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Starring

- Change Talk
- Attentional Bias
- Self-Efficacy
- Social Network
- Craving
Group Motivational Interviewing for Adolescents: Change Talk and Alcohol and Marijuana Outcomes

Elizabeth J. D’Amico
RAND Corporation, Santa Monica, California

Jon M. Houck
University of New Mexico

Sarah B. Hunter, Jeremy N. V. Miles, Karen Chan Osilla, and Brett A. Ewing
RAND Corporation, Santa Monica, California
Study Sample

• Youth aged 14 – 18 years (n=110)
• Recruited through Teen Court for a first-time Alcohol/Drug offense
• 34.5% female
• 52% White, 39% Hispanic, 9% Mixed/Other

Study Interventions

• ‘Free Talk’

- Group format
- Based on Motivational Interviewing
- 6 weekly 1-hr sessions (required to be completed in a 90-day window)
- Average group had 5 participants.

Study Design

• Current study examined Free-Talk groups only.
• Participants assessed at baseline and 6-months later.
• Independent variable was group facilitator’s reflections of change talk and sustain talk.
• Primary outcomes
  - Intentions to use, motivation to change, positive expectancies, frequency of use, consequences
• Mediator variables
  - Group-level change talk and sustain talk

### Regression Analyses Examining the Association Between Change and Sustain Talk and Alcohol and Other Drug Outcomes

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean positive change talk</th>
<th>Mean sustain talk</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Estimate</td>
<td>SE</td>
</tr>
<tr>
<td><strong>Substance use</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alcohol use past 30 days</td>
<td>−.04</td>
<td>.02</td>
</tr>
<tr>
<td>Heavy drinking past 30 days</td>
<td>−.03</td>
<td>.01</td>
</tr>
<tr>
<td>Marijuana use past 30 days</td>
<td>−.03</td>
<td>.02</td>
</tr>
<tr>
<td><strong>Consequences</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alcohol consequences</td>
<td>.00</td>
<td>.00</td>
</tr>
<tr>
<td>Marijuana consequences</td>
<td>.00</td>
<td>.00</td>
</tr>
<tr>
<td><strong>Beliefs and motivation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intentions to use alcohol</td>
<td>−.02</td>
<td>.01</td>
</tr>
<tr>
<td>Intentions to use marijuana</td>
<td>−.02</td>
<td>.01</td>
</tr>
<tr>
<td>Alcohol benefit expectancies</td>
<td>−.03</td>
<td>.01</td>
</tr>
<tr>
<td>Marijuana benefit expectancies</td>
<td>−.01</td>
<td>.01</td>
</tr>
<tr>
<td>Motivation to change</td>
<td>−.01</td>
<td>.04</td>
</tr>
</tbody>
</table>

Summary of Findings

• Reflection of change and sustain talk by group facilitators influenced participants’ language in group therapy.

• Change talk predicted future reductions in alcohol use and intentions to use.

• Sustain talk predicted increased intentions to use substances and to have more positive use expectancies.

• The findings add to the body of evidence about the role of patients’ language in affecting change.

Mediation of Cognitive Bias Modification for Alcohol Addiction via Stimulus-Specific Alcohol Avoidance Association

Thomas E. Gladwin, Mike Rinck, Carolin Eberl, Eni S. Becker, Johannes Lindenmeyer, and Reinout W. Wiers
Study Sample

- Alcohol Dependent individuals (n=214)
- Receiving inpatient treatment in Germany
- Average (SD) age = 45.3 (8.0) years
- 24% female
- Average duration of alcohol problems was 12.5 years

Study Interventions

• Cognitive Bias Modification (CBM) Training
  - 15 min sessions over 4 days with the alcohol-Approach Avoidance Task
  - Task involves ‘pushing away’ images showing alcohol.

• Sham Training or No Training
  - ‘Push’ or ‘pull’ equally often in task, or no training.

• Treatment as usual
  - All participants received individual and group CBT.
  - Average duration of treatment was 3 months.

Study Design

• Random assignment to CBM training or control condition.
• 1 week post CBM did Alcohol Implicit Association Test (IAT).
• Assessed 1 year after discharge, 86% follow-up rate.
• Primary outcome was Relapse (dichotomous) defined as:
  • No relapse, or
  • Single lapse < 3 days without negative consequences
• Mediator variable
  - Alcohol-approach association as measured by IAT.

Test of ‘a’ path
CBM vs. Control → Alcohol approach association

Table 2. ANOVA Results of Post training Biases on Accuracy

<table>
<thead>
<tr>
<th>Cognitive bias modification</th>
<th>Control</th>
<th>$F$</th>
<th>$p$</th>
<th>$\eta^2_p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol</td>
<td>-0.015 (0.12)</td>
<td>0.037 (0.12)</td>
<td>8.10</td>
<td>0.005</td>
</tr>
<tr>
<td>Soft drink</td>
<td>-0.049 (0.13)</td>
<td>0.057 (0.12)</td>
<td>33.010</td>
<td>0.000</td>
</tr>
<tr>
<td>Approach</td>
<td>-0.058 (0.23)</td>
<td>0.040 (0.22)</td>
<td>10.24</td>
<td>0.002</td>
</tr>
<tr>
<td>Avoid</td>
<td>-0.023 (0.20)</td>
<td>0.035 (0.18)</td>
<td>4.60</td>
<td>0.033</td>
</tr>
</tbody>
</table>

Test of ‘b’ path
Alcohol approach association → Success

<table>
<thead>
<tr>
<th>Table 4. Results of Binomial Logistic Regression Analyses Predicting Treatment Outcome Using Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
</tr>
<tr>
<td>-----</td>
</tr>
<tr>
<td>Training</td>
</tr>
<tr>
<td>Gender</td>
</tr>
<tr>
<td>Age</td>
</tr>
<tr>
<td>NDetox</td>
</tr>
<tr>
<td>DurProbl</td>
</tr>
<tr>
<td>AUDIT</td>
</tr>
<tr>
<td>DurTreat</td>
</tr>
<tr>
<td>BDI</td>
</tr>
<tr>
<td>SCL</td>
</tr>
<tr>
<td>Alcohol</td>
</tr>
<tr>
<td>Soft drink</td>
</tr>
<tr>
<td>Approach</td>
</tr>
<tr>
<td>Avoid</td>
</tr>
<tr>
<td>Constant</td>
</tr>
</tbody>
</table>

Summary of Findings

• Study suggests that the reduction in approach bias for alcohol mediates the beneficial effect of adjunctive Cognitive Bias Modification training.

• CBM appears to act through shifting bias toward alcohol avoidance.

• The apparent lack of a ‘b’ path for successful participants in the non-CBM condition underscores there are numerous pathways to change.

Network Support treatment for alcohol dependence: Gender differences in treatment mechanisms and outcomes

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\textsuperscript{c} Department of Community Medicine and Health Care, MC6325, University of Connecticut Health Center, Farmington, CT 06030, USA
Study Sample

- Alcohol dependent men (n=122) and women (n=88)
- Recruited from the community via newspaper and radio ads
- Average (SD) age of 45 (11.4) years
- 86% White, 8% Black, 4% Hispanic, 2% Other
- Average (SD) years education of 13.7 (2.1)
- 71% employed at least part-time
- 51% living with spouse or partner

Study Interventions

• **Network Support Treatment** (12 weekly sessions)
  - Focus on building sober social network and reducing the drinking network.

• **Network Support Treatment + Contingency Management**
  - Prize drawing each week if did assigned recovery task.

• **Case Management** (12 weekly sessions)
  - Identify barriers to abstinence and set goals

Study Design

• Random assignment to study condition.
• Followed over 2 years after treatment at 3-month intervals.
• Primary outcomes
  • Percent days abstinent, proportion heavy drinking days, continuous abstinence since last assessment, negative consequences
• Mediator variables (difference score post-Tx – pre-Tx)
  • Emotional distress, social network characteristics, AA attendance, self-efficacy, coping, readiness


**Fig. 2.** Proportion days abstinent (PDA) by gender and treatment assignment.
<table>
<thead>
<tr>
<th>Mediator domain and variable</th>
<th>A-Path</th>
<th>B-Path</th>
<th>Indirect effect (C’)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SE</td>
<td>B</td>
</tr>
<tr>
<td>Emotional distress/pathology variables</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beck depression score</td>
<td>1.7913*</td>
<td>0.792</td>
<td>-0.0053*</td>
</tr>
<tr>
<td>State anxiety score</td>
<td>2.9452*</td>
<td>1.191</td>
<td>-0.0034</td>
</tr>
<tr>
<td>Trait anger score</td>
<td>1.5178*</td>
<td>0.520</td>
<td>-0.0149</td>
</tr>
<tr>
<td>Social network variables</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abstinent friends in network</td>
<td>-0.1207*</td>
<td>0.014</td>
<td>0.0453*</td>
</tr>
<tr>
<td>Attitudinal support — abstinence</td>
<td>-0.2029***</td>
<td>0.061</td>
<td>0.0567</td>
</tr>
<tr>
<td>Attitudinal support — drinking</td>
<td>0.1344*</td>
<td>0.624</td>
<td>-0.0442</td>
</tr>
<tr>
<td>Behavioral support — abstinence</td>
<td>-0.0457</td>
<td>0.029</td>
<td>0.0981</td>
</tr>
<tr>
<td>Behavioral support — drinking</td>
<td>0.0582</td>
<td>0.165</td>
<td>-0.0233*</td>
</tr>
<tr>
<td>Social support for drinking</td>
<td>0.1734</td>
<td>0.091</td>
<td>-0.0495*</td>
</tr>
<tr>
<td>AA involvement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AA meetings</td>
<td>-3.8966*</td>
<td>1.778</td>
<td>0.0026*</td>
</tr>
<tr>
<td>Cognitive/behavioral change processes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-efficacy</td>
<td>-2.5328*</td>
<td>0.365</td>
<td>0.0017*</td>
</tr>
<tr>
<td>Coping total score</td>
<td>-0.1496**</td>
<td>0.488</td>
<td>0.0364</td>
</tr>
<tr>
<td>Readiness score</td>
<td>0.7597</td>
<td>0.446</td>
<td>0.0051</td>
</tr>
</tbody>
</table>

Summary of Findings

• Network Support treatment was successful in reducing alcohol use for men, but less so for women.

• 2 mediators partially accounted for the differential response by men and women to Network Support treatment:
  - Change in abstinent friends in the social network
  - Change in self-efficacy to abstain

• Further development of strategies to promote social network change for women is needed.

BRIEF REPORT

Mechanisms of Symptom Reduction in a Combined Treatment for Comorbid Posttraumatic Stress Disorder and Alcohol Dependence

Carmen P. McLean
University of Pennsylvania

Yi-Jen Su
Chang Gung University and University of Pennsylvania

Edna B. Foa
University of Pennsylvania
Study Sample

• Treatment seeking individuals with Alcohol Dependence & PTSD (n=159)
• Average age ($SD$) = 42.9 (9.8) years old
• 34.6% Female
• 63.5% Black, 30.2% White, 6.3% Other

Study Interventions

• **Naltrexone** (100 mg/day for 24 weeks)
  - opiate antagonist FDA-approved for Alcohol Dependence

• **Prolonged Exposure** (18, 90-minute sessions over 24 weeks)
  - Imaginal and in-vivo exposure to trauma-related stimuli.
  - Processing thoughts and feelings around exposure.

• **Supportive Counseling** (18 sessions over 24 weeks)
  - Medication management / BRENDA

Study Design

• 2 x 2 factorial design

• Randomization to (a) Naltrexone vs. Placebo and (b) Prolonged Exposure vs. No Exposure

• All participants received supportive counseling.

• Assessments conducted at baseline, every 4 weeks during treatment.

• Primary alcohol outcome: % days drinking during Tx

• Mediator variables: alcohol craving, PTSD symptoms

Model 2: Craving change mediating reduction in alcohol use

Model 3b: PTSD improvements mediating reduction in alcohol use


Table 2

**Lagged Multilevel Moderated Mediation Analysis**

<table>
<thead>
<tr>
<th>Treatment</th>
<th>c</th>
<th>a</th>
<th>b</th>
<th>c'</th>
<th>ab</th>
<th>Percent mediation (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Change in Y</td>
<td>Change in M</td>
<td>M→Y controlling for time</td>
<td>Change in Y controlling for M</td>
<td>Indirect effect [95% CI]</td>
<td></td>
</tr>
<tr>
<td>PE + NAL</td>
<td>-2.30*</td>
<td>-2.06***a</td>
<td>0.81**</td>
<td>-0.65</td>
<td>-1.65 [-0.48, -2.92]</td>
<td>71.7</td>
</tr>
<tr>
<td>PE + PBO</td>
<td>-1.40</td>
<td>-1.60***</td>
<td>0.75**</td>
<td>-0.20</td>
<td>-1.21 [-0.38, -2.14]</td>
<td>86.1</td>
</tr>
<tr>
<td>SC + NAL</td>
<td>0.96</td>
<td>-1.39***b</td>
<td>0.17</td>
<td>1.21a</td>
<td>-0.23 [0.49, -0.97]</td>
<td>—a</td>
</tr>
<tr>
<td>SC + PBO</td>
<td>-2.83***</td>
<td>-1.48***b</td>
<td>0.71**</td>
<td>-1.80**b</td>
<td>-1.01 [-0.25, -1.87]</td>
<td>35.8</td>
</tr>
</tbody>
</table>

Model 2: time→craving (M)→drinking (Y)

<table>
<thead>
<tr>
<th>Treatment</th>
<th>c</th>
<th>a</th>
<th>b</th>
<th>c'</th>
<th>ab</th>
<th>Percent mediation (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Change in Y</td>
<td>Change in M</td>
<td>M→Y controlling for time</td>
<td>Change in Y controlling for M</td>
<td>Indirect effect [95% CI]</td>
<td></td>
</tr>
<tr>
<td>PE + NAL</td>
<td>-2.67*</td>
<td>-3.33***a</td>
<td>0.39*</td>
<td>-1.38</td>
<td>-1.29 [-0.08, -2.56]</td>
<td>48.2</td>
</tr>
<tr>
<td>PE + PBO</td>
<td>-1.57</td>
<td>-2.68***a</td>
<td>0.11</td>
<td>-1.28</td>
<td>-0.29 [0.72, -1.32]</td>
<td>18.5</td>
</tr>
<tr>
<td>SC + NAL</td>
<td>0.31</td>
<td>-1.95***b</td>
<td>0.17</td>
<td>0.60a</td>
<td>-0.33 [0.44, -1.15]</td>
<td>—a</td>
</tr>
<tr>
<td>SC + PBO</td>
<td>-2.53**</td>
<td>-1.80***b</td>
<td>0.25</td>
<td>-2.08**b</td>
<td>-0.46 [0.25, -1.21]</td>
<td>17.7</td>
</tr>
</tbody>
</table>
Summary of Findings

• Craving mediated reduction in frequency of alcohol use in 3 out of 4 conditions, but not for Naltrexone-only group).

• Moderated mediation analyses indicated the combined Naltrexone + Exposure condition had largest effect on reducing craving.

• PTSD improvement mediated reduction in alcohol use only for the Naltrexone + Exposure condition. This group had largest ‘a’ path and no other condition had a significant ‘b’ path.


