20.24: Dietary Supplements

Learning Objectives

- Dietary supplements and health risk behaviors

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Overview

Although the dietary-supplement market in the U.S. is enormous, there is no apparent association between the use of dietary supplements and improved public health. The researchers of this study explored this paradox under the hypothesis that taking dietary supplements triggers a phenomenon called the "licensing effect," namely, the tendency for positive choices to license subsequent self-indulgent, risky or unhealthful choices. The researchers hypothesized that supplement use confers "perceived health credentials," leading people to feel invulnerable to health hazards and thus more likely to engage in risky, health-related behaviors.

The study involved two experiments. In the first experiment, 82 participants were randomly assigned to either a vitamin-pill (multivitamin) group or control (placebo) group and were told the kind of pill they would be taking. However, only the control group was given correct information. In actuality, both groups received the placebo pill. After taking the pills, the participants completed a survey on leisure-time activities, rating the desirability of nine hedonic (pleasurable) activities, such as excessive drinking and wild parties, and nine exercise activities, such as yoga and running, on 7-point scales. The survey also included a general invulnerability scale to assess a participant's perceived invulnerability to harm and disease. After completing the survey, the participants were offered a free lunch, choosing freely between a buffet and a healthful, organic meal.

The second experiment involved different participants. The vitamin-pill (multivitamin) group again unknowingly took placebo pills. After completing a questionnaire that included the general invulnerability scale and reading a medical report on the health benefits of walking, the distance participants walked in one hour was measured with a pedometer.

Questions to Answer

Does taking dietary supplements disinhibit unhealthy behaviors, such as eating unhealthful meals? Is the study sufficiently powered to detect significant differences between males and females?

Design Issues

The research was conducted in Taiwan, where cultural attitudes and behaviors related to dietary supplements may differ from those in the U.S. It is possible that the results might not generalize to other countries, so more research is needed. Participants in Experiment 1 had a wide range in age, from 18 to 46 years, with a mean (SD) of 30.9 (7.8) years. It would be helpful to consider age in the analysis, especially if age is associated with invulnerability scores. Leisure-time activities and invulnerability were assessed only post-intervention; future studies should also measure these variables before the intervention to see if the two groups had similar scores at the start of the study. The general invulnerability scale used to assess perceived invulnerability to harm and disease has been validated only for adolescents.

Descriptions of Variables

Table 20.24.1: Description of Variables

VARIABLE	DESCRIPTION
Experimental condition	Vitamin-pill (multivitamin) condition or Control (placebo) condition

Meal choice	Either a buffet meal or a healthful, organic meal
Gender	The sex of participants

Links

The licensing effect

No Significant Difference … Says Who?

References

- Chiou, WB, Yang, CC, Wan, CS. (2011). Ironic effects of dietary supplementation: Illusory invulnerability created by taking dietary supplements licenses health-risk behaviors. Psychological Science, 22, 1081-1086.
- Trout, A. T., Kaufmann, T. J., Kallmes, D. F. (2007). No significant difference … Says who? Editorial. American Journal of Neuroradiology, 28, 195-197.
