be uniquely related to self-reported feelings of addiction in various domains. Regardless of results, substantive implications for this specific domain of research will be drawn and methodological implications for controversial research in addiction psychology will be discussed.

2. GETTING MORE BANG FOR YOUR BUCK: SYNTHESIS-READY ADDICTION SCIENCE RESEARCH FOR LASTING IMPACT

Emily Hennessy, Ph.D., David Eddie, Ph.D., Lauren Hoffman, Ph.D., John F. Kelly, Ph.D.

When seeking to inform addiction treatment and recovery efforts and policy, it is important to be able to robustly synthesize all available evidence. Yet, evidence sources are often large and diverse, and published research is often reported in unsystematic ways that lacks essential details or findings are reported in ways that are unable to contribute to the cumulative body of science. Thus, while understanding what works, for whom, and in what contexts can only be achieved through a comprehensive synthesis of evidence (i.e., systematic review and meta-analysis), in practice this task faces many challenges in psychological science. Reporting guidelines in psychological science seek to increase transparency and improve the degree of “FAIRness” of studies, i.e., generating research that is Findable, Accessible, Interoperable, and Reusable. Addiction research that follows these principles while being “synthesis-ready” can increase integrity and reproducibility, ultimately leading to improved scientific efficiency, evidence, and impact. To address these issues and improve the reach of primary studies through their inclusion in evidence syntheses, we provide a set of practical guidelines, tools, and practices to help addiction scientists prepare synthesis-ready research. We use a recent clinical trial as an empirical example to ground the discussion and demonstrate ways to ensure the following: (1) primary addiction studies are findable; (2) the types of data needed for synthesis are present; and (3) these data are readily synthesizable.

3. A COLLABORATIVE, PREREGISTERED META-ANALYSIS ON THE DAILY ASSOCIATION BETWEEN AFFECT AND ALCOHOL USE IN EVERYDAY LIFE

Jonas Dora, Ph.D.

It remains unclear whether people drink alcohol in response to the experience of negative and positive emotions in everyday life. By compiling and jointly analyzing hundreds of thousands reports from diary and EMA datasets, our goal was to provide conclusive tests to the hypotheses that negative and positive affect should both be associated with alcohol use on a daily level, such that people are more likely to drink and to consume more drinks on days they report negative or positive affect that is higher than usual. We compiled individual participant level data from diary and EMA studies that assessed the number of alcoholic drinks consumed each day or evening and daily or momentary mood. Our dataset included 353,762 daily observations from 12,394 participants and 69 studies. We analyzed the data

using Bayesian mixed-effects models, which accounted for variation at the study and participant level. On days they experienced higher negative affect (+1 SD), participants were estimated to be 5-10% less likely to drink and to consume 0 to 0.02 fewer drinks. Participants were estimated to be 16-28% more likely to drink on days they experience higher positive affect, but to only consume an additional 0.04 to 0.07 drinks. Thus, the findings of this meta-analysis suggest that positive, but not negative affect is associated with an increased likelihood of drinking in daily data.

Symposium Sessions

Thursday April 7 at 3:15pm

Crystal Ballroom

INNOVATIVE BRIEF INTERVENTIONS FOR SUBSTANCE USE AMONG DIVERSE GROUPS OF YOUNG ADULTS (1.25 CE)

Chair: Eric Pedersen, Ph.D.

Discussant: Joseph W. LaBrie, Ph.D.

1. ADDRESSING ALCOHOL, CANNABIS, AND OPIOID USE AMONG URBAN NATIVE AMERICAN YOUNG ADULTS

Elizabeth J. D'Amico, Ph.D., Daniel L. Dickerson, Ph.D., Alina I. Palimaru, Ph.D., Ryan A. Brown, Ph.D., David P. Kennedy, Ph.D., Carrie Johnson, Ph.D.

American Indian/Alaska Native (AI/AN) people suffer numerous health disparities, including high rates of alcohol and other drug use (AOD). Unique risk factors may predispose urban AI/AN young adults to use AOD including experiences of acculturative stress directly and indirectly associated with historical trauma. To date, however, there are no evidence-based prevention programs addressing AOD use among urban AI/AN young adults that integrate culturally-appropriate strategies with evidence-based treatment. This study utilizes qualitative data to develop and tailor TACUNA (Traditions and Connections for Urban Native Americans), an intervention that integrates Motivational Interviewing with discussion of social networks and provision of traditional practices. We conducted focus groups to identify relevant intervention domains for urban AI/AN young adults and then pilot tested our program. Findings highlight the important roles of resilience and cultural pride in the prevention of AOD use among urban AI/AN young adults. Many participants discussed the profound effects of historical trauma on AI/AN people residing in urban areas. Findings also highlighted that social network diagrams were a helpful tool to see who in their networks might affect choices they make around AOD use and traditional practices, and how they could find support within their community. This study addresses a critical gap in methods to engage urban AI/AN communities in clinical trials, and in the delivery of culturally appropriate AOD prevention programs for these youth.

2. AN RCT OF A MOBILE-BASED PREGAMING DRINKING PREVENTION INTERVENTION FOR COLLEGE STUDENTS

Eric R. Pedersen, Ph.D., Justin F Hummer, Ph.D., Jordan P. Davis, Ph.D., John Prindle, Ph.D., Reagan E. Fitzke, B.S., Denise D. Tran, Ph.D., Daniel S. Lee, Ph.D.

Pregaming is a high-risk drinking context popular among college students that often leads to elevated blood alcohol levels and negative consequences. However, no study has yet tested a brief intervention specifically tailored toward reducing this risky behavior, with the anticipation that by reducing heavy drinking in this context may translate to fewer drinks consumed over the course of a night after pregaming. In this randomized controlled trial, we developed and tested an intervention, Pregaming Awareness in College Environments (PACE), with 485 college students who pregamed at least once per week. PACE was

developed by combining two innovations to facilitate behavior change: (1) a mobile-based engaging application that broadens the reach of the intervention content and (2) personalized pregame-specific intervention content with harm reduction and cognitive behavioral skills shown to be mechanisms that prevent and reduce heavy drinking among college students. The sample was aged 18 to 25 and was gender- and racial/ethnically-diverse. Main effects of the intervention on pregame drinking, general drinking, and alcohol-related consequences were evaluated in the immediate-term (two-weeks post-intervention) and short-term (one- and three-months post-intervention). Compared to control, PACE participants demonstrated small, but meaningful, reductions in their overall drinking and alcohol-related consequences. Findings suggest the brief mobile intervention has potential to address heavy alcohol use, but more intensive pregame-focused efforts may be necessary to yield stronger effects for students.

3. REDUCING ALCOHOL USE AND SEXUAL RISK BEHAVIOR AMONG EMERGING ADULTS EXPERIENCING HOMELESSNESS

Joan S. Tucker, Ph.D., Elizabeth J D'Amico, Ph.D., Anthony Rodriguez, Ph.D., Eric R Pedersen, Ph.D., Rick Garvey, B.A., David J Klein, B.S.

Homeless emerging adults (ages 18-25) drink heavily and engage in risky sexual behaviors that increase their risk of HIV, STDs, and unwanted pregnancy. Few risk reduction programs exist that address these co-occurring concerns among this often difficult-to-reach group. This study addresses an important gap in prevention services for emerging adults experiencing homelessness by conducting a cluster cross-over randomized controlled trial of AWARE, an innovative group Motivational Interviewing brief risk reduction intervention focusing on both alcohol use and sexual risk behavior. The evaluation took place at three drop-in centers for 18-25 year olds experiencing homelessness in Los Angeles, where participants received the AWARE program (n = 132) or usual care (n = 144). Program satisfaction was high and about one-third (31%) of AWARE participants completed all four sessions. AWARE participants showed significant declines over the 12 month period in their past month frequency of drinking, frequency of heavy drinking, number of drinks on drinking days, and alcohol consequences, as well as significant increase in their use of drinking protective behaviors. Control group participants did not show a significant change in any of these alcohol-related outcomes (all ps > .05). Results indicate that AWARE was effective in helping emerging adults experiencing homelessness to make positive changes in their alcohol use over a 12-month period. Promising findings were also found for reducing unprotected sex with casual partners.

4. FEASIBILITY OF AN APP-BASED EARLY INTERVENTION FOR PTSD AND HIGH-RISK DRINKING AFTER SEXUAL ASSAULT

Emily Dworkin, Ph.D., Macey Schallert, B.A., Christine Lee Ph.D., Debra Kaysen, Ph.D.

Although early interventions have promise in reducing risk for psychopathology after sexual assault, most survivors do not have access to such interventions. App-delivered early interventions may be a lower-burden way to increase reach of evidence-based principles. THRIVE is one such app. It was developed with input from survivors and survivor-serving professionals, and includes activities to learn and practice non-avoidance and cognitive restructuring, with a focus on reducing high-risk drinking and increasing positive social contact. In the pilot trial of this app, 41 survivors of past-10-week assault were randomized to receive either THRIVE or a self-monitoring-only app. All participants received 4 weekly coaching calls and engaged in daily symptom self-monitoring over 21 days. Follow-up surveys were completed at post-intervention and 3 months post-baseline. Completion rates were high, with 93% of coaching calls and 75% of days of self-monitoring completed. Feasibility was also demonstrated by minimal need for coach troubleshooting to successfully complete activities, and findings that intervention condition participants (but not control condition participants) evidenced significant improvements in intervention-related knowledge assessments from pre to post. Satisfaction with specific activities was also high, with the cognitive distortion identification activity receiving the highest satisfaction ratings. Qualitative feedback in coaching calls indicated high acceptability and areas for improvement. These findings indicate that THRIVE is a feasible and acceptable early intervention app for recent survivors.

Friday, April 8 at 11:15am

Crystal Ballroom

USING EPIDEMIOLOGICAL DATA TO CHARACTERIZE TO THE SUBSTANCE USE CONTINUUM FROM RISK TO RECOVERY (1.25 CE)

Chair: David Eddie, Ph.D.

1. “OTHER” SUBSTANCE USE AMONG RESERVATION-BASED HIGH SCHOOL YOUTH

Mark Prince, Ph.D., Noah E. Emery, Ph.D., Linda R. Stanley, Ph.D., & Randall C. Swaim, Ph.D.

Some substances that are misused by youth can have adverse effects on the developing brain but are not often discussed. These substances, e.g., inhalants, cold medicine, tranquilizers, MDMA, hallucinogens, narcotics other than heroin, and amphetamines other than methamphetamine, are often grouped into an “other” substance use category or not reported on at all. We sought to describe the prevalence rates of these substances by self-identified American Indian (AI) identity, binary sex, and geographic region in a large epidemiological sample of youth living on or near reservations. Data were collected from 2015 to 2019 and included responses from 14,769 high school students living on or near AI reservations (49% female, 61% AI). Use rates of these substances ranged from 9.5% endorsing lifetime inhalant use to 5.7% endorsing lifetime MDMA use. We used a series of Firth penalized likelihood logistic regression models with each substance as an outcome and sex, AI identity, and the interaction between sex and AI identity as the predictors within each of 7 regional areas across the contiguous United States. We found that endorsement rates of these substances varied by region, sex, and AI identity. Main effects for AI identity and sex were primarily found in the southern and western regions. In general, boys and non-AI students reported greater use of these substances. This research sheds light on these often-overlooked substances.

2. POLYSUBSTANCE USE, DEPRESSION, AND SUICIDE ATTEMPTS IN AN EPIDEMIOLOGICAL SAMPLE OF TEENS

Noah Emery, Ph.D., Patrice Arkfeld, M.S., Maggie Mataczynski, B.A., Mark A. Prince, & Bradley Connor, Ph.D.

Adolescence is a critical developmental period for both substance use and depression, and their co-occurrence is one of the most prevalent and disabling combinations among youth (Hasin et al., 2007). Adolescent polysubstance use – using multiple classes of drugs over a discrete period – is associated with increased vulnerability for both early depressive and substance use disorders compared single-substance using peers (Felton et al., 2015; Moss, et al., 2014). Polysubstance use and depression co-occurrence is likely to result in numerous negative outcomes. Given both substance use and depression are considered risk factors for suicidal behavior, an increased number of suicide attempts might be an expected outcome. However, few studies have examined the intersection of depression, polysubstance use, and suicide attempts. We sought to fill this gap by using a diverse epidemiological sample of 42,161 adolescents (12-18-years-old) to characterize how experiencing depression in the past year predicts the number of recent substances used and how the interaction of recent depression and polysubstance use places adolescents at risk for suicide attempts. Results indicated that adolescents who had experienced a recent depressive episode used more substances in the last 30 days. The number of substances used increased by 100% for those with a recent depressive episode compared to those without. Teens who used more substances and reported a depressive episode reported more suicide attempts compared to their non-depressed counterparts.

3. SEX DIFFERENCES IN PREDICTING POST-TREATMENT OPIOID USE

Jordan P. Davis, Ph.D., David Eddie, Ph.D., John Prindle, Ph.D., Emily R. Dworkin, Ph.D., Nina C. Christie, Ph.D., Shaddy Saba, Ph.D., Graham DiGuseppi, Ph.D., John D. Clapp, Ph.D., John F. Kelly, Ph.D.

Several reports have documented risk factors for opioid use following treatment discharge, yet few have assessed sex differences, and no study has used contemporary machine learning approaches. The current study is a secondary analysis of adolescents (26.9%), young adults (40.8%), and adults (32.3%) in treatment for OUD (N=1,126) across 137 treatment sites in the United States use post OUD treatment discharge, exploring psychological, and behavioral variables that predict post-treatment opioid use. Primary outcome was latency to opioid use one year following treatment admission. For women, regularized Cox regression indicated that greater withdrawal symptoms (HR=1.31), younger age (HR=0.88), prior substance use disorder treatment (HR=1.11), and treatment resistance (HR=1.11) presented the largest hazard for post-treatment opioid use, while a random survival forest identified and ranked substance use problems, criminal justice involvement, younger age, and greater withdrawal symptoms as the greatest risk factors. For men, Cox regression indicated greater conduct disorder symptoms (HR=1.34), younger age (HR=0.76), and multiple substance use disorders (HR=1.27) were most strongly associated with post-treatment opioid use, while a random survival forests ranked younger age, greater conduct disorder symptoms, having multiple SUDs, and criminal justice involvement as the greatest risk factors. Women endorsing greater substance use problems and withdrawal symptoms, and younger men with conduct disorder and multiple substance use disorder histories were most vulnerable. Results highlight the need for tailored, sex-specific OUD treatments.

4. ABSTINENCE VERSUS MODERATION RECOVERY PATHWAYS FOLLOWING RESOLUTION OF A SUBSTANCE USE PROBLEM

David Eddie, Ph.D., Brandon G. Bergman, Ph.D., Lauren A. Hoffman, Ph.D., John F. Kelly, Ph.D.

Many people resolve an alcohol or other drug (AOD) problem but continue some form of substance use. Little information exists, however, regarding the prevalence of this resolution pathway, or how continued substance use after resolving an AOD problem, relative to abstinence, relates to well-being. Using a nationally representative sample of individuals who endorsed having resolved an AOD problem (N= 2,002), we examined: 1) The prevalence of various substance use statuses coded from lowest to highest risk; 2) relationships between substance use status and individual characteristics; and 3) the relationship between substance use status and well-being. Findings indicate that approximately half of US adults who have resolved an AOD problem are abstinent from AOD, while 21% endorse current use of a secondary substance, 16% endorse currently using their primary substance, and 9% endorse currently using both a secondary and primary substance. Findings also indicate that lower risk substance use status is associated with initiation of regular substance use at an older age, more years since problem resolution, and fewer lifetime psychiatric diagnoses. Additionally, lower risk substance use status is associated with greater self-esteem, happiness, quality of life and functioning, and recovery capital, as well as less psychological distress. Taken together, findings suggest that many individuals who have resolved an AOD problem continue some form of substance use, and that AOD abstinence is associated with greater well-being.

Thursday, April 7 at 1:45pm

Mayfair Ballroom

AUTONOMIC VULNERABILITIES FOR SUBSTANCE USE RELAPSE: RISK IDENTIFICATION AND MITIGATION (1.25 CE)

Chair: David Eddie, Ph.D.

1. TOWARD A BIOMARKER OF ALCOHOL USE DISORDER RELAPSE RISK

David Eddie, Ph.D., Sarah Wieman, M.S., Agata Pietrzak, B.A., Xiadi Zhai

Impairment in central autonomic network regulatory functioning reflected by reduced heart rate variability (HRV) is a common feature of alcohol use disorder (AUD) and is believed to heighten AUD relapse risk among those seeking AUD recovery. However, to date, no study has tested potential associations between in natura HRV and subsequent alcohol use in this population. In this study, 42 adults in the first year of a current AUD recovery attempt were monitored for four days using an ambulatory electrocardiogram (ECG) device, followed by 90 days of alcohol use monitoring using timeline follow-back. HRV indices and indices of

sympathetic autonomic activation were calculated from ECG recordings. Generalized linear models were used to explore associations between ambulatory HRV and sympathetic activation and subsequent alcohol use. As predicted, higher HRV was associated with greater percent days abstinent (PDA) over 90-day follow-up, while greater sympathetic activation was associated with lower PDA. Additionally, baseline PDA interacted with HRV and sympathetic arousal measures suggesting higher HRV and lower sympathetic arousal mitigate the positive association between baseline and subsequent alcohol use. Findings suggest that HRV has utility as a biomarker of alcohol use risk in individuals seeking AUD recovery, which may be used to inform clinical decision-making in patient care. Findings also reinforce the utility of HRV biofeedback for this population, which exercises the psychophysiological systems that support self-regulation.

2. MOBILE HEART RATE VARIABILITY BIOFEEDBACK TRAINING FOR RELAPSE PREVENTION

Fiona Conway, Ph.D., Erin Nolen, M.S.W., John Moore, M.S.W., Haelim Jeong, M.S.W., Elaine Tang, B.A., & Patrick Kennedy

The opioid epidemic continues to be a significant challenge for individuals, communities, and healthcare systems. Most evidence-based treatments for opioid use disorder (OUD) require face-to-face interactions with individuals who comprise an individual's recovery support network. However, when people in recovery relapse, they are often not in the presence of these trusted individuals - they are alone or with others who facilitate drug use. In this study, 20 adults with OUD participated in an 8-week intervention aimed at increasing participants' capacity to self-regulate stress, anxiety, and craving. Participants used a heart rate variability biofeedback (HRV BFB) smartphone app to guide them through slow-paced breathing exercises. Analysis of the usage data, implementation measures, and psychosocial measures found most participants had high to moderate engagement (used the app at least four days a week), perceived the app as fitting their self-regulation needs, and experienced decreased stress and anxiety from baseline to follow-up. These findings suggest that people with OUD are willing to utilize mobile HRV BFB and that the intervention helps manage anxiety and stress-related drug use triggers.

3. IDENTIFYING INDIVIDUALS BEST SUITED FOR NEUROCARDIAC INTERVENTIONS FOR SUBSTANCE USE DISORDER

Julianne Price, Ph.D., Jennifer Buckman, Ph.D., Marsha E. Bates, Ph.D.

Autonomic dysregulation is associated with alcohol/substance use disorders (AUD/SUD) and can impede recovery. Heart rate variability biofeedback modulates autonomic arousal through slow, paced breathing that is tailored to individuals' resonance frequency (~0.1Hz). We recently demonstrated that breathing at 0.1 Hz, compared to sham, via a just-in-time self-administered app (NCT02579317) inhibited the increased craving levels experienced by women receiving outpatient treatment. However, some participants did not engage with the app, nor did they rate it as being useful. Here, we identified factors that contributed to their app use and perceived usefulness. Following an in-lab cardiovascular assessment, participants were provided an iPhone programmed with the paced breathing app and instructed to use it daily at times of anticipated craving for 8 weeks. The app was set to either 0.1Hz or to 0.23 Hz (sham). Participants randomized to 0.1 Hz who exhibited higher heart rate baroreflex capacity (greater 0.1Hz peak at pre-intervention in-lab assessment) used the app more frequently. In contrast, those with a lower 0.1Hz peak reported the app to be more useful. Older age, regular exercise, and a primary SUD (vs. AUD) were associated with higher usefulness ratings. The ability to self-regulate autonomic arousal systems in-the-moment and potentially induce long-lasting cardiovascular change may facilitate recovery. Early signs of autonomic dysregulation promote greater benefit but may make it difficult to engage with such an intervention.

Saturday, April 9 at 12:45pm

Crystal Ballroom

THE ROLE OF US TOBACCO COMPANIES IN SHAPING THE US FOOD SYSTEM: IMPLICATIONS FOR POPULATION HEALTH (1.25 CE)

Chair: Tera Fazzino, Ph.D.

1. CORPORATE TIES BETWEEN TRANSNATIONAL TOBACCO AND FOOD CORPORATIONS: INSIGHTS FROM INDUSTRY DOCUMENTS

Laura Schmidt, Ph.D.

Background: Most appreciate that tobacco and food corporations use similar strategies to formulate, brand and market consumer products. Less is understood about the reasons why. We shed light on this with two case studies of cross-industry ties: 1) child-focused sugar-sweetened beverage lines developed by tobacco companies, and 2) the direct transfer of minority-targeted marketing strategies between Philip Morris Inc. and Kraft General Foods. Methods: We analyzed internal industry documents from the University of California San Francisco Truth Tobacco Industry Documents Library, triangulated with other sources, using standard methods. Results: In case study #1, we found that RJ Reynolds and Philip Morris integrated into the children's beverage industry between 1965 and 2008, developing major brands including Kool-Aid and Tang. Tobacco exec wanted to apply their knowledge of artificial flavors and colors, and child-target marketing, to new consumer products. In case study #2, we find that Philip Morris purchased General Foods and Kraft Foods, creating Kraft General Foods in 1987. Through centralized marketing initiatives, Philip Morris directly transferred expertise, personnel, and resources from its tobacco to its food subsidiaries, creating a racial/ethnic minority-targeted food and marketing program modeled on its successful cigarette program for Marlboro. Conclusions: Tobacco-developed techniques for child- and minority-targeted product development and market continue to be used by food and beverage companies today, despite industry agreements not to promote unhealthy products in this way.

2. CHANGE IN HYPER-PALATABLE FOOD AVAILABILITY WHEN TOBACCO COMPANIES OWNED LEADING US FOOD COMPANIES

Tera Fazzino, Ph.D., Saron Demeke, B.S. Kaitlyn Rohde, B.S.

Background: Beginning in the 1980s, leading US tobacco companies invested heavily in US food industry to compensate for declines in tobacco sales. While some companies divested in the 2000s, the potential impact of US tobacco company involvement in the US food system may be longstanding. The current study characterized change in hyper-palatable food availability in the US food system over a 30-year period, including during a period (1988 to 2001) in which US tobacco companies owned leading US food companies. Methods: Three national datasets representing the US food system in 1988, 2001, and 2018 were analyzed. A standardized, quantitative definition of hyper-palatable foods (HPF) was used to identify HPF at each time point. Results: The availability of hyper-palatable foods increased by 20% from 1988 to 2018 ($p < .0001$), with a 13% increase from 1988 to 2001. Generalized linear mixed modeling revealed that the same foods were >2 times more likely to be hyper-palatable in 2001 compared to the same foods in 1988, and foods were >4 times more likely to be hyper-palatable in 2018 (p values $< .0001$). Conclusions: The availability of HPF increased dramatically over the past 30 years, with the largest percentage increase during 1988 to 2001, when US tobacco companies owned leading food companies. Findings suggested HPF availability increased because foods in the food system were reformulated to have enhanced palatability.

3. IMPLICATIONS OF THE ADDICTIVE POTENTIAL OF HYPER-PALATABLE FOODS FOR INDIVIDUALS WITH FOOD ADDICTION

Erica Schulte, Ph.D.

The modern food environment is full of hyper-palatable foods that do not exist in nature and have instead been created to be artificially rewarding to maximize palatability and therefore profitability. Research suggests that certain hyper-palatable foods may be reinforcing in a way that directly motivates overconsumption, akin to drugs of abuse. While addictive substances pose a higher risk of overconsumption generally, only a subset of individuals actually develop a substance-use disorder. Similarly, while hyper-palatable foods are most likely to be craved and overconsumed, a smaller group of individuals would be expected to exhibit clinically significant addictive-like eating behaviors with these foods. Food addiction is currently operationalized by a self-report questionnaire based on the DSM-5 indicators for substance-use disorders. In the past 10 years,

research has elucidated shared biological (e.g., downregulation of dopaminergic responses) and behavioral (e.g., impulsivity) features among persons with a substance-use disorder and individuals who report indicators of food addiction. Though future research is needed to establish the validity and diagnostic criteria of food addiction, the potential consequences for clinical practice are wide-reaching and significant. The purposes of this presentation are to 1) define the behavioral phenotype of food addiction; 2) outline the evidence that some individuals exhibit addictive-like responses to hyper-palatable foods; and 3) describe the clinical implications of addictive-like consumption of hyper-palatable foods.

Saturday, April 9 at 9:30am

Mayfair Ballroom

EXAMINING THE WHO, WHAT, AND WHEN OF SUBSTANCE-RELATED RISK AND OUTCOMES (1.25 CE)

Chair: Marilyn Piccirillo, Ph.D.

Discussant: Katie Witkiewitz, Ph.D.

1. EXAMINING BETWEEN- AND WITHIN-PERSON VARIABILITY IN SELF-MEDICATION PATHWAYS FOR CANNABIS OUTCOMES

Marilyn Piccirillo, Ph.D., Matthew Enkema, Ph.D., Frank Schwebel, Ph.D., Jessica Canning, M.S., Diana Bachowski, B.A., Mary Larimer, Ph.D.

The self-medication model of addictive behaviors has long provided a theoretical framework for understanding substance use and problems; however, mixed evidence from intensive longitudinal work underscores the need to differentiate between- and within-person variability. We modeled variability in affective-behavioral predictors of cannabis cravings, use, and intoxication as assessed using ecological momentary assessment ($N = 51$; $T = 4,284$) and multilevel vector autoregression models. On occasions of cannabis use, positive affect was positively associated with cravings ($b = .11$, $p = .02$), but negatively associated with feeling intoxicated ($b = -.12$, $p = .01$). In contrast, negative affect (NA) was positively associated with feeling intoxicated ($b = .11$, $p = .02$). On occasions of cannabis non-use, feeling intoxicated was negatively associated with distraction ($b = -.09$, $p = .01$). Over time, there was a feedback loop such that feeling intoxicated predicted greater cravings ($b = .19$, $p = .002$) and cravings predicted greater intoxication ($b = .09$, $p = .003$). There was minimal heterogeneity in pathways between NA and cannabis-related outcomes at concurrent points in time (NA-cravings $SD = .001$; NA-intoxication $SD = .001$). However, there was considerably more heterogeneity over time (NA-future cravings $SD = .09$; NA-future intoxication $SD = .01$). Implications for using within-person heterogeneity to tailor psychological assessment and treatment will be critically evaluated and discussed.

2. TEMPORAL DYNAMICS OF PAIN AND AFFECT AND ASSOCIATIONS WITH RISK FOR OPIOID-RELATED PROBLEMS

Ryan Carpenter, Ph.D., Madelyn R. Frumkin, M.A., Thomas L. Rodebaugh, Ph.D.

Chronic pain is associated with increased risk of opioid-related problems, including substance misuse and overdose. Given the potential for these adverse outcomes, it is critical to develop data-driven methods of identifying patients likely to experience problems with opioid medications, so that prevention and intervention methods can be targeted towards these individuals. We recruited patients with chronic low back pain to examine how variability in within-person dynamic relationships between negative affect (NA) and physical pain relates to risk for opioid-related problems. Participants ($N = 87$) completed an average of 94 ecological momentary assessment surveys each over two weeks. Using multi-level dynamic structural equation modeling, we found that increased pain predicted increased NA two hours later ($\beta = 0.10$, $p < .001$), and increased NA predicted increased pain two hours later ($\beta = 0.16$, $p < .001$) for individuals on average. However, there was significant variability in these effects, such that 41 participants (47%) had a significant effect of NA predicting pain two hours later, and only 7 participants (8%) had a significant effect of pain predicting NA two hours later. Risk for future opioid-related problems was positively associated with the prospective relationship of pain predicting increased NA and the individual-level correlation between pain and

NA ($ps < .01$). Further research should examine whether personalizing treatment based on relationships between pain and affect can mitigate opioid-related risks.

3. DOES THE GRIK1 GENOTYPE MODERATE TOPIRAMATE TREATMENT EFFECTS AMONG THOSE WITH ALCOHOL USE DISORDER?

Victoria R. Votaw, M.S., Katie Witkiewitz, Ph.D., M. Lee Van Horn, Ph.D., Henry R. Kranzler, M.D.

In a retrospective study, a single nucleotide polymorphism (rs2832407) in GRIK1, which encodes the GluK1 subunit of the kainate receptor, predicted greater reductions in heavy drinking among patients treated with topiramate than placebo. However, a prospective pharmacogenetic study did not show a significant interaction between topiramate and rs2832407, though effects were in the hypothesized directions. Intensive longitudinal data could provide greater statistical power and the ability to examine intermediate outcomes. We utilized daily data from the prospective topiramate pharmacogenetic study (N=164; 70% male, mean age=51.5) to examine the interactive effects of rs2832407 (C-allele homozygotes vs. A-allele carriers) and medication (topiramate vs. placebo) on reductions in heavy drinking, craving, and positive alcohol expectancies. Over the 12-week medication period, participants completed daily interactive voice response (IVR) surveys. Using multilevel models, we examined interactions between medication day, treatment condition, and genotype on IVR-reported heavy drinking, craving, and positive alcohol expectancies. Patients who received topiramate, compared to those on placebo, reported greater reductions in heavy drinking (OR=0.94, b(SE)= -0.07(0.03), $p=0.037$) and positive alcohol expectancies (b(SE)=-0.02(0.01), $p=0.009$), but not craving. There were no three-way interactions between medication day, treatment condition, and genotype on any outcome ($ps > 0.05$). These findings add to the growing body of literature indicating that topiramate is an effective medication for individuals interested in reducing heavy drinking, though efficacy might not vary by the rs2832407*CC genotype.

Thursday, April 7 at 9:45am

Mayfair Ballroom

VETERANS IN THE ERA OF COVID: LONGITUDINAL EXAMINATIONS OF ALCOHOL USE, MECHANISMS, AND RISK FACTORS (1.25 CE)

Chair: Shaddy K. Saba, M.A.

Discussant: Brian Borsari, Ph.D.

1. CHANGES IN ALCOHOL USE DURING THE COVID-19 PANDEMIC AMONG AMERICAN VETERANS

Jordan P. Davis, Ph.D.

The COVID-19 pandemic has had considerable behavioral health implications. One subgroup that may be of particular concern is U.S. veterans, who are susceptible to alcohol use problems. We aimed to investigate changes in alcohol use and binge drinking during the first year of the pandemic among U.S. veterans, and how pre-pandemic posttraumatic stress disorder (PTSD) and COVID-19-related factors like loneliness, negative reactions to COVID-19, and economic hardship influenced alcohol use trends. 1,230 veterans were recruited in February 2020 as part of a larger survey study on veteran health behaviors. Veterans were asked to complete follow-up assessments throughout the pandemic at 6, 9, and 12- months. Overall, veterans reported a significant decrease in alcohol use (IRR = 0.98) and binge drinking (IRR = 0.11) However, women, racial/ethnic minority veterans, and those with pre-existing PTSD exhibited smaller decreases in alcohol use and binge drinking and overall higher rates of use compared to men, White veterans, and those without PTSD. Both economic hardship and negative reactions to COVID-19 were associated with greater alcohol and binge drinking whereas loneliness showed a negative association with alcohol use and binge drinking. Veterans reported decreases in alcohol use and binge drinking throughout the pandemic, with heterogeneity in these outcomes noted for higher risk groups. Special attention should be given to the behavioral health needs of veterans in the post-pandemic period.

2. LONGITUDINAL ASSOCIATIONS BETWEEN INSOMNIA, PTSD & ALCOHOL USE: A LATENT DIFFERENCE SCORE APPROACH

Justin Hummer, Ph.D., Graham Diguseppi, Sc.M., Shaddy Saba, M.A., Reagan Fitzke, B.A., Daniel Lee, Ph.D., Jordan Davis, Ph.D., Eric Pedersen, Ph.D.

Separate lines of research have documented unidirectional associations between PTSD and insomnia, PTSD and alcohol use, and alcohol use and insomnia. However, few studies have attempted to untangle the complex, dynamic, associations between all three (PTSD symptoms, insomnia, and alcohol use). U.S. Military veterans (N = 1,230, 88.7% male) were recruited online and completed surveys at baseline, 6-, 9-, 12-, and 18-month follow-up. A latent difference score (LDS) modeling framework was used to analyze and test hypotheses of the present study. This modeling approach allows for the simultaneous examination of constant change (e.g., latent growth models), proportional change (e.g., how levels in one variable relate to changes in another) as well as dynamic change (e.g., how changes in one variable relate to changes in another). Results revealed a dynamic process such that changes in alcohol use increased at a more rapid rate among individuals who experienced greater, previous, changes in insomnia. Additionally, insomnia changed at a greater rate among individuals who experienced greater, previous, changes in PTSD symptoms. Similarly, for alcohol use, changes in insomnia increased at a more rapid rate among individuals who experienced greater, previous changes in alcohol use. While many providers view sleep problems to be a secondary outcome of other behavioral health disorders, our results indicate sleep problems are both a catalyst and mechanism linking PTSD symptoms and alcohol use.

3. PAIN TRAJECTORIES AND ALCOHOL USE DISORDER OUTCOMES AMONG VETERANS DURING COVID-19

Shaddy K. Saba, M.A., Jordan Davis, Ph.D., Nina Christie, M.P.H., Eric Pedersen, Ph.D.

Veterans have very high rates of physical pain, placing them at risk of alcohol use disorder (AUD). As psychosocial stress is a determinant of both pain and AUD, it is necessary to explore how pandemic and pre-pandemic stressors were associated with veterans' pain trajectories during COVID-19, and how pain was associated with AUD. American veterans (N = 1,230) were recruited immediately prior to the pandemic and surveyed at baseline, 6-, 9-, 12-, and 18-months. We employed growth mixture modeling to determine latent classes of pain trajectories, identify psychosocial predictors of pain, and link pain trajectories to AUD outcomes. Results revealed four distinct pain trajectories: stable high, decreasing, stable low, and increasing pain. Adverse childhood experiences predicted being in the stable high pain class compared with all other classes, and female sex predicted being in the stable high pain class compared with the decreasing class. Negative reactions to the pandemic were associated with heightened pain at each time point among all classes except the increasing pain class. At 18-months post-baseline, those in the stable high and increasing pain classes likely met criteria for AUD. While those in the decreasing pain class likely met criteria for AUD prior to the pandemic they no longer met criteria at 18-months post-baseline. Results build on prior work and highlight a likely interplay between psychosocial stress, pain, and AUD.

Friday, April 8 at 3:15

Crystal Ballroom

MEDIA, SOCIALITY, AND SUBSTANCES: HOW WE TALK ABOUT THE CONTEXT OF DRUG USE DURING COVID-19 MATTERS

Chair: Nina C Christie, M.A., M.P.H. & Sheila Pakdaman, M.S.

Discussant: Jennifer B. Unger, Ph.D.

1. THE HARM IN MEANING WELL: THE PANDEMIC AS AN EXCUSE FOR BENEVOLENT DRUG SCARES

Esthelle Ewusi Boisvert, M.A.,

Since the early 20th century, drug policy has focused on criminalization of drugs like cannabis and heroin, purportedly to protect citizens from harm (e.g., by reducing drug use and crime). However, a growing body of evidence shows that drug policies are both ineffective at reducing drug use and crime, and perpetuate the overpolicing of racialized communities. The implementation of drug scares (i.e., when government authorities blame one or more drugs as the core cause for a range of pre-existing societal issues) has been key in gaining support for these policies.

Another factor that may serve to maintain harmful drug policies is support from well-meaning members of the public who engage in benevolent racism (i.e., when racist beliefs and attitudes are framed in positive terms, such that they are categorized as prosocial). Specifically, well-meaning people might support the rhetoric that drug policies serve to protect citizens from harm, while being unaware of their racist enforcement.

Here, we explore how the COVID-19 pandemic might serve as a platform for another drug scare, likely to be upheld by benevolent racism. Given the social and economic impacts of the pandemic, changes in drug use patterns are being publicized - alarmingly - as an indicator of an incoming drug crisis. The combination of drug scares and benevolent racism during the pandemic are likely to continue bolstering the racist enforcement of drugs laws.

2. WHAT WAS THE VIBE YOU WERE GOING FOR? SAM BEHAVIORS AND SOCIALIZATION DURING THE COVID-19 PANDEMIC

Sheila Pakdaman, M.S., Jen Weck, B.S., Melinda Longtin, M.S.W., John Clapp Ph.D.

Introduction: Marijuana use is at historic highs amongst college-aged adults, who are more likely to engage in simultaneous marijuana and alcohol use (SAM) than other age cohorts. The COVID-19 pandemic is a unique transitory phenomenon that led to isolation, changes in socialization, academic modifications, as well as changes in substance use for college students. Methods: To explore the association between SAM socialization and motivation behaviors among college students (N=32), interviews were conducted across the United States from January 2021-April 2021 via Zoom. Interviews were then transcribed, and thematic analysis was conducted using a grounding approach in Atlas.ti. Results: The sample was primarily White females, who were juniors in college (age=21). Since the pandemic, half of the participants increased their SAM use, while the other half decreased their use. SAM use was split into different categories with friends (n=26), with partners (n=10) and with roommates (n=12). Additionally, more than half of the sample indicated that they used SAM alone (n=18). Motivations to use SAM included to relax (n=24), to socialize (n=20), to offset the COVID-19 pandemic (n=19), and to relieve general stress and anxiety (n=14). Conclusion: The COVID-19 pandemic impacted college student's substance use, thus understanding SAM use within this population is an important public health concern especially because of the legalization of marijuana in many states. This research can benefit future directions regarding pandemic preparation.

3. THE EARLY IMPACT OF SOCIAL DISTANCING MEASURES ON DRUG USE

Nina C Christie, Vanya Vojvodic, B.S., John Monterosso, Ph.D.

Social distancing policies have been widely adopted in response to the COVID-19 pandemic. High levels of social connection are positively associated with beneficial health outcomes, while social isolation is associated with poor long-term health outcomes including reduced life expectancy. The present study evaluates the impact of social distancing measures during the early period of COVID-19 on substance use behaviors among those in the United States. Methods: We used an internet-based survey with participants (n = 157; 86 male) reporting a history of problems related to drug use. We relied on ANOVA and logistic regression techniques to assess the associations between social connection and substance use. Results: People with more severe drug use problems reported feeling more socially isolated during social distancing. Those who primarily use alcohol reported higher global feelings of social connection than those who primarily use opioids. During social distancing, participants reported an increase in alcohol and cigarette consumption, and a decrease in cocaine use. Lastly, those who reported using drugs for social reasons were less likely to have decreased substance use during social distancing. Conclusions: The current study provides evidence that social distancing guidelines have impacted both substance use behaviors and feelings of social and physical connection. Further, there are differential impacts based on drug of choice. These results advance the delineation of the connection between sociality and drug use.

4. QUALITY OF CARE FOR PEOPLE WHO INJECT DRUGS: INSTITUTIONALIZED STIGMA IN HEALTHCARE

Sid Ganesh, B.S., Ricky Bluthenthal, Ph.D.

Injection drug use-related infective endocarditis (IDU-IE) is a bacterial infection of the heart valve. If left untreated and/or undertreated, IDU-IE results in significant morbidity and mortality (Cahill & Prendergast, 2016). The number of IDU-IE cases has increased by 238% between 2013-2017 in Pennsylvania and by 440% from 2011-2016 in New Hampshire (de Gijzel et al., 2020). This is a narrative review on IDU-IE evaluating factors such as Patient Directed Discharges (PDD) that are higher among people who use drugs (PWUD) due to lack of initiation of Medication Assisted Treatment (MAT) and due to incomplete treatment completion, PDD leads to poor treatment and medical outcomes for IDU-IE (Suzuki et al., 2020 & Nolan et al., 2020). Additionally, there is limited specificity in guidelines on treatment for IDU-IE leaving room for provider bias to impact treatment standards (Hayden et al., 2020 & An et al., 2020). Evidence suggests that this subjectivity allows for consideration of bioethical themes of futility and rationality, serving as avenues for potentially disparate treatment of PWUD (Hayden et al., 2020). These conceptions of futile care are individually defined as the patient's motivation to recover, complete abstinence from drug use, the opportunity to recover from the OUD, and the belief that patients would never recover from OUD thus short term life saving surgery would not change their long term outcomes (Hayden et al., 2020).

Friday, April 8 at 9:45am

Crystal Ballroom

PRESCRIPTION OPIOID USE AND MISUSE: INNOVATIVE APPROACHES TO UNDERSTANDING ETIOLOGY AND HARMS (1.25 CE)

Chair: Patrick D. Quinn, Ph.D.

1. PATTERNS AND PREDICTORS OF OPIOID USE IN ADOLESCENTS UNDERGOING SURGERY

Cornelius B. Groenewald, M.D.

Despite most adolescent opioid overdose deaths being due to illicit opioids (e.g. fentanyl), prescribed oral opioids remains an important pathway of the opioid crisis. Each year >500,000 adolescents in the USA receive prescription opioids following surgery. Reducing risks by improving surgical opioid prescribing requires a better understanding of recent national trends and associated risk factors. Data comes from 2 distinct sources: 1) epidemiological data from a nationally representative dataset (n=40,000), and 2) from a prospective cohort study using ecological momentary assessment to examine associations between modifiable risk factors and opioid use following surgery (n=80). Epidemiological data suggests that rates of opioid prescribing associated with surgery has remained stable between 2012 and 2018. Extrapolated to the nation, 486,000 adolescents received a surgical opioid prescription in 2012, while 449,000 received one in 2018. In contrast opioids for non-surgical indications significantly decreased during this period. To evaluate modifiable factors associated with postsurgical opioid use, Dr. Groenewald then enrolled a cohort of adolescents (10-19 years) undergoing outpatient orthopedic surgery. Opioid use was measured using an electronic medication monitoring device (eCAPTM). Multivariate Poisson regression revealed that pain intensity ($\beta=0.17$, $p<0.0001$), anxiety ($\beta= -0.03$, $p<0.0001$), and a history substance use ($\beta=0.80$, $p<0.0001$) was associated with increased opioid use. Better understanding of recent trends and risk factors may lead to strategies aimed at reducing opioid exposure to adolescents undergoing surgery.

2. PRESCRIBED OPIOID DOSE AND RISK OF MOTOR VEHICLE CRASHES: A STUDY OF NATIONAL HEALTHCARE DATA

Patrick D. Quinn, Ph.D., Zheng Chang, Ph.D., Toyya A. Pujol, Ph.D., Matthew J. Bair, M.D., Robert D. Gibbons, Ph.D., Kurt Kroenke, M.D., Brian M. D'Onofrio, Ph.D.

In the context of rising opioid-overdose-related mortality, opioid-involved motor vehicle fatalities have also increased. Experimental studies demonstrate that opioid administration can impair driving-relevant psychomotor performance. What remains uncertain, however, is the extent to which real-world prescribed opioid use contributes to risk of motor vehicle crashes. We used 2010-2018 national commercial healthcare insurance claims data to examine the association of prescribed opioid dose with risk of motor vehicle crashes, as assessed via clinical diagnoses from emergency department visits, inpatient hospitalizations, and ambulance transportation. To help address confounding, we used a within-individual design, which ruled out time-invariant confounding by comparing risk for the same individual across treatment periods over time. We identified 772,404 adults initiating prescribed opioids for non-cancer pain management. Participants experienced 12,123 motor vehicle crashes across 2,150,009 person-years of follow-up, or 5.64 crashes per 1000 person-years. We found that, relative to risk during off-treatment periods, crash risk was greater during prescribed opioid therapy periods involving doses $\hat{\mu}$ 60 morphine milligram equivalents (MME) per day (odds ratio [OR], 3.86; 95% confidence interval [CI], 3.54-4.21), > 60 to 120 MME/day (OR, 5.46; 95% CI, 4.44-6.73), and > 120 MME/day (OR, 3.45; 95% CI, 2.31-5.15). These findings were supported by multiple sensitivity analyses. They suggest that opioid therapy, even at relatively lower doses, is associated with increased motor vehicle crash risk.

3. ELEVATED PRESCRIPTION OPIOID MISUSE IN UNDERSTUDIED SEXUAL AND GENDER MINORITY YOUNG ADULTS

Ty Schepis, Ph.D., Sean E McCabe, Ph.D., H. Scott Swartzwelder, Ph.D.

Young adults identifying as lesbian, gay, or bisexual have higher rates of prescription opioid misuse (POM) than heterosexual young adults, with limited evidence of elevated POM in transgender young adults. Other sexual and gender minority (SGM) young adults are understudied, so this research examined POM in understudied SGM young adults. Data were from the 2016-17 AlcoholEdu prevention program, with a total sample of 513,563 young adults. Cross-tabulations and logistic regression evaluated POM by gender and sexual identity. All examined SGM groups had elevated 14-day POM prevalence rates versus heterosexual (0.94%) and cis-gender females (0.83%) or cis-gender males (1.29%). Rates were highest in those identifying as having a queer sexual orientation (2.62%; odds ratio [OR] = 2.82, 95% Confidence Interval [95%CI] = 2.15-3.70) and a genderqueer gender identity (4.53%; OR = 5.69, 95%CI = 4.40-7.37). Members of either a gender minority group (2.81%; OR = 3.06, 95%CI = 1.76-5.31) or both a sexual and a gender minority group (3.82%; OR = 4.21, 95%CI = 3.47-5.11) had the highest POM rates. The sexual minority only group was intermediate (1.46%; OR = 1.57, 95%CI = 1.47-1.69) between heterosexual/cis-gender young adults (0.94%; reference group) and members of only a gender minority or both a sexual and gender minority group. All SGM young adults appear at elevated risk for POM, highlighting a need for further research on these groups.

4. SOCIOECONOMIC AND MENTAL HEALTH PREDICTORS OF POLYSUBSTANCE USE IN PREGNANCY

Ayesha Sujjan, Ph.D., Stacey E. Alexeeff, Ph.D., Natalie Slama, M.P.H., Lyndsay A. Avalos, Ph.D., Amy Conway, M.P.H., Deborah Ansley, M.D., Sara R. Adams, M.P.H., Kelly C. Young-Wolff, Ph.D.

Polysubstance use is associated with health risks for mothers and their offspring. However, little is known about the profiles of patients with different patterns of prenatal substance use. This study aimed to (a) identify subgroups of women with different patterns of prenatal substance use using latent class analysis and (b) compare socioeconomic and mental health characteristics associated with these subgroups using logistic regression. The sample included 265,275 pregnancies between 2012 and 2019 screened for substance use in the first trimester via self-report and urine toxicology measures during routine prenatal care in a large integrated healthcare delivery system (mean age [SD]=30.6 [5.3] years, 62.0% Non-White, 15.6% substance users). Latent class analyses identified four groups of women with different patterns of prenatal substance use - those who predominantly used (a) alcohol only (n=24,679 [9.30% of the sample]), (b) cannabis only (n=12,948 [4.88% of the sample]), (c) nicotine and opioids (n=2,884 [1.09% of the sample]), and (d) cannabis, alcohol, nicotine, and stimulants (n=946 [0.36% of the sample]). The proposed talk will focus on describing differences in socioeconomic and mental health characteristics for the nicotine and

opioids group compared with the other substance use groups. Results highlight the need to tailor prenatal substance use interventions to the unique needs of pregnant women with distinct substance use and mental health profiles.

Saturday, April 9 at 9:30am

Crystal Ballroom

EMERGING ISSUES AND FUTURE DIRECTIONS FOR PROTECTIVE BEHAVIORAL STRATEGIES RESEARCH (1.25 CE)

Chair: Matthew R. Pearson, Ph.D.

1. A META-ANALYSIS OF THE EFFECTS OF INTERVENTIONS TARGETING ALCOHOL PROTECTIVE BEHAVIORAL STRATEGIES

Dylan K. Richards, Ph.D., Rory A. Pfund, Ph.D., Frank J. Schwebel, Ph.D., Verlin W. Joseph, Ph.D., Matthew R. Pearson, Ph.D.

Alcohol protective behavioral strategies (PBS) are cognitive-behavioral strategies used before, during, or after drinking to reduce the likelihood of experiencing negative alcohol-related consequences. Importantly, PBS are proposed to be modifiable in that these strategies can be taught via intervention efforts. Although the cross-sectional association between more frequent PBS use and fewer negative alcohol-related consequences is well-established, it is unknown whether existing alcohol interventions effectively increase PBS use, and, in turn, decrease negative alcohol-related consequences. Thus, we conducted a systematic review and meta-analysis to understand whether alcohol interventions targeting PBS increase PBS use and whether PBS use is associated with fewer negative alcohol-related consequences posttreatment. A total of 32 studies, representing 14,442 participants, were included in the meta-analysis. Random effects meta-analyses indicated the effect of intervention, relative to control, on PBS was $g=0.14$, 95% CI [0.01, 0.27], $p=.03$, and negative alcohol-related consequences was $g=-0.22$, 95% CI [-0.39, -0.06], $p=.01$. Further, the association of PBS with negative alcohol-related consequences at posttreatment was $r=-0.32$. These findings suggest that existing interventions targeting PBS result in small increases in PBS use posttreatment and thus future research is needed to better understand how to bolster these effects; results of moderator analyses in the present meta-analysis represent an initial step toward this goal.

2. ON THE FUTILITY OF FACTOR ANALYSES OF ALCOHOL PROTECTIVE BEHAVIORAL STRATEGIES

Matthew R. Pearson, Ph.D., Dylan K. Richards, Ph.D., Frank J. Schwebel, Ph.D., Verlin W. Joseph, Ph.D., Matthew J. Pearson, Protective Strategies Study Team, Addictions Research Team

Much factor analytic work has been conducted on measures of alcohol PBS, revealing distinct factor structures. For example, using the most commonly used measure of alcohol PBS, the Protective Behavioral Strategies Scale (PBSS), previous literature has supported distinct two, three, and four factor models. We assert that there are not underlying latent factors for PBS, so factor analysis may be an inappropriate technique to guide measurement. We examine two-factor (Madson et al., 2013), three-factor (Martens et al., 2005; Treloar et al., 2015), and four-factor (Walters et al., 2007) models using two distinct estimators (maximum likelihood and weighted least squares) with and without higher-order factor structure, or a shared general factor (i.e., bifactor model). Based on fit statistics, several factor models fit adequately to excellently, though a single optimal model did not emerge across the datasets. To determine the utility or lack thereof of examining these distinct factor structures, we examine the associations between PBS use and alcohol-related outcomes (alcohol use and negative alcohol-related consequences) across these distinct factor models. We found the amount of variance explained in alcohol use and negative alcohol-related consequences based on which factor structure is used varied minimally within each dataset. Thus, we suggest the continued use of factor analysis to develop an 'optimal' measure of PBS may be unproductive; the merits of alternative approaches will be discussed (see Presentation 4).

3. EVENT-LEVEL DATA ON ALCOHOL PROTECTIVE BEHAVIORAL STRATEGIES: THE CASE FOR WITHIN-SUBJECT ANALYSES

James M. Hensen, Ph.D., Cody A. Raeder, M.S., Dylan K Richards, Ph.D., Matthew R. Pearson, Ph.D.

Although correlational research suggests that use of alcohol protective behavioral strategies (PBS) is associated with lower alcohol-related harms, and PBS-based interventions have been shown to be efficacious (see Presentation 1, Richards et al.), determining the effectiveness of individual PBS likely will require event-level data. In the parent study, 251 college student drinkers were randomized to one of six intervention conditions including combinations of a brief motivational interventions targeting alcohol, a brief motivational intervention targeting PBS use, and an ecological momentary intervention targeting PBS use. Participants completed ecological momentary assessment (EMA) reports using a cross-platform mobile application (i.e., Android and iOS) for up to 12 weeks (2 weeks pre-intervention randomization, 6 weeks post-randomization, 2 weeks at 1-month follow-up, 2 weeks at 3-month follow-up). A pre-drinking afternoon survey assessed drinking intentions and willingness to use PBS; a drinking survey recorded each standard drink consumed during a drinking episode via self-report; and a morning survey assessed drinking, drinking context, harm reduction goals, PBS use, and the experience of negative alcohol-related consequences. In this presentation, we focus on the patterns of PBS use across individuals and across drinking contexts (i.e., social vs. solitary use), highlighting substantial within-subject and between-subject variability. Our ability to make causal attributions regarding using individual PBS and the reduction of alcohol-related harms will depend on our ability to manipulate PBS use at the event level.

4. DEVELOPMENT AND PSYCHOMETRIC TESTING OF THE OPIOID PROTECTIVE BEHAVIORAL STRATEGIES SCALE

Margo C. Villarosa-Hurlocker, Ph.D., Frank J. Schwebel, Ph.D., Matthew R. Pearson, Ph.D.

Protective behavioral strategies (PBS) measures have been developed to assess harm reduction strategies related to alcohol, cannabis, gambling, and dating/sexual behaviors. Building from existing measures for other substances (largely the Protective Behavioral Strategies for Marijuana scale) as well as known behaviors associated with opioid misuse, we developed a 60-item Opioid Protective Behavioral Strategies Scale (OPBSS). Based on a large screening survey administered via the Prolific platform (n=8382), 207 individuals endorsed using opioids in the past 30 days. We recruited 77% of these individuals (n=160) to complete and Opioid Use Survey, though our analyses are restricted to a subsample of 135 individuals (65% of eligible participants) who endorsed using opioids in the past 30 days. To produce a short-form measure, we examined the correlations between individual opioid PBS items and opioid-related outcomes (quantity of prescription opioids, fentanyl, and heroin; opioid misuse measured by the Current Opioid Misuse Measure); negative consequences assessed by the Inventory of Drug Use Consequences, InDUC). Removing items that were not significantly negatively correlated with any of our opioid-related outcomes resulted in a 29-item OPBSS, which was significantly related to lower quantity of prescription opioids ($r=-.179$), lower opioid misuse ($r=-.291$), and lower negative opioid-related consequences ($r=-.356$). Ongoing work to be presented includes examining the test-retest reliability of the OPBSS and further psychometric testing in other samples of opioids users.

Thursday, April 7 at 1:45pm

Crystal Ballroom

GRANT-FUNDED STUDENT RESEARCH ON FACTORS IMPACTING SUBSTANCE USE: OPPORTUNITIES AND ACCOMPLISHMENTS

Chair: Elena Stein, M.S.

Discussant: Tammy Chung, Ph.D.

1. VALIDATING THE ADDICTIONS NEUROCLINICAL ASSESSMENT AMONG DIVERSE DRINKERS

Elena Stein, M.S., Eric Claus, Ph.D., Katie Witkiewitz, Ph.D.

The Addictions Neuroclinical Assessment (ANA) is a proposed multimodal assessment battery that aims to better characterize heterogeneity among addictive disorders. Unlike other nosologies of addictive disorders, the ANA focuses on three core domains that are derived from neurobiological circuits consistently shown to be disrupted in addiction: negative emotionality, incentive salience, and executive function. To date, the ANA has been validated in a limited number of studies and additional research is needed to refine an optimal assessment battery that is valid among diverse populations. The present study validated the three factor ANA model using exploratory structural equation modeling and examined measurement invariance among sex and Hispanic and non-Hispanic white groups. Participants were 240 heavy drinking adults (49% Hispanic, 47% female). Indicators for the three-factor ANA model were self-report and behavioral measures. Results indicated that the ANA model had excellent fit to the data. We also found evidence for scalar measurement invariance between Hispanic and non-Hispanic white subgroups, as well as between males and females. These findings provide support for using the ANA with diverse populations of drinkers and pave the way for future research. The ANA is a promising phenotyping strategy to better match individuals to effective treatments based on core domains. Future work is needed to continue to refine an ANA assessment battery, establish its predictive validity, and examine its validity in additional diverse populations.

2. SUBJECTIVE NORMS AS A MEDIATOR BETWEEN ADOLESCENTS' ONLINE EXPOSURE TO SUBSTANCE USE AND OFFLINE USE

Julie V. Cristello, M.S., Matthew T. Sutherland, Ph.D., Elisa M. Trucco, Ph.D.

Though adolescent substance use (SU) may seem normative, experimentation can quickly escalate to problematic use. Identifying risk factors of initiation will help inform early intervention programming. Smart phone use may increase adolescent SU risk given that over 90% of adolescents report daily use. Despite using social media to connect with others, adolescents also view depictions of glamorized SU. Given the time adolescents spend on social media, online examinations of exposure to alcohol and marijuana use may provide insights into adolescent SU that are not visible offline. Data from a multi-wave multi-informant project examined whether subjective norms mediated associations between exposure to alcohol and marijuana use by both peers and influential figures on Instagram and Snapchat and offline use. Participants were 264 adolescents (Mage = 14.9, 50.8% Female, 86.4% White, 84.5% Hispanic/Latinx). Injunctive norms significantly mediated associations between exposure to alcohol-related content posted by peers and influential figures on Instagram and Snapchat and offline alcohol use. In contrast, injunctive norms significantly mediated associations between exposure to marijuana-related content posted by peers and influential figures on Instagram, but not Snapchat, and offline marijuana use. Descriptive norms did not mediate these associations, suggesting that increased exposure to online SU-content may impact perception of peer approval rather than peer use. Future directions outlined in the training award, including a more objective assessment of social media use, will be discussed.

3. AN INTERSECTIONAL ANALYSIS OF SUBSTANCE USE AMONG SEXUAL MINORITY YOUTH

Alena Kuhlemeier, Ph.D.

Sexual minority youth (SMY) report substance use rates that are approximately 3 times higher than their heterosexual peers. SM women, and individuals that identify as bisexual are especially likely to use substances at higher rates. Research comparing racial/ethnic groups shows that some racial minority youth use substances at lower rates than White youth. An intersectional lens is necessary to parse the diversity of experiences with substance use among SMY. The present study uses a multigroup structural equation model to investigate the protective effect of adult support on SMY substance use across intersectional identity categories on the basis of sexual orientation, sex, and race/ethnicity. Data were pooled from four years (2013, 2015, 2017, 2019) of the New Mexico Youth Risk and Resiliency Survey (N=3,654) and include those youth who were White or Hispanic/Latinx and identified lesbian/gay, bisexual, or questioning. Standardized

estimates reveal that male, particularly white male, youths' receipt of social support was associated with the lowest rates of substance use. Female youth did not experience as great of a protective effect and female questioning Latinx youth experienced no significant benefit of social support. This study proposes novel methods for applying an intersectional lens using health surveillance survey data and illuminates that support does not provide equal benefit to all SMY. Further research is needed to understand why some SMY derive greater benefit from adult support.

4. F31 OPPORTUNITIES AT NIAAA: FUNDING PRIORITIES AND APPLICATION GUIDANCE

Laura Kwako, Ph.D.

This talk will discuss the Kirchstein-National Research Service Award (NRSA) F31 funding mechanism, which is targeted towards predoctoral students. This mechanism, supported by NIAAA, provides the opportunity for mentored research awards for predoctoral scholars. The goal of the F31 program is to facilitate the development of independent research scholars. This talk will include discussion of the F31 mechanism broadly, guidance for applying, and funding priorities for NIAAA, and will include time for questions.

Friday, April 8 at 11:15am

Mayfair Ballroom

INTENSIVE LONGITUDINAL DATA: PREDICTORS, OUTCOMES, AND METHODS IN SUBSTANCE USE PREVENTION

Chair: Tim Janssen, Ph.D.

Discussant: Kristina Jackson, Ph.D.

1. EVENT-LEVEL IMPULSIVITY, CONTEXT, AND ALCOHOL USE AMONG UNDERAGE DRINKERS

Tim Janssen, Ph.D., Hayley Treloar Padovano, Ph.D., Robert Miranda Jr., Ph.D., Kristina M. Jackson, Ph.D.

Impulsivity has a complex relation to alcohol use. While trait impulsivity has long been established as a risk factor for substance use behavior, its event-level expression via its interactions with context, context selection, and drinking decisions has been more challenging to address. While contexts may facilitate impulsive behaviors, including alcohol use, drinkers may also select contexts accommodating desired impulsive actions.

Participants (N=118, age 18-20 years) completed the UPPS+P at baseline, and reported on the Momentary Impulsivity Scale, alcohol use, and context during 17 days of ecological momentary assessment comprising four daily surveys. Multilevel SEMs (MSEMs) examined the within-subject associations between event-level impulsivity, alcohol use, and context, and the relation of trait impulsivity to context selection. Both alcohol use and greater event-level impulsivity were associated with being at friends' places, parties, bars, and outside in public places, compared to being at home. At the event level, alcohol use and impulsivity were associated ($r=.38$, $p<.001$). Trait-level sensation seeking and negative urgency predicted greater endorsement of being at friends' places, parties, and bars. Underage drinkers have agency over their location, and may select into contexts that facilitate their intended behavior. At the same time, through interaction with this context, risk behaviors are plausibly exacerbated and problems become more likely. Future work will explore this chain of events in greater detail.

2. WHERE AND WITH WHOM YOUNG ADULTS USE PROTECTIVE BEHAVIORAL STRATEGIES: INTERVENTION IMPLICATIONS

Melissa J. Cox, Ph.D., McKenna Roudebush, Ph.D., Kathleen L. Egan, Ph.D.

Background: Protective behavioral strategies are intended to limit alcohol consumption, address the manner of drinking, and reduce serious harm. While certain strategies are relevant only to certain physical or social

contexts (e.g., limiting money spent on alcohol at a bar), no study to date has assessed young adult's engagement in protective behavioral strategies across varying physical and social contexts. Methods: We conducted an online survey with 514 young adults ($M_{age}=22.36$; 52.2% female-identifying; 60.70% White; 30.35% Hispanic). Participants rated their likelihood to engage in 26 strategies derived from three validated scales (e.g., alternate alcoholic and non-alcoholic drinks) in each of 6 physical contexts (e.g., bar) and 6 social contexts (e.g., large group). ANOVAs and pairwise comparisons were used to test mean differences in strategy engagement across contexts. Results: Engagement in strategies was highest in social contexts that comprised large groups and others who were intoxicated, and lowest when at home or with close peers. Multiple significant differences in mean levels of engagement in a strategy across different contexts emerged (e.g., more likely to alternate between alcoholic and non-alcoholic drinks when in a dark/loud space compared to at home, $p<.001$). Implications: Interventions, particularly those that utilize a just-in-time adaptive design, should tailor messages with harm reduction strategies to those that are most needed and most likely to be utilized in the particular drinking context.

3. IMPACT OF DRINKING RATE IN ALCOHOL AND CANNABIS CO-USE

Rachel L. Gunn, Ph.D., Alexander W. Sokolovsky, Ph.D., Angela K. Stevens, Ph.D., Megan M. Drohan, Ph.D., Holly Boyle, Sc.M., Helene R. White, Ph.D., Kristina M. Jackson, Ph.D.

Background: The mechanisms by which alcohol and cannabis co-use is associated with drinking outcomes are complex and findings are mixed. Patterns of alcohol use within co-use events may help clarify competing findings. For instance, faster or accelerated drinking rate has been associated with experiencing negative alcohol consequences. No studies to date have examined how co-use impacts rate of alcohol consumption or how rate of drinking during co-use impacts negative consequences. Methodology: Participants ($n=318$) completed two 28-day bursts of intensive longitudinal experience sampling comprising five daily surveys. Participants reported on their use of alcohol and cannabis for each time interval and prior-day consequences in the morning survey. Generalized linear mixed models were used to examine the association between co-use, drinking rate (slope calculated from spent drinking and number of drinks) and negative consequences on drinking days ($n=3,111$ days). Findings were compared to models using peak drinks/hour as a proxy for rate. Results: Co-use did not predict drinking rate. Faster drinking rate positively predicted the likelihood of experiencing a consequence. There was a significant interaction between drinking rate and co-use on likelihood of experiencing a consequence, suggesting that the association between drinking rate and consequences was weaker on co-use days. Discussion/conclusions: Results suggest that drinking rate is a robust predictor of consequences, regardless of co-use, and may be a valuable point of intervention, particularly in the moment.

4. COMPLIANCE AND RELIABILITY OF SUSTAINED INTENSIVE LONGITUDINAL ASSESSMENT OF SUBSTANCE USE

Alexander W. Sokolovsky, Ph.D., Rachel L. Gunn, Ph.D., Helene R. White, Ph.D., Kristina M. Jackson, Ph.D.

Background: Research on real-world patterns of substance use increasingly involves intensive longitudinal data (ILD) collection requiring long assessment windows. The present study extends limited prior research examining event- and person-level influences on compliance and reliability by investigating how these behaviors are sustained over time in an ILD study of alcohol and cannabis co-use in college students. Methods: Participants ($n=316$) completed two 28-day bursts of ILD comprising five daily surveys which included a morning report of prior-day drinking. We used discontinuous generalized linear mixed models to evaluate associations between time (study day \times burst), non-compliance (count of missed surveys), and reliability (discrepancy between same-day report of drinking and morning report of prior-day drinking). We also examined whether same- or prior-day substance use was associated with compliance. Results: Time was positively associated with non-compliance with no discontinuity or slope change across bursts. Time was negatively associated with discrepant reporting. Discrepancy increased at the start of the second burst but was more negatively associated with time within that burst. Compliance was positively associated with same-day cannabis use and negatively associated with prior-day drinking. Discussion: Compliance decreases during long-term ILD paradigms while reliability improves except between bursts. Shorter assessment

windows may improve overall study compliance. Survey non-response appears to be affected by the use of substances on that day or on the prior day.

Thursday, April 7 at 9:45am

Crystal Ballroom

ASSOCIATIONS AMONG IDENTITY, INTERSECTING IDENTITIES, STIGMA AND DISCRIMINATION AND SUBSTANCE MISUSE

Chair: Bradley T. Conner, Ph.D.

Discussant: Adrian J. Bravo, Ph.D.

1. EXPLORING ASSOCIATIONS BETWEEN TRANSGENDER IDENTITY AND ALCOHOL AND CANNABIS USE AMONG ADOLESCENTS

Bradley T. Conner, Ph.D., Patrice Arkfeld, Mark A. Prince, Ph.D., Annesa M. Fluente

There are an estimated 150,000 transgender youth between the ages of 13 and 17 in America. These adolescents overwhelmingly report experiencing hostility because of their transgender identity. Previous research has observed differences alcohol and cannabis misuse between those who identify as transgender and those who do not. However, there is limited research on associations between gender identity and alcohol and cannabis use in adolescence, even though this is a critical developmental period for gender identity. We explored relations between gender identity and alcohol and cannabis misuse among 46,537 adolescents ($M=15.7$, $SD=1.2$) who completed the Healthy Kids Colorado Survey. Results indicated that individuals who identified as transgender ($n=300$) were significantly more likely to engage in daily alcohol (12.45% vs. 5.92%) and cannabis use (16.95% vs. 3.69%) compared to individuals who do not identify as transgender. They were also significantly more likely to endorse heavy episodic drinking compared to adolescents who do not identify as transgender. All findings held even after controlling for sexual orientation, assigned sex, age, race, and ethnicity. This indicates that identifying as transgender as an adolescent appears to confer highest risk for alcohol and cannabis misuse regardless of other identities that have shown higher associations with alcohol and cannabis use. These differences are likely associated with the stigma and discrimination that trans-identified adolescents face and not biological factors associated with identifying as transgender.

2. RACIAL DISCRIMINATION AND COPING STYLES PREDICT RISKY ALCOHOL USE AMONG MINORITY STUDENTS

Margo C. Hurlocker, Ph.D., K. M. E. McCollum, A. J. Bravo, Ph.D.

Racial discrimination is a social determinant of health that also predicts risky drinking patterns among ethnic/racial minority students. Prior evidence suggests that racial discrimination may lead individuals to develop a negative coping style to manage stressful experiences, which may also lead to more health risk behaviors, such as risky drinking. The current study examined the direct and indirect associations of racial discrimination, coping behaviors, and hazardous drinking among four ethnic/racial minority groups. Participants were 2,365 college students from seven universities across six states in the United States that identified as Asian/Asian American, Black/African American, Latinx/Hispanic, or Multiracial. Participants completed measures of racial discrimination, coping behaviors, and hazardous drinking patterns. Factor analysis of 14 coping behaviors revealed three broad categories (adaptive, maladaptive, and supportive). Structural equation modeling within the total sample demonstrated that discrimination frequency predicted more problematic drinking patterns, and maladaptive coping behaviors partially explained this relationship. Group differences emerged such that maladaptive coping mediated the association between discrimination frequency and problematic drinking behaviors for Black and Multiracial students. Findings underscore the need for more work on the social determinants of alcohol use that are unique to minority students to effectively improve alcohol interventions and to change the social landscape in higher education.

3. MOTIVATIONAL PROFILES OF ALCOHOL USE: A WITHIN-GROUPS EXAMINATION OF LATINA, BLACK, AND WHITE COLLEGE

Jessica K. Perrotte, Ph.D., Adrian J. Bravo, Ph.D., Ty S. Schepis, Ph.D.

Women are overburdened by many alcohol-related health problems compared to men. This is particularly true for women from minoritized populations. Thus, it is critical to understand how proximal predictors of alcohol-related behaviors and problems, such as drinking motives, are experienced within diverse populations of women. Participants in this analysis were current college student women drinkers and identified as either Latina (n = 486), Black (n = 301), or non-Latina White (n = 1146). We conducted latent profile analyses within each group using drinking motives (i.e., social, coping, enhancement, conformity) as indicators and tested the equality of means across profiles for demographics (e.g., sexual orientation) and alcohol variables (i.e., initiation; quantity; hazardous drinking; consequences). Similar profiles emerged within each ethnic/racial group. Three profiles were characterized by low motives, an “approach” orientation (i.e., much higher in social/enhancement motives than coping/conformity), or an “other” orientation (i.e., higher in social/conformity than coping/enhancement, with notable distinctions in this pattern across groups). Membership in the “approach” motivational profile was related to younger initiation for Latina and Black, but not White participants. For Latina and Black participants, but not White participants, the “other” motivational profile was a risk factor for hazardous drinking and consequences. Sexual orientation only differed across profiles for Latinas. These findings highlight the need for a nuanced understanding of how drinking motives are experienced among women from diverse populations.

4. INTERSECTIONALITY, RESILIENCE, AND NONMEDICAL PRESCRIPTION STIMULANT USE AMONG COLLEGE STUDENTS

Abby K. Johnson Holm, Shelby D. Tuthill, Neelamberi D. Klein, Emma Wedell, Alison Looby, Adrian J. Bravo, Mark A. Prince

In the present study, we examined why non-Hispanic White men are more likely than other subgroups to misuse prescription stimulants in college. The objective of the current study was to use a strength-based framework to examine intersectional demographic predictors – that is, gender and race/ethnicity – of nonmedical prescription stimulant use (NPS) among college students. We also investigated resiliency as a moderator. This report uses data from an online multisite study conducted at seven universities with 4,764 undergraduate students (70.1% women and 52.0% People of Color). We found that college students who were men and non-Hispanic White used NPS marginally significantly more than students who identified as another gender and as People of Color. There was also a buffering effect of resilience between race/ethnicity and NPS, such that resilience predicted lower NPS for People of Color, but not non-Hispanic White people 28% of the time. It may be that Students of Color are more resilient than non-Hispanic White students, and this resilience is protective of NPS use in college. Importantly, a compounding-privilege and/or intersectional approach to identity is crucial to fully understanding behavior (in this case NPS) in a diversity of college students; future studies should continue to use and develop such approaches.

Panels and Workshops

Thursday, April 7, 11:15am

Mayfair Ballroom

Considerations for Conducting Research with People of Color

Presented by: Angela Haeny, Ph.D.

Extensive evidence suggests research is overwhelmingly conducted utilizing predominately White samples without consideration for people of color. There is a need for addiction researchers to be intentional about recruiting participants of color. Part of this also involves studying constructs that represent the unique sociopolitical experiences of people of color. The objective of this workshop is to review methodological

factors to consider when studying participants of color including conceptualizing research questions, analyzing data, and manuscript writing. In addition, we will discuss approaches for enhancing recruitment from communities of color. This involves considering the images and language used, placement of advertisements, and utilizing a community engaged approaches.

Friday, April 8, 1:45pm

Mayfair Ballroom

Rationale, Opportunities, and Challenges of Open Science in Addiction Psychology: A Panel Discussion (1.25 CE)

Chaired by: Katie Witkiewitz, Ph.D.

Panelists: Priscilla Lui, Ph.D., Joshua B. Grubbs, Ph.D., Kevin M. King, Ph.D.

Over the last decade, many scientific disciplines are coming to terms with failures of replicating influential studies. For example, social psychological findings regarding power posing, obedience, and ego depletion have failed to be repeated. In fact, multi-lab projects involving over hundreds of researchers and large samples show that only half of classic and contemporary studies in social sciences are replicated. This so called “replication crisis” not only risks promoting false or misguided conclusions about psychology and the world, but also undermines the credibility of science and public trust. To enhance the credibility of psychological sciences, an “open science” movement has proposed reforms to improve reproducibility of research. Open science is aimed at making research more transparent and methodologically rigorous. The purpose of open science is to exemplify scientific integrity, social responsibility, and public accountability, goals that are promoted by the American Psychological Association and the National Institutes of Health. To date, clinical psychology has only just begun to engage with the discussion around open science, and only a handful of papers have started to explore open science practices in addiction psychology. The current panel will discuss key problems with prior research approaches that have resulted in the replication crisis, including lack of transparency and researchers’ degree of freedom. We will also discuss researcher positionality, incentive structure of the academe, and cultural humility as they pertain to the replication crisis. We will share some tools that are available to increase reproducibility and transparency in addiction psychology. The panelists will share their experiences with making their hypotheses and analytic plan transparent via study preregistrations, making their data and analyses publicly available for verification, and using multisite data collections, study swaps, and crowdsourcing recruitment platforms to ensure large and representative samples. The panel will introduce registered reports as a reform in the conventional way of scientific publications. There will be ample time for discussion and exchanges between the panelists and audience members on challenges in and approaches to improving the rigor and credibility of addiction psychology.

Saturday, April 9, 10:30am

Mayfair Ballroom

A Practical Guide to Open Science Practices in Addiction Research

Presented by: Jonas Dora, Ph.D.

In this workshop, an overview over the why, the what, and the how of incorporating open science practices in your research workflow will be presented. We will put the focus on hands-on examples that will help you to setup your next research project in a way that would make every methodologist and statistician proud.

Participants are strongly encouraged to bring questions and reservations that relate to preregistering your own research, sharing their data, materials, and analysis scripts online, and attempting to replicate results.

Posters

All poster sessions will be held in the Kent Room.

SESSION 1: Thursday, April 7th, 4:30 PM

1. A PRELIMINARY ANALYSIS OF DIFFERENCES IN PERCEPTIONS OF E-CIGARETTE USE STIGMA

Delaney Dunn, MS, Hannah Appleseth MA, Emily Warner BA, Thad Leffingwell Ph.D.

Background: Past research has demonstrated that cigarette use is often more stigmatized than e-cigarette use. However, considering recent e-cigarette use trends and the increasing knowledge of e-cigarette use related harms, there is a need to assess possible stigmatization attached to e-cigarette use. Thus, the present study assessed potential differences in perceptions of e-cigarette use stigma. *Methods:* Participants (N = 443; 169 non-users, 196 e-cigarette users, 57 dual users, 21 cigarette users) were recruited from a large, Midwestern university. The sample consisted of primarily White (76.6%) females (68.5%), in their early 20's ($M_{age} = 20.2$ years). Participants completed online questionnaires that assessed demographics, and perceptions of e-cigarette use stigma. *Results:* One-way ANOVAs revealed that non-users were more likely to believe that most people would be reluctant to date e-cigarette users than all three other groups ($F = 11.65, p < .001$). Non-users were more likely than dual users to believe e-cigarette use is a sign of personal failure ($F = 4.94, p = .002$). Non-users were also more likely than e-cigarette and dual users to believe most people would think less of a person who uses e-cigarettes ($F = 9.95, p < .001$). *Conclusions:* Findings suggest that non-users perceive e-cigarette users more negatively than e-cigarette users perceive themselves. Additional research is warranted to further assess whether e-cigarette use is moving towards a stigmatized status.

2. A SCOPING REVIEW ON THE ROLE OF SOGI MICROAGGRESSION ON SUBSTANCE USE AMONG LGBT ADULTS

Neph Botor, Ph.D., Antover P. Tuliao Ph.D.

Prior studies show that blatant and overt violence is associated with substance use outcomes among sexual and gender minorities. However, the impact of sexual orientation and gender identity (SOGI) microaggressions (i.e., commonplace, covert, and subtle violence experienced by individuals due to their sexual and/or gender identities) needs further exploration. Following the PRISMA scoping review guidelines (Tricco et al., 2018), the present study maps the extant literature on SOGI microaggressions link to substance use. Twenty eligible studies were included out of the 324 records found from the initial search. Despite growing interest on the subject in the past five years, there are limited studies on the relationship between SOGI microaggression and substance use. Eleven (55%) articles were published in diversity-focused journals, four (20%) in addiction-related journals, four (20%) in clinical psychology or aggression-related journal, and one was a dissertation. Although all studies were represented by nonmonosexual participants, eighteen (90%) involved cisgender individuals and only 11 (55%) were participated by transgender people. While evidence suggest a weak to moderate positive association between SOGI microaggression and substance use outcomes, studies on the mechanism of action involved in this relationship are limited (e.g., alcohol demand, internalized binegativity, social identity, motive). Hence, there is a need to test other mediation/moderation models. Implications for future research are discussed at the culmination of this review.

3. AN ANALYSIS OF TWITTER CONTENT RELATED TO VAPING ONE MONTH BEFORE AND AFTER THE START OF COVID-19

Julie Cristello, MS, Khyati Mahajan MS, Sara Levens Ph.D., Elisa M. Trucco Ph.D.

Electronic cigarettes (e-cigarettes) entered the United States market in 2007 and have since received significant attention in recent years. In 2020, the media highlighted e-cigarette or vaping use-associated lung injury (EVALI) and associated hospitalizations and deaths. Shortly afterwards, COVID-19 was declared a pandemic (March, 2021). The current study examines how conversations related to vaping may have changed prior to the COVID-19 pandemic (February, 2020) compared to the start of the pandemic (April, 2020). Structured topic modeling was used to analyze 7,032 tweets that included keywords related to vaping

(e.g., e-cigarettes, e-cigs). Findings indicate that pre-pandemic topics focused largely on the impact of e-cigarette use on youth and political influences on use. In contrast, post-pandemic topics focused on references to boredom and tricks, craving, difficulty finding flavored pods, quitting use due to health, and worries about contracting COVID-19 through vaping. Findings suggest that tweets from before COVID-19 may have been more related to portrayals in the media, advocacy, or the government's role in e-cigarette regulation. In April 2020, tweets likely shifted to include components of coping with the pandemic and increased awareness of the impact e-cigarette use may have on one's health. This work highlights how Twitter can be used to understand public perceptions of e-cigarette use during the COVID-19 pandemic, which can help to inform public health campaigns and future directions for research.

4. AN EXAMINATION OF PROTECTIVE FACTORS FOR BISEXUAL STIGMA AND ALCOHOL USE AMONG BISEXUAL WOMEN

Melissa Rothstein, Ph.D., C. T. Schulz MA, B. Simone, A. L. Stamatides Ph.D., S. J. Ehlke Ph.D., M. L. Kelley Ph.D.

Bisexual women are an at-risk population for alcohol problems. One factor contributing to their risk is binegativity (discrimination from heterosexual and lesbian/gay communities). Research has found a positive association between binegativity and alcohol use, but few studies have explored protective factors (bisexual identity, connectedness to bisexual community) that may buffer this relationship. Consequently, we examined the impact of bisexual identity and connectedness on the association between binegativity and alcohol use and problems. Participants were 225 self-identified bisexual women between the ages of 18 to 30 years old ($M = 22.77$, $SD = 3.45$) who completed an online survey about their experiences of binegativity, alcohol use and problems, bisexual identity, and connectedness to the bisexual community. Results revealed that binegativity positively related to connectedness, $p < .001$, but not bisexual identity, $p = .126$. Binegativity predicted alcohol use ($B = 0.08$, $p = .001$) and alcohol problems ($B = 0.19$, $p < .001$), but moderation analyses revealed that neither identity nor connectedness impacted these associations. Although binegativity was linked to greater alcohol use and problems, bisexual identity and connectedness didn't serve as protective factors. It may be that individuals who are more openly bisexual have a stronger connectedness to the bisexual community, but in turn, are exposed to greater stigma. Future research is needed to identify other protective factors for the bisexual community.

5. BASELINE DRINKING MEASURES AND CHANGE LANGUAGE DURING AN ALCOHOL BRIEF MOTIVATIONAL INTERVENTION

Estella Fox, BA, Benjamin O. Ladd Ph.D., Brian Borsari Ph.D., Jon M. Houck Ph.D., James G. Murphy Ph.D.

The purpose of this study was to examine baseline alcohol use as a predictor of in-session clinically-relevant language using an integration of behavioral economic and motivational interviewing theories. In this novel coding system, utterances that promote alcohol use or devalue competing activities are categorized as sustain talk (ST), whereas utterances that devalue alcohol use or promote competing activities are categorized as change talk (CT). Audio recordings ($n = 241$) from two randomized controlled trials of mandated college students' alcohol interventions were coded using this novel system. Typical weekly drinking and alcohol problems were assessed at baseline and compared to rates of CT and ST, computed as a proportions of overall client utterances by session. ST and CT comprised $M = 18.3\%$ ($SD = 6.3\%$) and $M = 25.8\%$ ($SD = 8.0\%$) of utterances, respectively. Pairwise correlations revealed a significant positive correlation between alcohol problems and CT, $r(234) = .281$, $p < .001$, suggesting those reporting more alcohol problems offer more in-session language acknowledging consequences or desires to change. There was also a significant positive relationship between weekly drinking and ST, $r(240) = .258$, $p < .001$, indicating that higher-drinking participants tend to offer more drinking maintenance statements. These findings suggest baseline alcohol use is associated with these novel definitions of in-session language in differential ways, which could be used to match clinical techniques to individual clients during opportunistic interventions.

6. CANNABIS AND PAIN INTERFERENCE: MODERATING EFFECTS OF SEX, MINDFULNESS, AND RUMINATION

Maggie Mataczynski, BA, Vanessa Taitianna Stallsmith BA, Cianna Piercey BS, Susi Baumgardner BA, Evelina Bouckova, Sydney Sullivan, Hollis C. Karoly Ph.D., Noah N. Emery Ph.D.

Chronic pain is a condition often resulting in pain related disabilities and pain interference (i.e., consequences of pain on relevant aspects of a person's life). Alternative medications to opioids, such as cannabis, may provide amelioration of pain interference without negative consequences. Despite this, research on the impact of cannabis on pain interference is mixed (Campbell et al., 2018; Hill et al., 2017), which suggests there may be potential moderators. Factors that could moderate the relationship between using cannabis to manage pain and pain interference include rumination, mindfulness, and sex as have each been shown to influence differences in the experience of pain (e.g., Cha et al., 2007; Chiesa & Serretti, 2011; Sullivan et al., 2002). However, to date, no study has examined the moderating effects of these factors on the relationship between managing pain with cannabis and pain interference. To address this, the current study aimed to characterize the relationship between using cannabis to manage pain and pain interference in a college population (N=248) and examined the moderating effects of rumination, mindfulness, and sex. Results indicated that using cannabis to manage pain was associated with greater pain interference ($\beta=.28$, $p<.001$) as was both rumination ($\beta=.30$, $p<.001$) and mindfulness ($\beta=.14$, $p=.011$). Sex was not associated with pain interference. Despite these main effects, there were not significant interactions between cannabis use and rumination, mindfulness, or sex ($p>.241$).

7. CARDIOVASCULAR SYSTEM CHANGES IN A SAMPLE OF WOMEN RECEIVING TREATMENT FOR SUBSTANCE USE DISORDER

Kelsey Piersol, MS, Marsha E. Bates Ph.D., Anthony P. Pawlak Ph.D., Evgeny Vaschillo Ph.D., Jennifer F. Buckman Ph.D.

The disproportionate, pervasive, and harmful consequences of alcohol on women's health remains understudied. Despite consuming less total volume of alcohol across the lifespan than men, women are at greater risk for developing myriad physical health complications, including cardiovascular disease (CVD). This study builds upon previous work identifying alcohol-related cardiovascular system rigidity in binge drinkers and natural cardiovascular improvements during cognitive behavior therapy in women with an alcohol use disorder. Principal Component Analysis (PCA) was applied to data from a sample of parenting women receiving treatment for a substance use disorder (SUD). Participants ($n = 68$; ages 19-51) were part of a randomized clinical trial assessing a breathing intervention added to treatment-as-usual. Heart rate, stroke volume, pulse transit time, and beat-to-beat blood pressure were measured during two laboratory visits (8 weeks apart). PCA revealed a three-component structure that explained 87% (pre-intervention) and 85% (post-intervention) of the variance. Despite similar component structures, inter-factor correlations weakened from pre- ($r = 0.25, 0.21, 0.40$) to post-treatment ($r = 0.14, 0.17, 0.19$), suggesting a reduction in cardiovascular rigidity. This may imply that substance use-related cardiovascular impairments are reversible in women with an SUD diagnosis. Continued efforts to understand the etiology and progression of addiction-related cardiovascular alterations across a woman's lifespan are necessary to develop targeted harm reduction and treatment plans for substance misuse that may contribute to CVD development.

8. CHARACTERIZING FLEXIBILITY, PTSD SYMPTOM SEVERITY, AND INTERVENTION IMPLEMENTATION IN WOMEN WITH SUD

Sarah Grace Uhouse, MS, Ian Frazier, Ph.D., Anthony Pawlak, Ph.D., Suril Gohel, Ph.D., Marsha E Bates, Ph.D.

Substance use disorders (SUDs) and posttraumatic stress disorder (PTSD) symptoms often co-occur and are associated with increased symptom severity and reduced functioning. Women are more likely to have a dual diagnosis than men but are less likely to receive treatment. Understanding person-centered factors that increase intervention implementation may reduce the prevalence and burden of SUD/PTSD symptoms in women by increasing treatment engagement. This study examined "flexibility" as an individual-level mechanism underlying heart rate variability biofeedback (HRVB) mobile-based application utilization. The current study assessed flexibility across physiological, cognitive, and neural domains. The study aimed to: characterize flexibility; understand the relationship between flexibility and PTSD symptom severity; and investigate the relationships between flexibility, PTSD symptom severity, and HRVB app use. Results suggested that physiological flexibility relates to neural, but not cognitive, flexibility. Additionally, 0.1Hz HRV spectral amplitude, a proxy of physiological flexibility, was the most sensitive predictor of PTSD symptom severity. Although findings suggested a negative association between PTSD symptoms and HRVB app use, it is unclear whether flexibility contributed to this relationship. Age, SUD group, and session attendance also

significantly contributed to the relationships between PTSD symptom severity, flexibility, and HRVB application use. These findings provide knowledge of flexibility as a theoretically-driven construct aimed at understanding SUD/PTSD symptoms in women. This study establishes innovative approaches for investigating flexibility as a person-centered factor contributing to HRVB implementation.

9. CHARACTEROLOGICAL SELF-BLAME AND PATIENTS' GENETIC ATTRIBUTIONS FOR THEIR GAMBLING PROBLEMS

Matthew Lebowitz, Ph.D.

The role of genetics in addiction is receiving increased attention. Per conventional wisdom, genetic explanations should help to reduce stigma by portraying addictive disorders as blameless diseases. However, such explanations can engender essentialism, e.g., the notion that genetically influenced disorders represent a fundamental/permanent and deep-seated aspect of the self which could potentially exacerbate so-called characterological self-blame (a construct involving attributions to immutable, internal causes, associated with belief in deserving negative outcomes). The relationship of genetic attributions with self-blame among patients experiencing addiction is underexplored. Here, 60 patients seeking treatment for gambling disorder completed measures of their genetic attributions and characterological self-blame for their gambling problems. Considering previous findings (in other mental disorders) linking biomedical explanations with preferences for biomedical treatment (vs. psychotherapy) and decreased feelings of self-efficacy and symptom controllability, additional measures gauged patients' beliefs about medication and psychotherapy effectiveness, as well as self-efficacy and locus-of-control beliefs related to their gambling. Linear models regressed each dependent measure on genetic attributions while controlling for severity (which can be confounded with genetic attributions), as measured by the Problem Gambling Severity Index. Genetic attributions were positively associated with characterological self-blame, $\beta=.36$, $p=.008$. No other outcome measures were significantly associated with genetic attributions, $|\beta|<.15$, $p's > .30$. Contrary to conventional wisdom, genetic attributions may be linked with increased self-blame among patients with addictions, perhaps because they are associated with essentialism.

10. CIGARETTE SMOKING AND DEPRESSION: EXAMINING A PARALLEL PROCESS GROWTH MODEL IN VETERANS

Denise Tran, Ph.D., Eric R. Pedersen, Ph.D., Daniel S. Lee, Ph.D., Reagan E. Fitzke, BS, & Jordan P. Davis, Ph.D.

Cigarette smoking and depression often co-occur and are both associated with negative outcomes, particularly among American veterans. We examined simultaneous changes in smoking and depression symptoms among veterans ($N = 1,230$) over 18 months using parallel process growth curve modeling. We also explored time-varying factors known to be associated with smoking and depression, namely: stress, alcohol use, and posttraumatic stress disorder (PTSD). Parallel process growth curve modeling indicated higher starting values in depression correlated with a less steep decrease in smoking over time, while higher starting values in smoking correlated with a steeper increase in depression. Increases in depression correlated with a less steep decrease in smoking over time. Examining time-varying covariates, perceived stress was contemporaneously associated with less smoking at Times 1-2 and more frequent smoking at Times 3-5, demonstrating an accelerating effect over time. Alcohol use was contemporaneously associated with greater smoking at all time points. For depression, alcohol use and PTSD symptoms were contemporaneously associated with greater depressive symptoms at all time points, while perceived stress was associated with greater depression at Times 1-2. Results provide compelling evidence that trajectories of change in depression and smoking are linked and have important implications for addressing stress, alcohol use, and PTSD in treating co-occurring depression and smoking in veterans.

11. CULTURAL ORIENTATION, DRINKING MOTIVES, AND ALCOHOL OUTCOMES AMONG YOUNG ADULTS FROM SEVEN COUNTRIES

Neelamberi Klein, BA, Adrian Bravo, Ph.D., Angelina Pilatti, Ph.D.

Aims: Past research has examined the association of cultural orientation with drinking motives and drinking outcomes, mainly at the country level or in participants from a single region. This study examined the indirect associations of features of cultural orientation (i.e., vertical individualism, vertical collectivism, horizontal

individualism, horizontal collectivism; VI, VC, HI, and HC, respectively) and alcohol outcomes (i.e., use and negative consequences) via drinking motives in college students from seven countries ($n = 4093$, 72.8% female). *Methods*: Participants completed an online survey reporting alcohol use, experienced alcohol-related problems, and cultural orientation. *Results*: VI was significantly indirectly associated with drinking outcomes mainly via positive reinforcement motives. VC and HC were indirectly associated with drinking outcomes via conformity motives; although the association was negative for HC and positive for VC. Although most of the associations between variables were invariant across countries, a few differences emerged. *Conclusions*: Overall, our findings suggest that the vertical component of individualism and the horizontal component of collectivism might operate as risk or protective factors, respectively. The small effect sizes of some paths also suggest that other variables could be mediating the association between cultural orientation and alcohol outcomes.

12. DOES ALCOHOL RECOVERY IDENTITY PREDICT ALCOHOL CONSEQUENCES: AN EXAMINATION OF HEAVY DRINKERS

Juana Hernandez Jaime, Arianna S. Lister, Anita Kapila-Ramirez, Nicole C. Figueroa-Sierra, Kevin S. Montes

Explicit drinking identity is positively associated with the number of negative consequences an individual experiences ($r = .325$; Montes & Pearson, 2021). However, it is unclear whether explicit alcohol recovery identity is similarly predictive of consequences. Therefore, the purpose of the current study was to examine whether explicit alcohol recovery identity was predictive of negative consequences individuals experience after controlling for the effects of drinking identity. A total of 205 adults who self-reported engaging in heavy drinking completed an online survey on Mturk. Participants were predominantly male, 40 years of age, and White (85%). Participants completed measures of explicit drinking and recovery identity in addition to the B-YAACQ. After controlling for the effects of drinking identity in the prediction of the number of negative consequences individuals experienced in the hierarchical regression analyses, explicit alcohol recovery identity was found to be a statistically significant predictor of consequences, $B = .80$, $BSE = .25$, $p = .002$. Explicit alcohol recovery identity was found to be uniquely predictive of consequences even after controlling for explicit drink identity. Treatment programs focused on alcohol recovery may include practices that involve individuals building a strong sense of self (e.g., values, deciding for themselves, self-exploration). Understanding how explicit alcohol recovery identity is predictive of consequences will help guide future assessment and treatment of individuals who engage in heavy drinking.

13. DOES COGNITIVE-BEHAVIORAL THERAPY AFFECT NON-GAMBLING OUTCOMES? A SYSTEMATIC REVIEW & META-ANALYSIS

Shelby King, MS, David P. Forman, MS, MSW, Meredith K. Ginley, Ph.D., Nicholas W. McAfee, Ph.D., Samuel C. Peter, Ph.D., James P. Whelan, Ph.D., & Rory A. Pfund, Ph.D.

Anxiety, depression, and substance use have been proposed as underlying mechanisms in the development and maintenance of gambling disorder. However, no research has examined the effect of cognitive-behavioral therapy (CBT), the treatment with the most empirical support to affect gambling behavior and gambling disorder symptoms, on these non-gambling outcomes. Following PRISMA guidelines, a systematic article search was conducted to locate published studies of randomized controlled trials of CBT among individuals with gambling disorder. Random effects meta-analysis was used to estimate the effect of CBT on non-gambling outcomes. Thirty-five studies representing 4,338 participants were included. Thirty-four studies involved CBT targeting gambling only, and one involved CBT targeting both gambling and depression. Ten studies reported the effect of CBT on anxiety, 10 on depression, and 2 on substance use. At posttreatment, there was a statistically significant effect of CBT on anxiety ($g = -0.62$, 95% CI [-0.80, -0.44]), depression ($g = -0.51$, 95% CI [-0.68, -0.34]), and substance use ($g = -0.52$, 95% CI [-1.01, -0.03]). Results indicate that CBT targeting gambling affects non-gambling outcomes among a diverse sample of individuals representing almost every continent (Africa, Asia, Australia, Europe, North America). Future studies should examine the effect of CBT targeting multiple outcomes as opposed to gambling only on non-gambling outcomes. Future studies should also more consistently report non-gambling outcomes to understand the broader impact of CBT.

14. DRINKING AND SEXUAL NORMS AS PREDICTORS OF SEX-RELATED ALCOHOL EXPECTANCIES IN BISEXUAL WOMEN

Sabrina Todaro, MA, Christina T. Schulz, MA, Kira Zannetti, Amy L. Stamatēs, Ph.D., Sarah Ehlke, Ph.D., Michelle Kelley, Ph.D.

Bisexual women are at risk for alcohol problems and HIV/STIs. Social cognitions, such as norms (perceptions of others' behavior) and expectancies (beliefs about behavioral outcomes), are important predictors of risky behaviors, but scant research has examined these variables among bisexual women. Consequently, the present study examined the predictive utility of alcohol and sexual norms on sex-related alcohol expectancies among bisexual women. Data were collected from 225 self-identified bisexual women who completed an online survey about their typical alcohol use, sex-related alcohol expectancies, and normative perceptions regarding other bisexual women's drinking and sexual behavior. A multiple regression examined the influence of drinking and sexual norms on sex-related alcohol expectancies, while controlling for typical alcohol use. Results revealed that sexual norms, $B = 0.20$, $p = .004$, 95% CI [0.162, 0.844], and alcohol use, $B = 0.26$, $p < .001$, 95% CI [0.064, 0.184], were significant predictors of sex-related alcohol expectancies in the model, but drinking norms were nonsignificant, $p = .727$. These results suggested that sexual norms of other bisexual women, as compared to drinking norms of other bisexual women, more strongly predicted sex-related alcohol expectancies. Thus, alcohol prevention and intervention efforts aimed at reducing risky consequences among bisexual women should specifically consider sexual norms. Future research in this area is needed as risky sexual behavior often occurs in the context of alcohol.

15. DRINKING MOTIVES, DRINKING CONTEXT, AND ALCOHOL USE IN COLLEGE STUDENTS: A LATENT PROFILE ANALYSIS

Scott King, BA, Jack T. Waddell, MA, Mason Brewer, William R. Corbin, Ph.D.

Drinking motives are important antecedents to alcohol use in college students and have been linked to heavier drinking and negative consequences. In addition, drinking to cope has been linked to solitary drinking which imparts unique risk for the experience of alcohol-related problems. However, most studies have examined relations between motives and relevant outcomes via variable-level analyses instead of person-centered approaches. Using a sample of college-aged psychology students ($N=657$, 70% female) the current study used a person-centered approach where individuals were grouped based on shared characteristics using Latent Profile Analysis (LPA). Participants completed assessments of drinking motives and an online version of the 30-day Timeline Follow-Back where they provided number of drinks consumed and social drinking context for each drinking day. After examining one-through-seven class LPA solutions, a four-class solution was determined to provide the best empirical fit to the data. Participants who reported low overall drinking motives drank in solitary settings more frequently than those with high overall drinking motives. Classes with higher social and enhancement motives reported the highest levels of consumption. Results suggest that lower overall drinking motives are associated with more frequent solitary drinking, suggesting that solitary drinkers may drink for other reasons than traditional motivational models suggest. Future studies should examine alternative motives for solitary drinking to inform prevention and intervention efforts.

16. EFFECT OF PERCEIVED DISCRIMINATION ON BELIEF IN THE NATIVE AMERICAN BIOLOGICAL VULNERABILITY MYTH

Vivian Gonzalez, Ph.D., Monica C. Skewes, Ph.D.

Belief in the myth of an American Indian/Alaska Native (AIAN) specific biological vulnerability (BV) to alcohol problems is associated with worse alcohol outcomes among AIANs who drink. Despite a notable lack of evidence that biogenetic factors play a greater role in the development of alcohol problems among AIANs, many still believe this myth. No studies to date have examined factors that may affect belief in a BV. Consistent with theory and evidence that greater experiences with discrimination leads to the internalization of stereotypes and racism, we hypothesized that greater perceived discrimination would be associated with greater BV belief, but that having a stronger ethnic identity would buffer (weaken) this association. Participants were 197 reservation-dwelling AI adults with a substance use problem who completed one-on-one interviews as part of a larger community-based participatory research study. A multiple regression analysis revealed that greater systemic discrimination (SD) was associated with greater belief in a BV, and that greater interpersonal discrimination (ID) was associated with greater BV beliefs but only among those low

in AI ethnic identity. These findings suggest that greater perceived SD and ID contribute to belief in a BV, but that greater AI ethnic identity is protective against ID. This suggests that both combatting racism and fostering positive ethnic identity may help to lessen BV belief.

17. EMOTION SOCIALIZATION IN THE RISK PROCESS FOR THE DEVELOPMENT OF URGENCY AND PROBLEM DRINKING

Emily Atkinson, MS, Leo Miller, BA, Gregory T Smith, Ph.D.

Urgency (the tendency to act rashly when experiencing intense emotions) has been implicated in the risk process for problem drinking and other addictive behaviors in numerous longitudinal and meta-analytic studies. Though these relationships are well-established, much less is known about the development of urgency itself. This poster describes the first step in investigating a model which posits that childhood maladaptive emotion socialization (MES; the negative ways in which children learn to understand, self-regulate, and express their emotions via their parents or caretakers) increases risk for problem drinking and other addictive behaviors via increases in urgency. To test this, we administered self-report measures of urgency, problem drinking, and childhood MES to a sample of adults (N = 535, mean age = 37) recruited from Amazon Mturk. Structural equation modeling was used to investigate whether (1) childhood MES is related to increased urgency in adulthood and (2) whether the pattern of relationships is consistent with the possibility that urgency mediates the relationship between MES and problem drinking. Analyses produced significant positive results for the indirect effect ($\beta = .07$, $z = 3.23$, $p < .001$). These results suggest that MES may play a significant role in the development of urgency-based risk and support further longitudinal investigations of this model which, if successful, may have important implications for future intervention efforts. This research was funded by NIAAA and the Lipman Foundation.

18. ENVIRONMENTAL REINFORCEMENT AND ALCOHOL USE BEHAVIOR AMONG A NATIONAL SAMPLE OF ADOLESCENTS

Cassie Sutton, MA, Beth Grandfield, Ph.D., Richard Yi, Ph.D., Tera Fazzino, Ph.D.

Background: Adolescents with fewer sources of environmental reinforcement may be at-risk for alcohol use. Engagement in activities may compete with reinforcement obtained from alcohol; however, it is unclear which types of activities may serve as competing reinforcers. Using a national sample of adolescents, the current study aimed to test the association between engagement in potentially competing activities and alcohol use. *Methods:* Data from the 2019 Monitoring the Future (MTF) study (N = 4887) were analyzed. Potentially competing activities were identified from existing survey measures as exercising, volunteering, employment, school enjoyment, and mall outings. Complementary activities and alcohol-involved activities were also examined. Structural equation modeling tested associations between activity engagement and alcohol use. *Results:* Results revealed mall outings ($b = -0.08$, $p < .001$) and school enjoyment ($b = -0.06$, $p = .02$) were associated with lower alcohol use. Competing activities such as exercise, volunteering, and employment were not significantly associated with alcohol use ($p = .11$ to $.83$). Complementary ($b = 0.15$, $p < .001$) and alcohol-involved activities ($b = 0.70$, $p < .001$) were positively associated with alcohol use. *Conclusions:* Most competing activities selected from the pre-existing MTF items were not found to be protective of alcohol use. National surveys may consider adding specific measure of activity engagement to identify activities that may compete with alcohol use among adolescents.

19. EVALUATING THE PROTECTIVE BEHAVIORAL STRATEGIES FOR MARIJUANA SCALE (PBSM) SHORT-FORM: SUPPORT FOR A TWO-FACTOR STRUCTURE AND MEASUREMENT INVARIANCE

Skyler Hoover, BS, Hallie Jordan, Ph.D., Mark Prince, Ph.D., Michael Madson, Ph.D., & Harm Reduction Research Team

College students' increase in cannabis use (Shulenberg et al., 2021) leaves them vulnerable to experiencing negative consequences (Pearson et al., 2017). Marijuana protective behavioral strategies are behaviors used to mitigate the consequences of cannabis use (Pedersen et al., 2016). Given the utility of these behaviors, modes of measuring marijuana protective behavioral strategy use are of interest. Mian and colleagues (2020) found a two factor structure for the PBSM short-form and determined it to be variant by sex. The current study aimed to confirm the factor structure identified by Mian and colleagues, and employ invariance testing by sex and states with legal/illegal cannabis use policy. Participants were college students from 11 universities

across the USA ($n = 1,048$), primarily identifying as white (75%), female (64.9%), with a mean age of 19 years. Results supported the two factor (i.e., Context and Quantity) PBSM structure identified by Mian and colleagues (2020). The PBSM showed metric invariance by sex $\chi^2 = 556.21$ ($p < .001$), CFI = .92, TLI = .91, RMSEA = 0.08 (90% [0.07, 0.08]) and configural invariance by legal status $\chi^2 = 499.53$ ($p < .001$), CFI = .93, TLI = .93, RMSEA = 0.07 (90% [0.07, 0.08]). This study supports the use of the PBSM short-form among males and females, and students in states with legal or illegal cannabis use.

20. EXAMINING THE RELATIONSHIP BETWEEN POSITIVE AFFECT AND ALCOHOL PROTECTIVE BEHAVIORAL STRATEGIES

Hannah Carlon, BS, Margo Hurlocker, Ph.D.

The broaden-and-build theory of positive emotions posits that experiencing positive affect (PA) can lead to a broadened repertoire of cognitive resources (i.e., the thought-action repertoire), which contributes to wellbeing. A broadened thought-action repertoire helps facilitate greater decision-making skills in difficult situations, given that more adaptive and fulfilling actions are often carried out as a function of experiencing PA. One such way that enhanced decision-making skills might benefit individuals who engage in risky behavior (e.g., substance use) is through the utilization of protective behavioral strategies (PBS), or behaviors that reduce negative consequences from substance use. Much of the research has shown negative affect factors impede PBS use, but little research has examined whether PA predicts increased usage. Thus, we examined the relationship between PA and alcohol PBS usage and barriers among 922 college students in a cross-sectional online survey study of harm-reduction behaviors. Additionally, we tested the moderating effects of gender, race, living situation during COVID-19, student athlete status, and Greek life status, on the relationship between PA and PBS usage/barriers. Results showed that PA predicted more stopping/limiting drinking and serious harm reduction PBS, but not manner of drinking PBS. PA significantly reduced certain barriers to using PBS, including difficulty, forgetfulness, and social exclusion. Interaction effects of the aforementioned moderating variables and their implications for future research on PBS and PA in students will be discussed.

21. HOUSING FIRST RESIDENTS' PERSPECTIVES ON SERVICE PROVISION DURING THE COVID-19 PANDEMIC

Tessa Frohe, Ph.D., Griffin Leemon, BA, Emily M. Taylor, BS, Noor W. Hamdy, BA, Eliza B. Cohn, MSW, Aaron Davis, BA, CHES, Hiya T Fentress, MSW, MPA, Will G. Williams, Seema L. Clifasefi, Ph.D., MSW, Susan E. Collins, Ph.D.

Housing First (HF) offers low-barrier, permanent supportive housing for individuals experiencing homelessness without traditional requirements of abstinence from substances. HF has shown increased housing stability, reduced substance-related harms, and improved quality of life for residents. Following the pandemic-related halt to in-person service provision, HF residents asked our team to codevelop the Staying in Touch and Engaged Project (STEP). STEP entails a randomized controlled pilot trial ($N=102$) testing the initial efficacy of weekly mailed packets including entertainment activities (e.g., art, writing, literature) and community information to support physical and mental health-related quality of life and reduce substance-related harm. This current, secondary-analysis study qualitatively analyzed participants' open-ended perspectives on interventions they wanted to see integrated into STEP and HF more generally. The three most frequently mentioned points were (1) participants' request for assistance meeting basic needs (e.g., pest control, mobility, safety); (2) concerns about mental health and substance use (e.g., needing counseling, not feeling heard); and (3) a desire for social connections (e.g., groups/online forums to build community, leadership opportunities). Findings illuminate the access needs of residents since the onset of COVID-19, which include the ongoing challenge of meeting basic needs during a pandemic, bolstering mental health and ensuring community connection. HF ought to adapt an updated service provision plan that integrates better access to both in-person and online resources to adequately meet these needs.

22. IDIOGRAPHIC ANALYSES OF MECHANISMS OF BEHAVIOR CHANGE FOR ALCOHOLICS ANONYMOUS

Jude Chavez, AS, Verlin W. Joseph, Ph.D., Matthew R. Pearson Ph.D., J. Scott Tonigan, Ph.D.

Alcoholics Anonymous (AA) is one of the most popular resources for dealing with alcohol-related problems, though AA involvement cannot be experimentally manipulated ethically. In such cases, ecological momentary assessment offers an opportunity to rigorously evaluate the mechanisms of behavior change. In this preliminary examination from the ongoing parent study (R01AA027508), we use idiographic methods to determine the underlying factor structure of putative mechanisms of behavior change among individuals attending AA. Putative mechanisms of behavior change include abstinence-based social support, alcohol abstinence self-efficacy, spiritual practices, negative urgency, and craving. The present study uses the ecological momentary assessment data available for 20 participants who completed ecological momentary assessment reports ($M=187.7$, $SD=103.4$, minimum=64, maximum=361) from this ongoing study. We used P-technique factor analysis to examine the individual factor structures for putative mechanisms of behavior change: abstinence-based social support (4 items), alcohol abstinence self-efficacy (5 items), spirituality (4 items), negative urgency (3 items), and craving (2 items). Based on the first model with a non-significant model chi-square, we found support for between 5-10 factor solutions across individuals. Based on first model with adequate Confirmatory Fit Index (CFI = .95), we found support for between 2-9 factor solutions, with a 5-factor solution being the modal factor structure. Together, these results provide evidence for distinct patterns of covariation among these putative mechanisms of behavior change, implications of which are discussed.

23. LONGITUDINAL ASSOCIATIONS BETWEEN PAIN AND SUBSTANCE USE DISORDER TREATMENT OUTCOMES

Erin Ferguson, MS, MPH, Ben Lewis, Ph.D., Scott Teitelbaum, MD, Gary Reisfield, MD, Jeff Boissoneault, Ph.D.

Pain is commonly reported among those in treatment for substance use disorders (SUD) and is associated with poorer SUD treatment outcomes. The present study examined the trajectory of pain over the course of SUD treatment and associations with substance use outcomes. Adults seeking treatment for alcohol-, cannabis-, or opioid use disorders were included in this observational study ($N=518$). Participants completed a battery of assessments at treatment admission, 30 days post-admission, and discharge, including measures of pain, quality of life, abstinence self-efficacy, and craving. Analyses indicated linear reductions in pain intensity over time. Significant interactive effects were observed for opioid use disorder (OUD) and time, such that participants with OUD had greater reductions in pain intensity and interference over time compared to those without OUD ($ps<.001$). Reductions in pain intensity were associated with greater quality of life and abstinence self-efficacy, as well as reduced craving ($ps<.001$). Reductions in pain occur over the course of SUD treatment, particularly for those with OUD. Improvements in pain were also associated with positive SUD treatment outcomes. Results suggest that treatment and associated abstinence may be beneficial for those with co-occurring pain and SUD, highlighting an additional benefit of improving access to SUD treatment for patients and healthcare systems. Continued research is needed to replicate these findings among diverse samples and characterize the trajectory of pain during and after SUD treatment.

24. MORAL INJURY AND MORAL FOUNDATION PROFILES ILLUMINATE DISPARATE PATTERNS OF ALCOHOL AND CANNABIS USE

Daniel Lee, Ph.D., MSW, Shaddy Saba, MA, Jordan Davis, Ph.D., Reagan Fitzke, BS, Nina Christie, MA, Denise Tran, Ph.D., & Eric Pedersen, Ph.D.

Moral injuries (MIs) can result when transgressions of deeply held moral beliefs occur. Approximately 20-40% of veterans endorse exposure to MIs. Different types of MIs are associated with greater likelihood of various substance use disorders - possibly for self-medication purposes. Heterogeneity in the relationship between MIs and substance use may partially be explained by differences in underlying moral foundations (MF), which represent a cross-culturally ubiquitous set of moral values. Whether heterogeneity in MI and MF differentially relate to substance use remains empirically unanswered. The present study explores heterogeneity in MIs and MF in a sample of post-9/11 veterans ($N=1,018$) and examines associations with alcohol and cannabis use. Participants (88.7% male, 79.3% White) were recruited online and self-reported on MI, MF, alcohol and cannabis use severity and days (from past 30 days). Latent profile analysis suggested a three-class solution: Low MI and high MF (71.4%), Moderate MI-low MF (17.0%), and High MI-high MF (11.7%). Bonferroni-corrected pseudo-Wald chi-square tests indicated those in the Moderate MI-low MF class had the highest alcohol use days and severity, while High MI-high MF had the highest cannabis use days and severity relative to other classes. Results suggest MF and MI, co-examined, could tease apart differential relations with

alcohol and cannabis use and severity patterns among veterans. Results may enhance understanding of substance use motives among veterans and inform targeted interventions.

25. PERCEIVED EFFECTIVENESS OF ALCOHOL PROTECTIVE BEHAVIORAL STRATEGIES

Ardhys De Leon, MS, Roselyn Peterson, MS, Angelina V. Leary, BS, Daniel Pinto, BA, Matthew P. Kramer, MS, Armando A. Marin, BS, and Robert D. Dvorak, Ph.D.

Background: Protective behavioral strategies (PBS) are linked to decreased alcohol consumption and subsequent consequences. It remains unknown whether the effects of PBS are due to actual effectiveness of PBS or perceptions of effectiveness. *Purpose/objectives:* The Health Belief Model (HBM) suggests that health behaviors are linked to perceptions of susceptibility, severity, benefits, and barriers. The present study examined whether the perceived effectiveness of PBS in the context of HBM leads to increased PBS use, and reductions in consumption and consequences. *Methodology:* The analysis sample ($n = 694$, $M_{age} = 20.21$, 63.26% female) self-reported demographics, alcohol use, alcohol-related consequences, PBS use and perceived PBS effectiveness. The hypotheses were tested using a latent variable structural equation model, with PBS effectiveness serving as a latent exogenous predictor of each PBS subtype. *Results:* Perceived PBS effectiveness was associated with a higher likelihood of using each PBS subtype, which were associated with reductions in alcohol consumption and alcohol-related consequences. *Conclusions:* These findings provide preliminary understanding of perceived PBS effectiveness and PBS use on alcohol-related outcomes. Results suggest that increasing perceptions of PBS effectiveness may lead to more PBS use, decreased alcohol consumption, and fewer alcohol-related consequences. Diversity Consideration: Hispanic/Latinx college students consume alcohol at comparable rates to Caucasian students. However, study findings may not generalize to this population; future research should investigate the impact of perceived PBS effectiveness among this group.

26. PROTECTIVE BEHAVIORAL STRATEGIES, ACCULTURATION ORIENTATIONS, AND LATINX DRINKING

Sarah Gobrial, BS, P. Priscilla Lui, Ph.D., ASURT Workgroup

Among Hispanic/Latinx individuals, alcohol misuse has been correlated positively with acculturation (i.e., immersion in mainstream US culture) and negatively with enculturation (i.e., immersion in heritage culture). These results have been somewhat mixed, however. Links between acculturation orientations and drinking outcomes may be driven by other factors including use of protective behavioral strategies (PBS). PBS including serious harm reduction and mannerism of drinking can help limit hazardous drinking. Given that PBS use is socially reinforced in the mainstream US and/or heritage cultures, the roles of acculturation/enculturation may be explained by those of PBS use. We expected that associations between acculturation/enculturation and hazardous drinking would decrease after accounting for PBS. Hispanic/Latinx students were recruited from 13 universities. ($N=2,125$, $M_{age}=20.39$, 75.6% women). Enculturation did not predict hazardous drinking in any analyses. As expected, accounting for age, gender, nativity, and Greek affiliation, acculturation initially was positively linked to hazardous drinking ($b=.03$, $SE=.02$, $p=.041$) but not ($b=.01$, $SE=.01$, $p=.645$) when PBS use was included in the model. Serious harm reduction ($b=.14$, $SE=.02$, $p<.001$), stopping/limiting ($b=.02$, $SE<.01$, $p<.001$), and mannerism of drinking ($b=-.14$, $SE=.02$, $p<.001$) uniquely predicted hazardous drinking. We observed suppressor effects with serious harm reduction and stopping/limiting drinking. Mannerism of drinking (e.g., avoiding drinking games, drinking slowly) may be reducing hazardous drinking and may be accounting for the associations between acculturation and hazardous drinking among Hispanic/Latinx individuals.

27. RELATIONSHIP BETWEEN DRINKING AND CHRONIC PAIN AS A FUNCTION OF SUBSTANCE USE PATTERNS

Andrew Moore, BS, Ben Lewis, Ph.D., Sara Jo Nixon, Ph.D.

Previous work with individuals seeking treatment for substance use disorder (SUD) in our laboratory failed to reveal substantive associations between chronic pain and levels of alcohol consumption. However, this work did not examine whether the relationship between chronic pain and drinking levels varied across subgroups of treatment-seekers, defined by use of alcohol/drug combinations. Therefore, in this exploratory analysis, we

investigated whether pretreatment drinks/day varied as a function of drinking subgroup (i.e., alcohol, alcohol + stimulants, or alcohol + stimulants + opioids) and the endorsement of chronic pain.

Participants (SUD=265, 22% female) completed assessments quantifying their recent substance use histories and the presence/absence of chronic pain. A 2x3 ANOVA revealed no significant effects due to pain group ($p = 0.40$), alcohol subgroup ($p = 0.25$) or their interaction ($p = 0.41$) on pre-treatment drinks/day. These data are consistent with prior work in our lab suggesting that chronic pain is not a significant predictor of drinks/day among individuals engaged in treatment and extend findings across alcohol subgroups. This outcome contrasts with other research indicating that chronic pain is associated with heavy drinking among community drinkers. Given the well-accepted negative consequences of both pain and heavy drinking, future studies might re-direct focus to the interrogation of their separate and interactive roles on functional outcomes, e.g., interpersonal functions in treatment and community samples.

28. RELIABILITY OF AN ADAPTIVE MARIJUANA PURCHASE TASK

Nicholas Bush, MS, Erin Ferguson, MS, Ali Yurasek, Ph.D., Jeff Boissoneault, Ph.D.

The Marijuana Purchase Task (MPT) was developed to measure the demand for marijuana by assessing the amount individuals would purchase across a series of escalating prices. However, marijuana can be consumed in various forms and measurements, thus raising questions about the applicability of the MPT across the population of marijuana users. An adaptive purchase task (AMPT) was developed to allow participants to select their preferred product (e.g., herbal marijuana, dabs) and division (e.g., hits, grams). The purpose of this study was to assess the temporal stability of these measures. Monthly marijuana users ($N=50$, $M_{age}=35.3$) were recruited via Amazon's Mechanical Turk and completed a baseline and repeated MPT and AMPT. Most of the sample ($N=36$) reported the same preferred product and division. Results indicated that the baseline and repeated MPT were correlated across all indices ($r_{range}=.37-.73$), while P_{max} ($r=.31$, $p<.05$) and O_{max} ($r=.57$, $p<.05$) were correlated for the AMPT. Permutation testing comparing the difference in test-retest correlation between the MPT and the AMPT demonstrated a difference only for breakpoint ($r_{difference}=.52$, $p<.05$). Correlations between baseline and repeated AMPT were stronger in these individuals ($r_{range}=.37-.72$) than in those who switched preferences ($r_{range}=-.23-.1$). Results suggest preliminary support that the MPT and AMPT are reliable across repeated measurements and demonstrate that shifts in preference can impact the reliability of marijuana purchase task indices.

29. REVISED ALCOHOL PROTECTIVE BEHAVIORAL STRATEGIES SCALE SUB-TYPES: DIRECT AND INDIRECT PBS

Roselyn Peterson, MS, Robert D. Dvorak, Ph.D., Emily Burr, BA, Angelina Leary, BS, Ardhy N. De Leon, MS, Daniel Pinto, BA

Significance of the Research Questions: The most common factor structure of Protective Behavioral Strategies (PBS) uses three-factors. Associations between these factors and drinking outcomes is inconsistent. A two-factor structure focused on strategies directly linked to problems (via consumption) and indirectly (via behaviors) may offer a more stable pattern of associations with alcohol outcomes. The current study examines a two-factor structure using a common measure of PBS (PBSS-20), tests these factors as predictors of alcohol outcomes, and examines the interaction of these two factors. *Study Design and Sample Characteristics:* Seven combined datasets resulted in a sample of $n = 4,883$ drinkers ($Age\ m = 20.24$). Variables were DDQ-R, PBSS-20, and BYAACQ. *Analytic Strategies:* CFA of the two-factor structure was examined and compared to the three-factor structure. Structural equation model of the two-factor structure, with an interaction between the factors, predicting use and problems was examined. *Key Findings:* The two-factor structure showed similar fit to a three-factor. Direct PBS were negatively associated with consumption. There was a significant interaction between direct and indirect such that at high levels of direct PBS use, indirect PBS was inversely associated with problems.

30. SLEEP QUANTITY MODERATES THE EFFECTS OF CANNABIS USE AND CANNABIS-RELATED PROBLEMS

Katie Moskal, BS, Diamonde McCollum, BS, Jenni Teeters, Ph.D.

Heavy cannabis use has been associated with a variety of negative consequences. However, there is a large amount of variability in the frequency and severity of consequences experienced by heavy cannabis users.

One variable that may confer increased risk of cannabis-related problems for cannabis users is poor sleep. Heavy cannabis use has been linked to poor sleep, which is especially problematic given that many cannabis users endorse using cannabis to help fall asleep. The present study seeks to investigate whether the connection between cannabis use and cannabis-related problems is moderated by sleep, such that the relations between use and consequences is strongest for those who endorse lower average nightly sleep. 824 college students (78% female; 83% Caucasian; average age = 24.3) completed an online survey with measures assessing cannabis-related problems, typical hours of nightly sleep, and frequency of cannabis use. Bivariate correlations were conducted between hours of sleep and cannabis-related problems ($r = -.082$, $p = .022$). A moderation analysis revealed average hours of nightly sleep moderated the relationship of cannabis use and cannabis-related problems (95% CI [-.068, -.0173]). These results indicate that one potential factor influencing the connection between cannabis use and related problems is average nightly sleep. Focusing on the connection between sleep and cannabis-related problems may be worthwhile in education and prevention efforts aimed at reducing heavy cannabis use and related problems.

31. STRESS COMPLICATES THE RELATIONSHIPS BETWEEN ALCOHOL, CANNABIS, AND SLEEP

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College students rank sleep problems second only to stress among factors that negatively impact their academic performance. Students also often report sleep motives for alcohol and cannabis use. There is limited evidence, however, to support alcohol or cannabis as effective sleep aids. Data are from a longitudinal study of simultaneous alcohol and cannabis use in college students across three universities. Participants ($n=1390$) self-reported number of restful nights of sleep per week, perceived stress, and alcohol and cannabis use frequency at the beginning of the fall semester (t_1) and 3 months later (t_2). Latent change score structural equation modeling captured interactions between sleep, stress, alcohol and cannabis use across the two time points. Stress at t_1 predicted negative changes in sleep from t_1 to t_2 (Δ Sleep) in males ($z=-2.60$, $p=0.009$) and females ($z=-5.96$, $p<0.001$). Cannabis use at t_1 predicted positive Δ Sleep ($z=2.18$, $p=0.029$) in men only. The cannabis x stress interaction ($z=-2.12$, $p=0.004$) in men, however, suggested that at low levels of stress, cannabis use increased sleep quantity, but this relationship gradually diminished as stress levels increased. The results suggest that any sleep-promoting effects of cannabis may be limited by the presence of stress, a critical finding considering that nearly a third of undergraduates report sleep difficulties. These results also imply the need to consider sex differences when evaluating the relationships between substance use and sleep.

32. THE COMBINED EFFECTS OF COVID-19 RELATED STRESSORS ON GRADUATE STUDENT SUBSTANCE USE

Corey M. Monley, BGS, Amanda Fowler, Jessica L. Martin, Ph.D., Evan Ozmat, MS, Dave Oh, MS

Undergraduate student mental health and substance use is widely studied, yet little research focuses on these phenomena in U.S. graduate students. Gallea et al. (2021) found among a small sample of graduate students in Argentina, approximately one-third experienced depression and anxiety. Graduate students may use substances to cope, and greater substance use is associated with negative consequences (Allen et al., 2019, 2020). Graupensperger (2021) recently explored the combined influence of COVID-worry, psychological distress, and social support on undergraduates' substance use. Political anxiety, which was particularly notable before the 2020 election, was not included. To our knowledge, no studies have assessed how these risk and protective factors are associated with graduate student substance use. Data from 267 graduate student lifetime substance users (70.8% women; 69.3% White; $M_{age} = 28.6$) at a large Northeastern university were collected from October to December 2020. We assessed whether COVID-worry, psychological distress, social support, and political anxiety predicted alcohol, cannabis, and non-medical use of prescription drugs. Simple (prescription drugs) and negative binomial regressions (alcohol and cannabis) were conducted. Only the regression for alcohol was significant, $\chi^2(4) = 14.87$, $p = .005$. Greater political anxiety (OR = 1.07, $p = .002$) and less COVID-worry (OR = .87, $p = .001$) predicted more graduate student drinking. Findings shed light on substance use risk factors among graduate students during uncertain and distressing times.

33. THE INDIRECT INFLUENCE OF CANNABIS USE DISORDER ON PTSD SYMPTOM SEVERITY THROUGH PSYCHOLOGICAL INFLEXIBILITY

Patricia Russell, MA, Alexis Blessing, Ph.D., Sandra Morissette, Ph.D.

Cannabis is commonly used among college students, ~8% of them develop cannabis use disorder (CUD). CUD is prospectively linked to posttraumatic stress disorder (PTSD). Psychological inflexibility (PI) may be a mechanism accounting for the relationship between CUD and PTSD. PI is a maintaining factor between alcohol use and PTSD, and predicts worse PTSD symptom severity. The present study examined whether CUD symptom severity indirectly influenced PTSD symptom severity through PI. College students (N = 361; 68.9% female, 60% Hispanic) from a Hispanic-serving institution completed self-report measures of CUD symptom severity, PI, and PTSD symptoms. The mediation model explained ~54% of the variance in PTSD symptom severity, $F(2, 358) = 214.17, p < .001$. CUD symptom severity was associated with greater PI ($b = 0.28, 95\% \text{ CI } [0.03, 0.52]$). Greater PI was significantly associated with greater PTSD symptom severity ($b = 1.13, 95\% \text{ CI } [1.02, 1.24]$). Greater CUD symptom severity was not directly associated with greater PTSD symptom severity, $b = 0.10, 95\% \text{ CI } [-0.16, 0.36]$. CUD symptom severity was only indirectly associated with greater PTSD symptom severity through higher PI, $b = .31, 95\% \text{ CI } [.07, .56]$. Although CUD has been linked with worse PTSD symptoms, the current results suggest that this occurs through PI. Correspondingly, PI is malleable, and may be an important target for intervention in the relationship between CUD and PTSD.

34. THE PATH FROM IMPULSIVITY TO NEGATIVE CONSEQUENCES THROUGH CO-USE: MODERATED MEDIATION BY SEX

Mary Ellen Fernandez, BA, Rachel L. Gunn, Ph.D., Helene R. White, Ph.D., Kristina M. Jackson, Ph.D., Alexander Sokolovsky, Ph.D.

Co-use of alcohol and cannabis in young adults is widespread and leads to numerous short- and long-term negative consequences. Impulsivity is also associated with alcohol and cannabis use and related to negative consequences. One potential mechanism to explain this relationship is an indirect effect of impulsivity on consequences through increased alcohol and cannabis co-use. We conducted mediational path analysis using data from 1,248 college students reporting past-year alcohol and cannabis co-use. The moderating role of sex was examined on both parts of the mediational path: between a) sensation seeking, positive and negative urgency, and past 30-day alcohol and cannabis co-use; and b) past 30-day co-use and past 3-month negative consequences of using alcohol and cannabis alone or together. All models controlled for ethnicity, race, and school (and sex in models without moderation). There were significant positive indirect effects of sensation seeking, positive and negative urgency on negative consequences that were mediated by past 30-day alcohol and cannabis co-use. No moderation by sex was observed. Findings extend existing research on the mechanisms driving alcohol and cannabis co-use related negative consequences. Results elucidate a more comprehensive model of behavioral intervention. These findings suggest that interrupting the link between aspects of impulsivity and co-use of alcohol and cannabis may have distal benefits for reducing substance-use related negative consequences.

35. THE ROLE OF ALCOHOL IN BYSTANDER INTERVENTIONS FOR SEXUAL ASSAULT: A META-ANALYSIS

Aria Wiseblatt, BA, Michelle Zaso, Ph.D., Jennifer Read, Ph.D.

Sexual assault (SA) remains a significant issue on college campuses, and there is growing interest in SA prevention approaches. Bystander intervention programs aimed at increasing students' willingness to intervene when they witness problematic situations show promise. However, college contexts that are high-risk for SA often involve alcohol, which may impact bystanders' abilities to intervene. According to Leone and colleagues (2018), alcohol impacts multiple steps of the bystander intervention model (Latané & Darley, 1970). However, there have been no attempts to systematically review extant literature to quantify whether and how much alcohol might impair bystander behavior. The current meta-analysis estimated the effect of i) event-level as well as ii) typical patterns of alcohol use on bystander behavior. Database searches yielded 21 eligible studies, with author requests for unpublished data still ongoing. Preliminary results (n=5996 participants) suggest alcohol use may not significantly correlate with event-level (hedge's $g = -0.091, p = .51$) or typical (hedge's $g = -0.01, p = .83$) bystander behavior across the identified research. Nevertheless, there was

significant heterogeneity in effect size estimates across studies, suggesting there may be important moderators of these effects. This could shed light on which groups (e.g., gender) and in which contexts alcohol is most likely to jeopardize bystander behavior. This could inform steps for refinement of bystander-based interventions so as to be optimally effective in reducing SA risk.

36. VALIDATION OF A HYPOTHETICAL LOTTERY TASK TO ASSESS RESOURCE ALLOCATION TO ALCOHOL AND CANNABIS

Neo Gebru, MS, Danielle Jones, Keanan Joyner, Ph.D.

Relative spending on substances (versus alternatives) is predictive of substance use outcomes, but accessing financial records and retrospective self-reports present several challenges. We examined an alternative method of assessing relative spending through use of a novel hypothetical lottery task wherein participants assume collected \$100,000 USD in lottery winnings, and allocate their winnings across spending categories (e.g., savings, leisure, alcohol). We hypothesized relative allocation of funds towards alcohol and cannabis would be positively associated with use outcomes of each substance. College students (N=615; $M_{age}=19.8$, $SD=2.1$) reported on their substance use and problems, alcohol and cannabis demand and reinforcement, and the hypothetical lottery task. Relative resource allocation towards alcohol and cannabis on the lottery task significantly positively correlated with alcohol and cannabis demand indices (intensity, breakpoint, Omax, and elasticity [negatively], r 's = .1-.4) and reinforcement ratio (r 's ~ .2), respectively. Using zero-inflated modeling, relative allocation towards alcohol significantly positively related to alcohol use independently from alcohol demand indices and reinforcement ratio. For cannabis, relative resource allocation was also significantly positively associated with cannabis use; however, this association was no longer significant alongside cannabis demand and reinforcement. Results provide initial support for the validity of the lottery task and the need for further validation among diverse populations. Findings are in line with previous behavioral economic research demonstrating the utility of hypothetical tasks in predicting clinically relevant outcomes.

37. VAPING THC: DIFFERENCES IN ORGANIZATION OF EXPECTANCIES IN MEMORY BASED ON VAPING FREQUENCY

Mark Crisafulli, MS, Jessica N. Flori, MS, Gabrielle Lynch, MS, Cameron Davis, BS, Nickie Dunn, BA, Luke Salamone, Michael E. Dunn, Ph.D.

Problems associated with vaping THC (“dabbing” or vaping hash oil) have increased in conjunction with increased access resulting from legalization of medicinal and recreational THC use. Expectancy challenge methods have been useful in reducing alcohol use, and understanding expectancies for vaping THC could lead to development of effective intervention strategies. Participants ($n = 161$) were predominantly white (70.8%) and non-hispanic (64.00%) college students who reported vaping THC at least once. Based on frequency of vaping THC, participants were categorized as Experimenters ($n = 56$, vaping THC at least once), Light Users ($n = 35$, once per month-once per week), Moderate Users ($n = 21$, multiple times per week), or Heavy Users ($n = 49$, daily/almost daily use or multiple times per day). Expectancies were mapped into memory network format using Individual Differences Scaling (INDSCAL; $R^2 = .847$, stress = .189), and were found to be conceptually organized along two bipolar dimensions. Similar to previous work on smoked cannabis, the two dimensions seemed to represent detached-aware effects and relaxed-agitated effects. Differences in dimension weights and expectancy means indicated a shift in dimension emphasis in relation to frequency of vaping. As frequency of vaping THC increased, participants placed more emphasis on relaxing effects and less on detachment effects. Future research should examine the malleability of expectancies for vaping THC, and focus on more diverse samples to increase generalizability.

SESSION 2: Friday, April 8th, 4:30 PM

1. A GROWTH CURVE ANALYSIS OF ADOLESCENT CANNABIS USE AND RELATED PEER FACTORS OVER 12 MONTHS

Emily Kenyon, BA, Manshu Yang, Ph.D., Sarah W. Feldstein Ewing, Ph.D.

Hazardous cannabis use during adolescence is an exploratory behavior that can have unintended, harmful consequences for youth – an age sensitive to peers. Sociocultural context impacts the onset and escalation of cannabis use, particularly for sexual and gender minority (SGM) youth. It is unclear how evolving peer landscapes impact changes in use trajectories within this developmental age group. We investigate longitudinal associations between time-varying peer characteristics (e.g., resistance to peer influence [RPI], peer norms) and features of cannabis use (e.g., past-month use days, hazardous use [CPQ]) over a 12-month study period using latent growth curve modeling. An exploratory aim assesses disparities for SGM youth. Recruitment and data collection occurred in the Pacific Northwest and included N=204 youth ages 15-19 (M=18.15); 61% female; 68% White, up to 40% reported SGM status. Cannabis-using participants (n=113, 64%) reported an average 10.6 past-month use days and first using at 15.4 years of age. Preliminary analyses confirmed non-significant differences in cannabis use by gender, age, race/ethnicity, and SGM status. Initial analyses show significant relationships between past-month use days and a) CPQ ($r=.27$), and b) peer norms ($r=.28$). CPQ is correlated with peer norms ($r=.37$), age of first use ($r=-.35$), and RPI ($r=-.24$, $p=.02$). Longitudinal findings will help identify targets in youths' social contexts for developmentally responsive cannabis interventions.

2. A RANDOMIZED CONTROLLED TRIAL OF BEHAVIORAL ACTIVATION IN OUTPATIENT SUBSTANCE USE TREATMENT

Catherine Paquette, MPS, MA, Elizabeth Reese, Ph.D., Jennifer Yi, Ph.D., Yun Chen, Ph.D., Zachary Stewart, BA, Julianna Maccarone, MPH, MA, Deepika Anand, Ph.D., and Stacey Daughters, Ph.D.

Background: Behavioral activation (BA) for substance use disorder (SUD) is a promising treatment for dissemination in low-resource settings that has primarily been evaluated in residential SUD treatment. We developed a smartphone app to increase BA engagement and conducted an RCT in intensive outpatient SUD treatment examining standard and smartphone-enhanced BA compared to treatment as usual (TAU).

Methods: N=206 participants (54% White, 67% male) were randomized to standard 6-session BA (n=68), smartphone-enhanced BA (n=77), or TAU (n=61) and assessed at pre- and post-treatment and 1, 3, 6, and 12-month follow-ups. *Results:* A hurdle Poisson mixed model indicated no significant condition effects on substance use frequency; however, greater BA attendance predicted lower substance use frequency. Post-hoc analyses suggest 7-8 sessions of BA are required to predict significantly lower substance use frequency at 12 months compared to TAU ($p<.05$). A mixed ordinal logistic regression indicated that participants in the BA condition reported significantly greater improvements in substance-related problems compared to TAU ($p=.026$). *Discussion:* BA reduces substance related problems and attendance at BA sessions may result in lower substance use frequency, yet the 6-session treatment offered in this study does not provide a sufficient dose of BA. A smartphone app did not improve BA treatment outcomes. Future studies should assess the effect of lengthier BA treatment (>7 sessions) in outpatient SUD settings.

3. ALCOHOL-FREE REINFORCEMENT AND DAYS OF ALCOHOL AND CANNABIS CO-USE AMONG COLLEGE FRESHMEN

Daiil Jun, BA, Tera Fazzino, Ph.D.

A theoretical premise from behavioral economics is that risky alcohol use may occur when individuals lack sources of alternative, alcohol-free reinforcement in their environment. The premise indicates that alcohol-free sources of reinforcement may be protective against risky drinking, which has been supported in preliminary literature. Alcohol-free reinforcement may also be protective against alcohol and cannabis co-use, which is common among college students. Thus, the study investigated the association between alcohol-free reinforcement and co-use of alcohol and cannabis among college freshmen. Participants were N=88 college freshmen (Female = 46%; White = 78%, Non-Hispanic = 88%; Mean age = 18.1 years) who completed surveys at college entry. Past-month alcohol use, cannabis use, alcohol-related reinforcement, and alcohol-free reinforcement were assessed. Zero-inflated negative binomial regression was used to test whether proportionate alcohol-free reinforcement was associated with days of alcohol and cannabis co-use. The results showed that proportionate alcohol-free reinforcement was negatively associated with co-use days among those who endorsed co-use in the past month (Log-Mean = -7.57; $p=.004$), indicating that greater proportionate alcohol-free reinforcement was associated with fewer days of co-use. The association was not significant for individuals who did not engage in co-use (Log-odds = -309.66; $p=.358$). Higher engagement in

alcohol-free sources of reinforcement may be protective against alcohol and cannabis co-use frequency among college freshmen who endorse co-use at college entry.

4. AN EXPLORATION OF THE RELATION BETWEEN GRIEF AND CANNABIS IN A COLLEGE SAMPLE: PRELIMINARY FINDINGS

Emma Smith, BS, Cianna J. Piercey, BS, Bradley T. Conner, Ph.D.

In recent years, the United States has faced an unprecedented number of human lives lost, with COVID-19 contributing to the loss of hundreds of thousands of lives—implying an increase in bereavement. Previous studies have established a strong relation between grief and an increased frequency in the use of substances like alcohol and nicotine, but very little research has examined a specific relation between grief and cannabis use (Hamden et al., 2013; Kendler et al., 2002; Parisi et al., 2019). As cannabis is one of the most commonly used psychoactive drugs, with 49.6 million individuals over the age of 12 endorsing use in 2020, it is becoming increasingly important to investigate possible relations between cannabis use and bereavement (Center for Behavioral Health Statistics, 2021). To address this, the current study aimed to explore the novel links between measures of grief and cannabis use frequency in a college sample (N=382). Preliminary results suggest a positive relation between grief rumination and monthly cannabis consumption, such that those with higher levels of grief rumination exhibited higher monthly cannabis use ($b = 0.17, p = .001$). Preliminary results also revealed a negative relation between complicated grief and monthly cannabis consumption, meaning those with lower grief scores exhibited higher use frequency ($b = -0.11, p = .03$). Grief rumination and complicated grief were not associated with daily cannabis use frequency.

5. ASSOCIATION OF A GENERAL PAIN FACTOR WITH OPIOID ANALGESIC THERAPY: A NATIONAL, LONGITUDINAL STUDY

Alyna Summit, MA, Patrick D. Quinn, Ph.D., Cen Chen, Erik Pettersson, Ph.D.

Chronic painful conditions frequently co-occur, likely reflecting their shared etiologies. Research on this co-occurrence may help inform understandings of chronic pain's contribution to adverse outcomes, such as those associated with prescribed opioid analgesics. We evaluated the validity of a general factor model of nine self-reported chronic pain conditions by assessing its association with subsequent prescription opioid receipt. We obtained data from a 2005-2006 population-based study of adult twins in Sweden linked with health and prescription data from the nationwide Swedish registers through 2016. After randomly selecting one twin per pair to account for non-independence, we included 8,523 individuals ($M_{age} = 33.0; SD_{age} = 7.69$; 4,938 female) with data on chronic pain conditions, opioid prescriptions, and registered cancer diagnoses. We extracted factor scores from the general factor model. We then examined their association with annual opioid prescription fill counts for 2007-2016 using a GEE approach. In the best-fitting model, the general pain factor predicted opioid prescription counts ($b = 1.00; SE = 0.20$) controlling for age, sex, prior opioid prescription, cancer diagnosis, and other specific factor scores from the general factor model. This study provides preliminary support for the utility of a general factor of pain in understanding opioid prescribing in pain management. Future research will examine the utility of the general factor model itself, rather than the extracted factor scores, in predicting prescribed opioid receipt.

6. CAN MEASUREMENT OF RECOVERY BE SUPPORTIVE OF RECOVERY?

Bonnie Horgos, MSW, LGSW, Amy R. Krentzman, Ph.D., MSW, Channel Lowery, MSW

Recently, the field has shifted to define addiction recovery not by abstinence but by improvement in well-being. However, there is little research on the impact of measuring well-being. This poster presents a thematic analysis of control-group interviews derived from a randomized controlled trial of Positive Peer Journaling (PPJ), an intervention designed to increase well-being and reduce relapse in early recovery. The control group ($n = 39, 52\%$ female, average 39 years old, 63% with income $< \$15,000$, 26% BIPOC, 43% with a legal issue, and 95% with history of trauma) completed daily questionnaires over 1 month. These questionnaires included the Positive and Negative Affect Schedule (PANAS), the Satisfaction with Life Scale, and the Commitment to Sobriety Scale, as well as single-item questions, such as: "In the last 24 hours I did something to help another person in recovery." Qualitative thematic analyses showed that the survey alone created improvement in cognition, affect, and behavior; for example, the questionnaires encouraged participants to reflect on the past 24 hours, experience a deeper sense of gratitude, and reach out to others in

recovery. The discovery that survey questions might support well-being during recovery is of critical importance. If recovery-oriented survey questions foster improvement in cognition, affect and behavior, they can be leveraged as an easily scalable intervention that can support recovery efforts.

7. CHARACTERIZING THE ROLE OF POSITIVE EMOTIONAL FUNCTIONING IN YOUNG ADULT ALCOHOL USE AND PROBLEMS

Susi Baumgardner, BA, Maggie J. Mataczynski, BA, Sydney Sullivan, Evelina Bouckova, Noah N. Emery, Ph.D.

Affect figures prominently in most contemporary models of alcohol use (Kassel & Veilleux, 2010). These models posit that alcohol use becomes reinforced due to its ability to regulate a person's affect (Sher & Grekin, 2007). A growing body of literature suggests that for youth, positive reinforcement (i.e., using to enhance positive feelings when they are low or to increase their duration) is a leading mechanism facilitating increased use among youth (Emery & Simons 2020; Howard et al. 2015). However, few, if any studies have examined the unique association between multiple indicators of positive emotional functioning and alcohol use and related problems. We aimed to fill this gap by using a large college student sample (N=406) to characterize the unique associations between trait indicators of positive emotional functioning (i.e., positive affect, anhedonia, savoring, and positive emotion dysregulation) and alcohol use and problems. Results indicated both trait positive emotion dysregulation (difficulty managing to intense positive emotions) was positively related to both recent alcohol consumption ($\beta=.16$, $p=.002$) and alcohol-related problems ($\beta=.17$, $p<.001$). Interestingly, trait savoring (ability to increase the intensity/duration of positive emotions) was positively related to alcohol consumption ($\beta=.14$, $p=.040$) and inversely related to problems ($\beta= -.15$, $p=.003$). None of the other positive emotion indicators were significantly associated with either alcohol use or problems.

8. CHEERS: SOCIAL EXPECTANCIES MODERATE EFFECT OF VIRTUAL CONFEDERATE ON DRINKING TOPOGRAPHY

Victor Scheider, MS, Nicholas Bush, MS, Michael Robinson, Ph.D., Jeff Boissoneault, Ph.D.

The assessment of alcohol consumption during a given drinking bout, known as drinking topography, can improve understanding of biopsychosocial mechanisms underlying alcohol consumption. Recent studies explored the capability of a virtual reality (VR) paradigm integrating drinking topography data collection with a VR drinking environment, resulting in more precise data with greater environmental control than previously possible. In this pilot project, we assessed alcohol consumption topography of participants in a VR bar with a programmable virtual confederate (i.e., bar goer) during two testing sessions. In one, the confederate drank quickly (30-60 second sip interval). In the other, the confederate drank slowly (60-120 second sip interval). Expectancy that alcohol enhances social and physical pleasures (SPP) was collected through the Alcohol Expectancy Questionnaire (AEQ). Linear mixed models were used to characterize the effect of confederation condition on sip interval and volume, including participant expectancies as a potential moderator. Results indicated that greater SPP expectancy was significantly associated with higher sip volumes, but only in the fast-drinking confederate condition ($b=3.19$, $t(15.11)=2.79$, $p=.014$), and that this effect attenuated for each minute spent in the session ($b=-.044$, $t(331.1)=2.12$, $p=.035$). SPP expectancies did not moderate the effect of confederate condition on sip interval. Together, results indicate that social influences on drinking topography depend on SPP expectancies, even when an individuals' drinking environment and confederate are virtual.

9. CO-MORBID PSYCHOPATHOLOGY AS PREDICTORS OF OPIOID USE DISORDER AMONG INDIVIDUALS IN ALCOHOL TREATMENT

Kenneth Leonard, Ph.D., Zackary Falls, Ph.D., David Jacobs, PharmD, Gail Jette, MS, Edward Bednarczyk, PharmD, Walter Gibson, MS, Peter Elkin, MD

Individuals with an alcohol use disorder (AUD) are at heightened risk for opioid use disorder and overdose. This study sought to determine the role of specific psychopathologies as precursors of opioid use disorders or opioid overdose among people with AUD. This study integrated two sets of data; substance use disorder treatment services (e.g., admissions, discharges) from the New York State Office of Addiction Services and

Supports Client Data System and Medicaid claims data from the New York State Department of Health Medicaid Data Warehouse. We identified approximately 492,000 individuals, age 18 or older who presented for their first treatment between 2003 and 2019, identified alcohol as their primary substance of abuse, and did not identify any opioid as the secondary or tertiary substance. Approximately 187,000 persons were found to have Medicaid claims after their first CDS treatment. More than half (55%) of the sample had at least one Medicaid recorded psychiatric disorder. The most common diagnoses were major depression (35%), anxiety disorders (25%) and bipolar disorders (27%). Nearly 20% had a stress or adjustment disorder, and 13% had a schizophrenia spectrum disorder. Only 6% had a PTSD diagnosis. Each diagnostic cluster was significantly associated with the development of an OUD or overdose, with odds ratios ranging from 2.82 to 3.36. Individuals with an AUD and any psychiatric diagnosis are an increased risk for developing OUD.

10. COVID-19 STATUS, VACCINATION, AND ALCOHOL AMONG COLLEGE STUDENTS

Rose Marie Ward, Ph.D.

Alcohol consumption spiked during the COVID-19 pandemic. The purpose of the current study was to examine the relationship between COVID-19 diagnosis, vaccination, drinking behaviors, and alcohol consumption attitudes. Students (n=3803) were recruited for an online study (fall 2021). Participants were predominantly Caucasian; average age of participants was 19.87 (SD=3.06). Approximately, 25.2% reported testing positive for COVID-19 whereas an additional 15.0% indicated that they had the symptoms but did not test positive. 89.9% of the participants had been vaccinated. When asked why they got vaccinated, 11.0% indicated that it was so that they could go to the bars whereas 32.4% reported getting vaccinated so that they could have an active social life. 39.9% reported being quarantined during the pandemic and 23.5% reported being isolated due to a positive COVID test. A series of logistic regressions predicted COVID-19 diagnosis from drinking behaviors, motives, and problems. Higher levels of risky drinking and drinking problems increased the odds of having a COVID-19 diagnosis history. People with non-majority identities had lower odds of COVID-19. In addition, people who reported having had COVID-19 believe that alcohol was more central to their college experience. It seems that drinking behaviors during the pandemic predicted having a COVID-19 diagnosis. At a PWI, interventions that target COVID-19 and alcohol consumption among college students might be tailored towards drinking attitudes in the context of certain identities.

11. CRITERION-VALIDITY APPROACH TO MEASURING CANNABIS PROTECTIVE BEHAVIORAL STRATEGIES

Ricardo Rubio, AS, Matthew J. Pearson, BS, Matthew R. Pearson, Ph.D., Marijuana Outcomes Study Team

Cannabis protective behavioral strategies (CPBS) reflect an assortment of distinct behaviors targeting the reduction of cannabis use frequency, quantity, intoxication, and/or cannabis-related harms. Though factor analysis is often applied to PBS measures across various addictive behaviors (e.g., alcohol, cannabis, gambling), we sought to test alternative procedures for developing a pragmatic measure of CPBS. Participants (n=8141) were recruited from one of 11 universities throughout the United States, and analyses were restricted to those who reported using cannabis in the past 30 days (n=2129). Using an expanded 50-item form of the Protective Behavioral Strategies for Marijuana scale (PBSM), we created short form versions of the PBSM (5-item, 10-item, 15-item, and 20-item) using two distinct procedures: 1) factor analysis (selecting the highest loading items) and 2) criterion validity (selecting the items most strongly negatively correlated with negative cannabis-related consequences). We created a random split of the sample so that each procedure was applied in one-half of the sample, and validation testing conducted in the other half of the sample. We compared the strength of correlations between the short-form measures and cannabis-related outcomes. Though relationship with outcomes were comparable, the selection of specific items was quite different. We discuss how factor analytic approaches favors internal consistency of items, whereas the criterion-validity approach may better ensure coverage of distinct effective PBS.

12. DEVELOPMENT OF THE PERSONAL ASSESSMENT OF RESPONSIBLE DRINKING IDENTITY

Angelina Leary, MS, Robert D. Dvorak, Ph.D., Emily Burr

Identity has long been a human phenomenon, pondered by many thinkers. Recently, identity change has been argued to be the driving force behind behavioral change, so interventions should be viewed within that context. While several measures of a drinker's identity exist, no measure examines the idiosyncrasies of a

Responsible Drinker's Identity. The current study created a responsible drinker identity measure, the Personal Assessment of Responsible Drinking Identity, or PARDI. Two studies and a follow-up were used to develop and assess the psychometric properties of the PARDI. The first study consisted of a U.S. national sample of college drinkers (n = 927) to conduct an EFA. The second study consisted of college drinkers from a Southeastern university (n = 1,116) and was used to conduct a CFA, and test for convergent, discriminant, and concurrent validity. Finally, a sample from the second study was followed for one month (n = 149) which was used to assess test-retest reliability and predictive validity. Results suggests the PARDI consists of 3-factors (Personal, Social, and Counter Identity) that assess responsible drinking identity with sound psychometric properties. The PARDI appears to be better at predicting future alcohol use and consequences than current protective behavioral strategies, suggesting responsible drinkers' identity is more important than responsible drinkers' reported behaviors. This measure could serve as a target for interventions aimed at increasing responsible drinking.

13. GENDER PARITY AND HOMOPHILY IN THE DRUG AND ALCOHOL DEPENDENCE EDITORIAL PROCESS

Melissa Schick, MA, Rachel L. Tomko, Ph.D., Anna M. Maralit, BA, Zubair Afzal, Ph.D., Lindsay M. Squeglia, Ph.D., Agnieszka Freda, MScEng, Linda Porrino, Ph.D., Jennifer Dahne, Ph.D., Erin A. McClure, Ph.D., Eric C. Strain, MD

Despite efforts toward gender parity and some improvement over time, gender bias in peer review remains a pervasive issue. Using data from Drug and Alcohol Dependence (DAD), we examined whether: men and women editors invite men and women to serve as reviewers at similar rates; there are gender differences in rates of accepting review invitations; and reviewers accept invitations at different rates depending on editor gender. Data for papers submitted to DAD between 2004 and 2019 include inferred gender of the editor and reviewer (assigned using NamSor gender inference API), and review invitation status. Men and women editors were approximately equally likely to invite women to serve as reviewers over time, with only a few exceptions. Gender differences in likelihood of accepting review invitations have been minimal; however, as women have approached half of all invited DAD reviewers in recent years, there has been a greater trend for women, relative to men, to decline invitations. Evidence of homophily on the part of reviewers was minimal, but in certain years, a tendency to accept review invitations at higher rates from editors of the same gender was observed. Evidence of gender bias in the DAD editorial process was minimal and largely on the part of reviewers. We encourage reviewers to remain mindful of their practices regarding invitations to review and other addiction-focused journals to conduct similar analyses.

14. HIGH SPIRITS? EXPLORING HALLOWEEN ALCOHOL AND MARIJUANA USE AMONG HEAVY-DRINKING COLLEGE STUDENTS

Reagan Fitzke, BS, Justin F. Hummer, Ph.D., Daniel S. Lee, Ph.D., Jordan P. Davis, Ph.D., Denise D. Tran, Ph.D., Eric R. Pedersen Ph.D.

College can be a high-risk period for hazardous drinking behaviors (e.g., pregaming, co-use of alcohol with other substances) and alcohol-related consequences. Of concern are specific events that constitute heavier substance use, including holidays like Halloween. However, little is known about substance use outcomes on Halloween and the weekend closest to the holiday when themed parties and events are often held over several days ("Halloweekend"). The current study investigated drinking, pregaming, marijuana use, simultaneous alcohol and marijuana (SAM) use, and alcohol-related consequences over Halloween weekend (Friday to Sunday, October 29-31, 2021) compared to non-Halloween weekends among a sample of heavy-drinking university students (N = 228). Participants reported on 30 days of daily diary data. Alcohol use and pregaming were more prevalent over Halloweekend compared to the weekends prior to and after. Students also consumed a greater number of drinks while pregaming and overall over the course of Halloweekend. The Saturday of Halloweekend was particularly risky for students compared to other Saturdays; alcohol-related consequences, including blackouts, were more likely on this day. Results suggest alcohol use is heavier and consequences are more likely on Halloweekend compared to other weekends, but that marijuana and SAM use are not. Interventions (e.g., just-in-time adaptive interventions) targeting alcohol use and pregaming on Halloweekend may be beneficial to reduce related harm for university students.

15. HOW ARE RECOVERY-SUPPORTIVE COGNITIONS AND BEHAVIORS ASSOCIATED WITH POSITIVE AND NEGATIVE AFFECT?

Amy Krentzman, Ph.D., MSW, Bonnie Horgos, MSW, LGSW

Negative affect is strongly associated with relapse. Few interventions are designed to improve mood during recovery and little is known about the effect on mood of incremental, recovery-supportive cognitions and behaviors (IRSCB), such as wishing others well or writing a gratitude list. In this study, 81 individuals in addiction treatment (52% female, average 39 years old, 26% BIPOC, average 13 years of education) completed surveys for 30 days assessing 16 different past-day IRSCBs and current-moment mood assessed via the Positive and Negative Affect Schedule. Multi-level models showed significant main effects of 15 IRSCBs on increased positive affect and significant main effects of 14 IRSCBs on decreased negative affect. The IRSCBs that had the strongest effect were “I did something enjoyable,” “I felt able to get things done,” “I realized that more good things than bad things were happening,” and “I realized that there is a lot I am grateful or thankful for.” These IRSCBs were associated with both a 2-3 point increase in positive affect and a 1-2 point decrease in negative affect. These results suggest that providers should reinforce pleasant activities and gratitude practices and help clients meet short-term goals. This study shows that IRSCBs have significant association with improved mood, which could protect against relapse.

16. IDENTIFYING INDIVIDUALS BEST SUITED FOR NEUROCARDIAC INTERVENTIONS IN THE TREATMENT OF SUBSTANCE USE

Julianne Price, Ph.D., Marsha Bates, Ph.D., Sarah Grace Uhouse, MA, Julie Morgano, MA, Sabrina Todaro, MA, Anthony Pawlak, Ph.D., Evgeny Vaschillo, Ph.D., Bronya Vaschillo, MD, Jennifer Buckman, Ph.D.

Autonomic dysregulation is associated with alcohol/substance use disorders (AUD/SUD) and can impede recovery. Heart rate variability biofeedback modulates autonomic arousal through slow, paced breathing that is tailored to individuals’ resonance frequency (~0.1Hz). We recently demonstrated that breathing at 0.1 Hz, compared to sham, via a just-in-time self-administered app (NCT02579317) inhibited the increased craving levels experienced by women receiving outpatient treatment. However, some participants did not engage with the app, nor did they rate it as being useful. Here, we identified factors that contributed to their app use and perceived usefulness. Following an in-lab cardiovascular assessment, participants were provided an iPhone programmed with the paced breathing app and instructed to use it daily at times of anticipated craving for 8 weeks. The app was set to either 0.1Hz or to 0.23 Hz (sham). Participants randomized to 0.1 Hz who exhibited higher heart rate baroreflex capacity (greater 0.1Hz peak at pre-intervention in-lab assessment) used the app more frequently. In contrast, those with a lower 0.1Hz peak reported the app to be more useful. Older age, regular exercise, and a primary SUD (vs. AUD) were associated with higher usefulness ratings. The ability to self-regulate autonomic arousal systems in-the-moment and potentially induce long-lasting cardiovascular change may facilitate recovery. Early signs of autonomic dysregulation promote greater benefit but may make it difficult to engage with such an intervention.

17. IDENTIFYING LINKS BETWEEN PRESCRIPTION STIMULANT SOURCES AND SUBSTANCE USE AND PSYCHIATRIC SYMPTOMS

Alison Looby, Ph.D., Laura J. Holt, Ph.D., Ty S. Schepis, Ph.D., Stimulant Norms and Prevalence Study Team

Prescription stimulant misuse (PSM) is most prevalent among college students and is associated with numerous negative academic and psychosocial outcomes. Few studies, however, have utilized a person-centered approach to examine how the sources from which students procure prescription stimulants are associated with substance-related and psychological impairment. We used latent class analysis (LCA) to classify a geographically and racially/ethnically diverse sample of U.S. undergraduates (N=538; 38% racial/ethnic minority) who misused prescription stimulants into groups based on their endorsement of ten sources of medication. We selected a five-group classification from the LCA [Peer/Dealer (39%), Given by Friend (27.5%), Own Prescription (16.5%), Lower Multiple Sources (13.2%), and Any Source (3.7%)]. Compared to the reference group (Given by Friend), students who misused their own prescription evidenced fewer days of marijuana and simultaneous alcohol and marijuana use, and were less likely to endorse alcohol or marijuana consequences and to use non-oral routes of administration. However, this group was more likely to misuse sleeping medications and to screen positive for anxiety, anger, and suicidality. Similarly, the Lower

Multiple Sources group was more likely to screen positive for depression, anger, and suicidality. Prevention and intervention efforts focused on PSM may be tailored differently depending on whether a student is misusing their own medication and/or endorsing multiple sources. Specifically, these students may need broader assistance with comorbid psychological conditions, particularly suicidality.

18. IMPACT OF COVID-19'S ECONOMIC BURDEN ON ALCOHOL-RELATED PROBLEMS: AN INDIRECT EFFECTS ANALYSIS

Tatiana Magri, BA

Background: The COVID-19 pandemic resulted in global adversity. In the US, individuals struggled with safety protocols such as stay-at-home orders and major shutdowns. Many found themselves displaced from their jobs and experienced loss of income. COVID-19 also resulted in increased mental health difficulties and alcohol consumption/problems. The current study analyzed the indirect effect of depression, stress, and anxiety on the relations between the economic burden of COVID-19 and alcohol problems. *Methods:* Participants were recruited via Amazon's Mechanical Turk (MTurk). Participants completed an online questionnaire regarding substance use, mood, and the impact of COVID-19. Participants were predominantly White (78.9%), male (61.6%), and between the ages of 18 and 78 ($M= 37.35$, $SD= 11.02$). *Results:* Results indicated significant indirect effects of depression, stress, and anxiety on the association between the economic burden of COVID-19 and alcohol problems. Ethnicity was associated with worse drinking/problems, while low socioeconomic status was associated with depression and anxiety symptoms. Statistical analyses yielded large effect sizes, suggesting that mental health symptomatology may explain the association between COVID-19 economic burden and alcohol problems. *Conclusion:* The current study findings suggest mental health difficulties indirectly effect the association between economic burden of COVID-19 and alcohol problems. Intervention efforts and specific policy related to mental health may reduce alcohol problems among individuals experiencing distress due to a large-scale public health impact, such as the COVID-19 pandemic.

19. INTERNALIZING SYMPTOMS, RUMINATION, AND PROBLEMATIC SOCIAL NETWORKING SITE USE: A CROSS NATIONAL EXAMINATION

Victoria Chentsova, BA, Adrian J. Bravo, Ph.D.

Background: As daily engagement with social networking sites (SNS) increases globally, identifying and understanding the risk factors associated with problematic SNS use is of utmost importance. Researchers are interested in understanding the bi-directional relationship between negative affect and problematic SNS use, where negative affect is both a risk factor and a negative consequence of problematic SNS use. *Objective:* The present study examined the indirect influence of rumination on the relationship between negative affect, specifically depressive and social anxiety symptoms, and SNS use outcomes among a cross-cultural sample. *Method:* A total of 9,171 (70.5% women; Mean age=20.28, $SD=3.96$) college students recruited across seven countries (U.S., Canada, Spain, England, Argentina, Uruguay, and South Africa) participated in an online survey study exploring risk and protective factors of addictive behaviors, including SNS use. *Results:* We found that higher negative affect was associated with more problematic social media use via higher ruminative thinking. Specifically, problem-focused thoughts (a rumination subtype) accounted for 20.53% and 27.13% of the total effect of depressive and social anxiety symptoms on problematic social media use, respectively. Other rumination subtypes (i.e., anticipatory thoughts, counterfactual thinking, and repetitive thinking) also demonstrated significant indirect effects, though weaker effects than for problem-focused thoughts. Findings were invariant across countries. *Conclusions:* These findings provide support for further exploring the role rumination plays in determining and comparing SNS use outcomes cross-culturally.

20. MEDIATORS OF MARIJUANA OUTCOMES IN COLLEGE STUDENTS WITH PTSD SYMPTOMS

Tatum Freeman, BS, Skyler M. Hoover, BS, Hallie R. Jordan, Ph.D., Michael B. Madson, Ph.D., Margo C. Hurlocker, Ph.D., Lindsay S. Ham, Ph.D.

College student marijuana use has been increasing (Johnston et al., 2020). Further, posttraumatic stress symptoms put students at a higher risk of experiencing harmful marijuana outcomes, and they are also associated with less use of protective behavioral strategies for marijuana (PBSM). Further, PBSM appears to mediate the positive relationship between posttraumatic stress symptoms and harmful marijuana outcomes

(Jordan et al., 2020). Coping and conformity motives also appear to be related to increased mental health disorder symptoms and marijuana-related problems (Bonn-Miller et al., 2007; Buckner et al., 2007). Thus, this study examined the sequentially mediating roles of coping and conformity marijuana use motives and PBSM use on the relationships PTSD symptoms have with CUD symptoms and marijuana-related negative consequences. In a sample of 474 college students ($M_{age} = 19.36$) reporting at least one PTSD symptom, coping motives and PBSM partially mediated the relationships PTSD symptoms had with CUD risk and marijuana consequences. PTSD symptoms predicted conformity ($\beta = .219, p = .004$) and coping motives ($\beta = .299, p < .001$). Higher coping motives predicted less utilization of PBSM ($\beta = -.389, p < .001$), which subsequently predicted more marijuana consequences ($b = -1.439, p < .001$) and more CUD symptoms ($b = -1.436, p < .001$). Implications include education on PBSM for those at risk for CUD, especially those endorsing coping motives.

21. PAIN AMONG HEALTHCARE PROFESSIONALS IN TREATMENT FOR SUBSTANCE USE DISORDERS

Apollonia Lysandrou, BS, Scott Teitelbaum, MD, Ben Lewis, Ph.D.

Background: Chronic pain is an important antecedent and consequence of substance use. Some evidence suggests medical professionals may be uniquely vulnerable to chronic pain, however such vulnerability remains unexamined in the context of recovery from substance use disorders (SUDs). We characterized pain in a sample of treatment-seeking individuals, examined potential differences in pain trajectories between healthcare professionals and non-healthcare, and interrogated potential pain-related vulnerabilities in treatment outcomes between these groups. *Methods:* Patients with SUDs ($n=509$; 189 women) completed questionnaires indexing pain intensity, craving, and abstinence self-efficacy in pain-related contexts. Assessments were conducted at treatment entry, 30 days, and discharge. Analyses included chi-square and longitudinal mixed models. *Results:* The proportion of healthcare and non-healthcare patients endorsing recent pain was equivalent ($\chi^2=1.71, p=0.19$). Healthcare professionals reported lower pain intensity ($p=0.003$) and higher abstinence self-efficacy ($p=0.001$). However, a profession by pain intensity interaction ($p=0.006$) suggested stronger associations between pain intensity and self-efficacy among medical professionals. Additionally, pain appeared positively associated with craving at baseline among healthcare professionals, but not non-healthcare workers ($p=0.033$).

Conclusion: Healthcare professionals endorsing pain appeared generally protected from pain-related outcomes, with lower pain intensity and higher abstinence self-efficacy. However, medical professionals may be uniquely vulnerable relative to non-healthcare groups, with those experiencing more severe pain also reporting higher cravings and lower abstinence self-efficacy.

22. POST-TRAUMATIC STRESS DISORDER SYMPTOMS AS PREDICTOR OF SUBSTANCE USE DISORDER TREATMENT OUTCOMES

Hugh Farris, BS, Scott Teitelbaum, MD, Ben Lewis, Ph.D.

Background: Treatment of substance use disorders (SUDs) is often complicated by symptoms of post-traumatic stress disorder (PTSD); however, the longitudinal impact of such symptoms on treatment outcomes remains poorly characterized. We examined PTSD symptomatology as a predictor of craving and abstinence self-efficacy throughout treatment. We hypothesized that both the presence and severity of PTSD symptomatology would be associated with higher craving and lower self-efficacy. *Methods:* Of 520 inpatients, 278 endorsed significant PTSD symptomatology (scores >25 on the DSM-5 PTSD checklist). Primary outcomes included craving (assessed with the Penn Alcohol Craving Scale, modified to include drugs) and abstinence self-efficacy (Alcohol/Drug Abstinence Self-Efficacy scales). Analyses were performed using linear mixed models. *Results:* Individuals endorsing significant PTSD symptoms at baseline reported lower self-efficacy ($p<.001$) and greater craving ($p=.012$). However, a group by time interaction ($p<.001$) indicated that the self-efficacy effect persisted only at baseline, diminishing by 30 days into treatment. Within the symptom-positive group, symptom severity remained negatively associated with self-efficacy ($p=.001$) across treatment. *Discussion:* Results are consistent with accumulated evidence suggesting PTSD symptomatology is detrimental to SUD treatment & recovery. However, the PTSD group effect diminished after 30 days in treatment. Further, although symptoms remained associated with worse outcomes throughout treatment, the proportion of individuals with high symptom counts diminished substantially before discharge. Thus, these data support that PTSD symptoms present a surmountable obstacle to SUD treatment.

23. PRELIMINARY PSYCHOMETRIC TESTING OF THE SUBSTANCE USE MODERATION SELF-EFFICACY SCALE (SUMSES)

Daniel Orban, BS, Frank J. Schwebel, Ph.D., Dylan K. Richards, Ph.D., Katie Witkiewitz, Ph.D., Matthew R. Pearson, Ph.D.

Abstinence self-efficacy is considered a crucial behavior change component in the addictions field; however, not everyone with a substance use disorder has an abstinence-based goal. Therefore, a self-efficacy measure that captures substance use moderation is needed. Largely adapted from the Situational Confidence Questionnaire (SCQ-39; Annis, 1982), the Substance Use Moderation Self-Efficacy Scale (SUMSES) was developed to assess confidence to limit one's alcohol/substance use consistent with their goals. Additional items were developed to capture motivations for drinking, protective behavioral strategies, abstinence violation effect, and monitoring alcohol consumption based on clinical and theoretical expertise of the team. We recruited from an online support group for individuals with varied personal goals for substance use (i.e., Harm reduction, Abstinence, and Moderation Support [HAMS] group). Although our total sample included 343 individuals, our primary analyses are restricted to a subsample of 226 individuals who completed the SUMSES. Using exploratory factor analysis with maximum likelihood extraction and Direct Oblimin Rotation, we found support for a 4-factor solution based on parallel analysis (Negative Reinforcement, Positive Reinforcement, Motivation/Goal-Related, Pleasant Emotions). Self-efficacy was highest among those with an abstinence goal (compared to a moderation or "no limit" goal). Self-efficacy subscales were positively associated with quality of life. Additional work is needed to further test psychometric properties of the SUMSES (confirmatory factor analysis, measurement invariance), but it has promising psychometric properties and high clinical utility.

24. PRELIMINARY RESULTS OF THE EFFECTIVENESS OF A GROUP INTERVENTION FOR SUBSTANCE-USING ADOLESCENTS

Maria Contreras Perez, MRes, Eric F. Wagner, Ph.D.

Background: The brief intervention program for adolescents with substance use (Programa de Intervención Breve para Adolescentes que inician el consumo abusivo de alcohol y drogas [PIBA]; Martínez, 2013) was designed to decrease substance use problems among Mexican adolescents. While studies have supported the efficacy of PIBA when implemented one-on-one, the feasibility and efficacy of PIBA when implemented in groups have not been examined. Group implementation holds potential for increasing the reach and cost-effectiveness of PIBA. The objective of this poster is to present the preliminary results from a graduate thesis study of the implementation of group format, Spanish-language PIBA with adolescents in Mexico.

Methodology: Two groups of adolescents received the six-session intervention. In total, 12 adolescents participated; the mean age of the participants was 16.3 (SD=1.15). Preliminary effectiveness was evaluated across outcomes including substance use patterns, self-efficacy for controlling substance use, and consequences associated with substance use. *Results:* PIBA implemented in a group modality significantly decreased substance use. Moreover, PIBA was effective in increasing self-efficacy for controlling substance use and decreasing negative consequences associated with substance use. *Discussion and conclusion:* Strengths and limitations of group format PIBA are discussed, including consideration of two adolescents who differed in clinical response from the rest of the sample.

25. PROTECTIVE BEHAVIORAL STRATEGY USE AND NEGATIVE OUTCOMES ACROSS DIFFERENT VOLUME AND RISKY DRINKERS

Molly Swinney, BS, Skyler M Hoover, BS, Lauren A Greenspoon, MS, Michael B Madson, Ph.D., and Harm Reduction Research Team

College students engage in frequent and risky drinking (Substance Abuse and Mental Health Services [SAMHSA], 2020), resulting in experiencing alcohol related negative consequences (ARNC; Patrick et al., 2020). Alcohol protective behavioral strategies (PBS) and their subtypes (stopping/limiting drinking "SLD"; manner of drinking "MOD"; serious harm reduction "SHR") are associated with fewer ARNC and to an extent, less risky drinking. Yet, less is known about the use of PBS among different levels of drinkers. This study compared different volume drinkers, and risky versus non-risky drinkers by the amount of PBS they use and ARNC experienced. Participants were college students (N = 1976)—mainly female (68.9%) and White

(74%)—with a mean age of 19.47 years old recruited from 11 universities in different regions of the USA. Analysis of variance results indicated that high-volume drinkers reported less all types of PBS and experienced more ARNC than low and moderate volume drinkers (all $p < .001$). Risky drinkers reported significantly less use of all types of PBS and more ARNC (all $p < .001$; SHR, $p = .006$) than non-risky drinkers. An interaction between sex and volume drinkers ($p = .03$) showed moderate and high-volume drinking males reported less ARNC than females ($p = .05$; $p < .001$). Research and clinical implications will be discussed.

26. RELEVANCE OF ADVERTISING IN SPORTS BETTING PERCEPTIONS AND CONDUCTS ACROSS DIVERSE AGES: A REVIEW

Gabriel Quintero, MS, Ph.D.

Background: sport betting and its associated problems are augmenting quickly. Moreover, it has been broadly advertised and marketed, reaching successfully young adult male groups. This work aims to review recent publications regarding the relationship between marketing and sports betting perceptions and behaviors in different ages. *Methodology:* for this purpose, a search in the PubMed database was set for 5 years (November 2014 to November 2019). The search terms included: “Sports betting AND children,” “Sports betting AND young adult,” “Sports betting AND adult”. First, 131 references were obtained; after duplicates removal, 82 articles were selected. Furthermore, 61 references were removed because not pertinent to the work, giving a final selection of 21 references. Some inclusion criteria were: a) human quantitative or review study, b) emphasis on the relationship of marketing and sports betting perceptions and conducts, and others. *Results:* sport betting is more frequent in male than women, and younger kids are more impulsive than older kids. Direct messages (texts) are potent advertising resources fostering impulsive gambling. Current approaches to marketing inducements are likely to lead consumers to overestimate their attractiveness and underestimate their cost. *Discussion/conclusions:* (1) marketing plays a strong role in the normalization of gambling in sports, (2) policymakers should consider comprehensive approaches for reducing the exposure of sports betting advertising to young and (3) future studies should explore further gender and developmental differences.

27. RELIABILITY AND VALIDITY OF THE PLEASANT IMAGE SCALE FOR EXPERIENCED REWARD

Minh Dung Nguyen, BA, Tatiana D. Magri, BA, Ana M. Abrantes, Ph.D., & Lidia Z. Meshesha, Ph.D.

Reward deficit is a risk factor for substance use. Behavioral economic theory suggests substance-free reward may be a protective factor. However, established measurement of reward is varied and limited to lengthy, time-consuming surveys. The current study evaluates the validity and reliability of alternate, brief measurement using ratings of pleasant images. Study 1 participants were adults recruited from Amazon’ Mechanical Turk (MTurk, $N=344$), Study 2 participants were college students ($N=420$). In both studies, participants reported recent alcohol consumption (past week for MTurk and past month for college sample) and completed online questionnaires. Reliability of the Pleasant Image Scale (PIS) were compared across the two samples, convergent/divergent validity was assessed by correlating the measure with the Reward Probability Index, Behavior Activation for Depression Scale, and the Depression, Anxiety, and Stress Scale. Results indicated internal consistency for PIS at $\alpha=.80$, $\alpha=.76$, for the MTurk and college samples, respectively. The PIS was positively correlated with reward probability ($r=.265, p<.001$) in the full sample, and behavioral activation ($r=.301, p<.001$; $r=.224, p<.001$), for the MTurk and college samples, respectively, suggesting convergent validity. The PIS suggest a negative, yet insignificant, correlation with depressive symptoms ($r=-.070, p=.062$), suggesting discriminant validity. Results provide initial evidence for the internal validity, convergent validity and discriminant validity of the PIS. This is the first study to validate a measure assessing reward through images. The PIS could provide alternate measurement of ability to experience reward.

28. SOCIAL NETWORK FEATURES AND ASSOCIATIONS WITH ALCOHOL USE BY SEXUAL ORIENTATION IN A COLLEGE SAMPLE

Alyssa Norris, Ph.D., Matthew K. Meisel, Ph.D., Gabriela López, Ph.D., Nancy P. Barnett, Ph.D.

Background: Sexual minority (SM) college students generally have higher alcohol use than heterosexual students. Peers are salient determinants of young adult drinking, and social network analysis is useful for

examining peer influence, but this approach has not been used to study SM college students. *Methods:* Students in their junior year (N=1157) attending a college in the Northern U.S. were compared on (a) social network features (indegree, outdegree, eigenvector centrality, reciprocity) and (b) associations between network factors and alcohol use outcomes (drinking frequency, maximum quantity) based on sexual orientation. Models were run separately for sexual attraction and identity and for the two alcohol use outcomes. *Results:* Students reporting a bisexual identity or same-sex attraction had greater eigenvector centrality (reflecting network prominence) than students identifying as heterosexual or reporting exclusively other-sex attraction, respectively. Students reporting same-sex attraction also had higher indegree (popularity) and outdegree (expansiveness) as well as more reciprocated ties (mutuality) than individuals reporting exclusively other-sex attraction. Sexual orientation did not moderate the associations between any social network features and alcohol use, with one exception: number of nominations (indegree) was more robustly associated with drinking frequency for heterosexual students. *Conclusions:* SM students' greater network prominence differs from research with adolescents and might reflect SM students' efforts to establish social networks with similar, affirming others in a college environment that is more welcoming than high school.

29. STIGMATIZED IDENTITIES, MINORITY STRESS, BELONGINGNESS, DRINKING TO COPE, AND ALCOHOL

Akanksha Das, MA, Rose Marie Ward, Ph.D., Lauren Haus, Jackson Heitt, Jeffrey Hunger, Ph.D.

The unique stress associated with oppression links to various mental health and alcohol-related problems. The existing research on the discrimination-health link focuses on a single form of discrimination thereby excluding the intersectional oppression of people holding more than one stigmatized identity (SI). The present work extends the literature by examining whether the additive stress associated with multiple SIs confers greater alcohol-related problems among college students and whether this link can be explained by reported minority stressors (both general and unique to intersectional oppression), belongingness, and drinking to cope motives. Participants included 427 college students, who completed a longitudinal health survey in 2020 and 2021. Participants reported a range of SIs (14.3% zero SI; 46.4% one; 29.5% two; 9.8% three or more). A greater number of SIs was associated with higher minority stress (i.e., discrimination, stereotype concerns, and invisibility). Higher minority stress correlated with a lowered sense of belonging, but contrary to expectation not with higher drinking to cope motives. Further, in contrast to expectations, alcohol consumption was positively related to belongingness. Understanding the underlying mechanisms connecting multiple SIs to health consequences may help inform intervention efforts to reduce alcohol use and related problems.

30. TELESCOPING REVISITED: RACE, SEX AND FAMILY HISTORY STATUS

Christian Garcia, MS, Ben Lewis, Ph.D., Sara Jo Nixon, Ph.D.

Background: Substantial literature has characterized various drinking milestones/trajectories across time. However, the interactive effects of race/ethnicity and sex remain understudied. Further, although family history (FH+/-) for alcohol use disorder (AUD) is a strong predictor of AUD in progeny, its impact on this interaction is unknown. The current work addresses this issue in a large sample of treatment-seekers with AUD. *Methods:* Black (n=205/59 women) and white (n=701/244 women) participants provided drinking histories and demographic/socioeconomic information. Analysis of covariance, controlling for education, was conducted with race, sex, FH and their interactions as independent variables. Outcomes included age at problem use, initial treatment entry, and interim years. *Results:* Black participants reported problems earlier than white respondents (23.91±0.60 vs 21.76±0.33; p<.01). FH+ individuals also experienced issues at younger ages than FH- (22.19±0.38 vs 23.48±0.56; p=.05). Black individuals (34.58±0.84) and men (33.96±0.52) were older than White participants (31.50±0.46; p<.01) and women (31.81±0.80; p=.02) at treatment entry, respectively. Despite no effect of race or FH in the transition, sex differences were consistent with previous work showing faster progression to treatment among women (p=.01). *Conclusions:* Taken together, despite the lack of FH differences and interactive effects, results suggest that among treatment seekers, race and sex differences in use patterns and rate of progression to treatment persists. Further exploration of other sociodemographic or affective factors underlying differences remains essential.

31. THE ASSOCIATION BETWEEN HOURS WORKED AND DRINKING AMONG COLLEGE GRADUATES

Matthew Meisel, Ph.D., Nancy P. Barnett, Ph.D.

Background: The research on the association between hours worked and drinking outcomes among emerging adults is mixed, with some studies finding a positive association and others finding a null or negative association. It is possible these inconsistent findings are due to other factors that function as modifiers. The current study examined whether the perception of peer drinking (descriptive norms) moderates the association between hours worked and drinking. *Method:* The current study utilizes the last wave of data (October 2021) from a longitudinal study in which college students were followed until the fall after graduation; this sample includes those who graduated in May 2021 or before (N=950). Participants reported on the number of hours worked, 4 indicators of alcohol use, and characteristics of their workplace, including descriptive norms. *Results:* Number of hours worked was associated with 3 of the 4 alcohol outcomes. Hours worked was not associated with drinking frequency, but was positively associated with heavy drinking frequency, maximum number of drinks, and number of alcohol-related consequences. Descriptive norms did not moderate the association between hours worked and any alcohol outcome. *Discussion:* The current study provides support for the positive association between hours worked and alcohol misuse, but found that workplace descriptive norms did not moderate this association. Additional work is needed to understand factors that moderate this relationship, including job type and internalizing factors.

32. THE EFFICACY AND LIMITATIONS OF BUPRENORPHINE MICRO-INDUCTION IN MANAGING OPIOID USE DISORDER

Aaron Garcia, MS, RN

Buprenorphine (BUP), a μ -opioid receptor partial agonist with high binding affinity, is a first-line pharmacotherapy for treating opioid use disorder. However, because BUP can precipitate opioid withdrawal, standard administration requires that patients are in withdrawal prior to induction—a barrier to treatment. Micro-induction is a novel approach that does not require withdrawal, may be less likely to cause precipitated withdrawal, and may be initiated with concomitant full agonist use. This poster provides a review of existing literature to better inform clinicians of the safety, efficacy, and limitations of BUP micro-induction. APA PsychINFO, CINAHL, Embase, PubMed, and Scopus were searched using terms (micro*) AND (buprenorphine) AND (“opioid use disorder” OR “opioid dependence”) and included publications from 2016 to 2021. From 232 results, 21 studies were included. Most participants were >18 years old, white, and male. Across studies, participants underwent a variety of induction methods, most frequently starting with 0.5mg sublingually and titrating up to 12mg or 16mg. The majority of participants did not experience precipitated withdrawal and were successfully transitioned from a range of full agonists including diacetylmorphine/heroin, hydromorphone, methadone, and oxycodone. While evidence is limited, this review suggests BUP micro-induction is a safe, feasible, and effective method in transitioning adolescents and adults from full agonist use to a maintenance dose of BUP.

33. TWO IS THE LONELIEST NUMBER SINCE THE NUMBER ONE: LONELINESS AND ALCOHOL USE IN COUPLES

Jaye Derrick, Ph.D., Joahana Segundo, BA, Jace D. Pierce, MPH, Xiaoyi Shao, BA

People use alcohol for many reasons, including drinking to alleviate negative emotions (coping motives; e.g., Cooper, 1994). In particular, considerable research demonstrates that people consume alcohol following negative or stressful interpersonal events (e.g., Hamilton et al., 2021; Higgins & Marlatt, 1975; Mohr et al., 2001). The current study used secondary analyses of existing daily diary data to examine how different types of negative interpersonal events influence alcohol use within romantic couples. A community sample (N = 62 couples) participating in a self-guided smoking cessation study completed baseline questionnaires and 21 days of reports; the current analyses used reports of loneliness, disconnection, hurt feelings, and alcohol use from the once daily evening reports. Data were analyzed using mixed effects generalized linear models (MEGLMs), with days (Level 1) nested within couples (Level 2), and the interdependence of partners in a couple was modeled using two-intercept Actor-Partner Interdependence models (Laurenceau & Bolger, 2005). On days when women experienced greater hurt feelings, they were more likely to drink alcohol, consumed more drinks, and became more intoxicated, but they were not more likely to drink with their partner. Men were not similarly affected. Effects for loneliness and disconnection were not significant in this

sample. Results are discussed in terms of research on the role of different types of negative and stressful interpersonal events on alcohol consumption.

34. WHICH SUBSTANCE-RELATED LEGAL PROBLEMS PREDICT RATES OF ARREST?

Madison Smith, BS, Shania L. Siebert, MS, Diamond Allen, MSW, Genevieve J. Allison, BS, Kelly E. Moore, Ph.D.

It has been well established that substance use is highly related to involvement in the criminal justice system. For example, 40% of people report being intoxicated on drugs or alcohol at the time of their offense and 60% of incarcerated people have substance use disorders. However, little research has explored which substances people attribute their legal problems to, and how substance-related legal problems differentially relate to arrest rates. To address this gap, the current study drew from the National Survey of Drug Use and Health data (2015-2019, $n = 282,768$), a nationally representative U.S. sample of community-based adults. Descriptive statistics were explored for substance-related legal problems (e.g., alcohol, cannabis, heroin, opioids, methamphetamine; $n = 134,428$). Then, an ordinal regression controlling for income, education, and SES was used to examine which substance-related legal problems predicted arrests in the past 12 months (i.e., 0, 1, 2, 3 or more arrests). Results showed that the percentage of U.S. adults reporting substance-related legal problems ranged from 1.1% to 22.1%. In the multiple regression, alcohol-related legal problems was the only significant predictor of arrests ($B = -.944$, $SE = 0.336$, $p < .001$). This study suggests that alcohol-related legal problems are a major driver of arrest rates and should be the focus of prevention and intervention efforts for community populations.

35. WHO'S AT GREATEST RISK? LATENT PROFILES OF ALCOHOL AND MARIJUANA USE AND RELATED CONSEQUENCES

Melissa Hatch, BA, Margo C. Hurlocker, Ph.D.

There is significant heterogeneity in alcohol and marijuana use patterns among college students, with some engaging in use patterns that heighten their risk for adverse consequences. Person-centered approaches can help identify those subgroups of students with riskier use patterns. Latent Profile Analyses (LPA) were conducted to identify subgroups based on alcohol and marijuana use frequency and quantity, to explore demographic covariates and to examine mean differences across subgroups on alcohol- and marijuana-related consequences, simultaneous use, and other substance use. Participants were 2408 college students (mean age = 20.1; 72% female) recruited from seven US universities who endorsed past-year alcohol or marijuana use and completed an online survey of substance use behaviors. A four-profile solution was the best fitting model. Profile 1 represented "light alcohol and cannabis use" (55.8%), profile 2 represented "moderate alcohol and cannabis use" (29.6%), profile 3 represented "heavy alcohol and moderate cannabis use" (10.4%) and profile 4 represented "very heavy alcohol and heavy cannabis use" (4.4%). Greek-affiliated students and males were more likely to be in the higher consumption profiles. Profiles 3 and 4 represent high-risk profiles, endorsing more consequences and a higher likelihood of simultaneous use than the other two profiles. Results suggest that heavy alcohol and marijuana use, regardless of co-use status, heightens risk for serious adverse consequences.

SESSION 3: Saturday, April 9th, 2:00 PM

1. EFFECT OF COGNITIVE-BEHAVIORAL THERAPY ON SHORT- AND LONG-TERM GAMBLING OUTCOMES: A SYSTEMATIC REVIEW

David Forman, MS, MSW, Shelby A. King, MS, Meredith K. Ginley, Ph.D., Nicholas W. McAfee, Ph.D., Samuel C. Peter, Ph.D., James P. Whelan, Ph.D., Rory A. Pfund, Ph.D.

Multiple meta-analyses and systematic reviews have supported cognitive behavioral therapy (CBT) for the treatment of gambling disorder. However, none have comprehensively examined CBT effects with a specific focus on the maintenance of gains after CBT termination. A systematic article search consistent with PRISMA guidelines was conducted to locate published studies of randomized controlled trials of CBT for gambling disorder compared to minimally treated or inactive control conditions. Thirty-four studies representing 4,208 participants were identified and random effects meta-analysis was conducted at posttreatment and the

longest available follow-up. At posttreatment, CBT exerted a significantly greater effect on gambling frequency ($g = -0.51$), intensity ($g = -0.39$), duration ($g = -0.66$), and gambling disorder symptoms ($g = -1.03$) than control conditions. Eleven of 34 studies reported a follow-up assessment, and these assessments occurred between 1-22 months after CBT termination ($M = 7.8$ months, median = 7.5 months). At follow-up, CBT exerted a significantly greater effect on gambling frequency ($g = -0.23$), intensity ($g = -0.28$), duration ($g = -0.54$), and gambling disorder symptoms ($g = -0.50$) than control conditions. These findings suggest a moderate to large effect of CBT on gambling outcomes immediately after treatment, and a small to moderate effect in the months after termination. Future studies should examine the specific CBT components that affect outcomes as well as the mechanisms that underlie these components.

2. A SYSTEMATIC REVIEW OF MEDIATORS IN ADOLESCENT SUBSTANCE USE TREATMENT

Samuel Meisel, Ph.D., Melissa Pielech, Ph.D., Molly Magill, Ph.D., Kelsey Sawyer, MS, Robert Miranda Jr., Ph.D.

Background: Research examining treatment mediators can provide critical information to refine, scale, and implement effective substance use treatments. This pre-registered (https://www.crd.york.ac.uk/prospero/display_record.php?RecordID=215288) systematic review investigated over 20 years of research on mediators of adolescent substance use treatment outcomes. *Methods:* $K=17$ studies assessing both treatment/treatment ingredient to mediator (a path) and mediator to treatment outcome (b path) paths were included. To advance a unified method to assess treatment mechanisms, mediators were categorized using the Science of Behavior Change (SOBC) target class framework. *Results:* Overall, support was found for 6/12 self-regulation, 1/10 stress resilience and reactivity, and 5/19 interpersonal and social processes mediators. Further, findings suggested that there was less support for mediators of cannabis use outcomes (11% of tested mediational paths) relative to alcohol (75% of tested mediational paths) and multiple substance outcomes (59% of tested mediational paths) as well as less support for substance-related consequences outcomes (25% of tested mediational paths) compared to substance use outcomes (45% of tested mediational paths). *Conclusions:* The current study offers some support for self-regulatory mediators of adolescent substance use treatment, however, heterogeneity in the sample of studies precludes any firm conclusions. To enhance the capacity of this work to inform clinical practice, we recommend that future research adopt ontological treatment mediator frameworks, such as the SOBC framework, as well as other methodological guidelines in mediation research.

3. ALCOHOL AND CANNABIS PROTECTIVE BEHAVIORAL STRATEGIES ARE ASSOCIATED WITH FEWER NEGATIVE OUTCOMES

Nicholas Livingston, MS, Katherine A. Berry, BA, Alison Looby, Ph.D., Harm Reduction Research Team

Alcohol and cannabis use consequences are elevated among college students. Use of protective behavioral strategies (PBS) is associated with reduced negative substance-related consequences. Given that alcohol and cannabis PBS overlap, the present study evaluated whether negative relations among alcohol PBS, alcohol-related consequences, and risk for alcohol use disorder were augmented by cannabis PBS and visa-versa. A representative, multi-site sample of college students ($N = 1204$; 40% non-white/Hispanic) endorsing past-month concurrent use completed measures regarding their alcohol and cannabis use, substance-related consequences, risk for substance use disorder, and use of PBS. Moderation models examined whether cannabis PBS moderated the relation between alcohol PBS and negative alcohol-related outcomes (i.e., problems and alcohol use disorder); and whether alcohol PBS moderated the comparable link for cannabis-related variables. Cannabis PBS augmented the negative relation between alcohol PBS and alcohol consequences ($\beta = -0.06$, $p = .019$), as did alcohol PBS on the negative relation between cannabis PBS and cannabis consequences ($\beta = -0.10$, $p < .001$). In both models, the fewest consequences were reported by students who employed frequent use of both types of PBS. There were no significant moderation effects in either model predicting substance use disorder (alcohol: $p = .160$; cannabis: $p = .096$). Together, these results suggest that students may benefit from enhanced screening for both drugs and support in employing PBS for each.

4. ALCOHOL PROTECTIVE BEHAVIORAL STRATEGIES CONVEY GREATER PROTECTION FOR GREEK LIFE MEMBERS

Lauren Zimmerman, MS, Nicholas R. Livingston, MS, Katherine A. Berry, BA, Caitlin A. Falco, MS, Alison Looby, Ph.D., Harm Reduction Research Team

Use of protective behavioral strategies (PBS) is related to lower rates of alcohol-related problems among college students, especially those at higher-risk for negative consequences. Collegiate Greek life members engage in frequent alcohol use and are a group known to be at increased risk for experiencing alcohol-related problems; however, limited research exists examining PBS use among students affiliated with Greek Life. Thus, the current study examined whether negative relations among PBS use, alcohol use, and alcohol-related problems are stronger for members of Greek life. We tested a moderated mediation model in a large, representative, multi-site sample of college student drinkers (N = 2879; 69.1% female, 40.9% non-white/Hispanic). There was a significant moderated mediation effect (Index = -0.08, 99% CI [-0.15, -0.01]), such that the indirect effect from PBS use to negative alcohol-related consequences through alcohol use was stronger for Greek members than non-affiliated students. Examination of this effect among specific types of PBS indicated that these stronger relations for Greek members were found for both Stopping/Limiting Drinking and Serious Harm Reduction PBS. Instruction in and encouragement of PBS use among Greek Life students, particularly related to mitigating serious harms (e.g., intoxicated driving) and setting limits surrounding one's drinking, may be particularly beneficial for these high-risk students.

5. ASSESSING REASONS FOR LIMITING HEAVY DRINKING AMONG COLLEGE STUDENTS

Skyler Hoover, BS, Michael Madson, Ph.D., Hallie Jordan, Ph.D., Richard Mohn, Ph.D., Priscilla Lui, Ph.D.

Research has identified many factors preceding an increase in alcohol consumption among college students, such as motives for drinking (Madson et al., 2015). However, little research exists examining college students' motivations for limiting drinking. Although assessments of limitation motives exist, they do not identify limitation motives separate from abstinence motives (Epler et al., 2009), or are 30+ years old (Greenfield et al., 1989; Werch 1990). The current study built upon existing measures of reasons for limiting drinking, explore potential factor structures, and examine the validity of the Reason For Limiting Heavy Drinking scale (RFLHD). Participants were 591 college students from two southern universities, primarily identifying as White (68%), and female (82.3%), with a mean age of 19.9 years. Exploratory factor analyses supported a two-factors - Avoiding Consequences (i.e., limiting use to reduce alcohol related negative consequences) and Personal and Other's Values (i.e., limiting use in accordance with personal, or other people's values, regarding alcohol consumption). The RFLHD was negatively correlated with alcohol use measures, and positively correlated with measures of alcohol harm reduction. Given the cognitive nature of limitation motives, the RFLHD may be a useful assessment tool in clinical settings using cognitive behavioral therapy and harm reduction models of intervention.

6. CANNABIS AS A MODERATOR OF THE RELATIONSHIP BETWEEN EXERCISE AND ALCOHOL IN A COLLEGE STUDENT SAMPLE

Vanessa Stallsmith, BA, Cianna Piercey, BS, Maggie J. Mataczynski, BA, Noah N. Emery, Ph.D., Hollis C. Karoly, Ph.D.

College is a unique stage of life when newly autonomous individuals can explore and experiment with substances and new behaviors. Alcohol, the most used substance among college students, has been shown to have a paradoxical positive relationship with exercise behaviors (Musselman et al., 2010). As alcohol-cannabis co-use in young adults continues to rise, it is important to characterize the relationship that cannabis and exercise may have with one another. We sought to conceptually replicate and expand upon previous research to understand cannabis use, exercise-related cannabis use motives, and mood functioning as moderators of the exercise-alcohol association. Cross-sectional survey data was collected from 197 college students, age 18-25. Negative binomial regression was used to test associations between exercise engagement and alcohol consumption, cannabis use, motivations for cannabis use, positive and negative affect, and anhedonia as well as the moderating effects of these factors on the exercise-alcohol relationship. Results indicated that sex (Male=1, Female=0; IRR=1.40, p=.012), positive affect (IRR=1.71, p=.001), negative affect (IRR=1.39, p=.044), and alcohol consumption (IRR=2.50, p=.031) exhibited positive relationships with exercise. Cannabis-related exercise motives (IRR=1.06, p=.043), positive affect (IRR=0.83, p=.019), and negative affect (IRR=0.84, p=.021) each exhibited significant moderating effects on the alcohol-exercise association, such that those with low cannabis exercise motives (b=-23.93, p=.019), high positive

affect ($b=32.21$, $p=.029$), and high negative affect ($b=-32.78$, $p=.018$) exhibited inverse associations between alcohol and exercise.

7. COGNITIVE REAPPRAISAL MODERATES RELATIONSHIP BETWEEN ANHEDONIC DEPRESSION AND ALCOHOL USE

Richa Wadekar, BS, Rachel Barry, Persephone Crittenden, PsyD, Nancy A. Haug, Ph.D., Leanne Williams, Ph.D.

In the Process Model of Emotion Regulation, strategies such as cognitive reappraisal and expressive suppression can be adaptive or maladaptive based on context (Gross, 2003, 2013). Emotion regulation was shown to moderate the relationship between negative emotion and alcohol craving in individuals with alcohol dependence (Kun & Demetrovics, 2010). This study examines emotion regulation, negative affect, and alcohol and cannabis use among individuals with depression, anxiety and general distress symptoms. Participants ($N = 344$; 56% women, 58% white) completed measures of alcohol use (AUDIT), cannabis use (CUDIT-R), mood symptoms (Mood and Anxiety Symptom Questionnaire), and emotion regulation (Emotion Regulation Questionnaire). Problematic alcohol users showed a significantly greater use of expressive suppression, a potentially maladaptive regulation strategy, than non-problematic users ($t = 2.26$, $p = 0.01$, 95% C.I. = [0.45, 4.32]). Cognitive reappraisal, a potentially adaptive strategy, was identified as a moderator that served to lessen the association between alcohol use and both anhedonic depression and general distress ($b = -0.72$, $p < 0.05$, 95% C.I. [-1.2803, -0.1629]; $b = -0.5207$, $p < 0.05$, 95% C.I. [-0.98, -0.06]), respectively, tested using the Hayes Process macro for SPSS v27]. This study contributes to the literature conceptualizing substance use through the Process Model of Emotion Regulation. Cognitive reappraisal may be adaptive for individuals with depressive symptoms at risk of hazardous alcohol use.

8. DO EXPECTANCIES AND MOTIVES MEDIATE THE RELATION BETWEEN SOCIAL ANXIETY AND CANNABIS CONSEQUENCES?

Katherine Berry, Nicholas R. Livingston, BS, Alison Looby, Ph.D., Stimulant Norms and Prevalence (SNAP) Study Team

Individuals high in social anxiety (SA) are at an increased risk for experiencing cannabis-related problems. Several studies demonstrate that motives and expectancies mediate the relation between SA and cannabis-related problems; however, few studies have examined expectancies and motives comprehensively, in accordance with motivational models of substance use, to explain this relationship. The present study examined whether the relation between SA and cannabis-related problems is explained through SA-relevant expectancies and motives. Among a racially/ethnically diverse multi-site sample of college student cannabis users ($N = 660$; 71.6% female, 47.3% white non-Hispanic), we tested a saturated path model in which SA was modeled as a predictor of cannabis problems via social and sexual facilitation (SSF) and cognitive and behavioral impairment (CBI) expectancies, SA and coping motives, and cannabis use. Several double mediation effects were found, such that higher SA was associated with stronger SSF expectancies, which was associated with both stronger SA and coping motives, and consequently greater cannabis use and problems; and higher SA was associated with stronger CBI expectancies, which was associated with stronger coping motives, and consequently greater cannabis use and problems. For college student cannabis users high in SA, interventions that aim to modify these specific expectancies and motives, perhaps through identification of alternative means of coping with SA symptoms outside of cannabis use, may be effective in reducing cannabis-related problems.

9. EARLY MATURING OUT OF PROBLEMATIC ALCOHOL USE

Sarah Peterson, MS, Gregory T. Smith, Ph.D.

Most research suggests alcohol use peaks in the college years then declines into the mid-thirties (Jochman & Fromme, 2010). However, some individuals mature out earlier: downward trends for some begin in college, with up to one third of students decreasing their drinking (Baer et al., 2001). It is crucial to identify factors that differentiate those who decrease their drinking early from those who persist in high levels of consumption to clarify risk for college-related alcohol problems and subsequent alcohol use disorder, and aid in earlier targeted prevention and intervention. This study emphasizes two possibilities: 1) perhaps those who mature out early have adult-like responsibilities (e.g. financial burden) and/or 2) perhaps those who persist have

higher levels of personality (i.e. urgency or sensation seeking) and learning-based (i.e. alcohol expectancies) risk factors. A sample of 591 college students were assessed four times across two years. Five trajectories of drinking frequency were identified. Three displayed stable drinking patterns at low/infrequent, moderate and high levels. A fourth group displayed an increase at wave 4, and a fifth group decreased their drinking at wave 4. The latter two groups could be differentiated by sensation seeking and positive social expectancies, but not urgency or financial burden, before their patterns diverged. These results emphasize heterogeneity in alcohol use development across emerging adulthood and the integration of contextual and individual difference risk factors.

10. EFFECTS OF CONTENT AND EMOTIONAL VALENCE OF EPISODIC FUTURE THINKING ON DELAY DISCOUNTING

Yi-Chun Chang, MS, Benjamin O. Ladd, Ph.D.

Objective: This study examined whether emotional valence (positive vs. negative) and content (alcohol vs. non-alcohol) of episodic future thinking (EFT) have different effects on delay discounting (DD). **Method:** 275 Participants (85.40% female, mean age = 21.68 years) reporting alcohol consumption in the past month were recruited from an online Psychology pool. For this 2 X 2 experimental design, participants were randomly assigned to one of four EFT cue-generation conditions: positive alcohol, negative alcohol, positive non-alcohol, negative non-alcohol. Participants then completed a modified DD task in which their personal EFT cues were displayed. Participants also completed a self-report battery assessing alcohol consumption, alcohol-related problems, and demographics. **Results:** There was a main effect of content, such that participants assigned to non-alcohol EFT conditions had significantly smaller DD compared to those in alcohol EFT groups, $F_{(1, 266)} = 6.87$, $p = .009$, $R^2 = .025$. However, there was no main effect based on EFT emotional valence, $F_{(1, 266)} = 1.02$, $p = .31$, $R^2 = .004$. **Conclusion:** The content of EFT, but not emotional valence, matters in terms of the effect on DD. We suggest the effect of EFT on reducing DD works better when personal goals (e.g., schoolwork, family, etc.) are incorporated into the content of EFT. Single session EFT could be a potential therapeutic tool to guide alcohol users to make more farsighted decisions.

11. EVALUATING PROVIDERS PRESCRIPTION OPIOID INSTRUCTIONS TO PEDIATRIC PAIN PATIENTS

Diana Ho, BA, Patrick C. M. Brown, BA, Corrin Murphy, BA, Karen A. Hudson, MCR, Anna C. Wilson, Ph.D., Sarah W. Feldstein Ewing, Ph.D., Denise Tran, Ph.D.

Receiving an opioid prescription during childhood increases the risk of hazardous opioid use in young adulthood. Instruction on how to use opioid medications plays an essential role in pediatric patients' capacity to use, as well as discontinue, opioid medications appropriately. This study aimed to evaluate pediatric opioid medication label instructions provided to a large sample of pediatric outpatients. Data was extracted from the electronic healthcare records system identifying pediatric patients who received an opioid prescription between 2016 and 2019 in pediatric outpatient medical clinics affiliated with a northwest medical center and children's hospital. Pediatric patients (n=12,613) between 0-17 years old who received an opioid prescription through outpatient care were included. Patients with chronic health conditions or who received their prescription from an inpatient medical setting were excluded. Patient demographics, medication instructions, diagnoses associated with visit, and other prescription information (e.g., name of medication, dose, quantity dispensed) were examined using automated text classification. Many outpatient providers did not include any indication/reason for use (20.8%), instructions for how to reduce/wean off of opioid medications (99.1%), contact information in the event that families had questions about the medication (>99.9%), and/or instructions around how to dispose of the opioid medications (>99.9%). Efforts are needed to ensure that pediatric opioid medication instructions contain essential elements to improve comprehension of when and how to use prescription opioids for pediatric patients.

12. EVALUATING THE EFFECTS OF POSITIVE AND NEGATIVE AFFECT ON ALCOHOL USE: A LATENT TRANSITION ANALYSIS

Brittany Zaring-Hinkle, Martin Gallegos, Ph.D., Nan Wang, Ph.D., James H. Bray, Ph.D.

Adolescent alcohol use is a well-documented problem and has been associated with many negative consequences. The goal of this study was to identify transitions among latent classes of alcohol use in adolescents across the high school years and evaluate how positive and negative affect predicted transitions across those latent classes. Data (N = 5,837) from a large, diverse sample (42% Latinx/Hispanic, 27% non-Hispanic White, and 21% African American) were collected from spring of freshmen year to fall of senior year as part of a larger study. We conducted a latent transition analysis and found three classes of alcohol use at each of the six waves (no/low, moderate, and heavy use). Negative affect was highest among students in the heavy use class, followed by those in the increasing use class, and lowest in the no/low use class. Conversely, we found that positive affect was highest among students in the no/low use class, followed by those in the increasing use class, and lowest in the heavy use class. However, we found little evidence of positive or negative affect as a predictor of transitions between classes. The developmental nature of these problematic behaviors and the negative outcomes associated with adolescent use underscore the importance of identifying risky patterns of use over time, as well as modifiable factors (i.e., positive and negative affect) as potential points of intervention.

13. EXAMINING AFFECT DYNAMICS AMONG PATIENTS IN RESIDENTIAL OPIOID TREATMENT AND HEALTHY CONTROLS

Kyler Knapp, MS, Timothy R. Brick, Ph.D., Scott C. Bunce, Ph.D., H.H. Cleveland, JD, Ph.D.

Background: Addiction theories that posit individuals with opioid use disorder (OUD) experience heightened negative affect (NA) and deficient positive affect (PA) are largely based on laboratory studies. In this study, ecological momentary assessment (EMA) was used to elucidate the dynamic nature of affect and enhance understanding of similarities/differences in daily affective experience among individuals with and without OUD. *Methods:* OUD patients (n=73) in residential treatment and 37 healthy controls provided 4x daily smartphone-based self-reports of PA and NA across 12 days. Linear mixed-effects and cross-lagged panel models tested differences between treatment and control groups in independent PA and NA dynamics (person-level mean, variability, and instability; day-level mean trends over time) and concurrent and prospective day-level PA and NA coupling. Analyses also compared controls to OUD patients who relapsed post-treatment (n=36) and those who maintained abstinence (n=34). *Results/Discussion:* Relative to controls, the OUD patients as a group reported higher, more variable and unstable NA (but not PA), greater decrease in NA across days, and weaker negative concurrent (but not prospective) PA-NA coupling. Relative to controls, the relapsing patients exhibited greater decrease in NA across days, whereas the abstaining patients differed from controls in their having weaker same-day PA-NA coupling. Results suggest the OUD treatment process may involve experiencing PA and NA as less contradictory. Future research is needed to examine these processes within more diverse samples.

14. EXAMINING CANNABIS FREQUENCY, QUANTITY, AND PRODUCT POTENCY AS PREDICTORS OF CANNABIS USE DISORDER

Cianna Piercey, BS, Maggie J. Mataczynski, B.A., Vanessa T. Stallsmith, B.A., Emma E. Smith B.S., Noah N. Emery, Ph.D., Hollis C. Karoly, Ph.D.

In recent years, the United States has undergone an extraordinary shift concerning the political landscape and public acceptance of cannabis. Recreational cannabis is currently legal in 18 states and medical cannabis is legal in 36 (including the District of Columbia). As such, the variety of high-potency cannabis products available in both licit and illicit markets have increased exponentially (UNODC, 2018). This surge in potency and accessibility may place individuals at greater risk of heavy cannabis use and development of a cannabis use disorder (CUD). Results from the National Survey on Drug Use and Health revealed that 49.6 million individuals over the age of 12 used cannabis in 2020, with 14.2 million people meeting criteria for CUD diagnosis (Center for Behavioral Health Statistics, 2021). Thus, it is critically important for researchers to understand how various patterns of cannabis use may be implicated in CUD development. The current study leveraged college student survey data (N=248) from a state with both legal market medical and recreational cannabis to examine potential predictors of CUD severity (i.e., cannabis use frequency, quantity, and product potency). Flower use frequency positively predicted CUD symptom endorsement ($\beta=.04$, $p<.001$), however, there were no significant relationships identified between edible or concentrate use frequency and CUD symptom severity. Additionally, cannabis quantity and product potency did not significantly predict CUD symptom endorsement across cannabis flower, edibles, or concentrates.

15. EXAMINING REPLICABILITY OF READINESS TO CHANGE PROFILES AMONG DIVERSE SAMPLES

Frank Schwebel, Ph.D., Dylan K. Richards, Ph.D., Verlin W. Joseph, Ph.D., Matthew R. Pearson, Ph.D., Katie Witkiewitz, Ph.D.

Readiness to change (RTC) is an important construct in the broad field of behavior change and has substantial face validity. In the addictions field, RTC is frequently assessed using the University of Rhode Island Change Assessment (URICA; DiClemente & Hughes, 1990). However, there has been limited work in identifying person-centered RTC profiles. Previous work has used cluster analysis, though clustering techniques are less flexible and do not allow for uncertainty in profile assignment compared to other person-centered analyses (e.g., Latent Profile Analysis [LPA]). This secondary data analysis used LPA on three distinct datasets including a large treatment seeking sample of individuals with an alcohol use disorder (COMBINE, $n=1380$, Anton et al., 2006) and two non-treatment seeking college student samples (SASSAFRAS, $n=257$, Schwebel et al., 2021; UTEP Campus Survey, $n=506$, Richards et al., 2020). We found support for 2- (entropy=.89, SASSAFRAS), 4- (entropy=.81, COMBINE), and 6-profile solutions (entropy=.92, UTEP Campus Survey) across samples, showing low replicability of optimal profile solutions. When extracting the same number of profiles across samples, profiles were comparable across the two college student samples for 2- and 4-profile solutions. Given the observed (non-)replicability, we discuss conceptual and measurement issues related to the URICA and RTC measures more broadly. Additional research is needed to explore how to optimally identify subpopulations of individuals based on their RTC.

16. FOMO PREDICTS HAZARDOUS DRINKING BEHAVIORS: THE MEDIATING ROLE OF PBSA

Anna Brice Taylor, BS, Nicholas A. Militello, MA, Richard S. Mohn, Ph.D., Michael B. Madson, Ph.D., Priscilla Lui, Ph.D.

Alcohol use on college campuses is a major health concern considering a large percentage of college students engage in hazardous drinking behaviors. Alcohol protective behavioral strategies (PBSA) serve as an effective harm reduction approach for reducing alcohol-related negative consequences (ARNC) associated with hazardous drinking. One emerging factor that may relate to students' engagement in alcohol use and PBSA implementation is fear of missing out (FoMO), however, the study of FoMO and drinking behaviors is largely unexplored. The present study examined the degree to which FoMO predicts hazardous drinking behaviors in a multi-site sample of college student drinkers ($N = 283$) and how these associations are mediated by PBSA. Data were collected online via Qualtrics survey investigating college health behaviors, including measures of hazardous drinking behaviors, ARNC, PBSA, and alcohol-related FoMO. Results from structural equation modeling indicate FoMO on parties and games negatively predict PBSA use, which in turn negatively predict hazardous drinking and ARNC. Thus, students who experience high levels of FoMO when engaged in socially related drinking such as partying and playing drinking games may be more likely to engage in hazardous drinking behaviors when using less PBSA. Our findings highlight the value of PBSA use on college campuses and provide clinical implications for interventions targeting the culture of college student drinking.

17. HEALTH OUTCOMES AMONG ADULTS AGE 50+ WHO USE CANNABIS: A MATCHED CASE CONTROL STUDY

Kristina Phillips, Ph.D., Kathryn L. Pedula, MS, Kylee K. Tawara, Vanessa Simiola, PsyD

Rates of cannabis use in older adults age 50+ are increasing rapidly, but it is currently unknown whether increased use will lead to negative outcomes. A matched case control design was used to compare older adults with identified cannabis diagnoses and matched controls in one healthcare system on specific health outcomes from 2016-2020. Patients over age 50 were identified using ICD-10 diagnostic codes for cannabis use (42% of sample) or Cannabis Use Disorder (58% of sample) and matched with non-using controls based on age and sex. Those with any cannabis diagnosis ($n=275$) were compared to controls ($n=275$) on specific health outcomes for two years following case identification. Participants were 19.3% Native Hawaiian or Pacific Islander, 24.4% Asian, 47.8% White, and 8.5% Other or Unknown race/ethnicity and had an average age of 62.8 years ($SD=7.3$; range 51-87) at cannabis diagnosis. Participants with a cannabis diagnosis had significantly greater risk of coronary heart disease (aOR=3.92, $p<.001$), chronic non-cancer pain (aOR=2.48, $p<.001$), stroke (McNemar's test, $p<.0001$), myocardial infarction (McNemar's test, $p<.0001$), persistent or

cyclic vomiting (McNemar's test, $p < .0001$), and injuries ($aOR = 2.90$, $p = .003$), over time, compared to controls. Cannabis diagnosis was associated with any and greater frequency of future outpatient, inpatient, and emergency department visits ($aORs$, $aRRs = 1.41-4.71$, $ps < .05$). Future studies should evaluate specific cannabis-related health outcomes, effects of cannabis problem severity, as well as implications for healthcare in aging populations.

18. HIGHER SOCIAL CAPITAL PREDICTS FEWER SUBSTANCE USE DAYS AND ASSOCIATED PROBLEMS 1 YEAR POSTTREATMENT

Lousia Kane, MA, Zachary Stewart, BA, Katherine Benson, BA, Stacey B. Daughters, Ph.D.

Substance use and substance related problems often return following treatment for substance use disorder (SUD). Social capital may improve recovery efforts by supplying potential positive resources gained from reciprocal social ties such as obligations to others and environmental reward. This study tested if greater pretreatment social capital is associated with fewer posttreatment substance use days and problems at 1-year posttreatment. Participants included 206 adults ($Mage = 40.3$, 66.5% male, 53.9% White) in intensive outpatient substance use treatment. Substance use days (Timeline Followback) and substance related problems (Short Inventory of Problems) were assessed at baseline through 1-year posttreatment. Study covariates included age, sex, education, depressive symptoms, race/ethnicity, and gender. Poisson regression analyses yielded significant effects of social capital, with greater social capital predicting fewer substance use problems ($\beta = -0.12$, $p = .00$, 95% CI: $-0.15, -0.10$) and days of substance use ($\beta = -0.02$, $p = .00$, 95% CI: $-0.03, -0.01$) at 1-year posttreatment. Study findings demonstrate the positive impact of social capital on posttreatment substance use outcomes. Available reciprocal relationships may represent access to resources like substance-free environmental reward and an obligation to close others, posing a viable psychosocial intervention target. It will be important to test mechanisms of social capital and how protective effects may vary depending on individual factors such as race/ethnicity and gender.

19. HYPER-PALATABLE FOOD CONSUMPTION DURING BINGE EATING EPISODES

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Background: Theoretical models propose that binge eating may serve to distract from negative affect. The underlying assumption is that consuming hyper-palatable foods (HPF) may be highly rewarding and thus temporarily distract from negative affect. However, intake from HPF during binge eating has not been systematically tested using a standardized definition for HPF. The aim of the study was to elucidate the degree to which HPF are consumed during binge episodes. Intake during episodes of restricting was used as a within-subject comparison. *Method:* The study sample ($N = 147$) included adults with bulimia nervosa. Intake during binge and restricting episodes was assessed using a semi-structured interview. Foods were identified as hyper-palatable based on a standardized definition of HPF. Two tests of median difference were conducted to test the difference in calories (kcal) from HPF (total and as a percentage of total caloric intake) during binge eating compared to restricting. *Results:* The results showed that individuals consumed significantly more kcal from HPF during binge episodes (total=1846.58, percentage=95%) relative to restricting (total=279.60, $Z = -13.38$, $p < .001$; percentage=61%, $Z = -7.35$, $p < .001$). *Conclusion:* Overall, HPF may be primarily targeted for consumption during binge episodes.

20. IMPACTS OF COVID-19 ON ALCOHOL USE AMONG ADULT PROBLEM DRINKERS

Aradhana Srinagesh, MPH, CHES, Sara Forthal, MPH, Sean Madden, MA, MS, Cameron Haslip, MA, Fred Muench, Ph.D.

The coronavirus (COVID-19) pandemic has been associated with increased alcohol use. We explored changes in alcohol use during COVID-19 lockdown in a sample of problem drinkers (PD) participating in a remote-based alcohol reduction text-messaging intervention in the USA. An optional self-report questionnaire was completed by 323 participants (mean age 41.6 ± 10.2 years; 71.5% female; 83.9% White). Survey questions assessed sociodemographic data, social stressors (quarantine conditions, employment status, changes to daily routine), and drinking patterns. Analysis of variance tests were used to identify statistically significant predictors of increased drinking. Most participants reported drinking more than 3 days/week (87.6%). Additionally, since lockdown, 22.3% 'very frequently' drank more, 35.6% 'frequently' drank more, and

26.9% 'occasionally' drank more. Only 15.1% of participants reported 'rarely' or 'never' drinking more than usual. Reasons for increased drinking included 'increased stress/anxiety' (64.7%), 'boredom, nothing else to do' (60.1%), 'spending more time at home' (57.0%), and 'easily became part of my routine' (47.4%). Female gender ($p=0.002$), severity of changes to daily routine ($p<0.001$), and increased access to alcohol ($p<0.001$) were significantly associated with drinking more than usual. These data suggest that the pandemic has led to greater alcohol use among PD attempting to reduce their drinking. Females and those with increased self-reported stress, boredom, access to alcohol, and disruption to daily routines may be particularly susceptible to elevated alcohol use during a pandemic.

21. IMPULSIVITY PREDICTS CONSEQUENCES OFTEN ATTRIBUTED TO ALCOHOL USE WITH AND WITHOUT DRINKING

Jessica N. Flori, MS, Mark J. Crisafulli, MS, Cameron A. Davis, BS, Melissa N. Manning, BS, Luke D. Salomone, Nicole A. Dunn, BA, Gabrielle Lynch, MS, Michael E. Dunn, Ph.D.

Reductions in alcohol use have not resulted in similar declines in negative consequences, and this may be the result of other factors contributing to harms beyond drinking. Individuals might endorse engaging in risky behavior while drinking but may also engage in this behavior while sober. We examined the relationship between impulsivity and consequences typically associated with alcohol use, whether individuals had consumed alcohol or not. Predominantly white (71.3%), non-Hispanic college students ($n = 1434$) responded to questions about impulsivity, missing class/work, regretted sex, fatigue, social regret, and taking risks on drinking and non-drinking days. Chi-square analyses revealed no significant differences between race/ethnicity and alcohol/non-alcohol-related consequences. Multiple regression analyses were conducted, and as hypothesized, there was a significant relationship between impulsivity and alcohol-related consequences, $F_{(5, 1404)} = 7.372$, $p < .001$, and non-alcohol-related consequences, $F_{(5, 1404)} = 8.971$, $p < .001$. Negative urgency and sensation seeking were significantly associated with alcohol-related consequences ($B = .099$, $p = 0.013$; $B = .101$, $p = .006$). Negative urgency was also significantly associated with non-alcohol-related consequences ($B = .161$, $p < .001$). Identifying other contributors to negative consequences typically attributed to alcohol use could guide efforts to broaden intervention beyond alcohol use. Future research should investigate the relationship between these variables within diverse populations to promote generalizability.

22. LIFETIME CANNABIS USE IS ASSOCIATED WITH SUICIDAL IDEATION AND NON-SUICIDAL SELF INJURY

Diamonde McCollum, BS, Katie R. Moskal, BS, Jenni Teeters, Ph.D.

Background: Cannabis use is the most commonly used illicit substance worldwide, with 20% of young adults reporting use at least once per week. Cannabis use has been shown to increase suicidal ideation and attempts and non-suicidal self-injury (NSSI). However, little previous work has examined the impact of lifetime frequency of cannabis use on suicidal ideation, suicide attempts, and NSSI in a diverse young adult sample. The current study hypothesized lifetime cannabis use frequency would be linked to greater risk of lifetime suicidal ideation, lifetime suicide attempts, and lifetime NSSI. *Method:* Participants ($n = 428$; 59.1% female; 59.1% Caucasian; average age = 23) were recruited through Prolific. Participants completed measures related to cannabis use, NSSI, and suicidal behaviors.

Results: Three logistic regression analyses were conducted to determine the associations between lifetime cannabis use, suicidal ideation, and behavior, and NSSI. It was found that lifetime cannabis use was associated with lifetime suicidal ideation ($p < .001$, $OR = 1.197$) but not with suicide attempts ($p > .001$, n.s). Moreover, it was found that lifetime cannabis use was associated with lifetime NSSI ($p < .001$, $OR = 1.160$).

Discussion: These results indicate that lifetime cannabis use potentially influences the connection between lifetime suicidal ideation and NSSI and should be considered in education and prevention efforts to reduce suicidal ideation and NSSI.

23. MATCHING CANNABIS PROTECTIVE BEHAVIORAL STRATEGIES TO CONTEXTS

Olivia Bolts, MA, Reagan Fitzke, BS, Mark Prince, Ph.D., Eric Pedersen, Ph.D.

Cannabis protective behavioral strategies (C-PBS) are behaviors that young adults engage in to avoid or mitigate the experiences of cannabis-related consequences. Missing from the literature is how specific C-PBS

can be helpful in specific contexts. Research on context-specific C-PBS could help guide clinicians and inform brief interventions on how to help young adults match C-PBS to the specific contexts where those behaviors would be most helpful, rather than trying to promote the use of as many C-PBS as possible across multiple contexts. In the present study, we asked participants (n = 996) to indicate how helpful they thought each C-PBS would be in avoiding or reducing unwanted consequences from cannabis use across a range of situations based on Marlatt's (1985) contextual cue assessment for identifying relapse contexts (e.g., risky people, places, emotions). The frequently and infrequently matched items fit with our expectations. For example, 56% of those that indicated past-month cannabis use reported that the C-PBS "use marijuana only among trusted peers" would be helpful in the context "when I'm with a few close friends" and 51% reported that the C-PBS "avoid mixing marijuana with other drugs" would be helpful "when I'm at a party with a lot of people." These findings give essential insight into context-specific C-PBS that can be used to develop efficacious interventions with young adults to increase the use of C-PBS.

24. MEASUREMENT INVARIANCE OF THE UNIVERSITY OF RHODE ISLAND CHANGE ASSESSMENT SCALE IN PROJECT MATCH

Dylan Richards, Ph.D., Frank J Schwebel, Ph.D., Kiefer D Cowie, MA, Katie Witkiewitz, Ph.D.

Progression through the stages of change is proposed to be a mechanism underlying treatment for alcohol use disorder (AUD). However, appropriately testing this proposal requires that the measure is invariant across diverse patient subgroups and over time. We sought to conduct a comprehensive test of the measurement invariance of the University of Rhode Island Change Assessment Scale (URICA) in Project MATCH using an exploratory structural equation modeling (ESEM) approach. We conducted a secondary data analysis of Project MATCH (N=1726; Mage=40.2, SD=10.9; 75.7% male; 80.0% non-Hispanic white), a multisite randomized clinical trial with outpatient and aftercare conditions that tested the utility of matching patients to specific AUD treatments: Motivational Enhancement Therapy, Cognitive-Behavioral Therapy, or Twelve-Step Facilitation. Participants completed the 24-item URICA for assessing the stages of change in relation to drinking at baseline and posttreatment (3 months after baseline). A 4-factor ESEM model provided a good fit to the data and a better fit to the data than a conventional 4-factor confirmatory factor analysis model. Further, the URICA demonstrated scalar invariance across each patient subgroup at baseline (sex, ethnicity, marital status, education, and parental history of AUD) as well as treatment condition at follow-up. However, the URICA did not demonstrate longitudinal invariance. Longitudinally invariant measures of the stages of change are needed to appropriately test the proposal that progression through the stages explains treatment effects.

25. MEASUREMENT OF INTERNALIZED SHAME AMONG LEGAL-SYSTEM INVOLVED WOMEN IN SUD TREATMENT

Verlin W. Joseph, Ph.D., David I.K. Moniz-Lewis, Dylan K. Richards, Ph.D., Matthew R. Pearson, Ph.D., Jason Luoma, Ph.D., Katie Witkiewitz, Ph.D.

The World Health Organization ranked drug addiction as one of the most stigmatized health conditions globally. Stigma is negatively associated with treatment seeking behavior and successful recovery among individuals receiving treatment for a substance use disorder. Legal-system involved women are at an increased risk for experiencing stigma, and legal-system related stigma is positively correlated with recidivism, substance dependence, mental health symptoms, and poor community adjustment among women. To better understand the relationships between treatment and stigma, we must first assess if the measure is invariant across study groups and over time. This study examined measurement invariance of the Internalized Shame Scale and explored changes in internalized stigma during treatment. Participants (N=105) were recruited from a nonprofit residential treatment center for legal system-involved women who were randomized to receive mindfulness-based relapse prevention or relapse prevention treatment. A series of confirmatory factor analyses were used to assess measurement invariance in a one-factor measurement model. Latent growth curve modeling was used to examine change in internalized shame scores over time. Our findings support the assumption of measurement invariance across multiple time points and across treatment conditions, supporting comparisons of shame scores over time and across treatment groups. Additional research is needed to determine how distinct treatment components relate to reductions in internalized shame among legal-involved women receiving treatment for a substance use disorder.

26. MEDIATING ROLE OF DISTRESS TOLERANCE ON DRINKING MOTIVES & ALCOHOL USE AMONG BISEXUAL UNDERGRADUATES

Rachel Geyer, MA, Rose Marie Ward, Ph.D.

We examined distress tolerance (DT) as a mediator between drinking motives and alcohol use among undergraduates identifying as bisexual. Prior research suggests that experiences or expectations of minority stress (e.g., perceived discrimination) relate to increased alcohol consumption, and specifically, that sexual minority identification, including bisexual identity, has been linked to greater consumption. Understanding how potential protective factors in this population (higher DT) may mediate the relationship between different drinking motives (coping, enhancement, social, conformity) and alcohol use may help identify targets for intervention. Undergraduates who identified as bisexual ($n=396$) were recruited as part of a larger study. Participants reported the following identities: female (79.8%), Asian/Asian American (6.8%), Hispanic (6.3%), Black (2.3%), Native American (1.5%); average age 20.20 ($SD=3.22$). The model examining the mediating effects of the different subscales of DT between drinking motives and alcohol use fit the data, $\chi^2(n=396, 16)=51.91$, $RMSEA=.08$, $CFI=.99$, $TLI=.96$. There were significant indirect effects (some positive, others negative) from motives to alcohol through some aspects of DT. Unexpectedly, only appraisal (e.g., whether one interprets distress as acceptable) significantly mediated the relationship between motives and alcohol use. The relationship between appraisal and alcohol use was positive ($b = .37$, $p < .001$). Distinct lower-order factors of DT may be important to target, as positive and negative relationships between motives and DT varied based on subscale among bisexual undergraduate students.

27. RELATING PERCEIVED STIGMA TO ALCOHOL RELAPSE POTENTIAL: A CROSS-SECTIONAL STUDY

Jonah Stickney, BS, Benjamin Ladd, Ph.D.

Examination of the association between stigma and relapse potential is limited. The primary aim of the present study was to test if perceived stigma correlates with relapse vulnerability in individuals attempting to reduce or quit drinking, and to identify the relative effects from three distinct sources of perceived stigma (community, close network, self). We collected data via an online survey ($n = 109$) related to alcohol problems, social network factors, perceived stigma, relapse vulnerability, and overall wellbeing. Eligible individuals reported effort to reduce or stop drinking in the past year and scored 7 or higher on the Audit-C. For the stigma measure, participants rated their agreement with four stereotypes (agree), perceived agreement from the general public (aware) and their close network (network aware). Perceived loss of respect from close network (network harm) and loss of self-respect (harm) due to self-concurrence with each stereotype were also rated. In relative weights analysis, agree, network, and harm stigmas explained similar levels of variance in overall wellbeing (9.9%, 7.5%, -10.8%), with aware only accounting for 1.8%. Overall wellbeing correlated positively with stigma and negatively with relapse vulnerability. These findings align with our current understanding that perceived stigma affects life satisfaction, and this effect is more potent when stereotypes are applied to oneself. The present study suggests stigma could influence global wellbeing to a greater extent than alcohol-specific relapse vulnerability.

28. ROMANTIC REJECTION PREDICTS ALCOHOL USE AND RISKY SEXUAL ACTIVITY

Cameron Davis, BS, Kimberly M. Hubbard, BA, Jessica N. Flori, MS, Jacqueline I. Woerner, Ph.D., Amie R. Newins, Ph.D., Michael E. Dunn, Ph.D.

Men who have been rejected in romantic situations may drink more heavily in an attempt to cope with negative affect as a result of these rejection experiences. They may also experience higher rates of negative alcohol-related consequences due to their increased alcohol use. Men who have experienced romantic rejection may be particularly likely to drink in situations with potential or current romantic partners due to concerns about being rejected again, which could result in specific risk of sex-related alcohol consequences. Therefore, the goal of this study was to investigate the relationship between romantic rejection, alcohol use, and sex-related alcohol consequences. An online survey was completed by 384 male undergraduate students. Regression analyses indicate that romantic rejection experiences were a significant predictor of frequency of alcohol consumption, alcohol consumption before or during a sexual activity, risky unprotected sex while drinking, and engagement in unplanned sexual activity while drinking. Romantic rejection experiences may influence problem alcohol use, and drinking in relation to risky sexual activity. Findings

should be replicated with a more diverse sample and include women and sexual minority populations. Future research should further investigate situational risk factors like rejection experiences in the moment in relation to alcohol use and sex-related alcohol consequences, as well as sexual aggression, to inform intervention strategies.

29. SOCIAL INTEGRATION AND ALCOHOL USE AMONG FIRST-YEAR COLLEGE STUDENTS

Gabrielle Lynch, MA, Michael Dunn Ph.D., Jessica Flori MS, Mark Crisafuli MS, Cameron Davis

People who are socially integrated across multiple friend groups drink less than peers with lower social integration. Perceived peer drinking, however, is highly correlated with individual alcohol use regardless of peer drinking status. Therefore, we tested the hypothesis that perceived peer drinking mediates the relationship between social integration and alcohol consumption. **Methods:** Data was collected from 467 first year college students, 7.5% of whom initiated alcohol use in college, 33% had never consumed alcohol, and 59.5% started drinking before starting college. **Results:** Social integration was negatively associated with alcohol initiation ($\beta = -0.085$, $p < 0.05$) and alcohol consumption ($\beta = -0.296$, $p < 0.005$). Perceived peer alcohol consumption was associated with alcohol initiation ($\beta = 0.160$, $p < 0.001$) and use ($\beta = 0.565$, $p < 0.001$). Perceived peer consumption fully mediated the relationship between social integration and drinking ($F(2, 463) = 17.003$, $p < 0.005$, $R^2 = 0.062$; social integration non-significant $\beta = -0.043$, $p = 0.132$). **Conclusion:** Perceived peer alcohol use correlates with drinking, but this has been found to be a reciprocal relationship. Similarities in characteristics that encourage alcohol use drive students toward certain individuals and influence is bidirectional. Social integration across several types of groups, however, could serve as a protective factor. Methods to facilitate broad social integration should be investigated to evaluate their effectiveness in reducing early and risky alcohol use, and in reducing negative consequences associated with drinking.

30. STRESSFUL LIFE EVENTS AND SMOKING: IDENTIFICATION OF RISK AND RESILIENCE FACTORS

Jace Pierce, MPH, Joahana Segundo, BS, Jaye L. Derrick, Ph.D., Kenneth E. Leonard, Ph.D.

Stressful life events (e.g., job loss) are risk factors that can increase individual vulnerability for addictive behaviors, including smoking. Overriding the urge to smoke during stressful periods requires self-control. According to stress-vulnerability models, people can expend self-control on other effortful tasks (e.g., managing finances after job loss), which may reduce their motivation and ability to avoid the urge to smoke. Some people may turn to important others (e.g., romantic partner) or the social network for support needed to preserve self-control and avoid smoking. The present study used data from the Adult Development Study, an existing longitudinal study of newlywed couples ($n=632$ couples) that were assessed at six waves over the first nine years of marriage, to examine which type of resources reduced the associations between stressful life events and smoking quantity. Analyses were conducted using mixed effects generalized linear models (MEGLMs) with waves (Level 1) nested within couples (Level 2), and the interdependence of partners in a couple modeled using the Actor-Partner Interdependence Model (APIM). In years when people experienced greater stressful life events, wives (not husbands) reported more smoking. A few variables exacerbated these effects, including driving for leisure. A limited number of individual (e.g., individual support seeking) and interpersonal (e.g., perceived partner responsiveness) resources served as buffers. Network resources were not significant predictors. Recommendations for coping with stressful life events will be discussed.

31. THE GOOD APPLES OUTWEIGH THE BAD: SOCIAL IDENTITY MAPPING WITH RECOVERING ADOLESCENTS

Emily Hennessy, Ph.D., Jordan Jurinsky, BA, Kiefer Cowie, BA, Sophia Blythe, Paige Krasnoff, Agata Z. Pietrzak, BA, David Best, Ph.D., Mark Litt, Ph.D., Blair T. Johnson, Ph.D., John F. Kelly, Ph.D.

Background: Social recovery capital is vital to adolescent recovery from AOD use disorders and the SIMOR model (Best et al., 2016) suggests a process of social network and group membership change during recovery. This mixed methods study with recovering adolescents examines their social networks and how they perceive its influence on their recovery process. *Methods:* 10 adolescents (80% male and White) attending recovery high schools completed a social identity map (SIM: Beckwith et al., 2019) and an interview. The SIM involves facilitated creation of a visual “map” of one’s social network. Content analysis of

the qualitative data was conducted and the SIM data were quantified. *Results:* Participants had 4.90 groups (SD=1.29) and 32.20 people (SD=17.78) in their network. Of their group members, 32% used alcohol and 33% used drugs. Larger networks had more conflict ($r=0.75$) and more members who casually used alcohol ($r=0.77$). Participants spent less time with groups as the ratio of members using substances increased ($r=-0.59$). In reflecting on their SIM, participants discussed changes in their social networks during their recovery process; several noted upcoming changes that might influence their future social networks.

Discussion: Research with recovering adolescents should examine the supports/barriers from different kinds of relationships and different aspects of those relationships. The SIM is a unique method of collecting data from participants who may struggle with completing traditional survey measures.

32. THE IMPACT OF (UN)EMPLOYMENT STRESS AND ALCOHOL CONSUMPTION ON SLEEP DURING COVID-19

Joahana Segundo, BA, Brandi McDonald, BS, Jace D. Pierce, MPH, Jaye L. Derrick, Ph.D.

The COVID-19 pandemic has negatively impacted many people's well-being due to its stressful challenges. Many vulnerable populations (e.g., people of color), have been disproportionately affected by COVID-19. Additionally, the pandemic has exacerbated the impact of many of their preexisting stressors (CDC, 2021). In response to COVID-19 and increases in related stressors, people may resort to drinking to cope with negative affect. Unfortunately, drinking to cope contributes to alcohol problems and other adverse effects on health outcomes, including poor sleep. In the current study we examined the effects of changes in employment and increases in alcohol consumption during the pandemic on sleep quality, using longitudinal data (3 waves over 6 months) from racially and ethnically diverse college students and online volunteers (N = 300). We found a significant two-way Employment x Alcohol interaction predicting sleep quality. Among those who did not show changes in alcohol consumption, changes in employment were not associated with sleep quality. However, among those who showed increases in alcohol consumption during the pandemic, changes in employment were associated with worse sleep quality. The results from this study suggest that drinking to cope with stress (e.g., changes in employment) can exacerbate the problematic effects of stress. Additionally, drinking to cope may have long-term effects on sleep health, and may be especially damaging to marginalized communities' health.

33. TWIN STUDY OF CAFFEINE USE, ADHD, AND DISRUPTED SLEEP IN ABCD YOUTH

Emily Carter, BA, Sarah Karalunas, Ph.D., Karen Hudson, MCR, Damien Fair, Ph.D., Sarah W. Feldstein Ewing, Ph.D., Genevieve F. Dash, MS

Objective: Evidence suggests that caffeine use disproportionately impacts sleep functioning among youth with attention deficit/hyperactivity disorder (ADHD). The present study aimed to examine the association of caffeine use with disrupted sleep, moderated by ADHD symptoms, through leveraging differences within twin pairs to identify potentially causal (i.e., within-pair) effects. *Methods:* 765 complete same-sex twin pairs (mean age at baseline=10.14 [SD=0.5]; 49% girls; 73% white) reported their caffeine use and frequency of disrupted sleep; parents reported their child's ADHD symptoms. Co-twin control analyses predicted disrupted sleep from caffeine use, ADHD symptoms, and their interaction. *Results:* Participants consumed an average of two caffeinated beverages per week, and both disrupted sleep and ADHD symptoms were rare. We identified neither a potentially causal within-pair effect of caffeine use on disrupted sleep nor a moderating role of ADHD symptoms. Post-hoc biometric models indicated that caffeine use, ADHD symptoms, and disrupted sleep may share no etiologic influences within this sample. *Conclusions:* There was no association found between caffeine use and sleep disruption; these phenotypes did not appear to be driven by overlapping genetic or environmental influences. It is unclear whether the results reflect the relatively early developmental stage of the respondents, as genetic and environmental influences on behavior change throughout development, or to low endorsement of focal variables. Further research is needed to explore the relationship between these phenotypes among pre-adolescent youth.

34. UNIQUE RELATIONS BETWEEN ECONOMIC DISCOUNTING VARIABLES AND ALCOHOL USE DISORDER CRITERIA

Sam Acuff, MS, Cassandra L Boness, Ph.D., Yoanna McDowell, Ph.D., James G Murphy, Ph.D., Kenneth J Sher, Ph.D.

Alcohol use disorder (AUD) is a heterogeneous psychiatric disorder defined by a collection of commonly observed symptoms that may be best explained through divergent theoretical mechanisms. Behavioral economics suggests that drinking is critically influenced by the costs and benefits across discrete choice outcomes, which are often unequally distributed over time and have different probabilities of receipt. This “discounting” of delayed rewards, delayed losses, and uncertain rewards may serve as unique etiological and maintenance mechanisms for specific AUD symptoms. The current study examines the relations between different forms of economic discounting (delayed reward, delayed cost, and probabilistic reward) and individual symptoms of AUD among U.S. adults (N=732; 41% female, 4.2% Black, 88.1% White, 8% Hispanic). We examined relations between economic discounting and AUD symptoms with zero-order correlations, in separate models (factor models), and in models controlling for an overall AUD factor (factor-controlled models). Delayed reward discounting was positively associated with giving up or reducing activities in order to drink across all three levels of analysis. Probability discounting was associated with social/interpersonal problems across two out of three statistical approaches, and give up across one out of three, sets of analyses. These results demonstrate that although AUD is often associated with discounting, this relationship may be driven by specific symptoms. Individuals endorsing these symptoms may benefit from interventions targeting discounting processes, such as episodic future thinking.

35. DIFFERENTIATING THE ROLES OF SOCIOECONOMIC AND SUBJECTIVE SOCIAL STATUS IN ALCOHOL AND CANNABIS USE

Danielle Jones, BS, Keanan Joyner, Ph.D.

Prior literature reveals that both objective measures of socio-economic status (SES) and subjective measures of social status (SSS) are broadly implicated in many forms of psychopathology (Highlander & Jones, 2021). One addiction-related process SES and SSS may have particular importance for is drug demand due to its focus on drug valuation relative to money. The present study sought to clarify the roles of SES and SSS in alcohol and cannabis use and demand indices. Community members (N = 108, mean age = 26.9) who regularly consumed alcohol or cannabis completed various measures of SES, SSS (Adlet et al., 2000), and measures of alcohol and cannabis use and demand. A latent factor for SES was derived using indicators of family income, parental education, and history of free/reduced lunch in primary school (average $\lambda = .53$) and entered as a predictor in a linear regression alongside SSS score predicting demand metrics derived from alcohol and cannabis purchase tasks (Intensity, Breakpoint, Omax, Elasticity) and alcohol and cannabis use. Results showed divergent results for alcohol and cannabis. SES contributed above and beyond SSS in predicting alcohol use ($\beta = -.17$), while SSS uniquely predicted cannabis use ($\beta = -.24$). SES and SSS equally predicted alcohol demand metrics, while SSS uniquely predicted all cannabis demand metrics (except elasticity) above and beyond SES.

36. PATIENTS' EXPERIENCES WITH BUPRENORPHINE TREATMENT IN MASSACHUSETTS DURING THE COVID-19 PANDEMIC

Joseph Rosansky, Ph.D., Jacob Borodovsky Ph.D., Joshua Phillips, BA, Thomas Fatkin, BA, Kayley Okst, BA, Ben Cook Ph.D., Zev Schuman-Olivier, MD

Many Office-based Opioid Treatment (OBOT) providers have shifted to telehealth and other remote models of care during the COVID-19 pandemic. While these changes could improve patient access to OBOT, it is unclear how patients in Massachusetts perceive the pandemic impacting their care. Using Facebook advertisements, we recruited a sample of n=72 participants (Mage=29.1, SD=5.90; 69% male, 29% female, 1% non-binary; 72% White, 22% Black, 6% Latina/o/x, 3% Asian) living in Massachusetts who were prescribed buprenorphine both before and during the COVID-19 pandemic. Participants rated how easy or difficult it was for them to access three aspects of OBOT before and during the pandemic on a 7-point Likert scale. They also reported how frequently they completed urine drug screens during these time periods. We conducted four repeated-measures ANOVAs comparing participants' ratings of these variables and adjusting for racial identity. Results suggest that participants found it more difficult to get buprenorphine prescriptions filled during the pandemic than before the pandemic, $F(1, 68)=6.90$, $p=.011$, partial $\eta^2 = .092$. After Bonferroni correction, there were no significant differences in ratings of the other questions nor any significant effects for racial identity. Difficulty getting prescriptions filled during the pandemic was correlated with past month opioid drug use, $r=.237$, $p=.026$. These results suggest that policies aimed toward making it easier to get buprenorphine prescriptions filled may help combat the current opioid overdose crisis.



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NETWORKING & SOCIAL EVENTS

THURSDAY, April 7, 2022 5:30pm

Mayfair/Kent Rooms

Social Hour

Join us in The Benson Mayfair/Kent Rooms for an informal social hour and connect with familiar and new colleagues and friends! All attendees across career levels are welcome. Nonalcoholic beverages and snacks will be served. Alcoholic beverages will be available for purchase at the cash bar.

THURSDAY, April 7, 2022 6:30pm

Mayfair/Kent Rooms

Student Speed-Networking

Student attendees are invited to stay to network with fellow students. This will be a great welcome event for first-time conference attendees. The SoAP Student Committee will organize the event to facilitate networking. Nonalcoholic beverages and snacks will be served. Alcoholic beverages will be available for purchase at the cash bar.

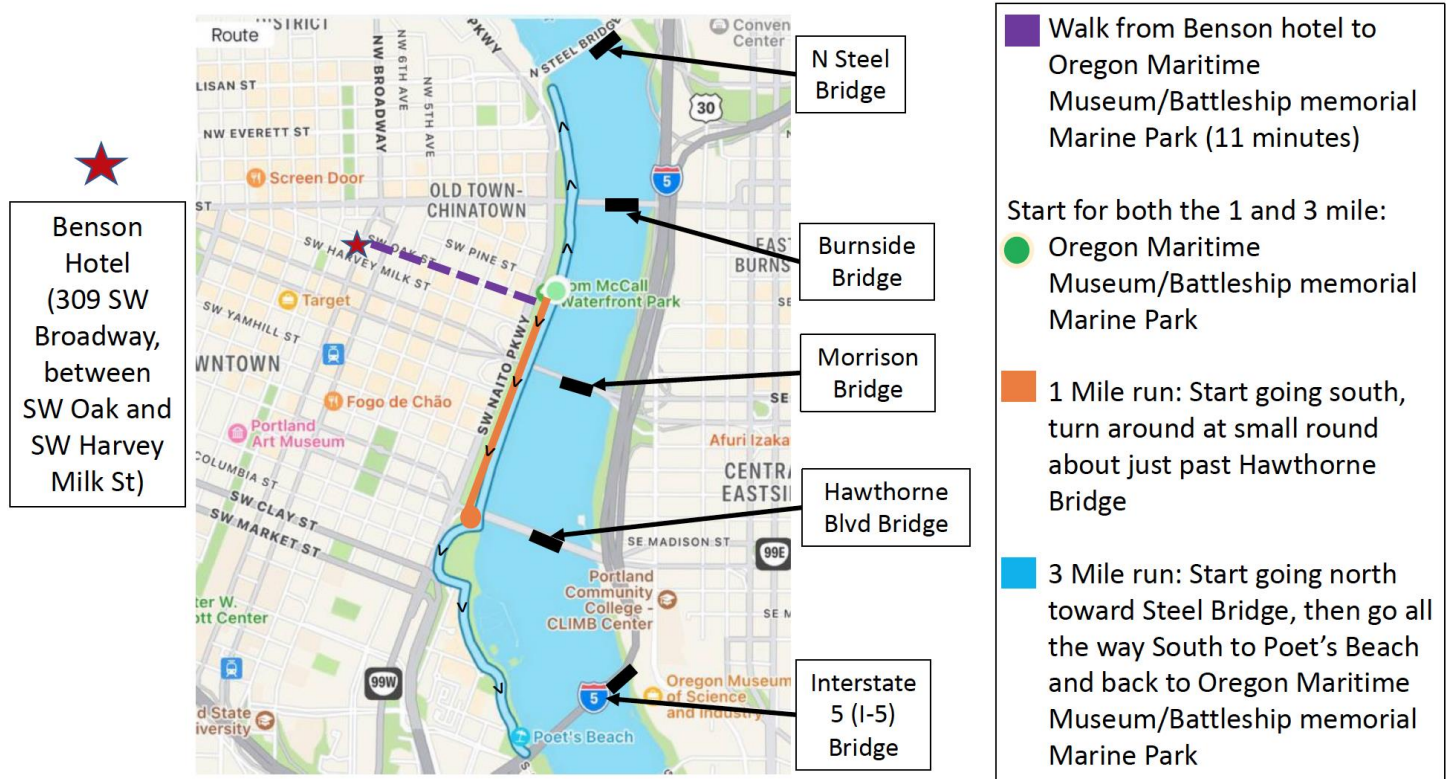
FRIDAY, April 8, 2022 8:00am

Lobby

Social Walk/Run

Meet at The Benson Hotel lobby to go for a casual walk or run. You will venture out to the downtown area of Portland. The destination will be the waterfront—but it's the journey that counts! Dress appropriately and stay hydrated!

Area map for social run/walk:



NETWORKING & SOCIAL EVENTS (cont.)

FRIDAY, April 8, 2022 5:30pm

Mayfair/Kent Rooms

PUMP-Sponsored Social Hour

This event is hosted by the Division 50 Diversity, Equity, and Inclusion Committee's "Promoting Underrepresented Minorities in Psychology" (PUMP) program. Join us for an informal social event where you will have the opportunity to form new professional relationships with your peers and Division 50 leaders. You can also learn about the new PUMP program, focused on supporting minoritized trainees in our field. All CPA attendees are welcome and encouraged to attend! Nonalcoholic beverages and snacks will be served. Alcoholic beverages will be available for purchase at the cash bar.

T32 PRE AND POSTDOC OPPORTUNITIES

NIH/ NIAAA Translational Science Training to Reduce the Impact of Alcohol on HIV Infection

The T32 multidisciplinary training program is focused on alcohol and HIV.

Fellows will collaborate with mentors on current research projects, develop their own project and participate in a professional development program that provides research training in writing papers and grants, seminars, and networking opportunities.

For more information about our Faculty mentors and current Trainees, visit sharc-research.org/T32



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SOCIETY FOR HUMAN RESEARCH ORGANIZATION

The Addiction Science team at the University of Missouri, St. Louis - Missouri Institute of Mental Health is focused on supporting individuals who use drugs through program design, research, evaluation, and training



Our Goals

- **Reduce overdose deaths**
- **Promote the dignity and worth** of people who use drugs
- **Reduce barriers** to evidence-based treatment and recovery services
- **Ensure quality evaluation and research**

Our Approach

- **Developing training** that promotes evidence-based research and practice
- **Building and supporting community-based programs** and partnerships to improve collaboration
- **Evaluating and researching** programming using quantitative and qualitative methods
- **Outreach and engagement** with communities



Current Projects

- Expanding naloxone access & distribution
- Enhancing statewide recovery networks
- Increasing harm reduction training and integration across sectors
- Addressing racial disparities through community collaboration
- Integrating 'Medication First', low-barrier treatment for opioid use disorder

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We are hiring for new Faculty and Staff! Check our website for openings!

<https://www.addisci.org>



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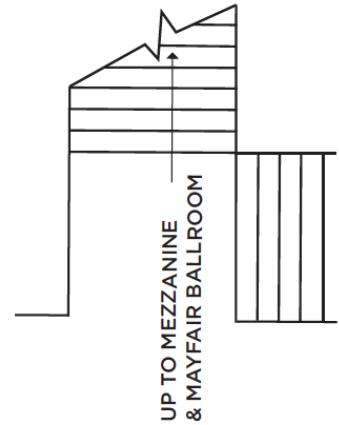
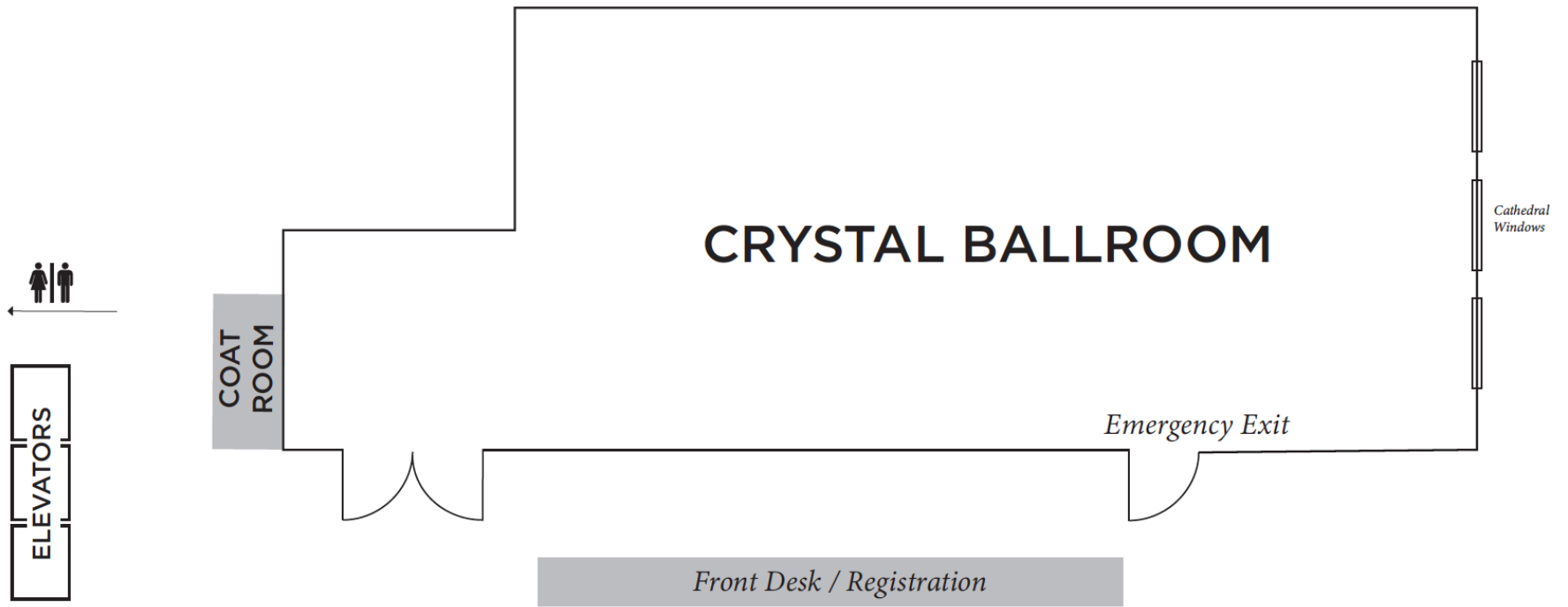
HOTEL MEETING ROOMS & FLOOR MAPS

Quick Guide to Meeting Rooms & Utility

<u>Meeting Room</u>	<u>Function(s)</u>
Mezzanine	Registration SoAP Committee Tables Sponsorship Exhibitions
Oxford/Cambridge Rooms	Continental Breakfast Mentor-Mentee Lunch Coffee/Tea Break
Mayfair Ballroom/Kent Room	Main Events Breakout Sessions Social Hours & Networking Events
Crystal Ballroom	Breakout Sessions
Kent Room	Poster Sessions
Brighton Room & Windsor Room	Maximized-Distanced Meeting Spaces

THE
BENSON
 PORTLAND

CURIO COLLECTION BY HILTON

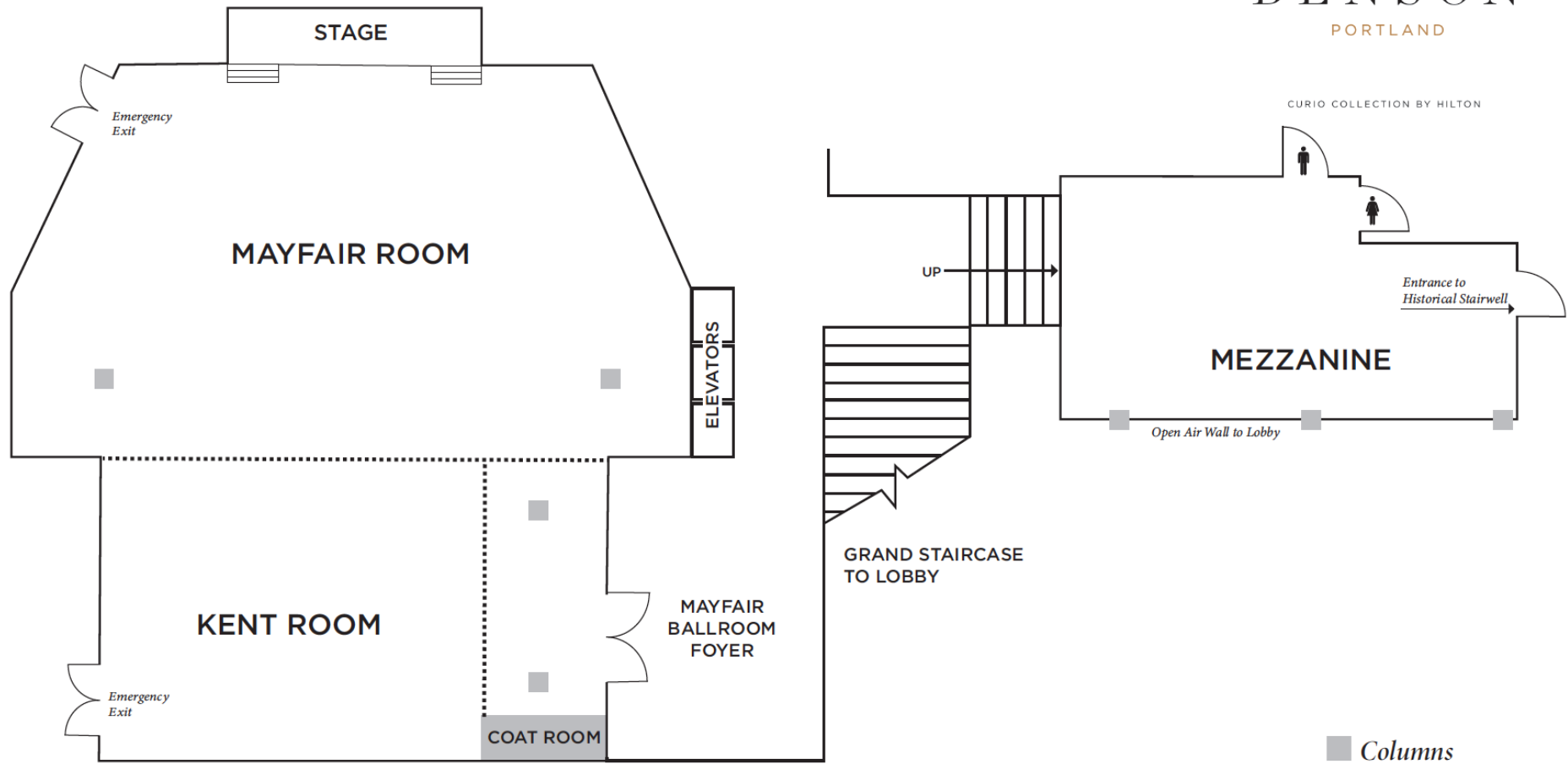


MEETING ROOMS	FLOOR	CONFERENCE	THEATRE	CLASSROOM	U-SHAPE	CRESCENT ROUNDS	BANQUET	RECEPTION	DINNER DANCE	CEILING HEIGHT	DIMENSIONS	SQUARE FEET
CRYSTAL BALLROOM	Lobby	70	210	120	70	120	170	250	150	18' 10"	76 x 28	2128

GRAND STAIRCASE

Grand Lobby Level

THE
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PORTLAND

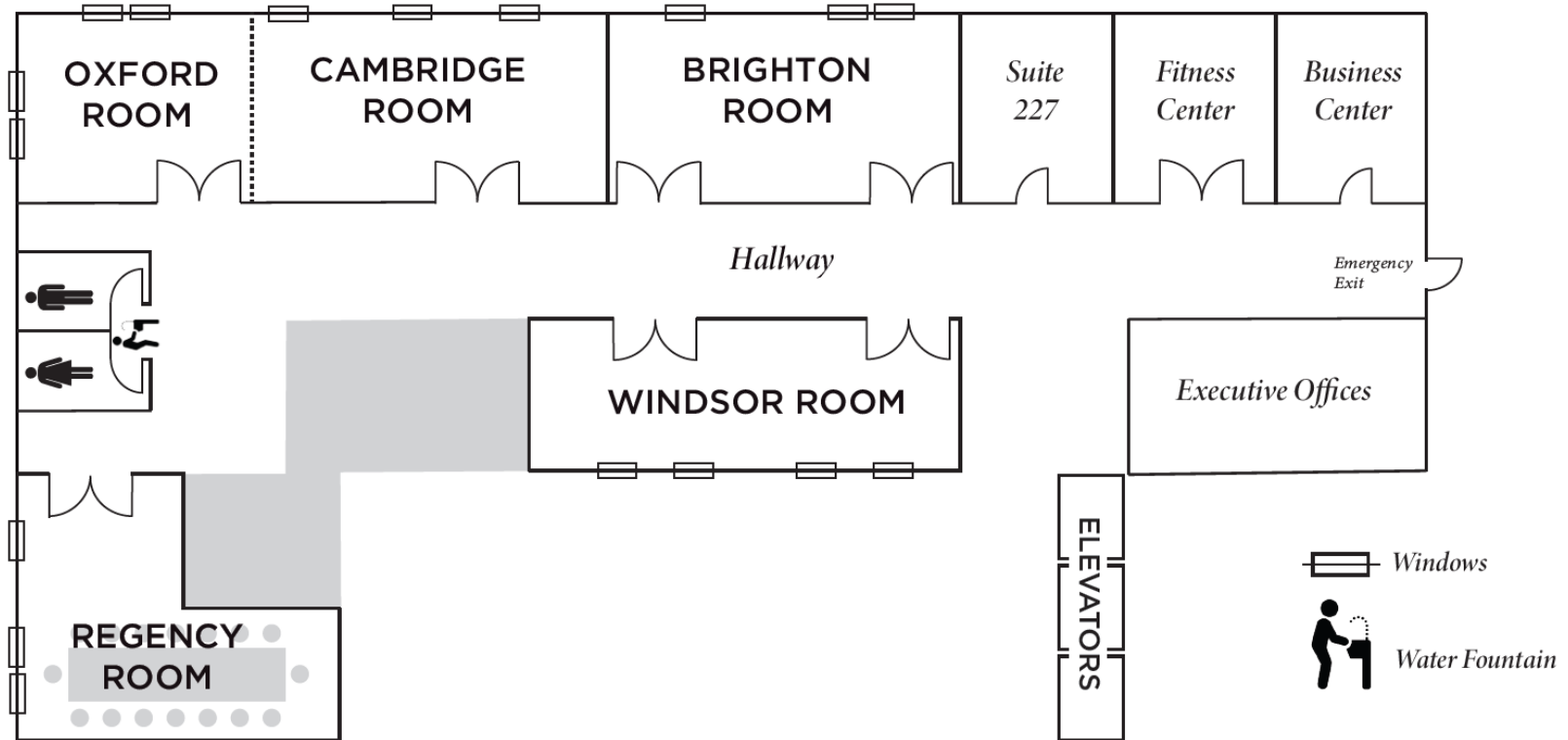


MEETING ROOMS	FLOOR	CONFERENCE	THEATRE	CLASSROOM	U-SHAPE	CRESCENT ROUNDS	BANQUET	RECEPTION	DINNER DANCE	CEILING HEIGHT	DIMENSIONS	SQUARE FEET
MAYFAIR BALLROOM	Mezzanine	100	500	300	120	300	350	450	300	11' 8"	78 x 75	5850
MAYFAIR ROOM	Mezzanine	50	300	150	50	150	230	100	150	11' 8"	42 x 75	3150
KENT ROOM	Mezzanine	30	140	100	50	100	120	140	70	11' 8"	36 x 44	1584
MEZZANINE	Mezzanine											13 x 49

Mezzanine Level

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MEETING ROOMS	FLOOR	CONFERENCE	THEATRE	CLASSROOM	U-SHAPE	CRESCENT ROUNDS	BANQUET	RECEPTION	DINNER DANCE	CEILING HEIGHT	DIMENSIONS	SQUARE FEET
REGENCY BOARDROOM	Second	16								10' 1"	36 x 19	873
CAMBRIDGE ROOM	Second	25	50	33	25	36	70	85		10' 1"	37 x 18	673
OXFORD ROOM	Second	15	49	18	15	12	30	35		10' 1"	24 x 18	427
CAMBRIDGE/OXFORD	Second	45	120	60	45	60	100	120	70	10' 1"	61 x 18	1,100
WINDSOR ROOM	Second	30	60	30	30	30	50	60		10' 1"	43 x 15	645
BRIGHTON ROOM	Second	27	50	30	27	30	40	50		10' 1"	36 x 17	612
SUITE 227	Second	6								10' 1"	18 x 22	392

Second Floor Level

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The Official Publication of APA Division 50

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A conversation with Dr. Katie Witkiewicz, editor-in-chief

Katie Witkiewicz, PhD, professor of psychology at the University of New Mexico and editor-in-chief of *Psychology of Addictive Behaviors*, discusses the significance of the Contributor Roles Taxonomy (CRediT) and the ways in which it promotes transparency and equity in publishing.

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Related APA journals

Experimental and Clinical Psychopharmacology

Advances in translational and interdisciplinary research on psychopharmacology, broadly defined, and/or substance abuse.

on.apa.org/ecp22

Journal of Psychopathology and Clinical Science

Formerly known as *Journal of Abnormal Psychology*

Publishes articles on basic research and theory in the broad field of psychopathology and other behaviors relevant to mental illness, their determinants, and correlates.

on.apa.org/jpcs22

Journal of Consulting and Clinical Psychology

Scholarly work on the treatment and prevention in all areas of clinical and clinical-health psychology, including topics that appeal to a broad clinical-scientist and practitioner audience.

on.apa.org/jccp22

THURSDAY, April 7, 2022

8:00am	Registration & Continental Breakfast MEZZANINE & OXFORD/CAMBRIDGE	
9:30am	Opening Ceremony MAYFAIR	
9:45am	Veterans in the Era of COVID: Longitudinal Examinations of Alcohol Use, Mechanisms, and Risk Factors MAYFAIR	Associations among Identity, Intersecting Identities, Stigma and Discrimination and Substance Misuse CRYSTAL
11:00am	Break	
11:15am	Considerations for Conducting Research with People of Color MAYFAIR	
12:30pm	Lunch On Your Own	
1:45pm	Autonomic Vulnerabilities for Substance Use Relapse: Risk Identification and Mitigation MAYFAIR	Grant-Funded Student Research on Factors Impacting Substance Use: Opportunities and Accomplishments CRYSTAL
3:00pm	Break	
3:15pm	Expanding the Horizons in Addiction Research: Diversity Considerations MAYFAIR	Innovative Brief Interventions for Substance Use Among Diverse Groups of Young Adults CRYSTAL
4:30pm	Poster Session 1 KENT/MAYFAIR	
5:30pm	Social Hour MAYFAIR/KENT	
6:30pm	Student Speed-Networking Event MAYFAIR/KENT	

FRIDAY, April 8, 2022

8:00am	Registration & Continental Breakfast MEZZANINE & OXFORD/CAMBRIDGE	Social Walk/Run LOBBY
9:45am	Novel and Underused Approaches in Addiction Psychology I MAYFAIR	Prescription Opioid Use and Misuse: Innovative Approaches to Understanding Etiology and Harms CRYSTAL
11:00am	Break	
11:15am	Intensive Longitudinal Data: Predictors, Outcomes, and Methods in Substance Use Prevention MAYFAIR	Using Epidemiological Data to Characterize the Substance Use Continuum from Risk to Recovery CRYSTAL
12:30pm	Mentor-Mentee Lunch OXFORD/CAMBRIDGE	Lunch On Your Own
1:45pm	Rationale, Opportunities, and Challenges of Open Science in Addiction Psychology: A Panel Discussion MAYFAIR	
3:00pm	Break	
3:15pm	Novel and Underused Approaches in Addiction Psychology II MAYFAIR	Media, Sociality, and Substances: How we Talk about the Context of Drug Use During COVID-19 Matters CRYSTAL
4:30pm	Poster Session 2 KENT/MAYFAIR	
5:30pm	PUMP-SPONSORED SOCIAL HOUR MAYFAIR	

SATURDAY, April 9, 2022

8:00am	Registration & Continental Breakfast MEZZANINE & OXFORD/CAMBRIDGE	
9:30am	Examining the Who, What, and When of Substance-Related Risk and Outcomes MAYFAIR	Emerging Issues and Future Directions for Protective Behavioral Strategies Research CRYSTAL
10:15am	Break	
10:30am	A Practical Guide to Open Science Practices in Addiction Research MAYFAIR	
11:45am	Lunch On Your Own	
12:45pm	Open Science in Addiction Research MAYFAIR	The Role of US Tobacco Companies in Shaping the US Food System: Implications for Population Health CRYSTAL
2:00pm	Poster Session 3 KENT/MAYFAIR	
3:00pm	Awards & Closing Ceremony MAYFAIR	