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Communicating Safe Sun Practices to Farm Youth: A Model and Field Test of a Proposed Curriculum

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SUMMARY. The Georgia Harvesting Healthy Habits Campaign evaluated farm youths' skin cancer prevention outcome expectancies us-

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ing Social Cognitive Theory as a framework. The evaluation was designed to enable farm youth to experience sun protection and skin cancer prevention behaviors and to form outcome expectancies about performance. It also provided the opportunity for participants to observe peers performing these promoted practices-a method of facilitating the formation of outcome expectancies. It was hypothesized that positive outcome expectancies would positively correlate with behavioral intentions to wear and negatively correlate with intentions to not wear particular sunscreens and hats while in the sun. Implications for the design of health education curricula to increase farm youths' positive outcome expectancies for sun protective practices are discussed. *[Article copies available for a fee from The Haworth Document Delivery Service: 1-800-342-9678. E-mail address: getinfo@haworth.com]*

KEYWORDS. Skin cancer, social cognitive theory

INTRODUCTION

Research has previously established the higher incidence of some types of cancer among agricultural populations as compared to other occupational groups.[1] Increased risk for skin cancer has been observed in farmers, and by extension, owing to the nature of farming as a "family business,"-farm children are also at risk for skin cancers due to overexposure to the sun while working on the farm. Research has demonstrated that many farmers begin working on the farm at a relatively young age, a tradition passed on to their own children.[2] This in turn, increases their exposure to the sun and risk of skin cancer. The current project was designed to identify the barriers and motivators to farm youths' performance of skin cancer prevention and detection behaviors in order to design curricula which could directly address both.

Social Cognitive Theory[3] was employed to help guide the development of the study. One focus of the theory is on outcome expectations, or the beliefs individuals have about costs and benefits associated with performing protective behaviors at physical, personal and social levels. Previous research has not examined youths' direct experiences of sun protective practices.[4] The present project sought to provide farm youth with opportunities to try the behaviors being recommended to reduce skin cancer risks, thereby promoting the formation of outcome expectations.

The developed curriculum was pilot tested in 1994 at the Georgia Healthy Farmers "Farm Kids" Safety Camp. Experimental data were collected at the same camp in 1995 with the following hypotheses being forwarded:

H1: Positive outcome expectancies will correlate with intentions to wear particular hats while in sun.
H2: Negative outcome expectancies will correlate with intentions to not wear particular hats while in the sun.
H3: Positive outcome expectancies will correlate with intentions to wear particular sunscreens while in the sun.
H4: Negative outcome expectancies will correlate with intentions to not wear particular sunscreens while in the sun.

METHODS

Participants and Procedures

Participants were 82 (47 female and 35 male) prepubescent/adolescent children of Georgia farmers. The children ranged in age from eight to fifteen years old (M = 11.5; SD = 1.4). Approximately one quarter of the children had attended the previous year's pilot program.

Eight Sun Safety classes were held over the course of two days. Participants were seated in a large conference room where they received a research questionnaire packet consisting of a skin cancer prevention/detection knowledge measure, three skin cancer-related fact sheets, and a workbook to be used to rate various skin cancer prevention/detection materials and behaviors staged at centers around the room. A brief presentation about the dangers of sun exposure and skin cancer prevention behaviors was given after which subjects participated in three activities: a sun protection hat station, a sun block station, and a skin self-exam station. Participants rated hats which varied in their sun protection qualities (e.g., presence or absence of hat brim and ear/neck protection, color, weave and density of material). Sunscreens varied in SPF values, scent, water resistance, and thickness.

RESULTS

To evaluate the hypotheses, student t-tests were conducted comparing the outcome expectancy scores for individuals who reported that they would wear the particular hat or sunscreen with outcome expectancy scores for individuals who reported that they would not wear the particular hat or sunscreen. For four out of five of the hats surveyed, participants who reported that they would wear the hat had significantly higher posi-

tive outcome expectancy scores than those who said they would not wear those hats ($p < 0.05$). For four of the hats, participants who reported that they would not wear those hats had significantly higher negative outcome expectancy scores than those who reported that they would wear them ($p < 0.05$).

Four significant correlations supported hypothesis number three (H3) as well. For four out of five sun blocks, participants who reported that they would wear these blocks had significantly higher positive outcome expectancies than those reporting that they would not wear them ($p < 0.05$). For hypothesis number four (H4), only one sunscreen yielded a significant correlation between negative outcome expectancies and behavioral intentions.

DISCUSSION

As a result of this project several significant insights are gained that should contribute to the future design of programs aimed at educating youth about skin cancer. First, youth are less ambivalent about their positive evaluations of both sun protective clothing and sunscreens than they are about negative evaluations of these same behaviors. Their behavioral intentions are aligned with the positive outcome expectations that they form in relation to behavioral performance. When they evaluate a hat more positively, they are more likely to wear that hat. When they rate a sunscreen more positively, they are more likely to wear that sunscreen. This tells health educators that the need exists to build positive outcome expectations in association with desired behavioral practices.

A second significant outcome from this project relates to the finding that youths' negative outcome expectations did not determine their behavioral intentions. Thus it would seem less efficient for educators to address the negative. Youth find all practices being promoted with regard to protective clothing and sunscreen use to be equally likely to share particular negative evaluations, but that does not determine their intention to either wear the clothing or the sunscreen.

A third finding from this project with important implications is that youth do not distinguish among various hats and sunscreens regarding their efficacy in protecting them from the sun. Their intentions to wear particular hats or sunscreens are rated equally positive or negative across conditions, such that a baseball cap that youth intend to wear is rated as positively as a more protective safari-type cap with ears and neck protection. A hat they have no intention of wearing is rated no more negatively than a hat they expect to wear. Health education curricula to promote sun safety to youth must focus on building (1) positive outcome expectancies

in relation to the most efficacious practices, and (2) in drawing clear distinctions for youth among their options, so that they are able to make these decisions for themselves. Only in this way are we likely to impact both knowledge and behavior, and in the long term, the incidence of skin cancer in youth.

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