

Do Angry Women Choose Alcohol?



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Abstract



Women sometimes participate in anger management classes when going through alcohol treatment.

- This is because of the hypothesis that anger in women increases the amount of drinking they will engage in.
- Similar studies show a strong correlation between anger and drinking.

This study will examine the effects of anger provocation on younger adult women's drinking behaviors.

- The provocation of the female participants will be done by a female confederate.

Abstract



This study randomly assigned 30 women around the ages (21-30) to two different conditions. One being provocation (n = 15) and one being non-provocation (n = 15).

The confederate was condescending and annoying to the provocation group for 8 minutes.

- This study showed higher rates of anger and hostility in women who were provoked. They did not show signs of anxiety or depression.
- All participants could drink placebo “beer” and ginger ale

When controlling for baseline negative emotions, provoked participants consumed more “beer” than non-provoked participants

- These results show a causal relationship between young women’s anger and their choice to drink alcohol

Introduction



- Only one three-group laboratory study in 1975 had been conducted testing the effects of alcohol consumption.
 - Study conducted by Marlatt, Kosturn, & Lang.
 - Study used male and female participants.

Introduction



Hypothesis:

- To study the effect of female anger provocation on alcohol consumption by young adult women.

Researchers expected that following provocation, participants would report:

- Feeling angry
- Choose an alcoholic beverage more often than a non-alcoholic
- Consume more alcoholic beverages than participants not exposed to provocation.

Methods



Participants

Originally the study had 30 women. Two participants had to be taken out, leaving 28 women in the end.

The women were from a southeastern city in the United States and a majority of them were Caucasian.

The average age of the participants was 22.5 years old.

Seven women (psychology undergraduate students ages 21-31) posed as confederates

Methods



Quantity-Frequency
Index

Materials

Alcohol Expectancy
Questionnaire

Multiple Affect Adjective
Checklist-Revised and
Feeling Thermometer

Quantity- Frequency Index

A large, dark green arrow pointing to the left, which serves as a background for the text on the left side of the slide.

The subjects used this index to self-report any drinking within the previous 90 days (the average amount of days was 21)

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They also used this index to report any past or present alcohol problems

Multiple Affect Adjective Checklist-Revised



A list of 130 adjectives that describe emotions

Participants were asked to pick adjectives that appropriately describe how they felt at that moment



From these adjectives 4 main scores were created: hostility, anxiety, depression, and positive affect



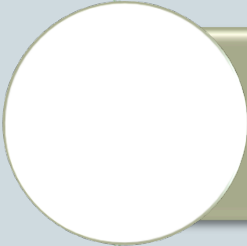
Given twice (given first to collect initial baseline data, then again following the experimental manipulation)

Feeling Thermometer



Likert-type scale

7-point (rating feelings between 1= not at all to 7=extremely)



Participants were asked to draw on a thermometer to rate their current emotional state for the following: calm, angry, contented, happy, and anxious



Given twice (given first to collect initial baseline data, then again following the experimental manipulation)

Alcohol Expectancy Questionnaire



**120-item
questionnaire**

**Measures
alcohol
expectancies**

**Has six
subscales that
were shown to
have high
internal
consistencies**

**global positive
changes, sexual
enhancement,
social and
physical
pleasure, social
assertiveness,
relaxation,
arousal/
aggression**

Procedure and Design



Recruitment

Initial Data Collection

Anger Provocation Manipulation

Drinking Behavior

Debriefing



```
graph TD; A[Recruitment] --> B[Initial Data Collection]; B --> C[Anger Provocation Manipulation]; C --> D[Drinking Behavior]; D --> E[Debriefing];
```

Procedure and Design



- **Recruiting**

- Participants were recruited through use of ads in the local newspaper and posted flyers
- Those who participated were compensated with the chance to win \$250.00 once the study was finished
 - ✦ **Women were required to:**
 - Be at least 21 years old
 - Be in good health (self-reported) and not pregnant
 - No physical or psychological problems that would be affected by alcohol consumption
 - No current or past problems substance abuse
 - No use of any alcohol or drugs for 24 hours before the experimental session
 - No use of tobacco products for 30 minutes before the experimental session
 - Have BAC of zero entering the session

Procedure and Design



- **Anger Provocation Manipulation**
 - As stated before, the women were assigned to one of two different conditions after the initial data collection (QFI, MAACL-R, and Feeling Thermometer). One being provocation (n = 15) and one being non-provocation (n = 15).
 - Subjects were told they would be participating in two experiments
 - ✦ The first was related female's different perceptions in connection to problem solving strategies
 - ✦ The second was related to rating taste

Procedure and Design



- **Anger provocation manipulation**
 - In the first experiment a participant and confederate were both given 8 minutes to solve a list of anagrams
 - Each anagram solved earned the participant a chance at the \$250.00 at the conclusion of the study
 - After the instructions were given the participant and confederate were left alone in a room with a clipboard and pencil facing one another
 - It was during this period, one participant in the provocation condition stated that she did not believe that the confederate was an actual participant, thus they ended her session early (her data was still used because she did still experience anger and frustration)

Procedure and Design

Provocation Condition

Participants were given non solvable anagrams to create frustration

The confederate made comments and distracting noises to irritate the participant

The confederate finished her anagrams within 4 minutes, further making comments (from a script given to all confederates to be consistent)

The timer made ticking noises

Afterwards each participant took another MAACL-R and Feeling Thermometer

The participants were given anagrams that were more easily solved

The confederate used the full 8 minute time period instead of finishing quickly

Instead of being distracting and irritating the confederate kept a neutral attitude and made no comments

There was no ticking timer

Afterwards each participant took another MAACL-R and Feeling Thermometer

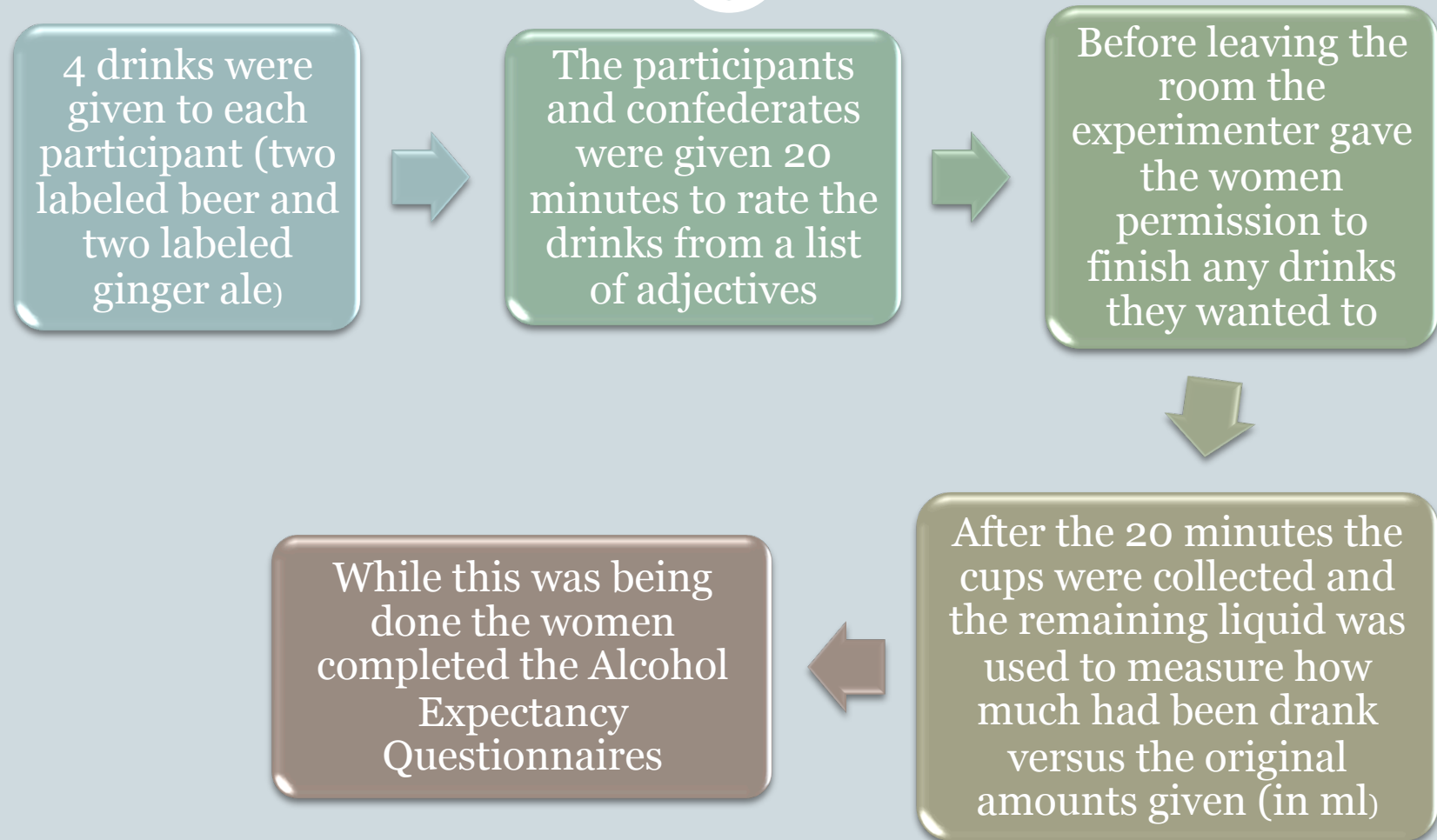
No Provocation Condition

Procedure and Design



- Drinking Behavior
 - The participants were told that by a new experimenter (who was blind to the conditions) that the second experiment was designed to gather data about women's different perceptions of taste in regard to several drinks
 - ✦ It was actually a way for experimenters to measure drinking behavior
 - The participants and confederates were placed out of the view of each other to lower the risk of one participant drinking more/less based on the actions of the other person in the room

Procedure and Design



Procedure and Design



Debriefing

The research coordinator individually debriefed each participant and explained the deceptions that were used during the experiments

Debriefing helps relieve any emotional distress the participants may have as well as helps give an understanding of the research that was being done

By the end of debriefing the confederates had apologized to participants that had been provoked and the women were entered into the \$250.00 drawing

The women agreed to preserve the confidentiality of the experiment by not speaking about the study until it was completely finished

Procedure and Design



- Debriefing
 - After the participants were debriefed the researchers were careful to make sure that none of the women left with any negative feelings
 - ✦ For example:
 - Anger
 - Frustration
 - Helplessness

Results



Verification of Anger Provocation

Through independent sample t-tests, the Feeling Thermometer Scale and subscales of MAACL-R was used to verify that provoking participants led to anger.

After the anagram task, participants in the provoked condition reported high on the MAACL-R hostility scores with a mean of 3.14 with a standard deviation of 2.88. Those in the unprovoked group had a mean score of 0.36 with a standard deviation of 0.63.

After the anagram task, participants in the provoked group had higher Feeling Thermometer scores than the unprovoked group. Those provoked had a mean of 3.07 with a standard deviation of 1.98. Those who were not provoked had a mean of 1.50 with a standard deviation of 0.76.

***An analysis of the MAACL-R and the Feeling Thermometer scores did not find any significant difference between the two groups

Results



Beverage Consumption

Participants in the provoked group consumed an average of 170 mL with a standard deviation of 81.34 for the placebo beer. For ginger ale, the mean was 181.79 mL with a standard deviation of 112.36.

Those that were not provoked consumed an average of 120.07 mL of placebo beer with a standard deviation of 78.38. Ginger ale consumption of this group averaged 199.5 mL with a standard deviation of 151.71 mL.

The results of the beverage consumption were significant meaning those in the provoked condition consumed more “beer” than those who were not provoked. The results of the ginger ale consumption were not significant.

Results



- **Beverage Consumption**

- Although it may seem as if participants drank more ginger ale than beer, a difference was not found in between the two subject groups and was overall non-significant.
- There also was a significant positive correlation between assertiveness and “beer” consumed in the provoked group. Therefore, the more those participants believed that the alcohol would make them more assertive the more they drank.
- There was no significant correlation between “beer” consumption and relaxation expectancies.

Discussion



To
summarize:

1. Findings indicate that the provocation protocol was successful in increasing anger and hostility
 - a. didn't affect other emotions significantly
 - b. Greater confidence that group differences in drinking behavior were due to anger
 - c. Suggests a gender-specific manipulation may be valuable
2. Participants exposed to the provocation protocol consumed significantly more "beer" than participants in control group
 - a. Both this study and a similar study confirmed this
 - b. Anger is a possible reason for relapse
3. The more women expected alcohol to increase assertiveness, the more they drank, but only when provoked
 - a. Empowerment may have been the goal of drinking

Discussion



- Limitations
- Used non-alcoholic beer
 - Careful of conclusions drawn
- Findings should be considered preliminary
 - Not a “fair test”
 - Need more participants to increase power
 - Replicate!
- Limited sampling
 - Drawn from advertisements
 - Limited demographics
- Many variables in manipulation

Discussion



Should there be more focus on re-examining whether this finding is specific to anger?

How robust with larger, more diverse sample?

Possible Questions to Ask in Future Studies

Do other provocations of anger lead to subsequent drinking?

If real alcohol was used - how would reactions be different?

Specific to women?

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Tables



Table 1. Verification of Anger Provocation

	MAACL-R	Feeling Thermometer
Provoked Condition	X=3.14 $\sigma=2.88$	X=3.07 $\sigma=1.98$
Non-Provoked Condition	X=0.36 $\sigma=0.63$	X=1.50 $\sigma=0.76$

Table 2. Beverage Consumption

	Placebo Beer Consumption	Ginger ale Consumption
Provoked Condition	X=170 mL $\sigma=81.34$ mL	X=181.79 mL $\sigma=112.36$ mL
Non-Provoked Condition	X=120.07 mL $\sigma=78.38$	X=199.5mL $\sigma=151.71$ mL