

# Recovery-related use of social media: So much promise, so little data

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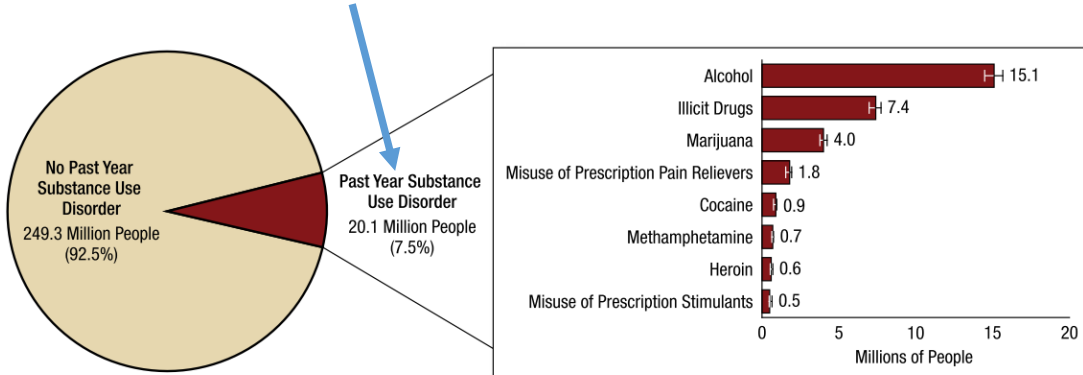
# Disclosures

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  - NIAAA
  - Recovery Research Institute
- Dr. Bergman has served as a consultant or co-investigator on research grants submitted to, or funded by, the following organizations and entities:
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- Dr. Bergman is an advisory board member for the following organizations and entities:
  - National Foundation for Collegiate Recovery
  - SoberGrid
- Dr. Bergman has no direct financial stake in any of these organizations or entities

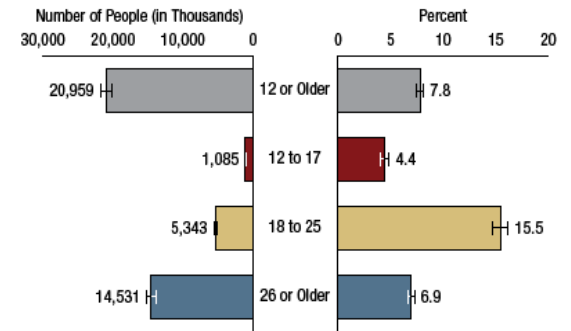


# Introduction

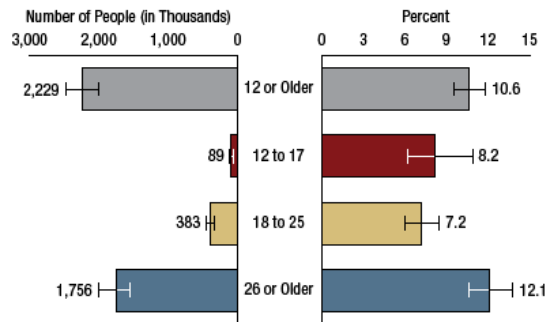
**Figure 42. Numbers of People Aged 12 or Older with a Past Year Substance Use Disorder: 2016**



**Figure 45. Need for Substance Use Treatment in the Past Year among People Aged 12 or Older, by Age Group: 2016**

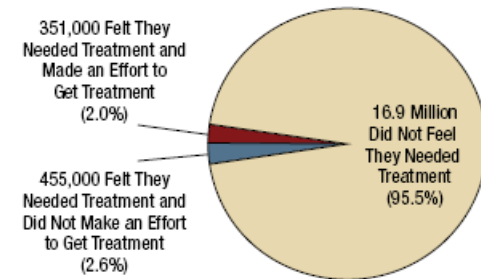


**Figure 48. Received Specialty Substance Use Treatment in the Past Year among People Aged 12 or Older Who Needed Substance Use Treatment in the Past Year, by Age Group: 2016**



11% of individuals 18+ with SUD received any SUD service (e.g., including mutual-help)

**Figure 14. Perceived Need for Substance Use Treatment among Adults Aged 18 or Older Who Needed but Did Not Receive Substance Use Treatment in the Past Year: 2016**



17.7 Million Adults Needed but Did Not Receive Substance Use Treatment



# Introduction

- 60% drink/use drugs in the first post-treatment year
- 1.6 million adults seek services despite no longer meeting for SUD
- Needs:
  - Increase easy access to recovery-supportive resources
  - Buffer against post-treatment relapse (i.e., continuing care)
  - Support individuals in recovery management framework
- Emerging adults (18-25; 18-29, etc.) with SUD are particularly challenging

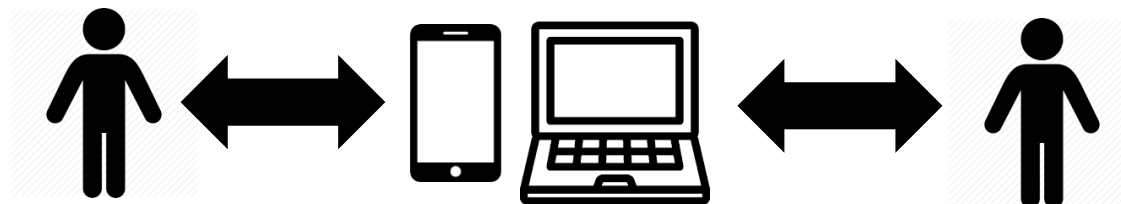
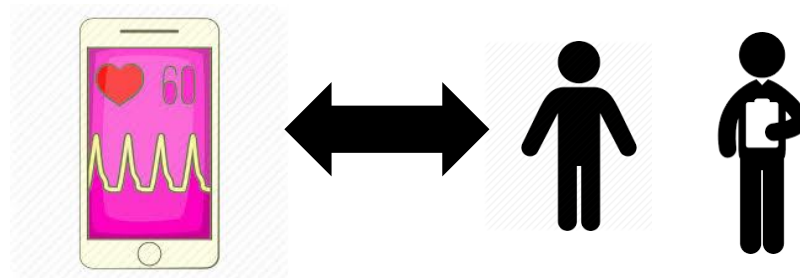
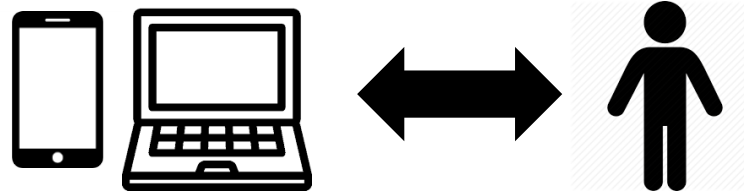
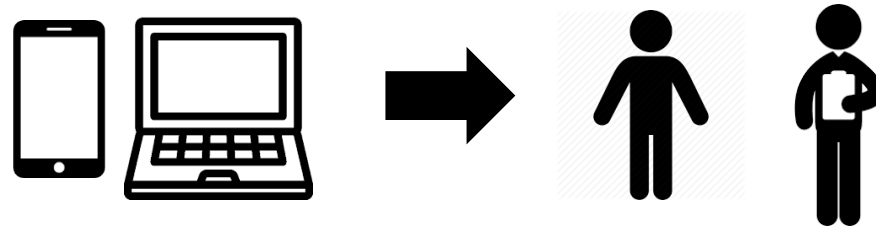


# Network Support is Important in SUD Treatment & Recovery

- Social network: A model of the connections between and among people (in real or virtual space)
- Social network composition (e.g., % heavy drinkers) relates to SUD onset and offset; network changes are recovery-related MOBCs
- Yalom's group therapy factors in sample of 12-step mutual-help organization (MHO) emerging adult attendees (Labbe et al. 2014)
  - 43% universality/cohesion
  - 24% installation of hope
  - 13% altruism

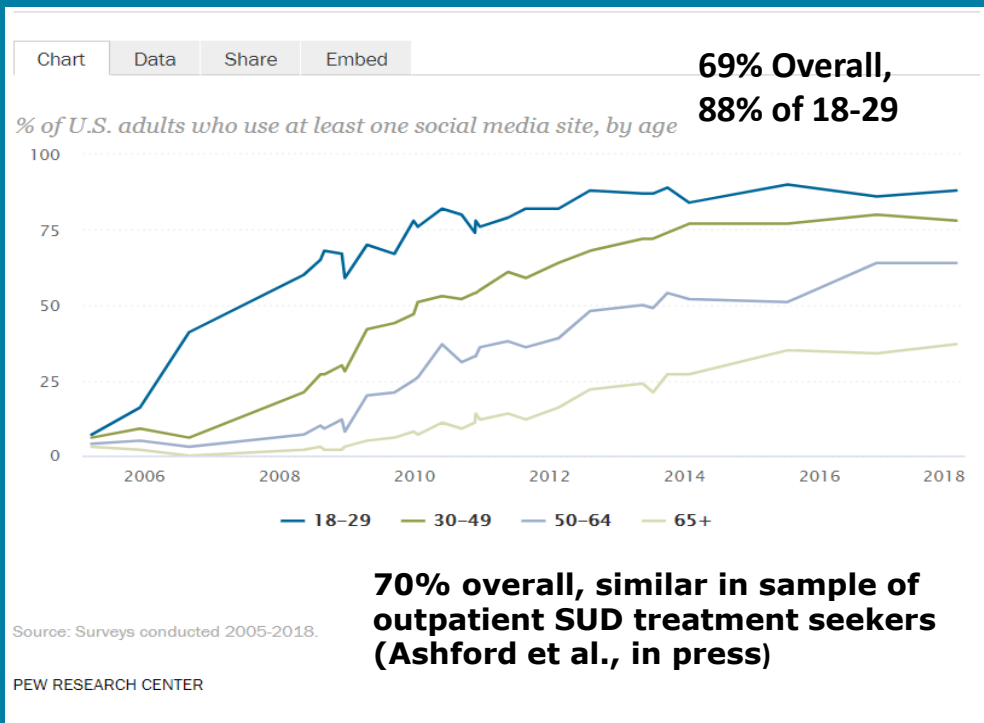


# Ways to Leverage Technology in SUD Treatment/Recovery



# Introduction

- Social Network Sites (SNSs; Ellison & boyd, 2013) are networked communication platforms:
  - Profiles
  - Observable and navigable connections
  - Create and interact with user-generated content
  - Ex. Facebook, Instagram, Twitter, but not Snapchat



Source: Dahne & Lejuez (2015)

Post treatment	Yes	No
Own a mobile phone (n = 243)	92.60%	7.40%
SMS capability (n = 223)	96.40%	3.60%
Use text messages (n = 222)	84.70%	15.30%
Own a smartphone (n = 221)	72.40%	27.60%
Download mobile apps (n = 221)	64.30%	35.70%
Use the phone to access the Internet (n = 223)	65.90%	34.10%
Contract type (n = 213)		
Pay-as-you-go	51.60%	
Annual contract	25.40%	
Government issued/Safelink	21.60%	
Other	1.40%	



# Research on Social Network Sites & Health Behavior Change

- Modest changes in physical activity and weight loss (Maher 2014)
- Participation in smoking cessation online community 4-5 times better rates of 30-day abstinence (Baker et al. 2015; Papandonatos et al. 2016)
- Limited data targeting online forums and communities for alcohol (Urbanoski et al. 2016; Carah et al. 2015) and other drugs (D'Agostino et al., 2017)
  - Range of severity and goals
  - Modest levels of engagement
  - Focus on content analyses, not participants
  - Outcomes not tested
- Alcohol and marijuana content exposure on SNSs predicts increased substance use (Boyle/Labrie, Moreno)
  - Peer belonging may sensitive individuals (Bergman et al., *under review*)





# Objectives

- 1) To examine recovery-related online tech use among individuals in the National Recovery Study
- 2) To examine participation and perceived benefit in a recovery-specific social network site
- 3) To examine social network site engagement among emerging adults in outpatient SUD treatment
- 4) Future directions, including overview of longitudinal investigation



# Online Technology in Substance Problem Resolution: Macro Perspective



# Questions

- 1) How prevalent is online technology use “to cut down on substance use, abstain from substances, or strengthen one’s recovery” (i.e., recovery-related use of online technology; ROOT)
  
- 2a) What demographic factors are associated with ROOT?
- 2b) Controlling for demographics, what clinical and other substance use related factors are associated ROOT?





Contents lists available at ScienceDirect

## Drug and Alcohol Dependence

journal homepage: [www.elsevier.com/locate/drugalcddep](http://www.elsevier.com/locate/drugalcddep)



Full length article

### Prevalence and pathways of recovery from drug and alcohol problems in the United States population: Implications for practice, research, and policy



John F. Kelly<sup>a,\*</sup>, Brandon Bergman<sup>a</sup>, Bettina B. Hoepfner<sup>a</sup>, Corrie Vilsaint<sup>a</sup>, William L. White<sup>b</sup>

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#### ARTICLE INFO

##### Keywords:

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Problem resolution  
Treatment  
Assisted  
Unassisted  
Mutual-help  
Prevalence  
Adults  
Population

#### ABSTRACT

**Background:** Alcohol and other drug (AOD) problems confer a global, prodigious burden of disease, disability, and premature mortality. Even so, little is known regarding how, and by what means, individuals successfully resolve AOD problems. Greater knowledge would inform policy and guide service provision.

**Method:** Probability-based survey of US adult population estimating: 1) AOD problem resolution prevalence; 2) lifetime use of “assisted” (i.e., treatment/medication, recovery services/mutual help) vs. “unassisted” resolution pathways; 3) correlates of assisted pathway use. Participants (response = 63.4% of 39,809) responding “yes” to, “Did you use to have a problem with alcohol or drugs but no longer do?” assessed on substance use, clinical histories, problem resolution.

**Results:** Weighted prevalence of problem resolution was 9.1%, with 46% self-identifying as “in recovery”; 53.9% reported “assisted” pathway use. Most utilized support was mutual-help (45.1%, SE = 1.6), followed by treatment (27.6%, SE = 1.4), and emerging recovery support services (21.8%, SE = 1.4), including recovery community centers (6.2%, SE = 0.9). Strongest correlates of “assisted” pathway use were lifetime AOD diagnosis (AOR = 10.8[7.42–15.74], model R<sup>2</sup> = 0.13), drug court involvement (AOR = 8.1[5.2–12.6], model R<sup>2</sup> = 0.10), and, inversely, absence of lifetime psychiatric diagnosis (AOR = 0.3[0.2–0.3], model R<sup>2</sup> = 0.10). Compared to those with primary alcohol problems, those with primary cannabis problems were less likely (AOR = 0.7[0.5–0.9]) and those with opioid problems were more likely (AOR = 2.2[1.4–3.4]) to use assisted pathways. Indices related to severity were related to assisted pathways (R<sup>2</sup> < 0.03).

**Conclusions:** Tens of millions of Americans have successfully resolved an AOD problem using a variety of traditional and non-traditional means. Findings suggest a need for a broadening of the menu of self-change and community-based options that can facilitate and support long-term AOD problem resolution.

# Method

- National Recovery Study (NRS; Kelly et al. 2017)
  - US adults who “used to have a problem with alcohol or drugs, but no longer do” ( $N = 2002$ )
  - Derived from nationally representative sample
  - M problem resolution = 11.8 years
  - Half (54%) with history of service utilization
  - Half (52%) were currently abstinent from all substances

Gender		
Female	40.0	1.53
Male	60.0	1.53
Age		
18–24 yrs (emerging adulthood)	7.1	1.16
25–49 yrs (young adults)	45.2	1.63
50–64 yrs (mid-life stage adults, CDC)	34.7	1.43
65+ yrs (older adults)	13.0	0.76
Race and Ethnicity		
White, Non-Hispanic	61.4	1.64
Black, Non-Hispanic	13.8	1.19
Other, Non-Hispanic	5.8	0.92
Hispanic	17.3	1.38
2+ Races, Non-Hispanic	1.7	0.30

Primary problem substance <sup>a</sup>		
did not identify any problem substance	12.7	1.14
Alcohol	51.2	1.61
Cannabis (e.g., marijuana, hashish)	11.0	1.13
Cocaine (e.g., coke, crack, freebase)	10.0	0.92
Methamphetamine (crank, meth, crystal)	7.3	0.90
Opioids (e.g., heroin, unprescribed fentanyl, methadone)	5.3	0.77
Other	2.6	0.50

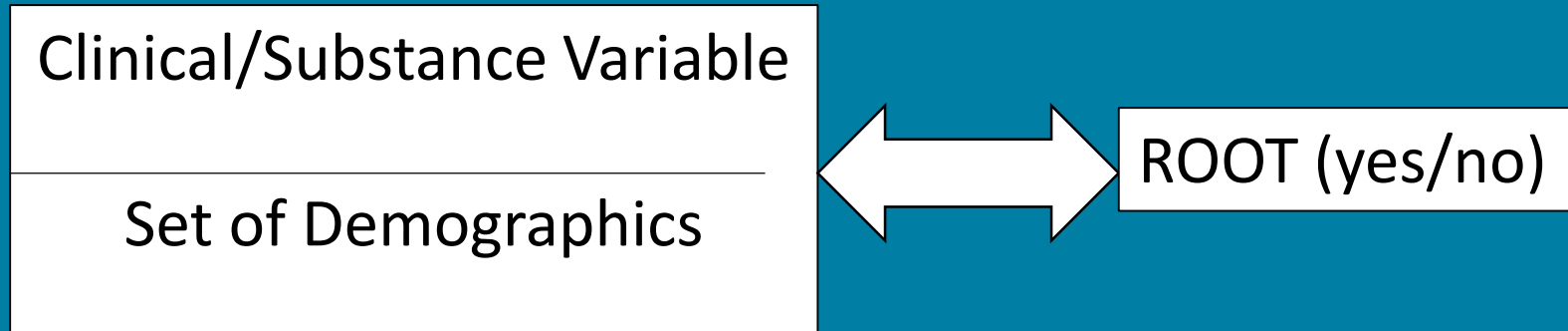


# Method

- Online technologies
  - Online mutual-help organizations (MHOs)
  - Social network sites: general-interest and recovery-specific
  - “Non-social” smartphone apps and other online resources
- Demographics
  - Age, gender, education, race/ethnicity, income, household internet access
- Clinical/substance factors
  - Primary substance, total abstinence, treatment program, SUD medication, recovery support services, arrested/drug court, number substances, age of first use, psychological distress, quality of life, recovery capital, years since problem resolution

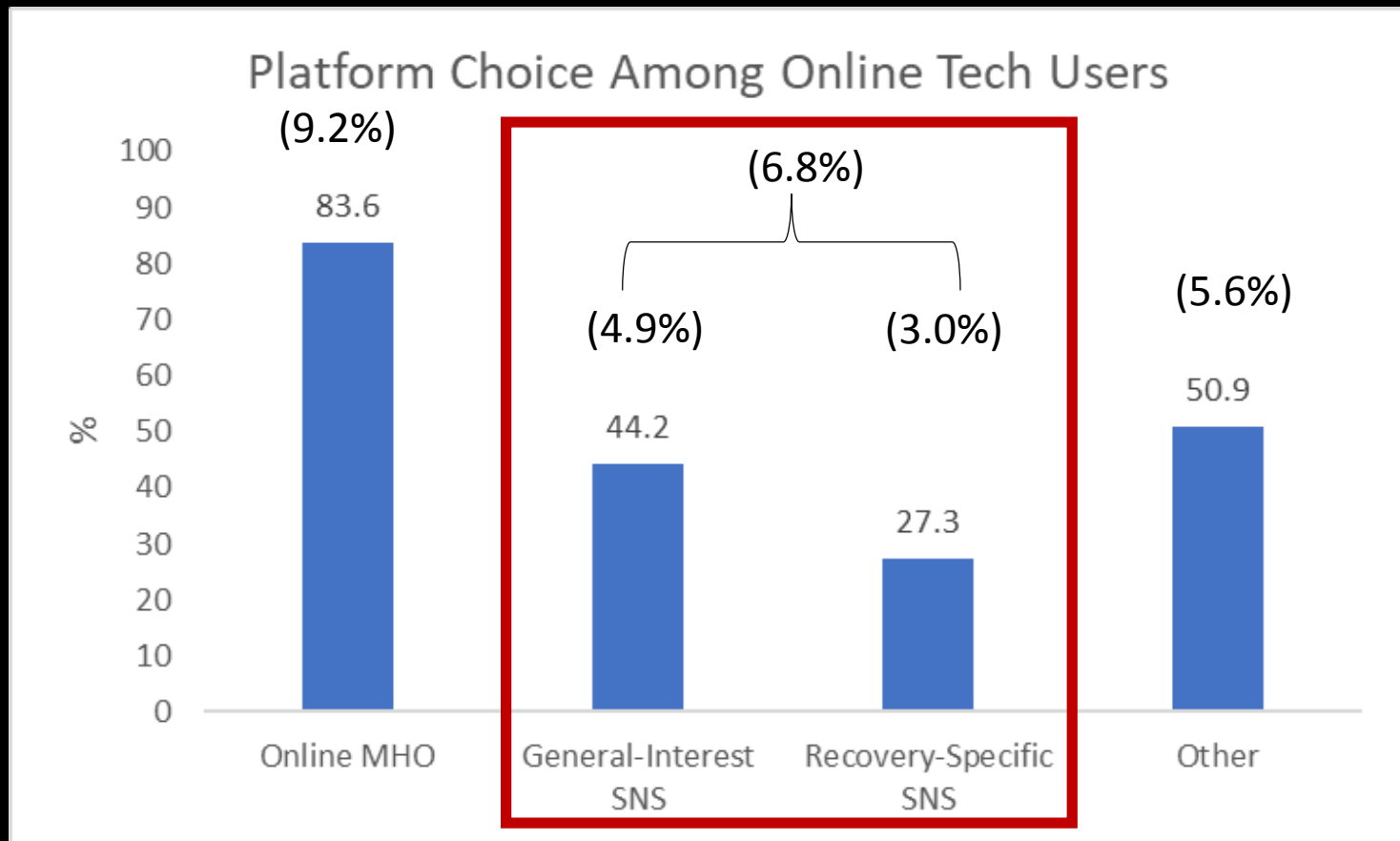


# Method



# Findings: ROOT Prevalence

11.0% Overall



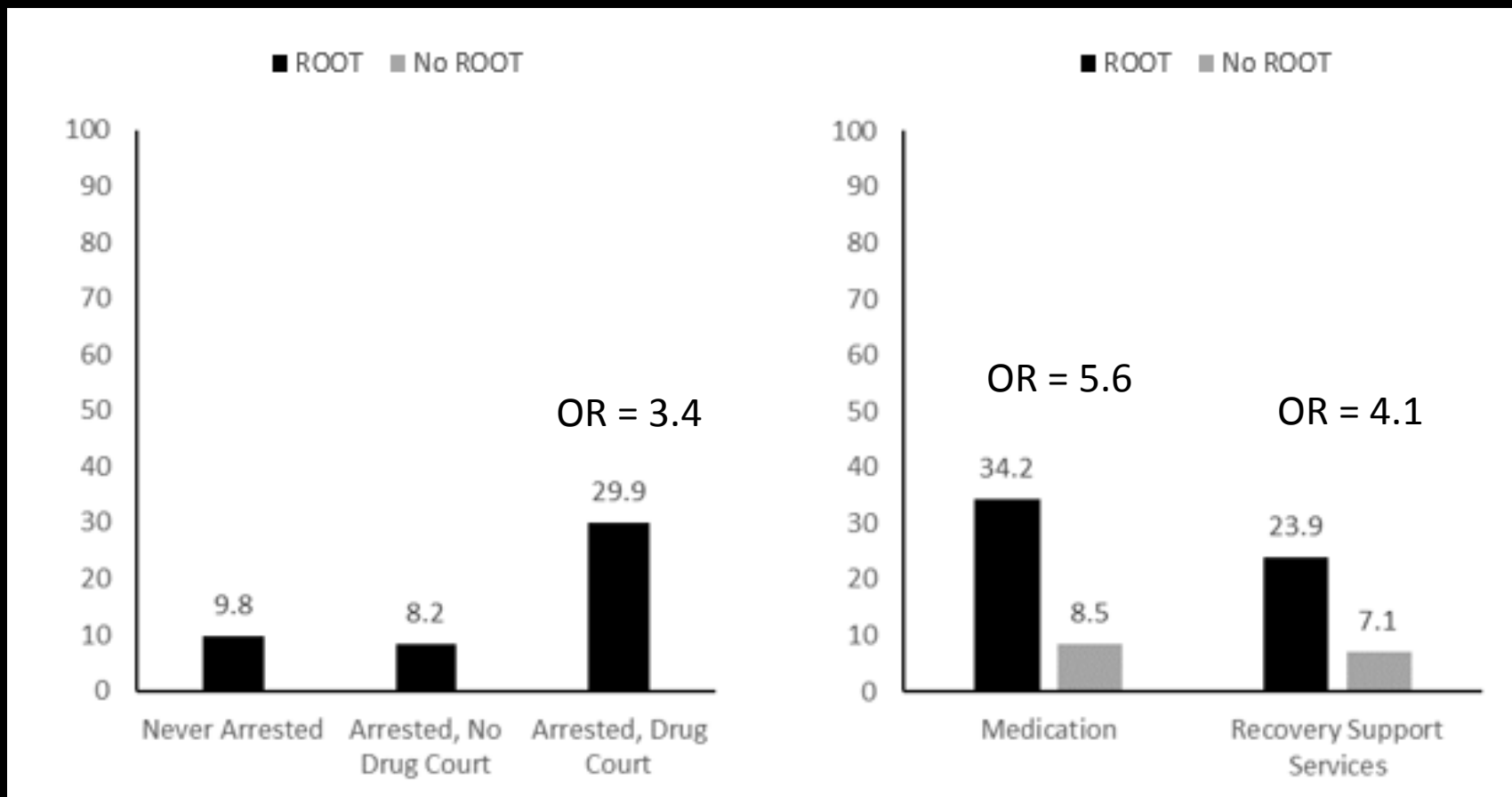


# Findings: ROOT Correlates

- Demographics Alone
  - Age (18-29 > 45-59 and 60+)
  - Education (Less than high school > High school diploma)
  - Race/ethnicity (Hispanic > White)
  - Income (Less than 30k > 100k)
  - Household internet access (Yes > No,  $p = .055$ )



# Findings: ROOT Correlates



## Other significant ROOT correlates

Younger age of first use (OR = .93)

More psychological distress (OR = 1.08)

## Notable

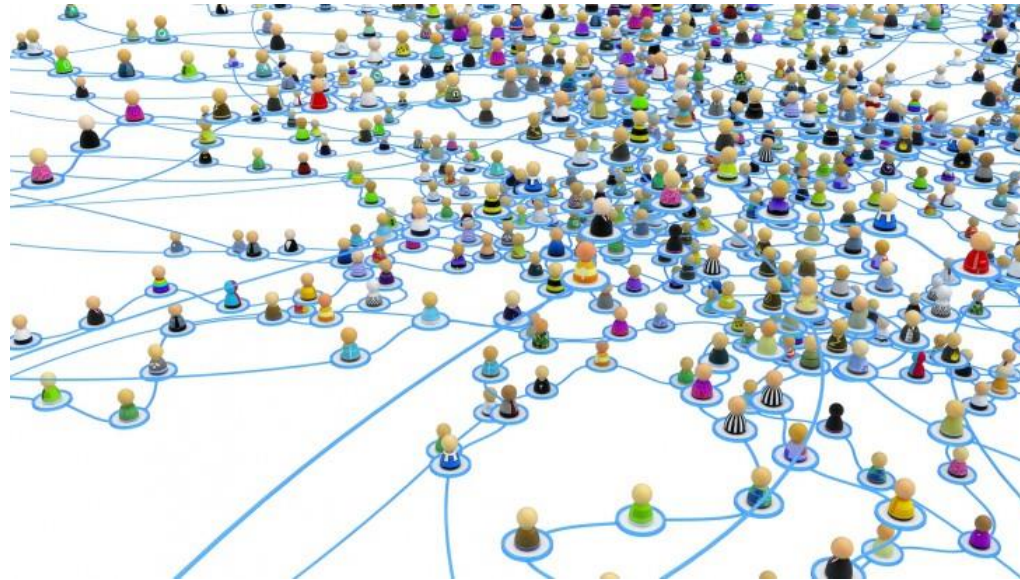
Time since problem resolution 8.4 years for ROOT vs. 12.3 years no ROOT, ns

# Summary

- 2.5 million US adults with ROOT
  - Impact = Reach x Effectiveness
  - Research on effectiveness → strategies to increase reach
- Younger age explained by more recent problem resolution and greater psychological distress; over time, “older” individuals will do just fine
- Challenges for consideration
  - Greater severity → greater baseline ROOT propensity
  - 50% with pay-as-you go plans in Dahne et al.



# Study 2: Focusing on a Recovery-Specific Social Network Site



# Questions

- 1) What resources and activities do participants use on a recovery-specific social network site, InTheRooms.com (ITR)?
- 2) To what extent do participants perceive benefit from ITR on motivation, self-efficacy, reduced craving, recovery identity?
- 3) For questions 1 and 2, are there differences for those with 1 year of abstinence or less?



## BRIEF REPORT

## Digital Recovery Management: Characterizing Recovery-Specific Social Network Site Participation and Perceived Benefit

Brandon G. Bergman, Nathaniel W. Kelly, Bettina B. Hoepfner, Corrie L. Vilsaint, and John F. Kelly  
Massachusetts General Hospital, Boston, Massachusetts, and Harvard Medical School

Research shows that digital social network sites (SNSs) may be valuable platforms to effect health behavior change. Little is known specifically about their ability to help address alcohol and other drug problems. This gap is noteworthy, given that individuals are already participating in existing, recovery-specific SNSs (hereafter referred to as *recovery SNSs*): online communities with the functionality of conventional SNSs (e.g., Facebook) that focus on substance use disorder (SUD) recovery. For example, InTheRooms.com (ITR) is a large, well-known recovery SNS that is available for free 24 hr/day via website and mobile smartphone applications. It offers recovery tools within a digital social milieu for over 430,000 registered users. To augment the knowledge base on recovery SNS platforms, we conducted an online survey of 123 ITR participants ( $M = 50.8$  years old; 56.9% female; 93.5% White;  $M = 7.3$  years of abstinence, range of 0–30 years; 65% cited alcohol as their primary substance). Respondents engaged with ITR, on average, for about 30 min/day several times each week. Daily meditation prompts and live online video meetings were the most commonly utilized resources. Participants generally endorsed ITR as a helpful platform, particularly with respect to increased abstinence/recovery motivation and self-efficacy. Compared to individuals abstinent for 1 or more years, those abstinent less than 1 year (including nonabstinent individuals) showed similar rates of engagement with ITR activities and similar levels of perceived benefit. Our findings suggest that longitudinal studies are warranted to examine the clinical utility of ITR and other recovery SNSs as SUD treatment adjuncts and/or recovery self-management tools.

*Keywords:* e-health, social network sites, substance use disorder, mutual help organizations

InTheRooms Video Meeting Clubhouse

Footprints in the Sand 12:00 PM - 1:00 PM Current Time: 12:19 PM

Big Book | 12 and 12 I | AA Homepage  
**Meeting Topic:** BB p. 25 from 'There is a solution'

AA Preamble How It Works 12 Traditions The Promises 3rd, 7th, 11th Step Prayer A Vision For You



Chairperson



People Requesting to Share



Donate

In accordance with the 20th Step, 2013, the 2014 and 2015 AA-CTA in the video meeting group securely via "Request".  
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 Global Room  
 PO Box 519  
 Cary, NC 27513

\*Has affiliated with InTheRooms.com  
**CLICK HERE FOR TECH SUPPORT**

Turn Cam On Fix Main Feed Refresh all Feeds Fewer Feeds

Security & privacy invite your Facebook friends to join this meeting

Request Attendance Confirmation

Request to Share instructions: Click on "Turn Cam On" button and then "Allow" and make sure your webcam is showing your face, and then click "Request to Share".

Audience 55 People

Send IM	Send IM	Send IM	Send IM	Send IM	Send IM	Send IM	Send IM	Send IM	Send IM	Send IM	Send IM	Send IM	Send IM	Send IM	Send IM	Send IM	Send IM	Send IM	Send IM	Send IM



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Live Video Meeting **On Air Now**

Footprints in the Sand (ALCOHOLICS ANONYMOUS) 12:00PM



Now I might get in trouble for saying this...but I bet mommy looks something like this when she's on the phone. This is the cutest thing I've seen all day! Enjoy! Have a GREAT DAY ITRoomies  
<http://www.youtube.com/wa...>



**Hilarious Little Girl Talking To Phone**

Little girl talking to phone in a baby language.

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Upcoming Video Meetings  
 1:00PM - NARCOTICS ANONYMOUS  
 2:00PM - ALCOHOLICS ANONYMOUS  
 2:00PM - CODA (CODEPENDENCY)  
 4:00PM - ALCOHOLICS ANONYMOUS  
 6:00PM - ALCOHOLICS ANONYMOUS  
[Video Meeting Schedule](#)

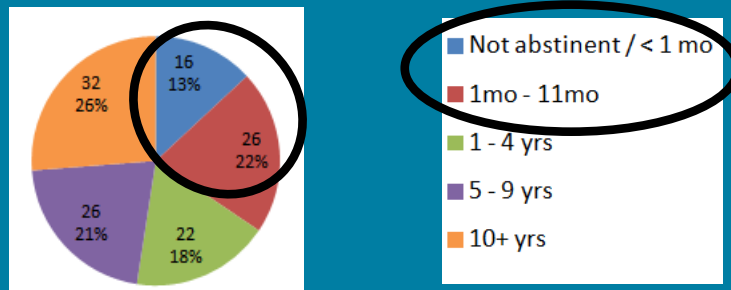
Birthdays & Anniversaries

Anniversaries Today

	8 years		15 years
	8 years		7 years
	21 years		8 years
	7 years		8 years
	28 years		20 years
	35 years		8 years
	7 years		9 years
	6 years		10 years

# Method

- Cross-sectional survey of individuals recruited from ITR who participated for their “own current or former substance problem” ( $N = 123$ )
- $M = 50.8$  years (12% 18-35); 94% White, 57% Female
- 7.3 years abstinent, on average ( $SD = 9.3$ )





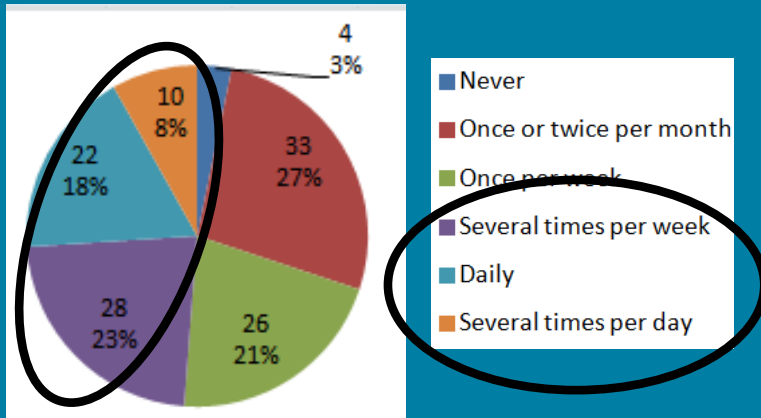
# Method

- Primary substance: 65% alcohol, 18% opioids, 12% stimulants, 4% cannabis, 1% “more”
- Hx of treatment/recovery support activities common (e.g., 80% f2f mutual-help attendance past 6 months)
- Recovery-related constructs (e.g., recovery capital), comparable to community recovery samples (1+ with greater levels than <1)
- 90% with smartphones and 75% daily SNS use

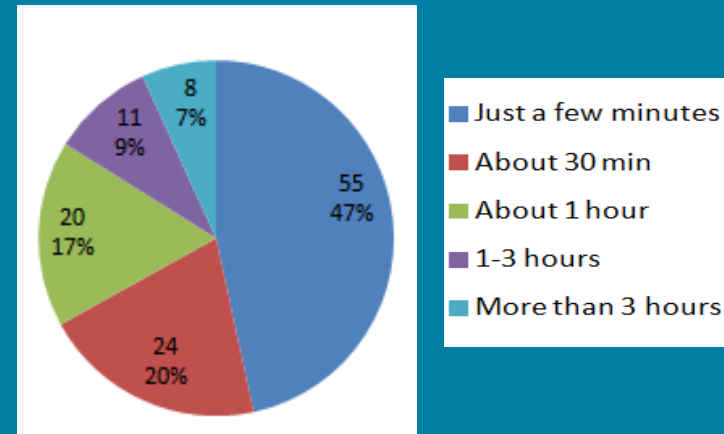


# Findings: Engagement Basics

Frequency



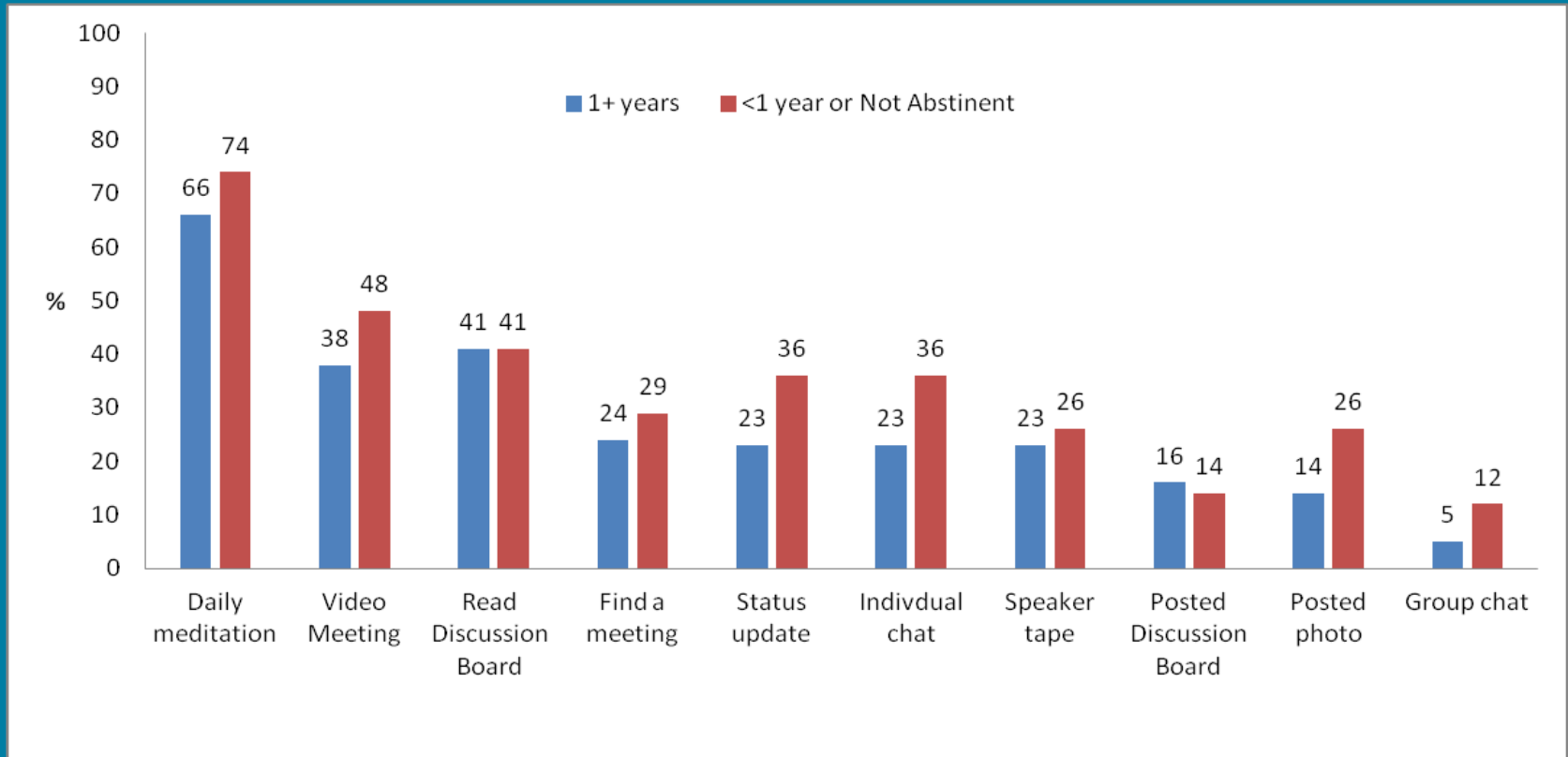
Time per day



- Average User: Several times per week for 30 minutes
- Similar for 1+ and <1 ( $p > .05$ ; <1 with  $d = .21$  more time per day)
- Time spent via ITR smartphone “app” overall: one-third 50% or more, one-third 5 - 45%, one third 0%



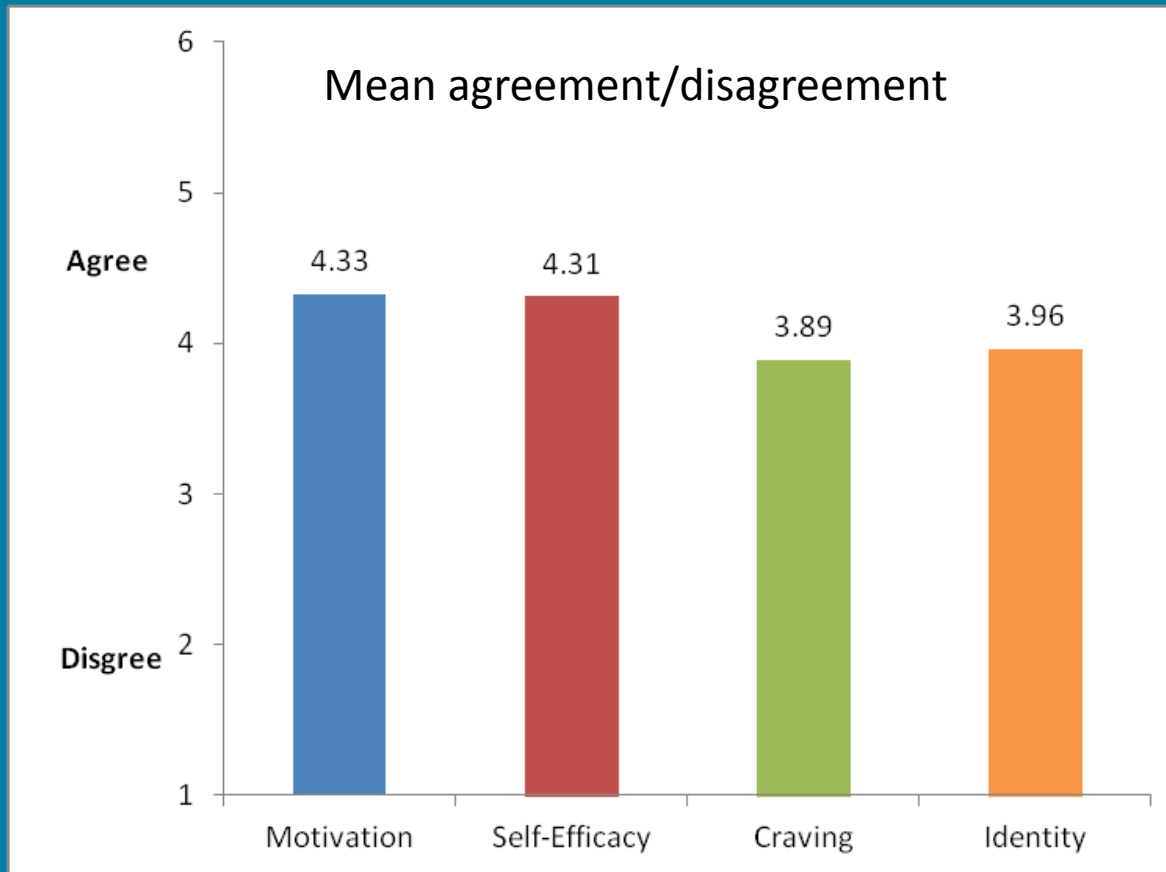
# Findings: Engagement Activities



Similar for 1+ and <1 ( $p > .05$ ;  $r_s = .01 - .154$ )



# Findings: Perceived Benefit



Similar for 1+ and <1



# Implications

- Recovery SNSs warrant longitudinal investigation
  - Self-management (reminder: 89% do not seek services)
  - Clinical service to expand recovery-supportive network
    - During treatment
    - Continuing care
- MOBC and dismantling research
  - \*What\* is it about recovery SNSs that explain benefit? Ubiquitous social interaction and support? Easy to access recovery activities? Etc.
- Youth and recovery SNSs
  - 90% of 18-29 year olds use SNSs (“digital natives”)



# Social Network Site Participation in a Clinical Sample of Emerging Adults with SUD



# Questions

- 1) What is the frequency and intensity of SUD treatment-seeking emerging adults' general-interest social network site (SNS) participation?
- 2) How much of the time are they a) exposed to alcohol and other drug content on SNSs, and b) seeking out recovery and other health content?
- 3) Do they report a) increased craving when exposed to substance content, and b) increased motivation for change when seeking out recovery/health content?



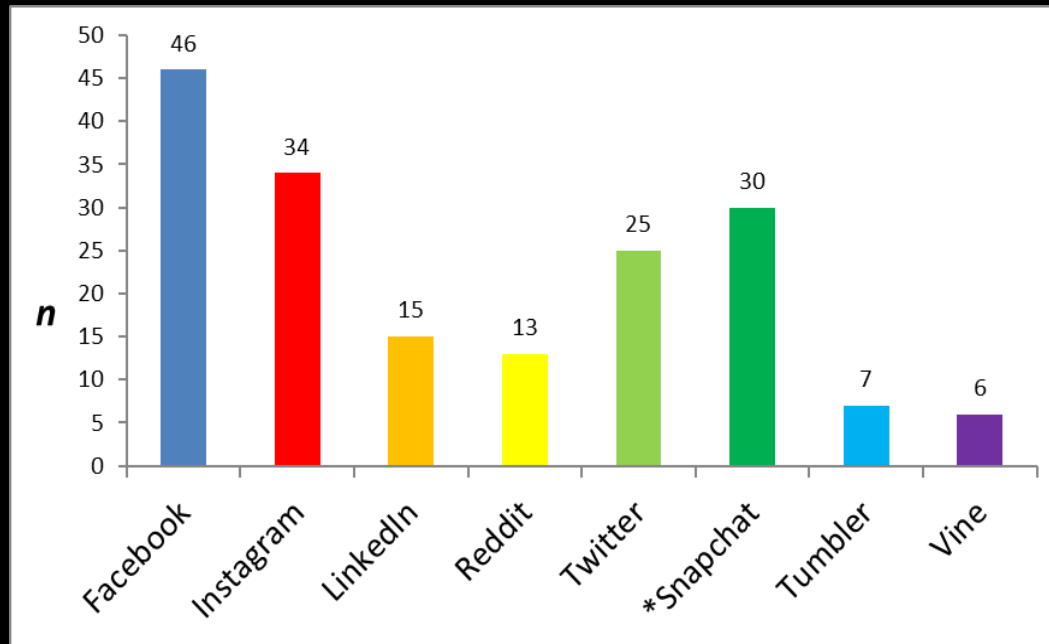
# Method

- Individuals presenting for SUD evaluation at outpatient program for adolescents and emerging adults (14-26 years)
- Survey in evaluation packet ( $N = 51$ ; 55% response) supplemented with clinical chart review
  - $M$  age = 22 years ( $SD = 2.3$ ); 65% male; 80% White; 66% with some college+
  - 33% opioid primary, 31% alcohol, 28% cannabis
  - $M$  dependence severity = 11/30; 90-day abstinence motivation = 4.9/10 alcohol, 6.9/10 other drugs
  - 18% with past 90 days injection drug use; 68% with co-occurring psych disorder based on chart review

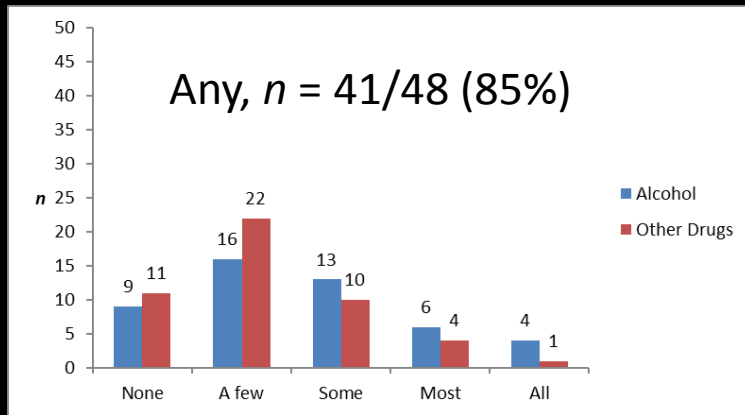




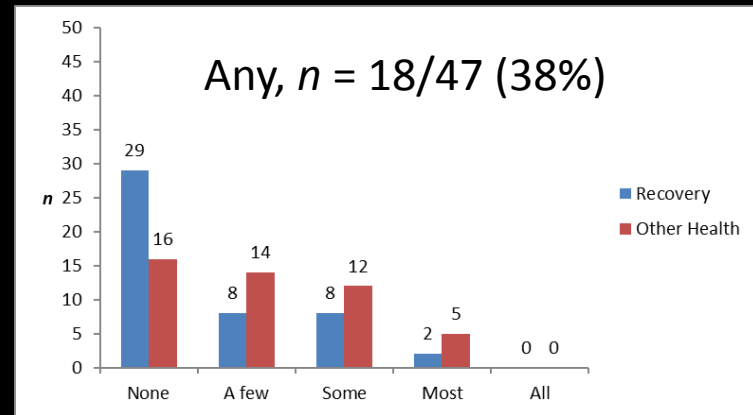
- $n = 49/51 = 96\%$  with any SNS participation in the past month
- Logging in daily/multiple times per day: 28 (57%) with a computer and 40 (82%) with a mobile device
- Active on SNSs 1+ hours per day: 28 (58%)



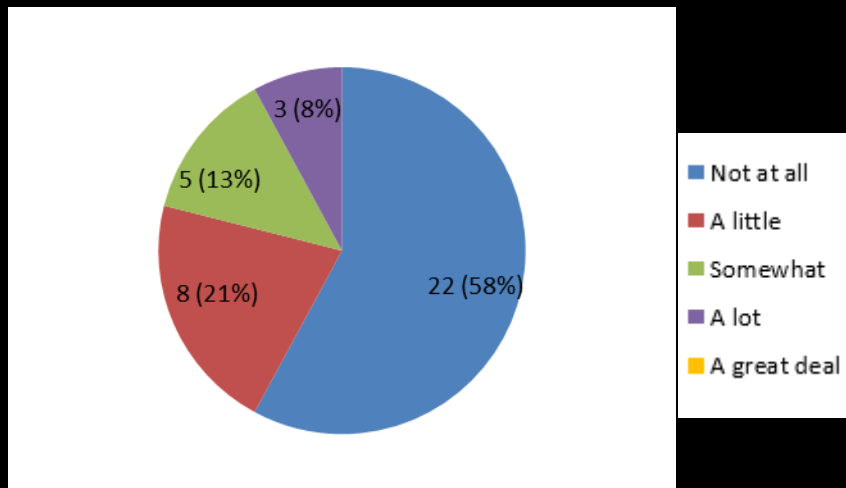
## Days (Ordinal) of Past-Month Passive Exposure



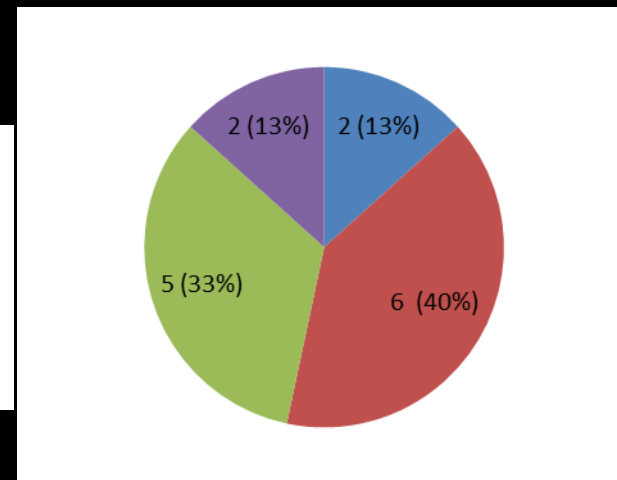
## Days (Ordinal) of Past-Month Active Seeking



## Increased Craving? (n = 38)



## Increased Motivation? (n = 15)



Median-split high motivation group sought recovery/health content more often in the past month ( $p = .07$ ;  $d = .55$ ); no other group differences ( $p > .05$ ,  $d < .5$ )

# Conclusions and Implications

- Small, single setting self-selected sample of emerging adults with SUD: SNSs popular, 85% exposed to substance content and 38% seek recovery/health content
  - 42% with increased craving; 87% with increased motivation
- Treatment seekers vs. SUD more broadly
- Longitudinal research needed with moderator and MOBC analyses
  - E.g., in Boyle, Labrie et al.'s (2016) sample of college students, T1 SNS exposure predicts T2 drinking over and above T1 drinking and descriptive norms – but more so for males – and with different, yet incomplete pathways through *max drinking descriptive norms, college alcohol beliefs, and enhancement drinking motives*



# Recap

- One in 10 who resolved a substance problem used online technology as part of the process (6.8% SNS)
  - More psychosocial challenges and other service utilization related to ROOT
- Participants on a recovery-specific social network site with <1 year abstinent (or not abstinent) regard participation as helpful as those with 1+ years
- Emerging adults with SUD who attended an outpatient evaluation – like gen pop young adults – are participating on general interest SNSs at high rates, and are likely to report passive exposure to substance-related content on these platforms



# (My) Future Research Directions

# Questions for Now

- Emerging adults with SUD: Does greater recovery SNS participation confer added benefit? In what ways and on which sites? How do we drive participation?
- Better for certain sub-groups of emerging adults (e.g., lower initial motivation)? Can it substitute for traditional services? Is it a conduit to face-to-face (i.e., “toe in water”)?
- How to measure social influences on SUD outcomes accounting for digital/online and face-to-face interactions? Do we capture greater variance in outcomes by including SNS-facilitated network support for drinking/drug use and recovery?



# Proposed Design

- Longitudinal study of 200 EAs with moderate/severe AUD admitted to outpatient addiction treatment within past two weeks: assessments at baseline (BL), 4 weeks (4wk), 12 weeks (12wk)
- Off/on design
  - Off = Treatment-as-usual (TAU; n = 80)
  - On = TAU + 1-session, therapist-led recovery SNS orientation (n = 120)
- Weekly mobile diaries and objective markers to assess recovery SNS activity, coded Facebook data to create objective indices of digital network influences (supplementing self-reported measures), survey measures for other theorized mechanisms, breathalyzer and tox screen data for substance use



(a)

+ Recovery SNS Exposure

(b)

+ Negative Alcohol Expectancies  
+ Positive Recovery Expectancies  
+ Recovery Coping Skills  
+ Recovery Self-Efficacy  
+ Network Support for Recovery  
(Overall: Digital & In-Vivo)

(c)

+ PDA  
+ LRD





# Questions for Later

- How to combine social network site platforms with existing, empirically-supported interventions for SUD
  - What is an optimal recovery-related SNS experience? How can it be personalized based on individual factors and needs?
- How to reach individuals with SUD outside treatment settings
- Privacy and other ethical issues? Are there “side effects” of linking individuals with SUD to online/smartphone technologies?
  - ROOT 4.2 times greater odds of “internet addiction” history



# Acknowledgements

- **Mentorship/Collaborators**

John Kelly, Bettina Hoepfner

- **Statistics**

M. Claire Greene (Study 1)

- **Research Coordinators/Staff**

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# The RRI “Squad”





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