Welcome to the Poster Session on ACEs, Alcohol and Drug Misuse

https://injurycenter.umich.edu/research-symposium-2020/
ACEs Prevention in Adolescents: Maintaining the Efficacy of Longitudinal Community-Based Educational Programs
David J Greco, MA, University of Michigan Medical School

Adolescent and Emerging Adults’ Acceptability of a Social Media Intervention to Reduce Risky Alcohol Use
Mariam Souweidane, BA, Department of Psychiatry, University of Michigan

Decrease in Child Abuse Potential Following Infant Mental Health Home Visiting treatment
Jennifer Jester, PhD, Department of Psychiatry, University of Michigan School of Medicine

Text- and Chat-Based Hotlines: A Novel Approach to Provide Child Maltreatment-Related Support
Laura Schwab-Reese, MA, PhD, Department of Public Health, Purdue University

Childhood Exposure to Drugs at Home Predicts Adulthood Difficulty Concentrating, Remembering, or Making Decisions
Nora Alrubaie, MPH, PhD student, Kent State University, School of Public Health

#NoMeansNo: How Young People Share Sexual Violence Experiences Through TikTok
Laura Schwab-Reese, MA, PhD, Department of Public Health, Purdue University

The Association of Adverse Childhood Experiences, Physical Activity and Depression in A National Sample of US Adolescents
Fanghong Dong, PhD, MA, School of Nursing, University of Pennsylvania

Efficacy of a Future-Oriented Empowerment Intervention to Prevent Alcohol and Drug Use in School-Disengaged Youth: Three- and Six-Month Follow-Up
Sarah A Stoddard, PhD, RN, CNP, FSAHM, FAAN, University of Michigan School of Nursing
Background

- Adverse Childhood Experiences (ACEs) have been shown to lead to poor health outcomes in both children and adults.¹
- In Detroit, approximately 40% of children face 2 or more ACEs by the age of 18 – twice state average.¹
- The CDC recommends various interventions to prevent ACEs in youth, such as “teaching skills” and “connecting” youth to caring adults and activities.²

Statement of Purpose: We partnered with a Detroit-based youth organization to develop an annual daylong educational program designed to prevent ACEs by teaching about six student-centered health topics.

The program was then replicated by a new team of medical students the following year.

Results

Figure 1: In 2018, student knowledge improved between pre- and post-test scores (p<0.001) while, in 2019, there was no improvement between pre- and post-test scores (p=0.644).

Table 1: Assessment Results

<table>
<thead>
<tr>
<th>Year</th>
<th>Pre-test Score</th>
<th>Post-test Score</th>
<th>Score Difference</th>
<th>Satisfaction Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>54.88%</td>
<td>74.25%</td>
<td>19.37%</td>
<td>8.78%</td>
</tr>
<tr>
<td>2019</td>
<td>60.48%</td>
<td>58.76%</td>
<td>-1.73%</td>
<td>8.89%</td>
</tr>
</tbody>
</table>

Figure 2: No difference between 2018 and 2019 pre-test scores (p=0.203).² While post-test scores were different between cohorts (p=0.015). Satisfaction ratings showed no difference between years (p=0.918).²

Discussion

- Despite no difference in pre-program knowledge or participant satisfaction between 2016 and 2019, 2018 showed significant knowledge attainment while 2019 did not.
- Given similar participants and curriculum, we identified two team differences that may have resulted in the outcomes:

Methods/Approach

- 44 Detroit public high school students aged 14-18 years participated in the program (n=22 [2018], n=22 [2019]).
- Prior to the educational sessions, a pre-test was administered to assess knowledge in six (6) areas: exercise, depression, diabetes, LGBTQ+ identity, safe sex, and nutrition.
- After the program, students completed a post-test on the same material as the pre-test.
- Satisfaction was measured in both years and was measured using a 10-point scale (10=highest satisfaction).

Conclusions/Field Significance

- Effective longitudinal programs require consistency over time in order to be beneficial and sustainable.
- We determined that the efficacy of projects over time appear dependent on a successful transition between years and the delivery of content.
- We demonstrated that educator enthusiasm and participant engagement played important roles in program success.
- By accounting for these factors, programs designed to prevent ACEs may be able to maintain their effectiveness.

References

1. This research was conducted by the University of Michigan's Center for Research on Education, Childhood, Youth, and Family. (2018). Learning to Live: The Effect of Adverse Childhood Experiences on Health and Well-Being in Young Adults. University of Michigan. Retrieved from https://umich.edu/.
ADOLESCENT AND EMERGING ADULTS’ ACCEPTABILITY OF A SOCIAL MEDIA INTERVENTION TO REDUCE RISKY ALCOHOL USE

Mariam Souweidane, Kathryn A. Beathard, Erin E. Bonac, Diane M. Schenker, Carrie Bourque, Frederic C. Blow, Sean D. Young, José A. Bauermeister, Amy S. B. Bohmert, Rebecca M. Cunningham & Maureen A. Walton

Dept. of Psychiatry & Addiction Center, Dept. of Emergency Medicine, Injury Prevention Center, University of Michigan; Ann Arbor, MI 48109
School of Nursing, University of Pennsylvania, Philadelphia PA, 19104, Dept. of Informatics, University of California—Irvine, Irvine CA, 92667

PURPOSE
- Preventing injury-related consequences associated with risky drinking (e.g., impaired driving, physical fights, overdoses) for adolescents and emerging adults (AEAs) can have a significant public health benefit.
- We delivered an 8-week alcohol intervention over social media led by trained coaches supervised by masters-level therapists who facilitated peer interaction.
- This poster shows injury-related baseline characteristics and intervention acceptability data obtained at 3-months.

METHODS
- We recruited participants with past 3-month risky drinking nationally via Facebook and Instagram ads, who were randomized to:
  - Social Media Intervention (SMI), Social Media Intervention + Incentives (SMI+), or attention-placebo control (C).
  - E-coaches posted Motivational Interviewing (MI) adherence content to private, hidden Facebook groups, including:
    - articles, videos, and quizzes/polls about stress, alcohol/drug use motives, and injury prevention.
  - Post-intervention, participants rated e-coach acceptability and content enjoyment via Qualtrics surveys.

Inclusion Criteria: Past 3-month AUDIT-C score:
- Ages 16-17: ≥3 females and ≥2 males
- Ages 18-24: ≥4 females and ≥5 males

<table>
<thead>
<tr>
<th>Participant Characteristics (N=195)</th>
<th>Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>30.4</td>
</tr>
<tr>
<td>Male</td>
<td>44%</td>
</tr>
<tr>
<td>Female</td>
<td>56%</td>
</tr>
<tr>
<td>Gender/other</td>
<td>3%</td>
</tr>
<tr>
<td>African American</td>
<td>19%</td>
</tr>
<tr>
<td>White</td>
<td>70%</td>
</tr>
<tr>
<td>Other</td>
<td>12%</td>
</tr>
<tr>
<td>Hispanic ethnicity</td>
<td>20%</td>
</tr>
<tr>
<td>Heterosexual</td>
<td>62%</td>
</tr>
<tr>
<td>Same gender living/ Bisexual/ other</td>
<td>38%</td>
</tr>
</tbody>
</table>

GROUP CONTENT EXAMPLES

- Mindful: You’re afraid to go out with your friends because they keep drinking and not doing anything else.
  - Not as important as any drug that can impair your consciousness. Even prescription medications like oxycodone or benzodiazepines are not legitimate. You can get pulled over and sent to jail.

RESULTS
- Risky Behaviors Reported at Baseline:
  - Drinking and driving: 52%
  - Drinking under the influence of cannabis: 29%
  - Physical fights while drinking alcohol: 49%
  - Overdose (i.e., more than your body could handle): 63%

GROUP CONTENT EXAMPLES

- Mindful: You’re afraid to go out with your friends because they keep drinking and not doing anything else.
  - Not as important as any drug that can impair your consciousness. Even prescription medications like oxycodone or benzodiazepines are not legitimate. You can get pulled over and sent to jail.

RESULTS
- Participant-Cohort Acceptability Ratings
  - Helpfulness: 66%* vs. 30%* vs. 46%

CONCLUSIONS/INNOVATIONS
- High receptivity ratings demonstrate that SMI is a potential avenue for future alcohol and injury prevention.
- Future analyses will examine intervention efficacy on alcohol and injury-related outcomes.

ACKNOWLEDGMENTS
- Funding: NIAAA 5R01AA024317
- Acknowledgement: Dr. Young is a shareholder in Intalks and has a conflict of interest plan approved by the University of Michigan. Dr. Young has previously received an unrestricted gift from Intalks.

MICHIGAN MEDICINE | ADDICTION CENTER | INJURY PREVENTION CENTER
Decrease in Child Abuse Potential Following Infant Mental Health Home Visiting Treatment

Jennifer Jester, Megan Julian, Jamie Lawler, Julie Ribaudo, Marissa Stringer, Alissa Huth-Bocks, Maria Muzik (PI), Katherine Rosenblum (PI) and the Michigan Collaborative for Infant Mental Health Research

Department of Psychiatry, University of Michigan, Ann Arbor, MI, USA 48109

INTRODUCTION

Infant Mental Health-Home Visiting (IMH-HV)
- Medicaid-funded intervention in Michigan
- High-risk infants and their families
- Pregnancy through child age 3 years
- Promotes positive parenting and healthy infant-parent relationships
- The Michigan Collaborative for Infant Mental Health Research has collected data over a period of 1 year to evaluate the effects
- The current study focuses on child abuse potential

SAMPLE CHARACTERISTICS

- 32 IMH-HV families included
  - 18 male under 36 months
  - 14 female under 36 months
  - One child per household

Notes:
- 1% African American
- 43% Black or African American
- 7% American Indian or Alaska Native
- 5% Native Hawaiian or Pacific Islander
- 65% Latino
- (Heritability estimate: 18% multiple cases)

Mental Health:
- 47% have a diagnosis
- 53% have a diagnosis

CLINICIAN CHARACTERISTICS

- 100% have a master’s degree
- 50% are female (25%)
- 50% are male (25%)
- 100% have a master’s degree
- 50% are female (25%)
- 50% are male (25%)

Endorsed by the Michigan Association for Infant Mental Health
- 10% have a master’s degree
- 50% are female (25%)
- 50% are male (25%)

100% received research experience
- 50% received research experience
- 100% received research experience
- 50% received research experience
- 100% received research experience

CONCLUSION

The current study shows that families who received more Infant Mental Health Home Visiting treatments decreased in child abuse potential over the year of treatment. The treatment is delivered in community settings, strengthening the evidence that this treatment model may be effective to decrease risk for child abuse. Intervening at this early age has the potential to decrease infant psychopathology and prevent behavior problems before they begin.

METHODS: MEASURES

Brief Child Abuse Potential Inventory (BCAPI) (Ondersma et al., 2005)
- Self-report of factors related to child maltreatment
- Related to risk for future child abuse (Dawn, Taplin, & Mattick, 2017; Ondersma et al., 2005; Walker & Davies, 2012)

Demographic risk
- Income <$5000, < H.S. education, unmarried, minority, teen mother
- Terminated – binary indicator that the family terminated treatment prior to the end of the study

RESULTS

Dependent variable = Child abuse potential score

<table>
<thead>
<tr>
<th>Effect</th>
<th>Estimate (SE)</th>
<th>t Value</th>
<th>P &gt;</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>8.9 (1.4)</td>
<td>6.39</td>
<td>&lt;0.0001</td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td>-0.05 (0.044)</td>
<td>-1.07</td>
<td>0.30</td>
<td></td>
</tr>
<tr>
<td>Demographic risk</td>
<td>0.4 (0.41)</td>
<td>1.10</td>
<td>0.20</td>
<td></td>
</tr>
<tr>
<td>Terminated</td>
<td>1.4 (1.4)</td>
<td>1.00</td>
<td>0.30</td>
<td></td>
</tr>
<tr>
<td>Number of IMH-HV Visits</td>
<td>-0.05 (0.08)</td>
<td>-0.60</td>
<td>0.54</td>
<td></td>
</tr>
</tbody>
</table>

A linear mixed model showed that the number of home treatment visits was associated with lower child abuse over the year, controlling for demographic risk and whether the family terminated treatment.

Those with the fewest IMH visits showed a slight increase in child abuse potential over the year, while those with the most IMH visits showed a significant decrease over the year.
Text- and Chat-Based Hotlines: A Novel Approach to Provide Child Maltreatment-Related Support

Laura Schwab-Reese, MA, PhD, Caitlyn Short, Larel Jacobs, MEd, MS, Michelle Fingerman, MS

Connect with me on Twitter @LSchwabReese or email at lschwabr@purdue.edu.

Background

Methods

Adults
Supporting Children

Children
Supporting Children

Children
Supporting Themselves

This project, including the research conducted by Purdue and the services provided by Childhelp, are supported by Children's Bureau. The information shared during this presentation are those the authors and do not necessarily reflect the views of the Children’s Bureau, the Administration on Child, Youth, and Families, or HHS.
Childhood Exposure to Drugs at Home Predicts adulthood difficulty concentrating, remembering, or making decisions
Nora Alrubaie, MPH

Background
The early years of a child’s growth are very critical for their health and psychosocial development. 1 Children that have lived with adults who abuse substances have been found to have undergone to various forms of adverse childhood experiences (ACEs) such as sexual, physical, and verbal abuse.2,3

Statement of Purpose
To evaluate whether childhood exposure to drugs at home was associated with difficulty concentrating, remembering, or making decisions.

Methods
2019 Behavioral Risk Factor Surveillance System data of adults aged 18 years and older were used from 15 U.S states that integrated the ten adverse childhood experience questions. The study included participants who answered, “Did you live with anyone who used illegal street drugs or who abused prescription medications?” The outcomes measure was self-reported difficulty concentrating or remembering due to physical, mental, or emotional condition. Weighted logistic model was used to calculate the risk of exposure to drugs on difficulty concentrating, remembering, or making decisions.

Results
Sample of 106,220, where 9.2% reported living with an adult who abused drugs. Exposure to drugs at home was associated with 42% higher odds of self-reported difficulty concentrating or remembering (Odds Ratio [OR], 1.425; 95% confidence interval: 1.296, 1.566), compared to those who were not exposed to drugs at home during childhood.

Table 1. Distribution of adults aged ≥18 years by selected characteristics (n=106,220)

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Yes, n (%)</th>
<th>No, n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>9,779 (9.21%)</td>
<td>44,550 (41.94%)</td>
</tr>
<tr>
<td>Female</td>
<td>5,637 (5.31%)</td>
<td>54,891 (48.85%)</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-24</td>
<td>4,142 (3.90%)</td>
<td>44,550 (41.94%)</td>
</tr>
<tr>
<td>25-34</td>
<td>939 (0.88%)</td>
<td>10,428 (9.82%)</td>
</tr>
<tr>
<td>35-44</td>
<td>1,170 (1.09%)</td>
<td>11,448 (10.78%)</td>
</tr>
<tr>
<td>45-54</td>
<td>1,453 (1.37%)</td>
<td>14,012 (13.19%)</td>
</tr>
<tr>
<td>55-64</td>
<td>2,173 (2.03%)</td>
<td>18,003 (17.15%)</td>
</tr>
<tr>
<td>&gt;65</td>
<td>3,562 (3.35%)</td>
<td>35,952 (33.85%)</td>
</tr>
<tr>
<td>Race</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>6,941 (6.53%)</td>
<td>71,200 (67.04%)</td>
</tr>
<tr>
<td>Black</td>
<td>1,868 (1.76%)</td>
<td>9,218 (8.68%)</td>
</tr>
<tr>
<td>Asian</td>
<td>84 (0.08%)</td>
<td>4,381 (4.12%)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>162 (0.15%)</td>
<td>12,494 (11.76%)</td>
</tr>
<tr>
<td>Other races</td>
<td>724 (0.68%)</td>
<td>6,310 (5.94%)</td>
</tr>
<tr>
<td>Educational Attainment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High school diploma or less</td>
<td>3,613 (3.4%)</td>
<td>32,366 (30.50%)</td>
</tr>
<tr>
<td>Some college or higher</td>
<td>6,126 (5.77%)</td>
<td>63,579 (59.86%)</td>
</tr>
<tr>
<td>Urban/Rural Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban counties</td>
<td>7,697 (7.25%)</td>
<td>87,667 (82.53%)</td>
</tr>
<tr>
<td>Rural counties</td>
<td>2,083 (1.96%)</td>
<td>8,776 (8.26%)</td>
</tr>
<tr>
<td>Income</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than $15,000</td>
<td>871 (0.82%)</td>
<td>7,889 (7.43%)</td>
</tr>
<tr>
<td>$15,000 to less than $35,000</td>
<td>2,008 (1.86%)</td>
<td>20,680 (19.47%)</td>
</tr>
<tr>
<td>$35,000 to less than $50,000</td>
<td>1,061 (1.00%)</td>
<td>10,284 (9.68%)</td>
</tr>
<tr>
<td>$50,000 or more</td>
<td>3,810 (3.59%)</td>
<td>3,942 (4.72%)</td>
</tr>
</tbody>
</table>

Conclusion
There were significantly higher odds of difficulty concentrating, remembering, or making decisions due to physical, mental, or emotional condition in adults who reported childhood exposure to drugs than participants who reported no drug exposure.

Innovation & significance
Childhood development is a critical period, providing a healthy and safe social and physical environment for the child and preventing exposure to adverse childhood experiences could improve adulthood quality of living. The significance of investigating the prevalence of ACEs is purposefully to help in the management of adverse impacts. The field of public health would benefit from this study by having a foundation for establishing evidence-based structures and programs for helping individuals suffering from ACEs.

Reference
#NoMeansNo: How Young People Share Sexual Violence Experiences on TikTok

Laura Schwab-Reese, MA, PhD, Isha Nair, Neha Kapur, Andrea DeMaria, PhD, MS

**Background**

**Methods**

**Who?**

**What?**

**How?**
Adverse childhood experiences (ACEs) have been consistently linked to long-term effects on individual's depression. Physical activity may help nurture an adolescent’s resilience and mitigate the consequences of ACEs. However, the association between the ACEs exposure pattern, physical activity and depression remains unclear in adolescents.

Secondary analyses were conducted on 29,617 adolescents aged 12-17 years from the 2016–2017 NSCH. Measures
- depression
- ACEs
- physical activity

Covariates: Individual-level, social-level and societal-level factors.

Data analysis:
- Latent class analysis
- Logistic analysis

These results suggest a clinical concern for adolescents with more ACEs. Trauma-informed care to address cumulative trauma screening and physical activity interventions to reduce the negative impact of ACEs on depression symptoms.

The findings highlight the importance of screening cumulative ACEs on adolescents. Health care providers in both primary care and school settings should help identify adolescents at risk, and provide resilience skill building, such as physical activities.
Efficacy of a Future-Oriented Empowerment Intervention to Prevent Alcohol and Drug Use in School-Disengaged Youth: Six-Month Follow Up

Sarah A. Stoddard, PhD, RN, CNP, FAAN & Kathryn Abramoski, PhD, RN

BACKGROUND & SIGNIFICANCE

- Youth who are school-disengaged during middle school are at increased risk for continued school disengagement\(^1\), leaving secondary school prior to graduation and engaging in risky behaviors such as alcohol and drug use are dropout out of high school\(^2\).
- Theory and previous research suggest that empowerment and future orientation may be key mechanisms to target for the prevention of school dropout and alcohol and drug misuse.\(^4\),\(^5\)

PURPOSE

- To test the efficacy of YES-PF on school engagement, prosocial behaviors, and substance use attitudes at 6-months post-intervention

METHODS

- Intervention: Youth attended YES-PF 4 hours per day, 4 days per week for 5 weeks in their school building.
- Study Design: Pre-Post Intervention Design
  - Baseline and post-intervention surveys at 3-month and 6 month post-intervention
  - Inclusion criteria identified by school personnel: frequent absenteeism, behavioral issues, and poor academic performance
- Sample
  - 2 school districts
  - 67 students enrolled: 55 students completed baseline survey (42% female)
  - 58% Black; 11% White; 22% more than 1 race; 15% Hispanic or Latinx origin
  - Posttest 1: n=51; Posttest 2: n=52
- Outcome Measures
  - Future expectancy, leadership efficacy, school attitudes and engagement, AOD attitudes and expectancies, prosocial behavior
- Data Analysis
  - Descriptive Statistics; Paired t tests; Cohen’s d

INTERVENTION

- Youth Empowerment Solutions for Positive Futures (YES-PF) is a summer enrichment program grounded on empowerment theory and research on future orientation.\(^5\)
- YES-PF uses a future-oriented, empowerment-based approach to reduce AOD use and school dropout among youth who display early warning signs of school disengagement.

  - The program includes 5 units which includes a student-led school change project:
    1. Youth as Leaders
    2. Learning about our school community
    3. Building partnerships and planning for change
    4. Action: Summer Plan
    5. Reflection and Celebration

RESULTS: 6 MONTHS POST-INTERVENTION

<table>
<thead>
<tr>
<th>Construct</th>
<th>Prettest Mean (SD)</th>
<th>6 Month Posttest Mean (SD)</th>
<th>t-score</th>
<th>p value</th>
<th>Cohen’s d</th>
<th>Effect size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership efficacy</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>School emotional engagement</td>
<td></td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>AOD expectancies</td>
<td></td>
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<td></td>
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<tr>
<td>Prosocial behaviors</td>
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</tr>
</tbody>
</table>

- Leadership efficacy: 3.44 ± 0.15 vs. 3.77 ± 0.11, t(11) = -2.28, p = .01, d = 0.37, small
- School emotional engagement: 2.62 ± 0.15 vs. 2.93 ± 0.12, t(11) = -1.86, p = .06, d = 0.35, small
- AOD expectancies: 3.35 ± 0.15 vs. 3.62 ± 0.11, t(11) = -1.34, p = .20, d = 0.29, small
- Prosocial behaviors: 3.52 ± 0.16 vs. 3.85 ± 0.12, t(11) = -2.04, p = .02, d = 0.37, small

CONCLUSIONS

- Preliminary findings support the effectiveness of YES-PF to enhance school engagement and prosocial skills.
- Additional research needed to further determine efficacy.

REFERENCES


ACKNOWLEDGEMENTS

This study was supported by a grant from the University of Michigan Office of Research. S. Stoddard was generously supported by a National Institute on Drug Abuse. We would like to thank the students and school personnel who participated in this study.
Q&A

Please type your questions in the Q&A box and the moderator will ask the panelists select questions.
- Evaluation survey to follow by email

- Register now for our upcoming summit - The Science of Suicide Prevention: New Strategies for Understanding and Intervening on March 16, 2021 from 12PM – 5PM. Information on how to register and submit abstracts can be found on the event page on our website injurycenter.umich.edu

- Become a member! Sign up at injurycenter.umich.edu/about-us/membership/becoming-a-member/

- All recordings from today will be available on our website in the coming weeks

Thank You!