

Substance Labels and Memory

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Have you ever wondered why there are labels on substances like cigarettes and alcohol?

The obvious reason would be because they are mandated by law. But why are there even laws that govern substance labels to begin with? The foremost purpose of substance labels is to remind the user of the risks, or warnings, associated to using that particular substance (MacKinnon & Fenaughty, 1993); it is meant, in the end, to try to educate and perhaps protect the person from harm. The particular article I have selected poses the question, “Does more exposure to these substance labels increase the memory of the warnings?” Meaning, the more a person smokes or drinks, and is exposed to the warning labels on the products, can the exact risks and warnings be recalled with greater detail. This short essay will briefly discuss the scientific research methods used, and the expected and reported results of the study.

Labels on harmful, but legal, substances are now required by law via the Alcoholic Beverage Labeling Act of 1988, Comprehensive Smokeless Tobacco Health Education Act of 1986, and Comprehensive Smoking Education Act of 1984 (MacKinnon & Fenaughty, 1993). But are these labels effective? That is where our scientific study comes in; not only to try to answer this question, but do so with empirical evidence. MacKinnon and Fenaughty theorize that higher exposure to substance labels does indeed increase the memory of risks and warnings. The hypothesis put forth is, the amount of substance use was associated with more accurate memory for the risks written on cigarette and smokeless tobacco warning labels (from study 1), and that amount of substance use was associated with more accurate memory for

the risks written on alcohol warning labels (from study 2). As mentioned, there were two studies done; one for tobacco products and one for alcohol products; but really, the projected outcome for both studies, was that higher exposure equates to better memory of the substance labels.

The setup and design of the research was built around college students from Arizona State University. 288 students, from the Introductory Psychology course, became subjects in the scientific study. The students were chosen because they were readily available and willing to participate in the scientific study. One important variable to note is that the average age of the students was 19.8 years old. To begin the survey, a student sample was chosen to complete a 50-item questionnaire which contained the common warning and risks labels on tobacco and alcoholic products (MacKinnon & Fenaughty, 1993). Students were asked to circle the risks that were on warning labels. This data was correlated with weekly, monthly, and lifetime use of the relative substance. Study 1 and study 2 did undeniably prove that the longer a person had used tobacco products, or alcoholic products, the better their memory was of the associated warning and risks labels. Based on the MacKinnon and Fenaughty experiment, they were able to pose a question, research what they wanted to know, form a hypothesis, design a test, test using Arizona students, analyze the results, and then provide empirical evidence supporting their claim. The experiment seemed like a complete success. However, let us evaluate potential problems.

The MacKinnon and Fenaughty correlation study was presented using a dependent and independent variable. The dependent variable was memory, or memory recall to be exact. The independent variable was exposure to substance labels. The studies also utilize something called

a sample; a sample being a represented portion of our target group. Herein lies the potential problem with the study. Is such a small sample, from one University only, enough to determine, without a doubt, that higher exposure to substance warning labels equates to better recall? Maybe, or maybe not. Other professionals could use this study to build upon in their own endeavors in researching whether higher label exposure equates to better memory recall. But there is one other obvious variable that questions the validity of this particular study entirely; and that is the average age of the experiment's subjects. The average age was 19.8 years old; I seriously doubt that a person at the age 19.8 could represent the independent variable of a lifetime of use. And since weekly, monthly, and a lifetime of use were all tested and analyzed by the experiment, I would have to suggest, that perhaps, the study does not represent true lifetime user's ability to recall substance labels. Two ideas could have made the study more accurate. One, the title could have been *Substance Use and Memory for Health Warning Labels Among College Students*, rather than *Substance Use and Memory for Health Warning Labels*. The title (and research presented) makes it seem like the sample they used represents all Americans (which it does not). And two, they could have just dropped the lifetime use variable, and used yearly instead; so it would have been weekly, monthly, and yearly.

In conclusion, substance labels are on products to educate and protect its users. MacKinnon and Fenaughty theorized that the higher use of substances, and exposure to labels, results in better memory recall of the warnings and risks. They formed a hypothesis, designed an experiment around college students, tested students via a questionnaire, analyzed the data, and

presented a correlation study that did prove their hypothesis.

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References:

MacKinnon, David P., Fenaughty, Andrea M. (1993, March). Substance use and memory for health warning labels. *Health Psychology*, 12(2), 147-150. US: American Psychological Association.

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