Do Angry Women Choose Alcohol?
Introduction: Associations About Alcohol

- Anger has long been thought of as a motivator for alcohol use.
- Alcohol consumption for women when they are angry is higher than men.
- Women report that they are more likely to use alcohol to relieve several negative emotional states, including anger.
- There isn't many controlled lab studies testing how anger affects drinking.
- Research done has found that anger could possibly be a cause of increased drinking, but there could be so many other factors that might be the cause, such as hostility and anxiety.
Introduction: Study Aimed at Women

- Women and men are angered by different things
  - Men usually get angered by aggressive attitudes
  - Women seem to get angered by condescending and insulting attitudes
Introduction: Designing an Experiment

- Female confederate with a condescending attitude
- Frustrating task that the women were likely to fail
- Strictly enforced time limit to complete the task
- The experiment needed to prove that anger was the cause of more drinking
  - Feeling thermometers to measure anger, anxiety, happiness and contentment
  - Assessed the emotion was anger, and the not any other negative emotions
- Participants were told they would be drinking alcoholic beer when they were actually drinking non alcoholic beer
  - The participants drank instead of self-repotting that they would drink to get a more accurate result
Introduction: Goals of Experiment

- Measuring the amount of beer consumed
- Determine the deliberate selection of alcohol when given a non-alcoholic choice
  - Taste test between ginger ale and beer
Hypothesis

- "The women who were intentionally angered would report feeling angry, selectively choose to drink a beverage thought to be alcoholic more often than a non-alcoholic beverage and would consume more beer than participants who were not intentionally angered"
Methods: Participants

- 30 women from a small southeastern USA city
  - 2 women were excluded during the experiment for their own health leaving only 28 women left
- A mean age of 22.5 years
- Range: 21-30
- Standard Deviation: 2
- 29 of 30 women were Caucasian
- 24 of the women were university students
Methods: Materials

- Emotions were determined with the Multiple Affect Adjective Checklist - Revised (MAACL-R), a 7-point, Likert-type Feeling Thermometer, and the Alcohol Expectancy Questionnaire (AEQ).
  - The MAACL-R is a checklist of 130 adjectives describing emotion. These adjectives are combined to yield hostility, anxiety, depression, and positive effect.
  - The Feeling Thermometer is a visual scale from 1 (not at all) to 7 (extremely) used for 5 different emotions: Calm, Angry, Contented, Happy and Anxious.
  - The AEQ is an empirically validated measure of alcohol expectancies with six subscales: global positive changes; sexual enhancement; social and physical pleasure; social assertiveness; relaxation; and arousal/aggression.
Methods: Procedure

- **Recruitment:**
  - Participants were recruited through local newspaper and on posted flyers
  - Instead of being paid for participation, the women’s names were entered into a drawing for $250.00
  - Participants were required to be 21 or older
  - Participants must abstain from drugs and alcohol for 24 h and from tobacco products for 30 min prior to their experimental session
  - Seven female undergraduate psychology majors, ages 21–31, assisted as confederates
  - The team was supervised by a Graduate Research Coordinator
Methods: Procedure

- Initial Data Collection:
  - When the participant arrived at the laboratory, a confederate also arrived.
  - Experimenter 1 seated them across from each other in a small room with a one-way window.
  - Each participant completed a demographic inventory, the QFI, and the baseline MAACL-R and Feeling Thermometer.
  - All entering participants had a blood alcohol concentration of zero.
Methods: Procedure

Anger Provocation Manipulation

- $250 cash prize drawing for anagrams solved within 8 minutes in "first experiment"
- Randomly assigned to Provocation (n=15) or No Provocation (n=15)
  - Unsolvable in Provocation condition; confederate triggers participant via rehearsed script; loud kitchen timer also serves as distraction
  - Easy for No Provocation group to solve; confederate took full 8 minutes to solve their anagrams; no timer or intentional distractions included
Methods: Procedure

Drinking Behavior

- Participants told they would be in "second" experiment regarding women's perceptions of the taste of different beverages
  - Given four cups, two labeled "beer" and two labeled ginger ale; given 20 minutes to rate drinks, and told that they may drink however much they want if they finish rating within the 20 minutes
  - After ratings and cups collected by an Experimenter, Research Coordinator measured remaining liquid in cups to determine how much each participant drank
Debriefing

- Research Coordinator explained anger provocation manipulation, as well as role of confederate and purpose of project.
- No participants suspected confederate was a fellow participant in debriefing, or that "beer" was non-alcoholic.
- Research Coordinator explained anger provocation manipulation, as well as role of confederate and purpose of project.
- Confederate apologized, and any emotional distress of participants was relieved; participant promised confidentiality of experiment and were entered in cash drawing as promised.
Results:
Verification of anger provocation

- Independent sample t-tests were used to verify that the provocation only led to anger by using the ratings from the Feelings Thermometer Scale and the subscales of the Multiple Affect Adjective Check List — Revised (MAACL-R)

  - MAACL-R Hostility Scores:
    - Provocation Condition
      - (M = 3.14, SD = 2.88)
    - Non-Provocation Condition
      - (M = 0.36, SD = 0.63)

  - Feelings Thermometer Anger Scores:
    - Provocation Condition
      - (M = 3.07, SD = 1.98)
    - Non-Provocation Condition
      - (M = 1.50, SD = 0.76)
## Results:

### Beverage Consumption ("Beer" and Ginger Ale)

- **Average consumption**
  - **Provocation condition (n=14)**
    - 170.0 ml of placebo beer
    - 181.79 ml of ginger ale.
  - **Non-provocation condition (n=14)**
    - 120.07 ml of placebo beer
    - 199.5 ml of ginger ale.

- Overall, participants in the Provocation condition consumed more placebo beer than those in the Non-Provocation condition.
- There was a significant positive correlation between assertiveness and "beer" consumption in the Provocation condition.
- The more the participants believed that consuming alcohol would make them more assertive the more the women in the provocation condition drank.
Discussion: Anger Provocation Manipulation

- According to the results the provocation protocol with the confederates was significantly correlated with an increase in aggression in specific.
- It is also worth noting that while there was an increase in aggression and anger, there was no noted increase in other emotions.
Discussion:
Group Differences in Beverage Consumption

- According to the data, women who were provoked consumed significantly more beer than did their unprovoked counterparts.
- This leads to the conclusion that aggression may be a trigger or a motivation to consume alcohol.
Discussion:
Association between expectation and beer consumption

- According to the study there seems to be a link between the confidence and “assertiveness” believed to be brought on by alcohol consumption
- Those who were provoked seemed to reach for alcohol more often with the belief that alcohol would be an aid in increasing “assertiveness”
Discussion: Limitations

- This study in particular was conducted using non-alcoholic beverages in place of alcohol.
- While the associations made were justified, they must be based on the subject’s intent rather than on the physical feeling of intoxication.
- The provocation Protocol was successful in the initial onset of anger/aggression, however there were multiple variables at play and it is unclear which ones specifically led to increased anger.
- Furthermore, the study was conducted on primarily Caucasian unmarried, and college educated participants.
- Thus it does not represent women as a whole.
Further Studies:

- Possible future studies could look at alcohol expectations relating to gender differences.
- How would the participants have reacted if real alcohol was presented to them?