



## **Promoting guidelines for moderate drinking: Experimental test of brief communications**

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**36<sup>th</sup> Annual Alcohol Epidemiology Symposium  
of the Kettil Bruun Society - Lausanne, Switzerland  
May 31 - June 4, 2010**

**Funding support by NIAAA RC1AA019004-02**



## **Three Government Responses**

- Labeling alcohol containers with a warning
- Defining the notion of standard drinks
- Developing guidelines for moderate drinking





## Government warning

(1) According to the Surgeon General, women should not drink alcoholic beverages during pregnancy because of the risk of birth defects.

(2) Consumption of alcohol impairs your ability to drive a car or operate machinery, and may cause health problems.

## Standard Drink

A standard drink is any drink that contains about 0.6 fluid ounces or 14 grams of "pure" alcohol. Although the drinks pictured below are different sizes, each contains approximately the same amount of alcohol and counts as a single drink.

<b>12 fl oz of regular beer</b>	=	<b>8-9 fl oz of malt liquor</b> (shown in a 12 oz glass)	=	<b>5 fl oz of table wine</b>	=	<b>1.5 fl oz shot of 80-proof spirits</b> ("hard liquor"— whiskey, gin, rum, vodka, tequila, etc.)
						
about 5% alcohol		about 7% alcohol		about 12% alcohol		about 40% alcohol

Source: Rethinking Drinking: Alcohol and Your Health. Research-Based information from the National Institutes of Health, U.S. Department of Health and Human Services.

## Moderate Drinking Guidelines

- Up to 2 drinks per day for men
- Up to 1 drink per day for women
  
- Per week upper limit:
  - 14 drinks for men
  - 7 for women

## Study Purpose

- How can we motivate college students to follow guidelines for moderate drinking?
- Is the warning hurting us or helping us?

## Persuasion models

- Focus on characteristics of the communication or the message
- Somewhat irrespective of population characteristics  
(e.g., McGuire, 1968; Petty & Wegener, 1998)

## Message Framing

- Gain Frame
  - If you decide to drink, drink moderately. You will drive more safely, stay healthier and maintain your weight. You will make better decisions.
- Loss Frame
  - Excessive drinking considerably increases risks for car accidents, serious illnesses and gaining weight. It impairs good judgment and decision making.

## Hypotheses

1. The U.S. Government warning would have a deterrent effect among lighter drinkers, but the heaviest drinkers might increase their intentions to drink
2. A gain frame should reduce intentions to drink compared to a loss frame, as moderate drinking is a preventive behavior.
3. Gain frame, with the warning, will either attenuate or boost the effect of the message on drinking
4. Medium length (vs. short or long) messages would have a stronger impact on intentions to drink

## Method

- 442 undergraduates
- 53% female students
- Ages 18-49, Median = 20
- Registered undergraduates, intend to drink over the weekend, & drank in the past 30 days
- Self-administered via laptop

## Conditions

- Warning vs. No warning
  - Presented 1<sup>st</sup>
- Gain frame vs. Loss frame vs. No frame
  - Presented 2<sup>nd</sup>
- Short (20 words), medium (40 words) or long content (60 words)

## Outcome Variable

- Intention to drink
  - Number of drinks they intended to drink:
    - Today or Tonight (Thurs or Fri)
    - Tomorrow (Fri or Sat)
    - Day after tomorrow (Sat or Sun)
  - A sum was computed and log transformed to calculate the total intention to drink

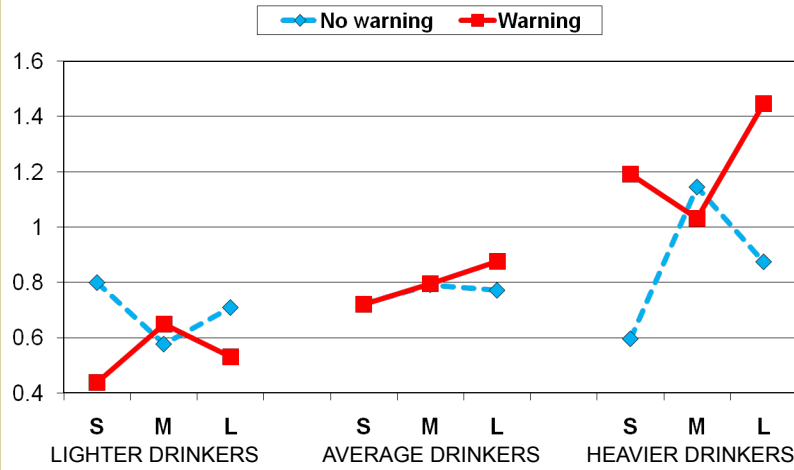
## Analysis

- ANCOVA on drinking intentions
  - Warning: present or absent
  - Frame: gain vs. loss
  - Length: short, medium or long
  - Gender (Independent)
  - Past drinking (Covariate)

## Effects

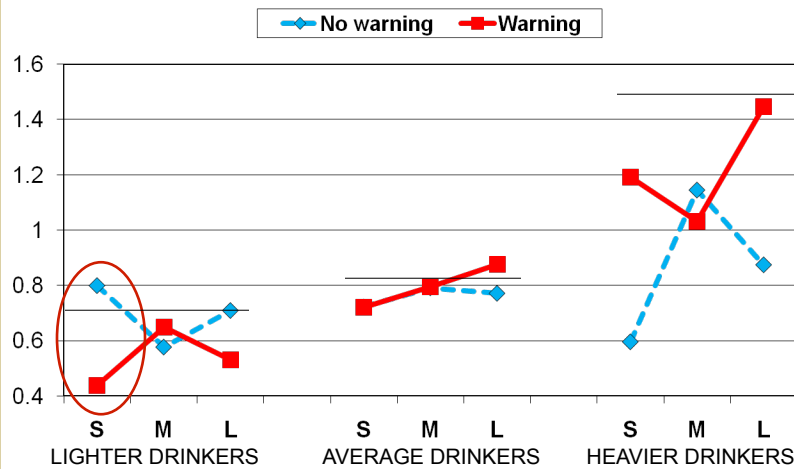
- Past drinking predicted intentions ( $p < .001$ )
- Exposure to the warning increased intentions ( $p < .02$ )
- Past drinking moderated the warning effect on intent: only among heavier drinkers ( $p < .05$ )
- When the warning was present, shorter messages decreased intentions to drink ( $p < .04$ )

### Overall ANCOVA



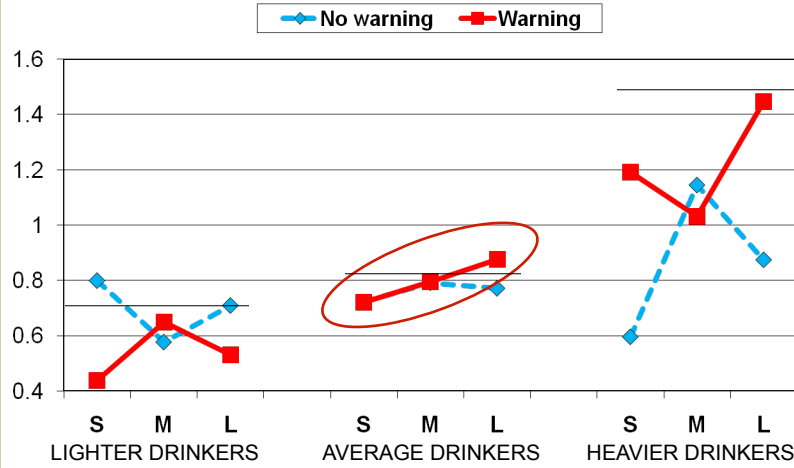
Triple Interaction: past drinking X message length X warning ( $F(2,238)=3.49, p<.04$ )

### Overall ANCOVA



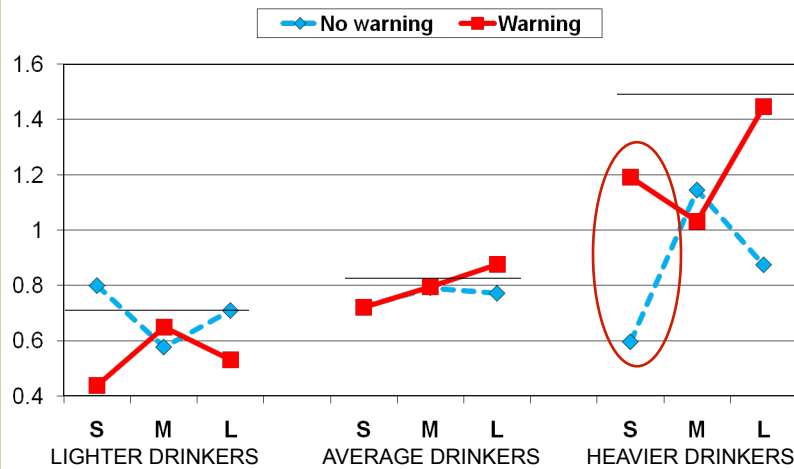
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## Overall ANCOVA



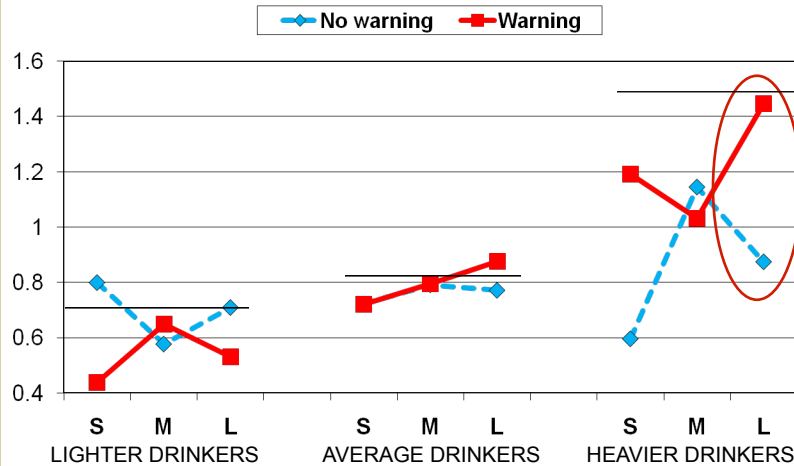
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## Exploratory analyses on short messages

- The effect of gain frames vs. loss frames was tested for short messages only
- The effect approached but did not reach significance ( $F(1,109)=2.69$ ,  $p=.10$ )
- However, the trend was consistent with previous literature
- Gain frame intention: mean = .68, SE = .04
- Loss frame intention: mean = .77, SE = .04

## Conclusions

- The warning was most effective with light drinkers and least effective among heavy drinkers
- Persuasive messages after the warning reduced impact of warning on intentions
- Short, gain framed messages appear to be the most persuasive

## Thank you!

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## Results

### Number of intended drinks

Drinking Intention	Min	Max	Mean (SD)
Today or Tonight	0	36	2.19(3.23)
Tomorrow	0	15	3.10(2.96)
Day after Tomorrow	0	12	1.66(2.57)
Composite Variable	0	39	6.94(6.17)

## Communications

- Research on the impact of disclosing alcohol contents on drinking has been scant
- Several models (e.g. Health Belief) include factors that help to predict behavior, but depend on individual variations of in beliefs, attitudes and personality traits

## Why do drinkers resist?

- Fear appeals may cause a self-protecting reaction that leads people to deny the risk, a “boomerang effect”
- The warning may convey a message that drinking is the proverbial “forbidden fruit” increasing the desire to drinking more

(Witte et al., 1992, Kozup et al., 2001, Pechmann & Shih, 1999)

## Message Frame

- A message can be framed as “gain” or “loss” without changing the content
- Gain frame messages stress the benefits of a behavior
- Loss frames stress the costs of not engaging in a behavior
- In theory, promoting the health benefit of adopting a behavior will be more effect than highlighting the costs of not adopting

(Rothman & Salovey, 1997, Kahneman & Tversky, 1984, Detweiler et al., 1999)

## Disclosing Alcohol Contents

- Research on the impact of disclosing alcohol contents on drinking has been scant
- A few studies have found that labels showing the no. of standard drinks reduces pour volumes in drinks (Stockwell et al., 1991a, 1991b)

## Boomerang Effect

- Heavy drinkers intentions to drink increase when exposed to the government warning
- Males showed more favorable attitudes towards drinking when exposed to the warning

(Snyder & Blood, 1992, MacKinnon et al 2000, Hankin et al 1993)