Alcohol Expectancy Challenges: A Comprehensive Review

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Alcohol Outcome Expectancies

Definition: the cognitive, affective, and behavioral outcomes an individual expects to occur due to drinking.¹

Expectancies vary from individual to individual.²

Expectancies are contextual (i.e. the same individual’s will vary based on the situation).²

1. Leigh, 1989
2. Connors, Maisto, & Derman, 1992
Positive Alcohol Outcome Expectancies

- Enhanced Socialization
- Sexual Enhancement
- Relaxation
- Assertion
The Role of Expectancies in Drinking

- Adult participants who expect positive outcomes…
  - drink more frequently.\(^1\)
  - consume more alcohol.\(^2\)
  - show more signs of problem drinking.\(^3\)

- Teens who expect positive outcomes (even before they drink) are more likely…
  - to start drinking earlier.\(^4\)
  - to consume more alcohol.\(^4\)

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1. Fromme et al., 1993
2. Christiansen et al., 1989
3. Werner, Walker, & Green, 1993
4. Carey, 1995
Alcohol Expectancy Challenge (AEC)

- Alcohol Expectancy Challenges (AECs) are treatments aimed at reducing positive expectancies.

- These treatments typically use “bar-labs” in which participants:
  1. drink an alcoholic beverage or placebo
  2. interact with each other
  3. guess who consumed alcohol

- Outcome → Participants will learn that they can’t correctly guess who really drank based on behavior.
AEC Trials

- Theoretically, participants who have undergone an AEC should...
  - Have fewer positive outcome expectancies
  - Drink less

- However, the outcomes of RCTs have been mixed.
Purpose of this Review

- Examine the effects of AECs on
  - outcome expectancies
  - alcohol consumption

- Examine the relative strengths and weaknesses of the literature

- Develop a research agenda for the area of AEC
Selection of Studies to Review

- Studies had to include a RCT using an AEC.
- Studies had to measure changes in outcome expectancies.
- Studies had to measure changes in alcohol consumption.
Methods Used to Review the Studies

- Twelve studies that met inclusion criteria were identified.

- We coded...
  - characteristics of the participants (gender, age, ethnicity, typical drinking patterns).
  - sample size of the studies.
  - types of control groups.
  - assessment instruments.
  - self-identification and misclassification errors made by participants.
Participant Characteristics of the Studies Reviewed

- Studies were limited to...
  - mostly Caucasian samples.
  - young college students.

- Four studies had only male participants, 2 studies had only female participants, and 6 studies used both genders.

- Studies reported minimal information about the drinking patterns of the participants.
Methodological Characteristics of the Studies Reviewed

- Overall, the studies’ sample sizes had a mean of 123 participants (range 25 - 335).

- Control groups included assessment only, alternative treatment groups, attention/monitoring conditions, etc.

- A variety of measures were used within the same study to assess change in expectancies (Mean = 5.07, SD = 2.20).

- Most studies (93%) assessed alcohol consumption by measuring the consumption of Standard Drinks (SD).
AECs Procedures Used by the Studies

- Studies have used varying procedures for expectancy challenges.

- Researchers have provided little information regarding the identification errors made by participants.
  - Only 40% reported info on self-identification errors.
  - Only 50% provided info on misclassification errors.
Calculation of Expectancy Outcomes

- We counted the **number of measures finding significant differences** between the Txmt Group & Controls.

- We then divided by the **total number of measures** used to evaluate each group comparison.

- $\% \text{ significant} = \frac{\# \text{ sig measures}}{\text{total \# measures}}.$
Results of Treatment vs. Control Comparisons

% of Significantly Different Expectancy Measures
Average Differences in Expectancies

- Overall, only 30% of the time were expectancies significantly different across groups.
Mediation

- Only two studies explored the mediating role of expectancies on consumption of alcohol.

- Only one study found that expectancies mediated the effects of alcohol consumption.
Most studies (79%) used only one measure for alcohol (i.e. number of SDs).

Only 21% of studies measured heavy episodic drinking.

We reported significant group vs. control differences on any measure of alcohol consumption.

Only 36% of the time were there significant differences in alcohol consumption on any measure.
Conclusions

- Although the NIAAA (2002) has identified the AEC as a proven method to reduce alcohol use among college students (i.e. Tier 1 intervention), this review sounds a cautionary note regarding the helpfulness of AECs.

- **Only 30%** of the time were expectancies significantly different across groups.

- **Only 36%** of the time were there significant differences in alcohol consumption.
Limitations

- Lack of...
  - power
  - randomized controlled studies ($n = 12$)
  - tests of mediation
Where Do We Go From Here?

- Sufficient power to identify small to moderate effect sizes
- Measures of self-identification and misclassification errors
- Relevant measures of expectancies targeted by the intervention
- Thorough measures of drinking patterns
- Test for mediation effects
References


Alcohol Expectancy Challenge Studies


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