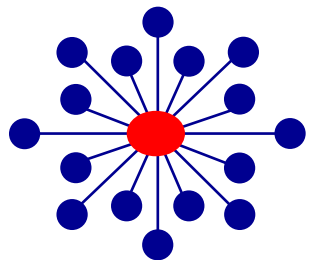


2014 ANNUAL CONVENTION

August 7-10 2014 ★ Washington, DC

Gender differences in acceptability and treatment outcomes of a web-based psychosocial intervention for substance use disorders



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Disclosures

- The presenter has no financial conflicts of interest to declare.
- Parts of this presentation were presented as a poster at the College on Problems of Drug Dependence (CPDD) annual meeting, June 2014.

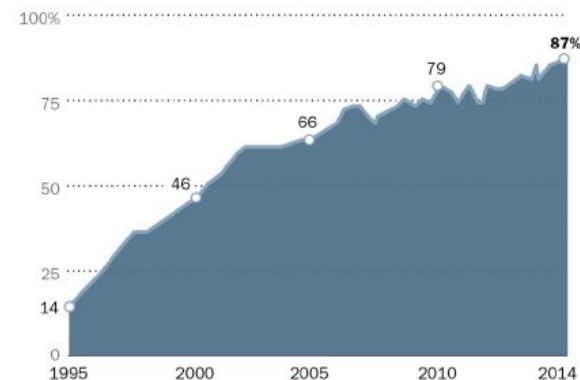
Promise of Technology for Behavioral Health

- Substance abuse issues are common
- Approximately 10% of those in need receive services
- Increase in service delivery demand
 - Mental Health Parity (2008)
 - Patient Protection and Affordable Care Act (2010)

Technology as a critical component to promote:
access
cost efficiencies
effectiveness of care

Internet use, 1995-2014

% of American adults who use the internet, over time



Source: Pew Research Center surveys, 1995-2014.

PEW RESEARCH CENTER

Technology to Address Traditional Barriers

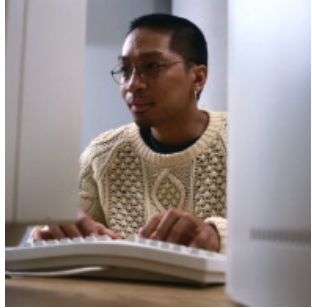
- Enables widespread **reach** of evidence-based practices
 - On demand access (e.g., geography, time, setting)
 - Extension of care/increase service capacity
- Improves **standardization** and quality
 - Consistent intervention delivery
 - Reduces cost, limits resource outlay
- Helps reduce **stigma** and barriers (disparities) in accessing recovery services
- Fosters **engagement** to enable individuals (and support networks) to lead in their own care management
- Enhances **collaboration, communication, coordination, and continuity** of care



Limited Research Examining Gender Differences

- Women more likely to utilize various online alcohol treatment tools and engage in electronic-based supplemental tools compared to men (VanDeMark et al., 2010; White et al., 2010)
- Mixed results for gender-specific tech interventions (Ondersma et al., 2007; 2012; Finfgeld-Connett & Madsen, 2008)
- Meta-analysis of brief computer interventions for alcohol showed gender moderated treatment outcome – less successful with larger proportions of women compared to controls (Carey et al., 2012)

WEB-TX Study Objective



To evaluate the **effectiveness** of including an interactive, web-based version of the Community Reinforcement Approach (CRA) plus incentives targeting drug abstinence and treatment participation as part of community-based, outpatient substance abuse treatment



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Therapeutic Education System

Achieving Cocaine Abstinence With a Behavioral Approach

Stephen T. Higgins, Ph.D., Alan J. Budney, Ph.D., Warren K. Bickel, Ph.D.,
John R. Hughes, M.D., Florian Foerg, B.A., and Gary Badger, M.S.

Objective: The authors compared the efficacy of a multicomponent behavioral treatment and drug abuse counseling for cocaine-dependent individuals. *Method:* The 38 patients were enrolled in outpatient treatment and were randomly assigned to the two treatments. Counseling in the behavioral treatment was based on the community reinforcement approach, whereas the drug abuse counseling was based on the disease model of dependence. *Results:* In the behavioral, but not the drug counseling, treatment approach, 58% completed 24 weeks of treatment, 11% completed 48 weeks of treatment, and 11% completed 72 weeks of treatment. In the behavioral treatment, 58% completed 24 weeks of treatment, 11% completed 48 weeks of treatment, and 11% completed 72 weeks of treatment.

Journal of
Substance
Abuse
Treatment



Journal of Substance Abuse Treatment 38 (Suppl 1) (2010) S61–S69

Motivational incentives research in the National Drug Abuse Treatment
Clinical Trials Network

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^bUniversity of Connecticut Health Center, Hartford, CT, USA
Received 2 September 2009; received in revised form 11 November 2009; accepted 22 December 2009

Abstract
Objective: To review both main findings and secondary analyses from studies of abstinence incentives conducted in the National Drug Abuse Treatment Clinical Trials Network (CTN). Previous research has supported the efficacy of tangible incentives provided to cocaine-dependent individuals. The current study was a randomized, controlled trial of this novel intervention. Study Design: The CTN conducted the first multisite effectiveness trial of treatment as usual with abstinence incentives. The CTN conducted the trial at 14 clinical sites and randomly assigned to treatment as usual with abstinence incentives. Results: The CTN conducted the trial at 14 clinical sites and randomly assigned to treatment as usual with abstinence incentives. Results: The CTN conducted the trial at 14 clinical sites and randomly assigned to treatment as usual with abstinence incentives.

Experimental and Clinical Psychopharmacology
2008, Vol. 16, No. 2, 132–143

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1064-1297/08/\$12.00 DOI: 10.1037/1064-1297.16.2.132

Computerized Behavior Therapy for Opioid-Dependent Outpatients: A Randomized Controlled Trial

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University of Arkansas for Medical Sciences

Lisa A. Marsch
National Development and Research Institutes, and St.
Luke's-Roosevelt Hospital Center

August R. Buchhalter
Pinney Associates

Gary J. Badger
University of Vermont

The authors evaluated the efficacy of an interactive, computer-based behavioral therapy intervention, grounded in the community reinforcement approach (CRA) plus voucher-based contingency management model of behavior therapy. Our randomized, controlled trial was conducted at a university-based research clinic. Participants comprised 135 volunteer adult outpatients who met *DSM-IV* criteria for opioid dependence. All participants received

■ Community Reinforcement Approach

Budney & Higgins, 1998; Hunt & Azrin, 1973; Smith, Meyers, & Miller, 2001

■ Contingency Management

Kellogg et al., 2005; Petry & Bohn, 2003; Stitzer et al., 2010

■ TES comparable to clinician-delivered CRA and enhances outcomes

Bickel et al., 2008; Chaple et al., 2013; Christensen et al., under review; Marsch et al., 2014



Lead Study Team

Ned Nunes, MD	Lead Investigator
Aimee Campbell, PhD	Co-investigator Project Director
Dan Polsky, PhD	Lead Economic Investigator
Gloria Miele, PhD	Training Director
Eva Turrigiano, MS	Project Coordinator
Jennifer Lima, MPH	Node Coordinator
Lisa Marsch, PhD	Scientific Consultant
Maxine Stitzer, PhD	Scientific Consultant
Abigail Matthews, PhD	Lead Statistician (EMMES)
Udi Ghitza, PhD	Clinical Protocol Coordinator (CCTN)
Carol Cushing, RN	Project Officer: DSC2 (CCTN)
Steve Sparenborg, PhD	DSMB Liaison (CCTN)

Participating Community Treatment Programs

CTN Node	Treatment Program Name (Location)
Greater NY	Project Outreach (W. Hempstead)
Florida	The Center for Drug Free Living (Orlando)
Mid-Atlantic	HARBEL Prevention & Recovery (Baltimore)
New England	MCCA (Danbury)
New England	Stanley St Treatment & Resources (Fall River)
Ohio Valley	Midtown Community (Indianapolis)
Western States	Willamette Family (Eugene)
Pacific	Hina Mauka (Oahu)
Pacific NW	Evergreen Manor (Everett)
Texas	Homeward Bound (Dallas)



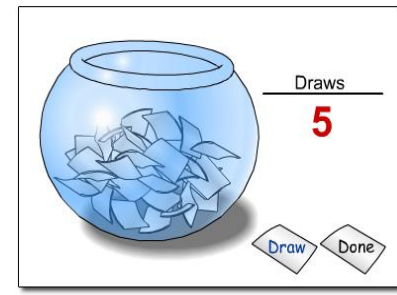
Design

Kate did a great job saying the right things, but her body language was not convincing at all, and drug abusers are generally very good at reading between the lines. Body language is important.

• Make continuous eye contact; look directly at the person when you answer.

• Your expression and tone should clearly show that you are serious. For example, smiling when you respond may suggest that you are not serious.

Watch the scene again and notice Kate's body language.



- 2-arm randomized, controlled, multi-site trial (N=500)
 - (1) Treatment as Usual (TAU)
 - (2) Modified TAU + Therapeutic Education System (TES)
- Approx 2 hours/week of TES *substituted* for comparable amount of face-to-face counseling over 12 weeks
 - 62 modules with audio; self-directed; interactive; fluency-based, precision learning
 - Intermittent schedule, prize-based incentives for module completion and drug/alcohol abstinence
- Included brief clinician check in with TES participants to coincide with standard individual sessions



Inclusion Criteria

- ≥ 18 years
- **Self report substance use problem (alcohol or drugs)**
- **Illicit drug use within the past 30 days**
- **Enrolled at the program and for < 30 days**
- Self-report planned treatment episode ≥ 90 days

Exclusion Criteria

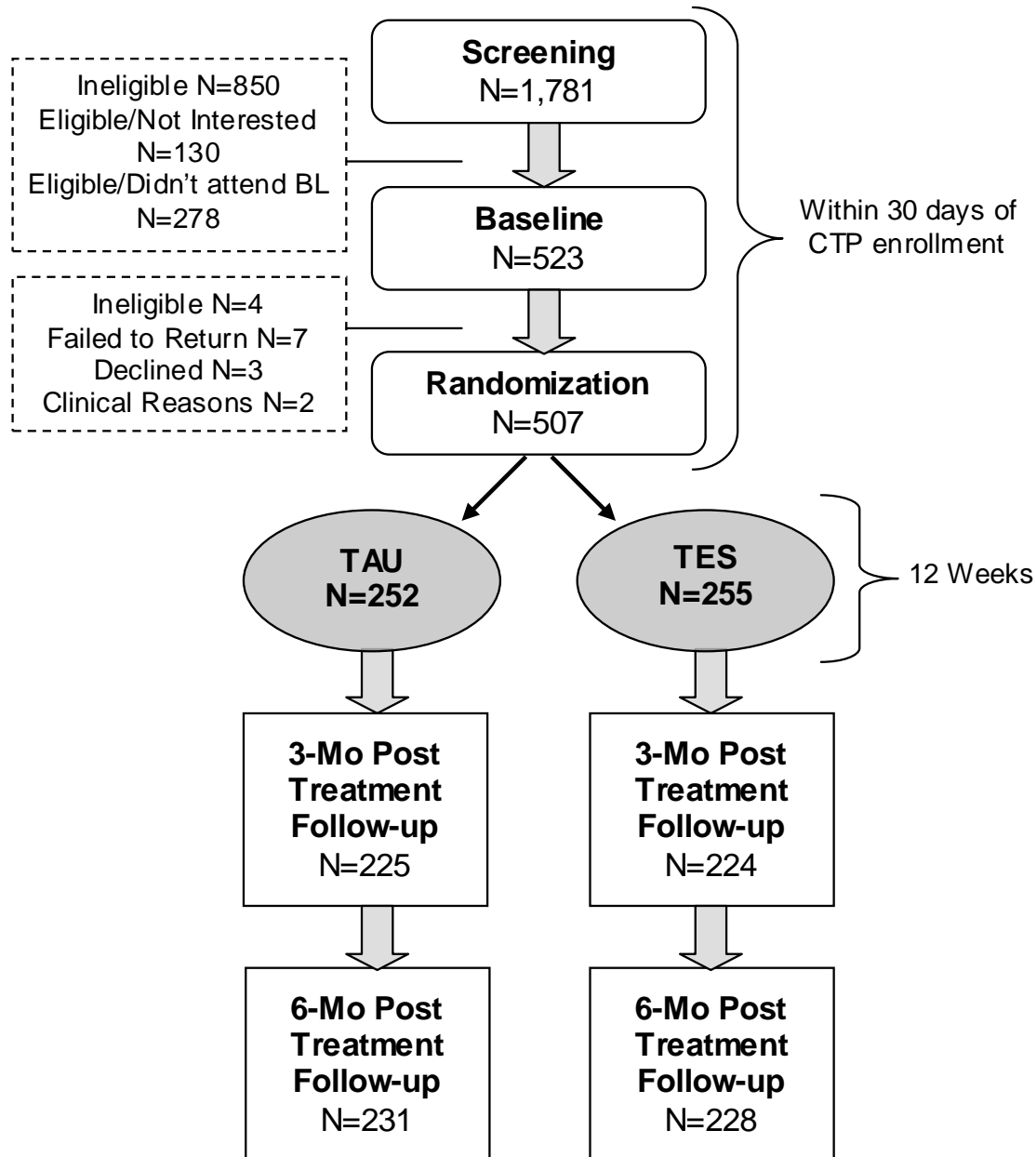
- **Prescribed opioid replacement pharmacotherapy**
- Plan to move out of the area in the next 90 days
- Insufficient ability to provide informed consent
- Insufficient ability to use English to participate in the consent process, intervention and research assessments

Measures



Abstinence	Illicit drugs (urine screen) and heavy drinking days (NIAAA guidelines; self-report TLFB), last 4 weeks of treatment
Treatment Retention	Time to drop out from treatment program
Social Adjustment Scale (Weissman, 1999)	6 role domains (e.g., work, social, family); lower scores equal higher adjustment
Craving	Days in past week with urge, desire or craving for drugs/alcohol (0, 1-3, 4-7)
Acceptability	Utility and satisfaction with TES, 5 indicators (0-10): useful, new information, understandable, interesting, satisfaction

Participant Flow



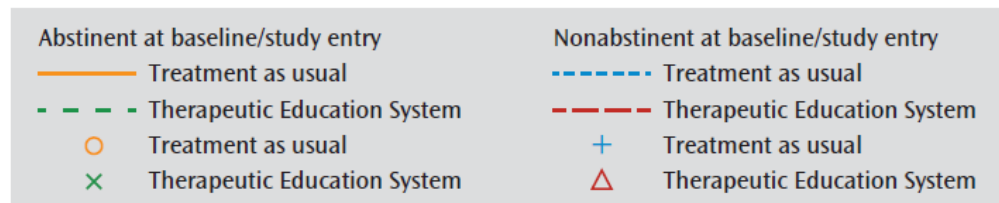
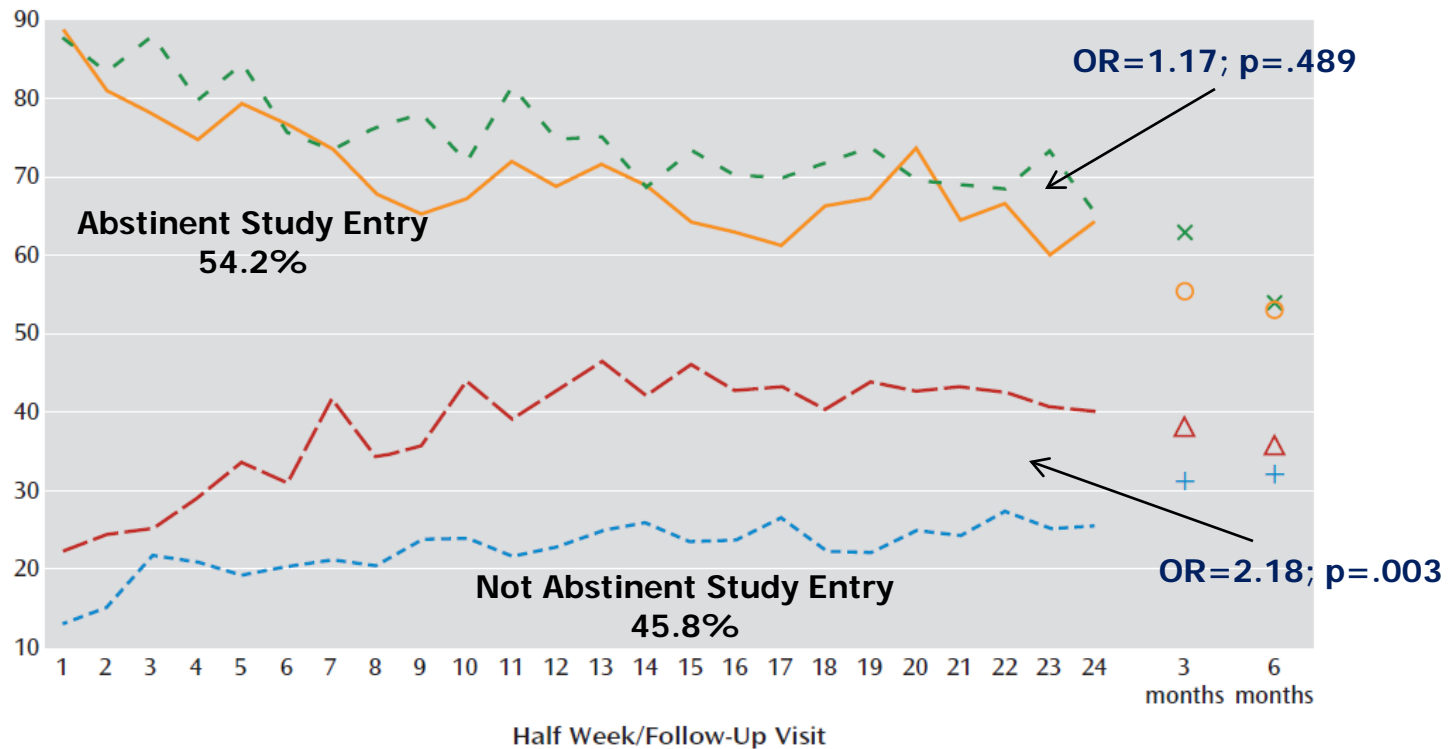


Sample Characteristics

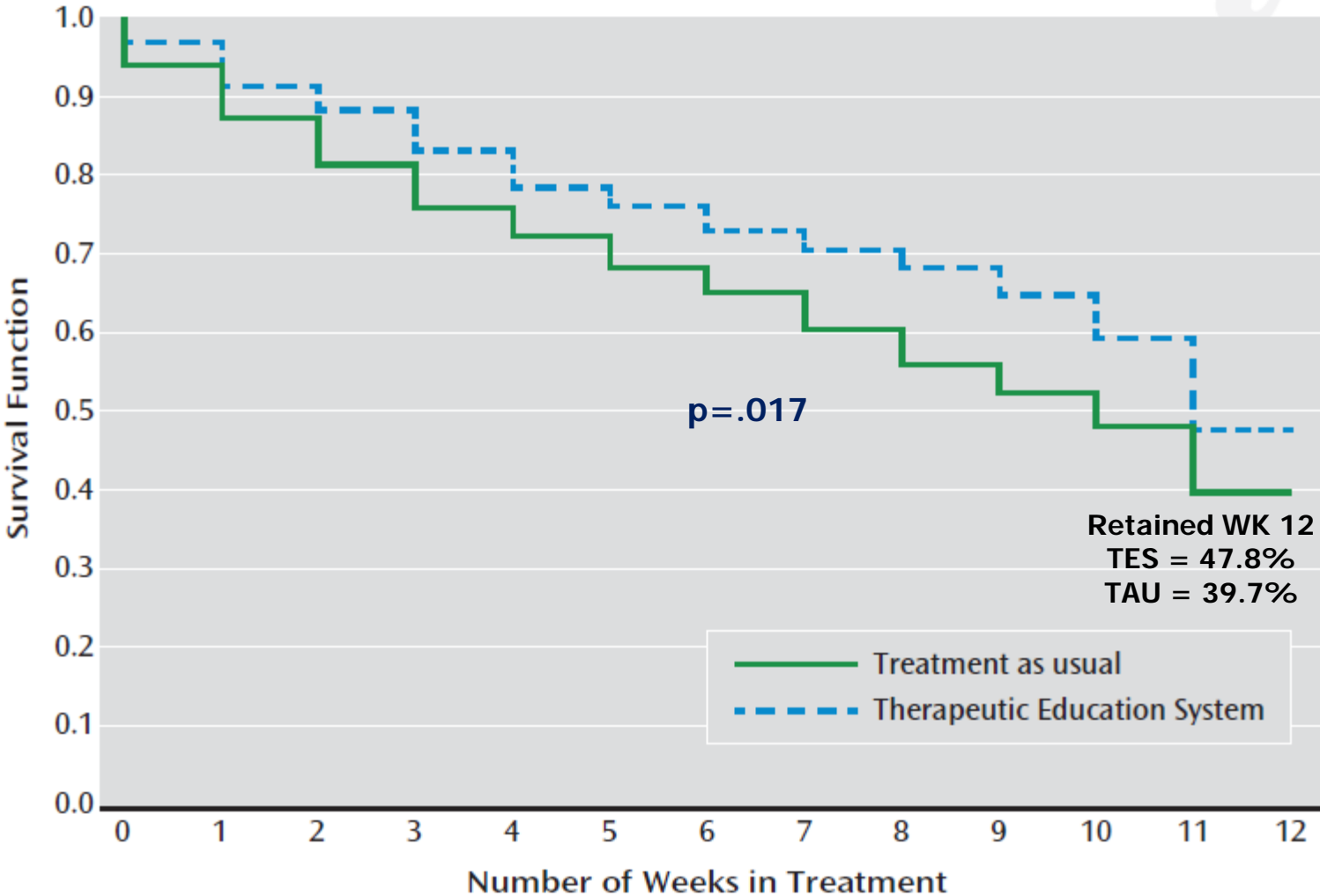
- Age
Mean=34.9 (SD=10.9)
- Sex
37.9% Female
- Race
56.0% White
22.9% Black/African American
20.8% Multi-racial/Other
- Ethnicity
10.8% Hispanic/Latino
- Education
23.3% < HS
61.1% = HS
15.6% > HS
- Primary Substance
22.5% marijuana
21.3% opioids
20.5% alcohol
20.1% cocaine
13.6% stimulants
2.0% other
- Unemployed ($p < .01$)
70.8% women
51.6% men

Primary Outcomes

Observed Proportion Abstinent by TX Half-week and at Follow-up, by Abstinenence at Study Entry and TX Arm



Kaplan-Meier Plots of Primary Retention Outcome by TX Arm



Campbell ANC, Nunes EV, et al. (2014). *American Journal of Psychiatry*.

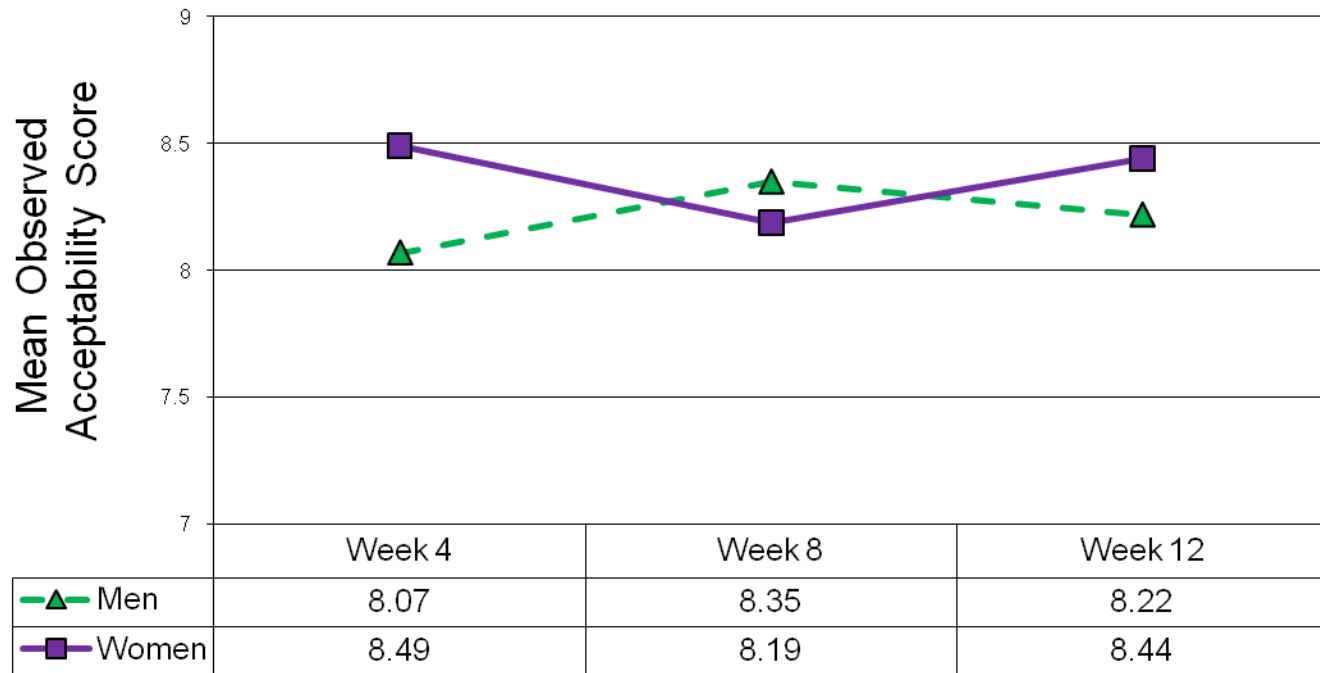
Gender & Acceptability


Generalized Linear Mixed Effect Final Models (gender, treatment, abstinence study entry, age)

Model A: Abstinence (final 4 weeks; n=468)	t-value
Treatment (TAU) x Abstinence Study Entry	-1.81 [†]
Model B: Proportion Retained (week 12; n=506)	
Treatment (TAU)	-1.71 [†]
Gender (men)	1.77 [†]
Abstinent Study Entry	2.62 ^{**}
Model C: Social Adjustment Total Score (n=447)	
Gender (men)	-2.87 ^{**}
Age	1.88 [†]
Baseline Social Adjustment	11.38 ^{**}
Model D: Craving (n=447)	
Treatment (TAU)	2.68 ^{**}
Baseline Craving	7.14 ^{**}
Treatment (TAU) x Abstinence Study Entry	-2.65 ^{**}

[†] p<.10, * p<.05, ** p<.01; only significant results displayed

Mean Observed Acceptability Scores by Gender at Weeks 4, 8, and 12 (0-10 point scale)





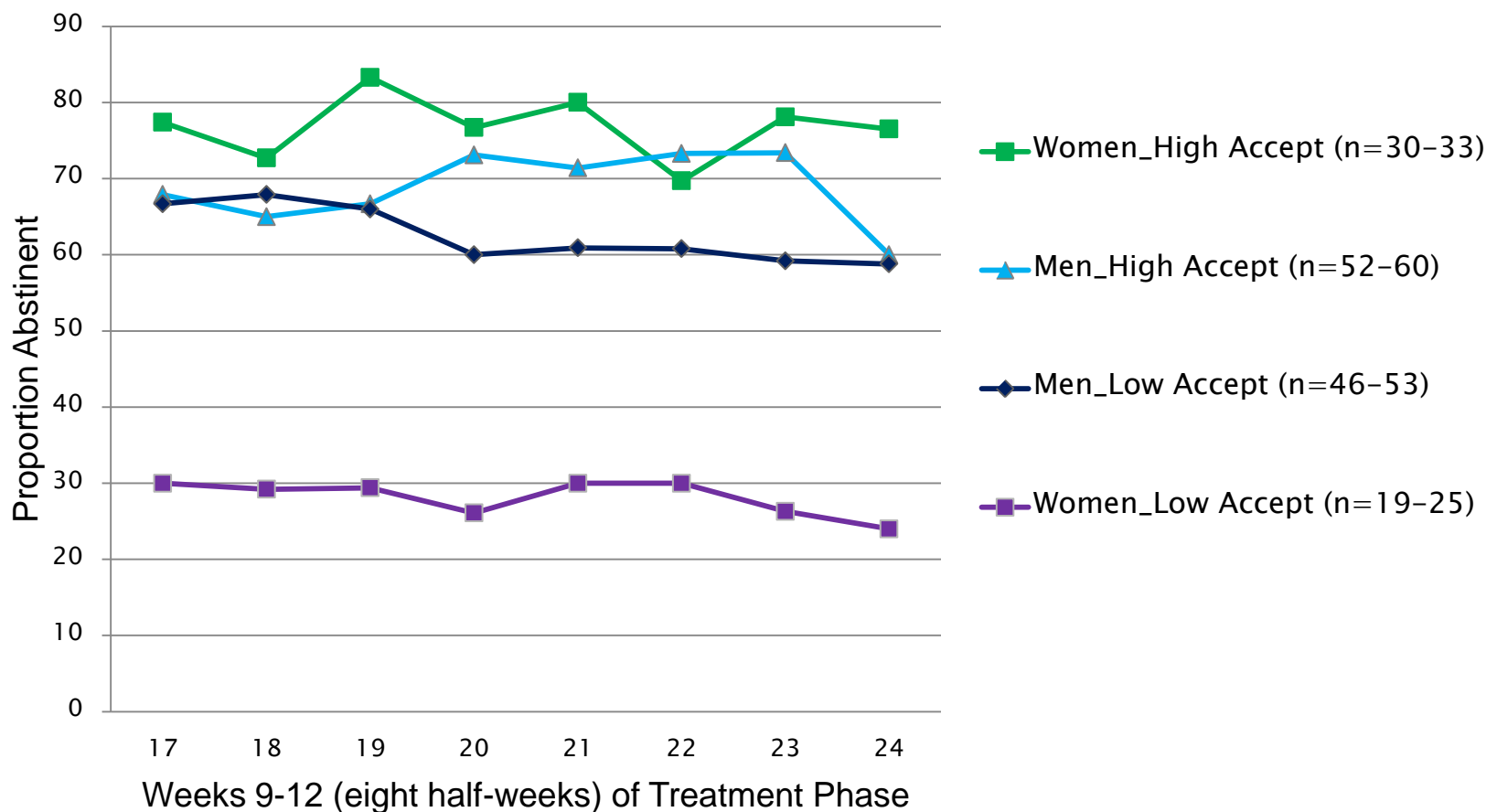
Generalized Linear Mixed Effect Final Models Among TES Participants

(gender, acceptability, abstinence study entry, age)

Model A: Abstinence (final 4 weeks; n=191)	t-value
Gender (men)	3.02**
Abstinent Study Entry	2.61**
Acceptability	3.77**
Gender (men) x Acceptability	-2.90**
Model B: Proportion Retained (week 12; n=193)	
Acceptability	1.69†

† p<.10, * p<.05, ** p<.01; only significant results displayed

Observed Proportion Abstinent by Gender and Median Level TES Acceptability (≥ 8.4 =high)



Implications

- Gender did not significantly moderate treatment outcomes
 - TES designed to be gender balanced, and as such its effectiveness is generally equivalent in this large, diverse sample
- Among women, those screening positive for drugs/alcohol at study entry had lower TES acceptability at the end of treatment
 - Prior research suggests women with substance use disorders may experience unique vulnerabilities that influence treatment trajectories; may increase need or desirability for interpersonal treatment modalities
 - This may be more pronounced in women who are actively abusing drugs and alcohol

Limitations

- Although a pre-specified secondary analysis, the current study was not powered to detect treatment by gender interactions
- Questions assessing acceptability did not differentiate between intervention content and computer delivery
- Participants self-identified as male or female, but information on gender identity was not collected
- TES was tested as a package intervention (CRA + CM); study was not designed to evaluate the two components separately

SAMHSA/NIDA Technology Blending Product



Technology-Assisted Care
for Substance Use Disorders

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