Background

I am a psychologist who studies addiction. More specifically, I have been involved in studies identifying the behavioral and brain processes that underlie this disorder and have examined new therapies for addictions. This research has been supported by the National Institute on Drug Abuse of the National Institutes of Health (NIH).

Behavioral and Brain Processes that Underlie Addiction

Recent advances in behavioral economics influenced this research. Behavioral economics seeks to understand factors that influence the consumption of individual consumers. I was interested in whether this approach could help us to understand the consumption of drugs by addicts. This research has led to an important understanding regarding the addicted; namely, that addicts live in the "here and now" dramatically more than matched controls — a phenomenon termed "discounting". For example, using one of the oldest measures of this behavior we asked participants to fill in the back end of a story. The story says simply "you get up in the morning and think about your future. You think---" In this, we were not interested in the content, but the time frame. Matched controls referred to a future of 4.7 years, while opioid addicts referred to a future of 9 days. This provides an important context to understand their behavior. If addicts are only focused on the next several days, then we should not be surprised if they engage in risky behavior like sharing drug injection equipment since the time frame for negative consequences of those actions far exceeds the time frame of consideration.

More recent research on the neuro-economics of "discounting" indicates that there are two separate brain regions involved. The limbic region (which is involved in satisfying basic needs) is activated when immediate choices are made and the prefrontal cortex (which is involved in long range planning) is activated when choices favoring the future are made. Interestingly, this maps closely on to what is increasingly recognized as an important view of addiction—the competing regions of the brain hypothesis. These two brain regions appear to compete in all individuals, but among the addicted, the limbic region appears to "win". Moreover, addicts appear to have a dysfunctional prefrontal cortex so that long range planning and other "executive" functions are disrupted. Importantly, it appears that our measure of discounting the future summarizes control by these two brain regions. We are currently examining whether this new conceptualization and our discounting measure, as an index, can predict relapse. This research and the conception of the competing brain regions have a chance to fundamentally alter our view of addiction and in the process enhance our ability to diagnose treatment failures, improve treatment outcomes, and may lead to novel therapies.

New Therapies

I have been researching how to computerize and deliver via informational technologies therapies that have been demonstrated to be effective. This research has shown that computer delivered treatment is as effective as therapist delivered treatment when delivered in a treatment package and is less costly to provide. This research permits us to think about ways to improve access and reduce cost of addiction treatment. In addition, I have begun to develop therapies based on the behavioral economic research outlined above.

Clear explanation of an area of research that probably isn’t familiar to the reader.

Including a story like this as context for the research he does is a compelling way of illustrating why it matters.

Notice how he explains the function of these brain regions so that non-scientists may understand their significance.

While he doesn’t have specific economic data to provide here, it’s a good idea to mention economic concerns if your research addresses them.
Here are two good examples of real-life One-Pagers to guide your advocacy efforts.

See the notes in the right margin about specific elements.

Background

I am a health psychologist who studies the psychological and biological consequences of caloric restriction. My research, described below, has been funded by the National Science Foundation, the National Institute of Mental Health, and the National Heart, Lung, and Blood Institute.

PSYCHOLOGICAL & BIOLOGICAL CONSEQUENCES OF CALORIC RESTRICTION

In non-human animal models, caloric restriction has been demonstrated to produce broad and consistently positive health consequences such as longer life and less risk of disease. In humans, however, recent research indicates that caloric restriction is associated with several negative health consequences such as decreased metabolism, altered immune parameters, and weight gain. Psychological research is essential in order to understand how humans differ from non-human animals in the process of caloric restriction, particularly because overweight and obese individuals are often encouraged to diet in order to reduce the risk of obesity-related diseases such as type 2 diabetes, hypertension and cardiovascular disease.

In my research, I hypothesize that caloric restriction is in fact a chronic psychological stressor. Chronic stress has been implicated in numerous deleterious health consequences such as weight gain, insulin resistance, atherosclerosis, coronary heart disease, hypertension, diabetes, cancer, and dysregulated immune functioning. Chronic stress exerts its effects through negative health behaviors such poor eating habits and disrupted sleep as well as through the two biological stress responsive systems of the hypothalamic-pituitary-adrenocortical axis and the sympathetic adrenomedullary axis of the sympathetic nervous system. If dieting is indeed a chronic stressor, this may be one pathway through which caloric restriction negatively affects the body. Indeed, in my work I find that caloric restriction reliably causes increases in cortisol, a biological stress marker.

Further, I am currently studying the effects of caloric restriction on telomeres – protective caps of DNA sequences on the ends of chromosomes that are an important contributor to aging. I am studying these processes in the NHLBI National Growth and Health Study, which has followed low-income black and white women from age 10 to age 30.

NECESSITY OF BASIC RESEARCH

Obesity and other chronic diseases are reaching epidemic proportions in the United States. If caloric restriction is found to cause stress, there will be significant practice implications for clinicians who currently recommend dieting to their patients to improve health. Further, basic research on telomeres may provide an important way to make Americans live longer, healthier lives.