Role of Self-Control in Behaviors That Cause Skin Cancer

Several forms of cancer are caused in part by behavior that individuals can control. For example, skin cancer is caused in part by exposure to ultraviolet (UV) rays, and people can reduce their risk of skin cancer by wearing sunscreen or otherwise minimizing their UV exposure. It is reasonable to assume that no one intends to develop cancer, yet people often behave in ways that are known to contribute to its development. Past research has considered the roles of mood, motivation, personality, and self-efficacy beliefs in cancer-causing behavior, but relatively little research has examined the capacity of individuals to override or alter their own behavioral tendencies (i.e., to practice self-control). I propose to address this gap by studying the role of self-control in behavior that prevents skin cancer.

My *long-term goal* is to establish basic psychological knowledge that will help to reduce the incidence of cancer. The *objective of the present application*, which is a first step toward attaining my long-term goal, is to understand the role of self-control in cancer-preventive behavior. The *central hypothesis* for this proposal is that temporary fluctuations in the capacity for self-control contribute to behaviors that cause skin cancer. I have formulated this hypothesis on the basis of prior research by myself and others showing that attempts at self-control render people temporarily prone toward impulsive, automatic behavior at the expense of more rational, controlled behavior. The *rationale* for the proposed research is that once the role of the self-control in cancer-preventive behavior is understood, new and more effective interventions can be designed and implemented to promote healthy behavior and reduce the incidence of skin cancer.

I am a new Assistant Professor at Texas A&M University in the Department of Psychology. My previous research has focused on understanding the cognitive consequences of exercising self-control – namely, overriding, altering, or otherwise regulating dominant response tendencies. In my dissertation research, I discovered that initial acts of self-control undermined later performance on tests of cognitive ability, as if the initial act of self-control depleted a limited internal resource required for the subsequent tests. Specifically, I found that focusing attention on a boring stimulus or purposefully suppressing emotional responses impaired performance on an ensuing memory test. My background in research on self-control and my motivation to reduce the incidence of cancer make me well-suited to address both the basic and applied research goals of this proposal.

To examine the role of self-control in behavior that prevents skin cancer, two research objectives have been developed and will be tested across a series of experiments:

- **Specific Aim #1: To determine the extent to which fluctuations in self-control capacity influence cancer-preventive intentions and behaviors.** The *working hypothesis* is that cancer-preventive behaviors require self-control, such that fluctuations in self-control capacity will produce concomitant fluctuations in cancer-preventive behaviors.
- **Specific Aim #2: To determine the extent to which an intervention to strengthen the mental association between sun exposure and skin cancer facilitates cancer-preventive behaviors.** The *working hypothesis* is that an intervention that increases how readily people associate sun exposure and skin cancer will reduce the need for effortful self-control and help to automate cancer-preventive behaviors.

The successful completion of this research will result in two key outcomes. First, I expect to have established the role of self-control in behaviors that prevent skin cancer. Second, I expect to have determined one way to overcome the deleterious consequences of reduced self-control capacity, to the benefit of healthy behavior. This research promises to identify previously unrecognized influences on cancer-causing behavior and to inform interventions designed to reduce the incidence of cancer.