



Examining Discounting Rates of Healthy Food Choices by College Students

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Introduction

- Several studies have examined human's rates of discounting, however, few studies have applied delay discounting to investigate human's health-related behaviors such as healthy eating habits.
- The time and effort put into the process of eating a healthy diet frequently causes preference reversals, meaning that people will likely make unhealthy choices over healthy ones if the time delay and amount of effort required for the healthy choice is increased.
- Health-related behavior can be better understood by examining the economic theory and the role that time preferences plays in diet related behaviors. Examining rates of discounting for unhealthy vs. healthy meal choices can lead researchers to discover the different factors that affect the production and maintenance of a person's diet.
- Critchfield and Kollins (2001) make apparent the benefits of using experimental behavior analysis to analyze eating habits by explaining the importance of understanding what promotes and prevents overeating problems. Critchfield & Kollins explain that watching television and eating are commonly paired together; when the two reinforcers are combined, it increases the reinforcing value of both and therefore makes watching TV and eating more reinforcing than exercising or watching TV without eating.
- Although some research has investigated probability discounting in health-related behavior, very few have used temporal discounting. Prior research has also not examined the use of specific food items with nutrition facts attached in a discounting task.
- **The current study investigates the following experimental questions:** First, how do preference reversals change in relation to number of calories in fast food items? Second, does body mass index of a person predict the level of healthiness in their lifestyle?

Method

- **Subjects:** 13 undergraduate students from the University of Wisconsin – Eau Claire. There were 5 male participants and 8 female participants. Ages ranged from 20 to 29 years old. Five extra credit points were randomly distributed across participants.
- **Setting:** The survey was administered in a classroom at the university. Participants completed the survey packet in a group setting. All surveys were conducted at tables in the classroom.
- **Materials:** Each participant was supplied with a survey packet containing multiple materials. Materials included a hypothetical scenario to read, a page of nutrition facts of five different McDonalds menu items, followed by 5 pages of choices that participants had to make for 5 separate conditions and a survey on health-based behaviors to examine healthiness of participant's lifestyles.
- The survey completed at the conclusion of the discounting tasks contained 6 questions in which answers were scored on a 7-point Likert scale. A score of 42 total points indicated an extremely healthy lifestyle while the lowest possible score of 6 suggested participants lived a very unhealthy lifestyle.
- Subjects had to chose between an unhealthy item from McDonalds by not committing to the hypothetical diet, or, to wait and make a healthy meal at home. Five items from the McDonalds menu served as the five separate conditions. Menu items were arranged by nutrition facts; low calorie and low fat items were presented first so the unhealthiest menu item at McDonalds was the last condition participants completed. The participants had to choose between having the unhealthy meal immediately and making a healthy meal after a delayed amount of time. Amount of delayed time began at 30 minutes and increased in 30-minute intervals up to 7 hours.
- **Procedure:** Participants survey packets were identified by numbers 1 – 12, rather than by names, to ensure for confidentiality. The survey administrator handed out packets to each individual and told participants to follow the written directions on the top sheet. Written instructions directed participants to not turn back to any page once it was completed. The survey administrator, whom was present throughout the entire survey completion, answered any questions participant's had. When participants completed the survey packets, they handed the completed materials back to the administrator.

Results

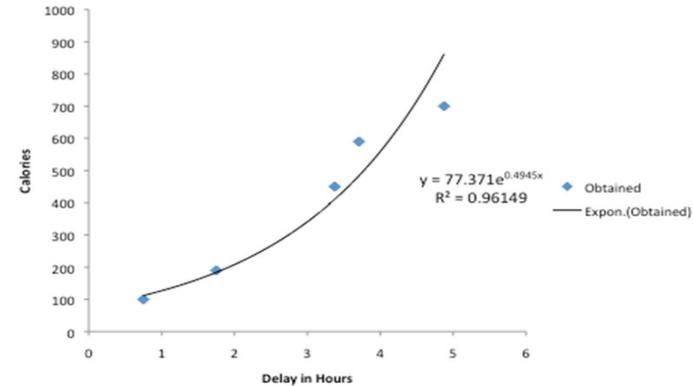


Figure 1 displays the mean indifference points for each condition. The point of preference reversal displays how much time an individual is willing to wait for a healthy meal choice as opposed to immediately receiving an unhealthy meal choice

Health Survey Score & BMI

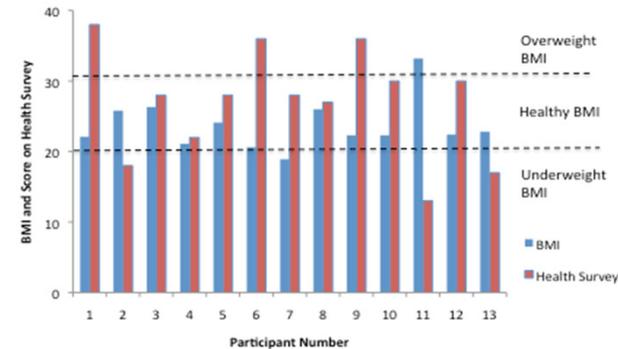


Figure 2 displays the individual scores on the health survey in relation to individual body mass index levels. Scores were based on a 7-point Likert scale. Lower scores indicate more unhealthy lifestyle choices while higher scores indicate healthy lifestyle choices

Discussion

- The present study demonstrated that preferences reverse in relation to the number of calories in McDonald's food items. As the number of calories of McDonald's food items increased, the number of hours participants would wait to eat a healthy meal at home increased.
- The results of participants 1, 9 & 11 suggest that BMI could likely predict the level of healthiness in one's lifestyle. Overall, the data of all participants suggests that the BMI of participants did not predict the score on the health survey and therefore does not determine the level of healthiness in participant's lifestyles.
- This study suggests the importance of including nutrition facts on food items at restaurants and the significance of educating people to be aware of nutrition labels while grocery shopping. If a person is presented with nutrition facts immediately prior to making a food choice, they are likely to exhibit self-control and wait a longer amount of time to eat a healthy meal instead of eating an unhealthy meal choice right away.
- Realizing that health-related behavior can be better understood by examining the economic theory and the rate of discounting makes the present study one that can serve as a basis for future researchers.