

EMPLOYING THE INDUCED HYPOCRISY PARADIGM TO ENCOURAGE NUTRITION
ON COLLEGE CAMPUSES

by

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ABSTRACT

According to the Centers for Disease Control and Prevention, overweight and obesity rates in the United States continue to increase. And yet, despite their resources to encourage healthy lifestyles, college campuses reflect the national trend. Colleges and universities often utilize health campaign strategies such as social norms marketing and peer health education to encourage campus-wide health initiatives. However, based on an application of effective health communication attributes, both strategies demonstrate limitations that must be addressed in future collegiate health campaign approaches. I analyzed the effectiveness of adopting an induced hypocrisy health campaign to encourage nutrition. The induced hypocrisy paradigm has resulted in successful behavioral change by having participants create a pro-attitudinal message. Then, participants are reminded of their past failure to engage in the behaviors they advocated. It was hypothesized that hypocritical subjects would purchase more nutrition bars than subjects in any of the other conditions. The results indicate that, although more hypocritical subjects purchased more nutrition bars than subjects in the other conditions, the findings were not found to be statistically significant. Interpretations of the study findings as well as implications for future nutrition campaign initiatives are discussed.

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THE INCREASED PREVALENCE OF OBESITY ON COLLEGE CAMPUSES

In 2001, the Surgeon General, David Satcher, warned of a growing epidemic in the United States: “If this situation is not reversed, it could wipe out the gains we have made in areas such as heart disease, diabetes, several forms of cancer, and other chronic health problems.” The condition brought to the fore-front of Americans’ health consciousness is currently having the effect that Satcher dreaded in 2001, “Statistics on overweight and obesity have steadily headed in the wrong direction.” Unfortunately, they have continued in the same direction.

According to the Centers for Disease Control and Prevention, obesity can be defined as an adult with a body-mass-index of 30 or higher. The National Center for Health Statistics released a survey in 2007 reporting the latest statistics on obesity for American men and women. The report states that between 2005 and 2006, obesity for men rose to 33.3% and obesity for women rose to 35.3%. While these increases were not found to be statistically significant based on previous data (i.e., obesity rates for men and women in 2003 - 2004 were 31.1% and 33.2% respectively), the Center for Disease Control and Prevention noted that the current findings are still troubling. The negative impacts of obesity range from physical health problems to economic tribulations. To reduce the occurrence of obesity, Satcher recommended that schools and employers should promote more physical activity, construct recreational facilities that provide more opportunities for physical activity, and make nutritious food and beverage choices more readily available.

Based on the aforementioned recommendations, a college campus would be the ideal place to reduce overweight and obesity rates. Many colleges and universities have impressive recreational facilities, provide nutritious food and beverage choices in their dining services facilities, and offer health and nutrition services in their campus counseling centers. Despite

these resources, Strout (2007) reports that college students (typically between 18-24 years of age) reflect the national trend: approximately one-third of college students are overweight or obese. Additionally, Mokdad et al. (1999) explain individuals between 18 to 29 years of age have demonstrated more rapid weight gain than the general population and college students comprise a significant portion of this population. Racette et al. (2005) also contend that college students are particularly susceptible to increased weight gain during their initial years at college.

A number of factors contribute to college students' weight gain during this particular stage in their lives. According to Strong et al. (2008) college students may experience increased weight gain because of playing fewer organized sports, eating quick and often unhealthy meals, demonstrating poor sleeping habits, increasing consumptions of alcohol, and not creating effective schedules to allow time for exercise.

Furthermore, Strong et al. (2008) suggest the reason college students are not engaging in healthy eating behaviors is *not* because they are not knowledgeable about the benefits of healthy eating habits and exercising. Also, it cannot be attributed to college students simply not wanting to engage in these behaviors. In fact, Strong et al. reports the contrary:

Being physically active is important to college students, and many report that they would like to exercise more. They believe the positive outcomes of being active are improved health and functioning, improved psychological health, being in better shape or more competitive at sports, as well as social benefits...when they eat healthful foods, most students state that they feel better, both physically and psychologically, and are energized. Other reported benefits of eating well include weight loss/better weight management. Perceived negative outcomes of consuming an unhealthy diet are feeling tired, sluggish, or uncomfortable (p. 1713).

College students are knowledgeable about the health benefits of eating nutritiously and show promise in adopting these values themselves. They are also aware of the negative consequences of living an unhealthy lifestyle. However, while students possess these potentially positive inclinations, college campuses would benefit additionally by increasing students' motivation to utilize the resources already available on campus.

One resource of which colleges and universities can take advantage to positively impact their students' knowledge, attitudes and behavior is the implementation of health communication campaigns. According to Synder (2007), "a communication campaign is an organized communication activity, directed at a particular population for a particular period of time, to achieve a particular goal" (p. S32). The Department of Health and Human Services (DHHS), in its *Healthy People 2010* initiative, explain "[Health communication campaigns] link the domains of communication and health, and is increasingly recognized as a necessary element of efforts to improve personal and public health." As the DHHS recognizes the importance of health communication efforts to promote healthy behaviors, it is essential that higher education administrations investigate the communicative elements of health campaign strategies to ensure the most successful approach is utilized to promote nutrition.

Three types of health communication campaigns will be discussed in this paper. Currently, two of the approaches are widely-used by colleges and universities. These strategies are social norms campaigns and peer health education. Social norms campaigns, also known as social norms marketing, harness the power of social influence. This strategy seeks to change students' behavior by replacing exaggerated social norms with realistic social norms. The intended goal is for students to adopt the realistic, and healthier, social norm. Social norms marketing accomplishes this goal by communicating the realistic social norm via posters,

advertisements in the school newspaper, table-tents, flyers, etc. A second campaign strategy is peer health education. Peer health education also utilizes social influence by having students serve as the communicators of health information. More specifically, students give presentations, provide interpersonal support, and are involved in on-campus activities to promote health topics to other students.

The induced hypocrisy paradigm has not been fully developed as an initiative for a collegiate health campaign. In this strategy, students from the target population become the communicators of the campaign's message. Then, students are reminded of their past inconsistency to perform the behavior. The goal of the campaign is that students, who become hypocritical after advocating the campaign's message and are reminded of their past inability to perform the behavior, adopt the behavior they originally advocated.

Although the induced hypocrisy strategy has not been utilized in the area of nutrition, it has been used to successfully promote behavioral change in numerous areas including condom use (Stone et al., 1994), water conservation (Dickerson et al., 1992), and safe driving (Fointiat, 2004). The induced hypocrisy paradigm is a more active approach to promoting healthy behaviors. Instead of passively receiving messages about a health-related topic, the target audience is actually *involved* in the construction of the campaign's messages. The purpose of this paper is to explore if the induced hypocrisy paradigm is an appropriate model for a collegiate health campaign that seeks to promote nutrition. This research will allow campus administrators to make a more informed decision when determining if a collegiate health campaign needs to be created addressing overweight and obesity rates, and if the induced hypocrisy paradigm can serve as a foundation for its creation. Thus, because this research will provide additional

information about developing the most successful health campaign to promote healthy eating behaviors on college campuses, it is important to address the following research problem:

Can the induced hypocrisy paradigm be used to encourage college students to adopt healthier eating behaviors successfully?

To address the aforementioned problem, social norms marketing and peer health education will be addressed in further detail and Synder's (2007) criteria for effective health communication campaigns will be applied to examine their respective strengths and weaknesses. Next, the induced hypocrisy paradigm will also be described more in depth, and Synder's criteria will also be applied to highlight this strategy's valuable potential as an alternative campaign strategy. A hypothesis and method for further researching the induced hypocrisy paradigm will be advanced, and finally, the paper will conclude with a discussion of the study and its implications for further health campaign development.

REVIEW OF LITERATURE

Two of the most popular strategies to promote healthy behavior on college campuses are social norms marketing and peer health education. While both strategies demonstrate the advantages of a peer-based health campaign, they also have limitations to be addressed in future health campaign developments. To better understand how social norms marketing and peer health education function as health communication campaign strategies, each approach will be explained more in depth. First, a description of each campaign's method, intended goals and effectiveness will be provided. Then, Synder's (2007) criteria for effective health communication campaigns will be applied to each strategy to better understand the strengths and weaknesses of each approach.

Social Norms Marketing

First, the foundation of social norms marketing resides on a simple, yet powerful, premise. A person's behavior is highly influenced by what he or she perceives is "normal". If a person believes that his or her behavior is normal, he or she will continue to behave in accordance with the norm. However, people often over-exaggerate what is normal, and this misperception can be problematic if what is considered normal behavior is actually unhealthy or dangerous behavior in reality. If, for example, a student believes that most other students have pizza delivered three times a week, he or she will believe that it is normal for him or her to do the same, and he or she may eat too much unhealthy food as a result. The goal of a social norms marketing campaign is to communicate the positive realistic norm so that people will both become aware of what most people are actually doing and, more importantly, that people will change their behavior to match the realistic positive norm. To elaborate on the previous example, if a student learns via a social norms marketing campaign that most students actually have pizza

delivered twice a month, he or she will reduce their unhealthy eating habit to match the realistic norm.

Cameron and Campo (2006b) provide further clarification, “[Social norms] campaigns are based on pluralistic ignorance which suggests that individuals are unable to accurately judge the social norm. The underlying assumption is that once you correct the perceived norm so that it matches the actual norm individuals will alter their behavior accordingly” (p. 277). The University of Mississippi (Ole Miss) employed a social norms campaign to reduce the student body's elevated consumption of alcohol. Gomberg, Schneider, and Dejong (2001) explain that publishing statistics in the school's newspaper to raise awareness about the student body's drinking habits was one strategy used in this campaign. For example, one of the statistics published in the newspaper read, "About 60% of Ole Miss students use alcohol once a week or less." In reference to Cameron and Campo's description of social norms campaigns, the purpose of the campaign was to change the student body's perceptions of how much Ole Miss students actually drink. Once these perceptions were changed, Ole Miss students would reduce their drinking habits. The social norms campaign at Ole Miss seems to have successfully achieved that goal. Gomberg et al. explain that the social norms campaign may have contributed to correcting participants' perceptions of the student body's drinking behaviors. In addition, the authors note that a correlation may be made between exposure to the campaign and lower reports of alcohol consumption by Ole Miss students.

A similar social norms campaign was used while I pursued my undergraduate degree at Concordia College in Moorhead, MN. However, instead of accepting the social norms campaign's messages, many of my friends and I were skeptical about the validity of the statistics. Apparently, others have been skeptical as well. In opposition to the findings of Gomberg et al.,

Polonec, Major and Atwood (2006) reported that only 27.4% of participants believed that “most students drink 0 to 4 drinks when they party” when they conducted an evaluation of a social norms campaign at their institution.

Rather than focusing on one specific health issue like alcohol usage, Cameron and Campo (2006b) examined the relationship between positive/negative health behaviors (e.g., smoking, drinking, and exercising), participants’ sociodemographics, and their normative judgments and attitudes. However, normative judgments of other students’ smoking, drinking, and exercising behaviors were not significant predictors of the participant’s own smoking, drinking, and exercising behaviors. Based on the findings of Gomberg et al. (2001), Polonec et al. (2006), Cameron and Campo (2006a), and Cameron and Campo (2006b) the success of utilizing social norms campaigns to alter students’ behaviors remains mixed.

Polonec et al. (2006) provide an explanation for social norms campaigns’ possible ineffectiveness. According to the authors, “Respondents’ experiences with their own drinking behavior and that of their friends appear to have contributed to their disbelief in the campaign message, just as personal experience appears to have overridden the purported social norm” (p. 32). While this postulates that the results of social norms marketing may be uncertain, it does not suggest the irrelevance of exploring the relationship between perceptions of a peer group's behavior and an individual's behavior. In fact, peer influence and behavior on a collegiate level have been explored in numerous avenues such as drinking alcohol (Talbot et al., 2008), campus violence (Marcus & Swett, 2003), and eating disorders (Zalta & Keel, 2006).

As previously noted, Synder (2007) explained that nutrition campaigns should consider the following criteria for increased effectiveness: specific behavioral goals, target population, communication activities and channels, message content and presentation, and techniques for

feedback. The first limitation of social norms marketing is evident when considering Synder's first criterion: campaigns should specify the goals of the intervention. Synder explains this concept further:

Sometimes campaigns use intermediate goals, such as increasing knowledge or awareness of a problem, with an assumption that people will automatically take action when they learn of a problem. However, people do not always act on what they know...so when campaigns include knowledge, awareness or belief-change goals, they should also include behavior goals (p. S34).

In other words, the messages in the campaign need to indicate how the target audience should act based on the knowledge that they gained. Social norms marketing, in regards to alcohol consumption, did not meet this criterion successfully. The messages communicated the realistic norm under the assumption that students would change their behavior based on the reported norm. Although the behavior change was implied, it was not specifically stated, and some students may not have successfully made the connection between the campaign message and their own behavior.

With respect to the target population and communication strategies, social norms marketing often targets the entire student body in the presentation of their messages. Social norms marketing utilizes a variety of communication mediums (i.e., newspaper advertisements, posters, etc.) to expose their target audience to campaign message frequently over a sustained period of a time. And, the realistic norm is derived from quantitative data collected from the student population. It would seem then, because the statistics promoted in the campaign are derived from the target audience and exposure to the messages is high, that this strategy should be successful. However, as Polonec et al. (2006) note, reporting the normative behaviors of the

entire student body may not be effective because members of the target population will use their own experience to determine the validity of message. Unfortunately, once the message is rendered "unbelievable" repeated exposure to the campaign messages loses its impact.

In addition, successful health campaigns must include methods to gather feedback. As social norms marketing is a popular collegiate health campaign strategy, it has been studied extensively to provide evaluations of its effectiveness. While some research has indicated reductions in alcohol consumption among the student body (Perkins & Berkowitz, 1986; Gomberg et al., 2001), other studies have indicated that administrations should exercise caution in employing social norms marketing (Cameron & Campo, 2006a; Polonec, Major, & Atwood, 2006; Cameron & Campo, 2006b). Though evaluations for social norms marketing have been conducted, the results remain mixed.

In addition, message content and presentation are important factors in creating a successful health campaign. Synder (2007) explains that messages "should emphasize information that is new to the target group and essential for behavior change" (p. S37). Also, the message presented must be both credible and consistent. Social norms marketing capitalizes on the criterion of message content by providing the target population with new, and more importantly, accurate information. The success of the Ole Miss social norms marketing campaign, as reported by Gomberg et al. (2001), indicates positive behavior change by having members of the target audience learn new information about the student body. However, the statistics are not consistent based on the target audience's own experiences. More simply, as evidenced by Polonec et al. (2006), if what a student *learns* to be true is inconsistent with what a student *believes* to be true, the latter may certainly be a more powerful source of persuasion.

Peer Health Education

In addition, peer health education is a popular strategy that many colleges and universities utilize to promote their students' wellness (Sloane & Zimmer, 1993). In peer health education, students serve as the communication mediums by talking with other students about health topics. Although the training and involvement of peer educators varies from campus to campus, describing one university's approach to peer health education will clarify how this program operates. The University of California at Santa Barbara (UCSB) is one example of a collegiate institution that utilizes peer health education. According to the university's website (2009), "Peer health educators are UCSB students who focus on promoting a positive campus community that reflects the attitudes, behaviors, and values of a healthy lifestyle." These peer health educators are required to take one of the three introductory education courses which provide knowledge and training in one of the following areas: sex and relationships, alcohol and drugs, or healthy eating and living. Peer health educators promote their respective causes through presentations, awareness activities (i.e., setting up an information table in a busy campus area), environmental strategies (i.e., passing out condoms to students passing by), and informal contacts (i.e., simply talking with friends about alcohol and substance abuse). Because nutrition serves as the impetus for this study, we will focus on the Healthy Eating And Living educators or HEAL educators.

A recent study of the University of California at Santa Barbara's peer health education program provides an evaluation of HEAL educators. White, Park, Israel, and Cordero (2009) conducted a longitudinal study by surveying students over the course of four years. White et al. measured the correlation between the participants' contact with a HEAL educator and the participants' positive behavior in the areas of weight management and *fat talk* or "conversations in which participants discuss topics related to weight, shape or appearance" (White et al., p. 500).

According to White et al., students who made contact with a HEAL educator (i.e., attended a presentation or engaged in informal contact) reported more weight management behaviors and engaged in *fat talk* more than students who did not make contact with a HEAL educator.

Synder's (2007) criteria for effective health communication campaigns will also be applied to peer health education to investigate this strategy's strengths and weaknesses. Peer health education is effective in terms of stating the behavioral goals of the campaign. For example, the HEAL educators provide presentations on numerous health topics. The goals of each health topic are explicitly stated on their website and indicate how students will change as a result of attending a presentation. For instance, the presentation "Healthy Eating for the College Student" has the specified goal of providing "tips for snacking and eating well in the dining commons and/or isla vista."

Next, peer health education meets Synder's (2007) criteria of considering the target population and message presentation. HEAL educators are members of the target population. Peer health educators become models that viewers can recognize (i.e., the models are in viewers' classes, are friends with viewers, or are simply seen by viewers walking on campus). In social norms marketing, it is easy for students to refute the campaign's messages because they are communicated by statistics derived from the student population or, a *generalized other*. Because peer health education includes members of the target audience, these refutations become obsolete.

Although peer health education uses student representatives to communicate directly to the target population, one limitation includes the communication activities employed by peer health education to promote exposure of their health topics. As Synder (2007) explains, "Activities and channels should be selected and used in a way to reach a high percentage of the

target population multiple times in a given period of time" (p. S39). While HEAL educators connect with students in a variety of ways, such as presentations, campus activities, and interpersonal discussions, the findings of White et al.(2009) indicate that the efforts of the peer health education program need more exposure. According to White et al., only approximately 34% of those surveyed reported contact with a HEAL educator. Unfortunately, this means that more than half of those surveyed did not utilize peer health education or, more specifically, these respondents chose to ignore information tables about nutrition, refused to attend presentations on eating healthy, did not engage in *fat talk* with a peer health educator, or were simply unaware of the HEAL educators' activities.

In addition, it is imperative that health campaigns include measures for research and evaluation in order to address limitations and produce stronger programs. However, peer health education needs further development in this area. White et al. (2009) noted that one limitation of the study on peer health education was its reliance on the respondents' self-reflections and self-reports. As a result, White et al. note, "Findings are limited to correlational inferences and no causal implications can be assumed" (p. 504). In other words, the respondents' behavioral change cannot be determined as a direct effect from contact with their peer health educators or, at least, this direct link cannot be made with a high degree of certainty.

In sum, the literature indicates that two approaches have been used to promote college students' wellness. While demonstrating some level of effectiveness, each approach has limitations that have been addressed. Taking into consideration the strengths and limitations of both social norms marketing and peer health education, the purpose of this paper is to investigate another model that could be used as a collegiate health campaign that encourages better eating habits. Although the induced hypocrisy paradigm does not appear to be utilized in a collegiate

context to promote nutrition thus far, it does have the potential to be developed into a successful strategy.

The Induced Hypocrisy Paradigm

A more pro-active approach may be necessary to promote behaviors that diminish the threat of overweight and obesity rates on college campuses. Rather than having a third-party serve as the communication medium for healthier behaviors, the induced hypocrisy paradigm involves the target audience in the construction of the campaign's messages. In other words, most college students believe that they should eat healthier and know *why* they should eat healthier, but they do not always act in accordance with these beliefs. Simply, the induced hypocrisy paradigm utilizes students' previously held beliefs and makes them mindful of past inconsistent behavior in order to make that crucial step between *knowing* one should do something and actually *doing* something.

To better understand the induced hypocrisy paradigm and its presuppositions, a portion of this chapter is dedicated to the paradigm's impetus: cognitive dissonance theory. Because the original theory Festinger (1957) proposed over 50 years ago has been extensively researched and developed, the modifications of cognitive dissonance theory will also be discussed. Finally, after explaining the induced hypocrisy paradigm, Synder's (2007) criteria will be applied to determine its potential effectiveness as a health communication campaign.

Cognitive Dissonance Theory

Initial Development

In 1957, Leon Festinger articulated an observation that actuated studies from multiple disciplines including social psychology, communication, and marketing among others. The impact that Festinger's cognitive dissonance theory has had in the aforementioned fields is

nothing short of extraordinary. Interestingly, the theory began with a simple premise.

According to Festinger, humans possess innumerable cognitions. Harmon-Jones and Mills (1999) describe the basic concept that serves as the foundation of the theory:

...pairs of cognitions (elements of knowledge) can be relevant or irrelevant to one another. If two cognitions are relevant to one another, they are either consonant or dissonant. Two cognitions are consonant if one follows from the other, and they are dissonant if the obverse (opposite) of one cognition follows from the other. The existence of dissonance, being psychologically uncomfortable, motivates the person to reduce the dissonance... [t]he greater the magnitude of the dissonance, the greater is the pressure to reduce dissonance (p. 3).

For example, perhaps a person holds the following cognitions simultaneously:

- A. Consuming nutritious foods and beverages are integral to living a healthy lifestyle.
- B. I want to behave in ways that will allow me to live a health lifestyle.
- C. I want to eat a candy bar and drink a soda for breakfast this morning.

Based on Harmon-Jones and Mills' previous explanation, we can make a few observations about these cognitions. First, cognitions A and B are consonant with one another. The person is knowledgeable about what constitutes a healthy lifestyle and wants to behave in a manner that is congruent with that knowledge. However, cognitions B and C are dissonant. The person's desire to live a healthy lifestyle is incongruent with what he or she wants to consume for breakfast that morning. Because of those cognitions, the person is currently experiencing some degree of dissonance (uncomfortableness). At this point, the person can engage in a number of options to reduce the dissonance that he or she is experiencing. Perloff (2008) provided a comprehensive

list of techniques that can be employed to reduce dissonance. First, Perloff's strategy will be provided, and then an appropriate response based on the previous set of cognitions will follow:

1. *Change your attitude.* Eating nutritious foods and consuming healthy drinks are no longer important to me.
2. *Add consonant cognitions.* I will eat a candy bar and drink a soda for breakfast but I am going to eat a salad and drink water for lunch.
3. *Derogate the unchosen alternative.* I could have eaten healthier but I would have had to stop at the grocery store instead of getting food from the vending machine. Then, I might have been late for class which is worse than eating unhealthy.
4. *Spread apart the alternatives.* Eating *something* for breakfast, even if it is candy and soda, is better than having *nothing* for breakfast.
5. *Alter the importance of the cognitive elements.* I may have not eaten nutritiously for breakfast today, but this is only one meal in my life-time. The impact of my behavior today will be negligible if I start eating healthy tomorrow and follow it religiously.
6. *Suppress thoughts.* Eating unhealthy for breakfast this morning is not really a problem.
7. *Communicate.* I will tell my classmate that having candy and soda for breakfast this one time will not influence my healthy-life style a great deal. This will provide me with an opportunity to seek agreement from another person and it will make me more confident about my behavior.
8. *Alter the behavior.* Do not have candy and soda for breakfast.

According to Festinger, humans possess a *drive*, much like hunger or thirst, to reduce or eliminate dissonance. It is this emphasis on reducing dissonance as a drive that serves as our

motivation, and is what makes cognitive dissonance theory so influential. In other words, we do not simply *choose* to reduce dissonance, we are naturally *compelled* to do so until the dissonance is reduced to a tolerable level or completely eradicated (Cooper, 2007).

Modifications

While the basic tenets of cognitive dissonance theory have endured for decades, numerous revisions have been proposed to improve its validity. More specifically, the degree with which we experience dissonance, if at all, has been studied extensively. The results of such studies have resulted in several alterations to Festinger's original theory. These modifications can be summarized when Cooper (2007) explains, "Inconsistent behavior produces dissonance but only when decision freedom is high...people are committed to their behavior...the behavior leads to aversive consequences...and those consequences were foreseeable" (p. 73). A brief description of each of the revisions provides an understanding of limitations that must be met prior to constructing a method to arouse dissonance in participants.

Decision Freedom. Linder, Cooper and Jones (1967) devised a study that examined how much control participants had in a decision affected levels of cognitive dissonance. In the experiment, participants were divided into two groups. The first group was *required* to write a counter-attitudinal essay banning political figures to speak on campus (low-choice condition). The second group was told that the experimenter was running late, were asked if they would like to participate in another experiment while they waited, and had the option to decline participation (high-choice condition). Participants were also given varying degrees of incentives for participating in the study. As hypothesized, Linder et al. found that participants in the low-choice condition experienced no dissonance and higher incentives led to attitude change.

However, in the high-choice condition, because dissonance is present, lower incentives led to a greater degree of attitude change.

Based on the results of Linder et al. (1967), decision freedom is also a contributing factor to the amount of dissonance that individuals experience when making choices to combat obesity. Drewnowski and Darmon (2005) explain, “The obesity epidemic is not so much a failure of biological systems but a social and economic phenomenon” (p. 900). In general, healthy foods like fresh fruit and vegetables cost more than sugary and fatty foods. As a result, many Americans do not have the option to choose healthy foods over unhealthy foods because of their socioeconomic status. The key term in the aforementioned cognition is *choose*. In other words, a person experiences dissonance *only* when he or she has the choice to eat nutritiously.

Commitment. Another revision of cognitive dissonance theory requires that an individual must display commitment to an issue in order for dissonance to be produced. Commitment occurs when an individual binds himself or herself to a position in which he or she advocates publicly (Carlsmith, Collins and Helmreich, 1960). According to Festinger (1957), believing that eating healthy foods is important and then acting in a manner incongruent with that belief will cause dissonance. However, publicly advocating the importance of nutrition and then acting in an incongruent manner increases dissonance levels because the public holds one accountable for their actions.

To further illustrate, Dickerson et al. (1992) used public commitment to encourage water conservation. The participants included 80 female swimmers living in a region experiencing a drought. Four conditions were created: mindful-plus-commitment, mindful-only, commitment-only, and unmindful/no commitment. In the mindful-only condition, participants were asked to answer a series of brief questions regarding their water use in the shower. In the commitment-

only position, subjects were asked to sign a flyer that would be displayed publically. By signing this flyer, participants indicated their commitment to conserving water. In the mindful-plus-commitment condition, participants completed the brief survey questions and signed a flyer indicating their commitment to water conservation. In the unmindful/no commitment conditions, participants were not approached to answer questions about past behavior or asked to sign a flyer.

Next, the shower lengths of all of the participants were timed. The results determined that participants in the hypocrisy condition took significantly shorter showers than those in the unmindful/ no commitment condition. However, subjects in the mindful-only and commitment-only conditions did not vary their shower times with those in the hypocrisy condition. Dickerson et al. (1992) explain that participants in these two conditions likely experienced some degree of dissonance by being reminded of past inconsistent behavior and committing to conserve water. To reduce their dissonance, participants in these conditions also took shorter showers. Nevertheless, the results of Dickerson et al. solidify the importance of making a public commitment to a behavior and actually following through with said behavior. Such a technique may be useful in encouraging college students to eat more nutritious foods. Individuals may understand the importance of eating nutritiously but they need additional motivation to engage in healthy behaviors. Asking individuals to publically commit to eating healthier may provide them with the drive to follow through with the position they advocated.

Aversive Consequences. In addition to decision freedom and commitment, Cooper and Fazio (1984) acknowledged the necessity of experiencing aversive consequences to produce greater dissonance in individuals. An aversive event can be thought of as a consequence resulting from a behavior that a participant does not want to occur. Cooper and Worchel (1970) recreated

the classic study by Festinger and Carlsmith (1959). Similar to Festinger and Carlsmith, Cooper and Worchel asked participants to tell an awaiting subject that a task he or she was about to perform, designed to be blatantly boring and uninteresting, was entertaining and exciting. However, the updated experimental design included a confederate who acted as the next subject waiting to complete the task. The confederate generated one of two responses to the participant: a) the confederate agreed and stated that he or she was looking forward to the task, or b) the confederate disagreed and stated that he or she did not believe the participant. In the latter scenario, Cooper and Worchel argue that dissonance was not experienced because an aversive consequence, such as fooling another student, did not occur.

If simply duping another student creates dissonance, the subject of obesity is likely to create a high degree of dissonance as well. Not consuming nutritious foods and beverages and not living an active lifestyle may result in obesity. The Centers for Disease Control and Prevention (CDC) list the following health consequences for those with obesity: type 2 diabetes, coronary heart disease, stroke, and some cancers among others. In addition, The CDC also reports, “According to a study of national costs attributed to both overweight (BMI 25–29.9) and obesity (BMI greater than 30), medical expenses accounted for 9.1 percent of total U.S. medical expenditures in 1998 and may have reached as high as \$78.5 billion...”(Finkelstein, Fiebelkorn, & Wang, 2003). Because the aversive consequences of obesity exist on both personal and societal levels, it is a subject that is particularly well-suited to be studied using cognitive dissonance theory.

Foreseeability of Consequences. Not only do aversive consequences need to be experienced or implied, they must also be foreseeable. The aforementioned health and economic-related consequences of obesity must be foreseeable to individuals in order for dissonance to be

produced. For example, in the Festinger and Carlsmith (1959) study, the act of telling a fellow student that an experiment was fun, when it was actually quite dull, had a foreseeable consequence. After telling the lie, the participant knew that the student would learn of their deceit.

Goethals, Cooper, and Naficy (1979) created an experiment that made the role of foreseeable consequences a necessity in cognitive dissonance theory. The authors designed an experiment asking participants to create a counter-attitudinal message. The message advocated a substantial increase in the number of freshman students admitted to Princeton University. This is a policy to which many students were opposed. Next, Goethals et al. divided the participants into three groups:

One group was explicitly informed of the possibility of an unwanted consequence following the attitude-discrepant act. A second group was given a general description of the consequences of the behavior, designed to make a specific consequence retrospectively foreseeable. A third group was not told anything about the consequences of the act (pg 1181).

Researchers told participants that they were recording both sides of the admissions argument and asked participants if they would be willing to advocate increasing the number of freshmen students admitted to Princeton. All participants were told that the experiment involved linguistics of oral and written communication. At this point, subjects in the third group were asked if they would be willing to participate. However, before volunteering to participate in groups one and two, subjects were given additional information. Group two was told that their message may be seen by groups on campus interested in learning about various communication aspects prior to volunteering for the study. The first group was told that their message would be sent to one of

the following groups: linguistic strategies seminar, the debate team or a University committee considering increasing the size of the freshman class.

After this information was provided, subjects volunteered to participate. In the third and second groups, participants were informed after the message was completed that their messages would be sent to an admissions committee. Then, subjects were asked to rate how agreeable they found the proposed admissions policy to be. As expected, groups one and two displayed attitude change toward the policy whereas group three did not. Therefore, Goethals et al. (1979) concluded, “If one’s behavior produces unwanted consequences that are totally unforeseeable, such consequences produce no dissonance” (pg. 1183).

Development of the Induced Hypocrisy Paradigm

Several paradigms of cognitive dissonance theory have been pursued such as the free-choice paradigm, effort-justification paradigm, belief-disconfirmation paradigm, and the forced-compliance paradigm. However, one of the newest paradigms of cognition dissonance theory is particularly effective in persuasion because it reminds a target audience that “they do not always practice what they preach.” This paradigm is known as *induced hypocrisy*. One of the pioneer studies that shaped the induced hypocrisy paradigm is the research of Aronson, Fried and Stone (1991). As previously noted, the induced hypocrisy paradigm has been used successfully in the past to promote behaviors that are congruent with living a healthy lifestyle.

Aronson et al. (1991) successfully promoted safe sexual behaviors using this paradigm. Aronson et al. asked participants to volunteer in a program that would encourage condom use to prevent spread of HIV and AIDS. The subjects volunteered to create a message advocating safe sex behaviors that would be shown to a target audience of high school students. Next, the participants were divided and placed in four conditions. In the *mindful condition*, participants

were requested to describe a situation where they had failed to use condoms during intercourse. After sharing their experience, half of the *mindful* participants were asked to create their message advocating safe sex behaviors. Thus, these participants became mindful of past inconsistent behavior but publically committed to behaving safe sexually (*hypocrisy condition*).

In the *unmindful condition*, participants were not reminded of past incongruent behavior. Half of these participants created a message advocating safe sex behaviors that would be shown to high school students. The other half simply composed their message, rehearsed, and were not recorded giving their message. All participants then completed a questionnaire explaining their past use of condoms and future intended use. Aronson et al. (1991) reported that participants in the hypocrisy condition more likely to admit their own past failure to use condoms.

Stone et al. (1994) utilized a similar methodology to induce hypocrisy in the participants. Like Aronson et al. (1991), Stone et al. required their participants to create messages for an "AIDS Research program." Half of the participants created video-taped messages advocating condom use for high school students and the other half of the participants simply rehearsed their message so the researchers could study how creating messages influenced memory retention. Also, half of the participants were reminded of past inconsistent behavior by reporting reasons why they failed to use condoms in the past. The other half of the participants did not complete this step and simply skipped to the dependent measure. However, serving as the dependent measure in this approach, Stone et al. provided the participants with an opportunity to reduce their dissonance by purchasing condoms. As anticipated, subjects in the hypocrisy condition bought more condoms than participants in the other conditions.

As previously noted, the induced hypocrisy paradigm has been used in a variety of contexts. Stone and Fernandez (2008) report that the induced hypocrisy paradigm has been used

to promote positive behavior change in the following areas: condom use, water conservation, energy reduction, and obeying speed limits, among others. However, the induced hypocrisy paradigm has not yet been utilized in a collegiate campaign to encourage nutrition. Because the induced hypocrisy paradigm may be a more successful approach than other collegiate campaign strategies, it is important to research if this approach would successfully encourage healthier eating habits among students.

Like the analysis of social norms marketing and peer health education, it is important to consider the specific behavioral goals of the intervention, target populations, communication activities and channels, message content and presentation, and techniques for feedback and evaluation, prior to implementing the induced hypocrisy paradigm as a viable option for a health communication campaign (Snyder, 2007). The messages created by participants in the induced hypocrisy experiments have explicitly stated behavioral goals. Stone et al. (1994) required subjects to compose messages that specifically advocate "condom use as the easiest form of protection against AIDS." In a nutrition campaign, it is important for the participants to explain the importance of making healthful eating choices and further explain how they personally plan to accomplish this goal. Next, Snyder recommends, "The target populations should be based on current dietary behaviors and risks, beliefs, resources, life circumstances, and communication patterns" (p. S38). Similar to peer health education, the communicators of an induced hypocrisy paradigm-based campaign would include members of the target population ensuring the campaign's messages would be tailored toward college students.

Also, effective health campaigns utilize communication activities and channels. One of the practical implications of the induced hypocrisy paradigm explained by Stone et al. (1994)

takes advantage of using interpersonal sources of information via "cooperative learning groups."

According to Stone et al.:

Cooperative learning groups could start by brainstorming reasons for why it is important to practice safe sex or abstain from sex completely. This activity would be similar to the public commitment factor in hypocrisy. Next, making students mindful of their own sexual behavior could be accomplished by having a small discussion group work together to generate a list of the circumstances that make the use of condoms or abstinence difficult (p. 126).

Pending the results of an induced hypocrisy experiment demonstrating its effectiveness in the context of nutrition, an induced hypocrisy campaign promoting healthful eating could be structured similarly to Stone et al.'s description of cooperative learning groups.

In addition, the induced hypocrisy paradigm is particularly well-suited to become a health campaign based on message content and message presentation. First, members of the target population explain why nutrition is important to them, and they explain how to accomplish being nutritious. This step meets Synder's (2007) criterion that messages may need to provide a "how to" to bolster the target population's self-efficacy. Second, Synder also recommended that messages should be kept of "high quality; using explicit, intense emotional, or entertaining messages" (p. S37). The communicators of an induced hypocrisy campaign have control over the content of the messages and they can include content that fits their diverse interests and emotions. For example, messages could range from amusing personal stories of how to creatively increase vegetable consumption by adding them to macaroni and cheese, or messages could reflect emotional personal narratives explaining how nutrition is particularly important to a person with a history of obesity in their family.

Finally, the induced hypocrisy paradigm meets the last tenet of Synder's (2007) criteria by providing evaluative measures for success. First, like Stone et al.'s (1994) experiment, a nutrition-based campaign could include an immediate behavioral measure like purchasing a healthy snack after participating in an induced hypocrisy initiative. In addition, Stone et al. also conducted follow-up interviews after the completion of their experiment to examine the condom use of their former participants. A similar approach could be applied to a nutrition campaign to determine its longitudinal effects on engaging in nutritious behavior.

A detailed explanation of cognitive dissonance theory, the induced hypocrisy paradigm, and the application of Synder's (2007) criteria indicate that this strategy may be particularly effective in promoting the initial steps to solve the problem of obesity on college campuses. Based on a review of other collegiate health campaign strategies and their respective limitations, it is imperative that other potentially helpful approaches be studied. In addition, because the induced hypocrisy paradigm has been successful in numerous other contexts, it would likely be effective in this context as well. Therefore, based on the assumptions of the induced hypocrisy paradigm and previous research studying its behavioral effects, the following hypothesis is advanced:

H₁: Hypocritical participants will purchase a healthy snack more than participants in the committed-only, mindful-only or unmindful/uncommitted condition.

METHODOLOGY

Overview

The purpose of the study is to determine the validity of employing the induced hypocrisy paradigm in the context of nutrition. The methodology for this study is similar to the approach utilized by Stone et al. (1994). Like Stone et al., this study will employ a 2 X 2 fixed effects factorial design that manipulates whether a participant publically commits to eating nutritious foods to an audience, and whether he or she is mindful of past inconsistent behavior. In addition, participants will be randomly assigned to one of four conditions: 1) mindful and committed (hypocrisy), 2) mindful but uncommitted (mindful only), 3) unmindful but committed (committed only) or 4) unmindful and uncommitted (control group). After participants completed one of the four conditions, they will be provided with an opportunity to purchase a nutrition bar. The Institutional Review Board approved the study prior to its initiation.

Participants

Subjects were recruited to volunteer in the study from introductory communication classes held during the summer session at a Midwestern university. Instructors willing to participate read an announcement to the class explaining their involvement in the study (see Appendix A). Subjects were informed by instructors that they would receive extra credit and monetary compensation for participation, and the instructors explained what would be expected of them if they participated. Students were told that a campaign will be created to promote nutrition on college campuses and that their participation is necessary to create materials for the campaign. Students were told that the campaign requires that participants compose a short speech, answer a survey and then complete a brief questionnaire. Students were then asked to

sign-up for a thirty-minute appointment to meet with the "campaign coordinator" or, the researcher.

Eighty-two students signed up for an appointment. Sixty-five students attended their appointment and the remaining appointments were either cancelled or the students were designated as no-shows. One participant was eliminated from the study population as he personally knew the researcher. And, three participants were also eliminated because they arrived for their appointments at the same time. Because these participants waited for each other to finish their appointments, the researcher could not execute the experimental design successfully. Thus, the final study population ($N=61$) consisted of participants representing a variety of majors ($N=21$) and balanced proportion of men ($N=31$) and women ($N=30$). Students majoring in nutrition, food science and dietetics ($N=3$, in total) were included in the final study population. Previous research has indicated that although these students may have special knowledge of the subject area studied, it does not necessarily cause healthier eating habits. For example, Read and Crock (1999) found no significant differences between nutrition majors and non-nutrition majors in calcium intake.

Procedure

All of the participants' appointments were held in the same location and each participant completed their appointment individually. Prior to their arrival, participants were randomly assigned to one of four conditions as mentioned above: 1) hypocrisy group, 2) committed-only group, 3) mindful-only group, or the 4) control group (an explanation of each condition is provided below). All participants were told that the purpose of the researcher's project was to develop a campaign that will promote nutrition on college campuses. The researcher needed the participant to help create materials to be used in the campaign. All subjects were told that the

campaign requires them to compose a short message encouraging healthy eating habits. As with Stone et al. (1994), students created this message using a standardized list of facts (see Appendix B) about the positive effects of choosing to eat healthy and the negative consequences of choosing not to eat healthy. Next, what additional information was provided to the participant was dependent on his or her condition (i.e., hypocrisy, committed-only, mindful-only, or control group).

Commitment Manipulation

Half of the participants were told to create messages that would result in a public commitment to consuming nutritious foods and beverages. In the *commitment condition*, participants were told that the researcher was developing new presentation materials for the Sensible Nutrition and Body Image Choices (SNACs) peer educators. Many of the students were not aware of the SNACs program and the researcher provided a brief explanation. The researcher informed the participants that the SNAC educators are involved in numerous campus activities such as eating disorder awareness week and the health fair. In addition, one of the SNAC educators' responsibilities is to give presentations on health topics to campus groups like fraternities and sororities. The researcher explained that she was involved with the SNACs program to develop new material for their presentation on nutrition. The researcher explained that she was asking participants to create a short message advocating nutrition that would be video taped. Participants could use nutrition-related facts from the pre-composed list to include in their messages (see Appendix B). The researcher then explained that she would go back through the messages and select the best communicators. These messages would then be used in a short film. This film would be used by SNAC educators to stimulate discussion on nutrition.

Because SNAC educators present to other Kansas State University students, the participants were informed that their peers may see their message if it is selected to be used in the film.

In the *no commitment condition*, participants were asked to compose a short message advocating pro-nutrition using the same list of facts. However, participants in this condition were not told that their message would be included in SNAC peer education program. Instead, participants were informed that the purpose of their message was for the researcher to test a hypothesis on the correlation between creating a message and memory retention. Participants created their messages but these participants were not video-taped. The video camera was hidden in this condition so the participant would not be under the impression that he or she could potentially be video-taped. After creating their message, participants were given a survey asking them to list as many facts on the nutrition sheet that they can remember: seemingly testing participants on their ability to remember the information they just created a speech about (see Appendix D).

Mindfulness Manipulation

In the second step of the study, all participants were divided into conditions with varying degrees of mindfulness. Like Stone et al. (1994), because this campaign is to aid in the development of new SNAC presentation materials, researchers asked half of the participants to fill out a survey after completing their message. The researcher explained that purpose of this survey is to understand why it is often difficult for college students to eat healthy. Participants understood that their answers would be tallied, and would be used as the basis of a SNAC presentation to help college students face the challenges they listed (note: participants not in the *committed condition* were given the explanation of the SNACs program at this time). A list of excuses commonly used to justify not eating healthy food was provided to the participants (see

Appendix C). The participants were asked to circle excuses that they often found themselves using. In addition, an “other” category was provided at the bottom of the list and participants were encouraged to add to the list if a reason they do not always eat healthy was not provided. The purpose of this task is to remind participants in the *mindful condition* that they have not always acted in a manner congruent with the position they advocated in their messages or, more simply, that they "do not practice what they preach." After completing the survey, the participants in the *mindful condition* were exposed to the dependent measure. In contrast, participants in the *unmindful condition* were not given the list of excuses to consider. Instead, after creating their message, these participants were exposed to the dependent measure without being reminded of their own past inability to eat nutritiously.

Dependent Measure

At this point, some of the participants were likely experiencing some degree of dissonance. After the participants completed their respective condition, an opportunity was provided for participants to relieve their dissonance. This opportunity simultaneously served as the measure of behavioral change. A bowl of nutrition bars as well as a small bowl of change were placed on a table before students arrived for their appointment. The bowls were located on the table where participants completed the surveys.

Before the researcher explained the dependent measure, they were paid \$2.00 for participating in the study. The researcher also gave them the final questionnaire. The questionnaire included questions about sociodemographic information. The questionnaire also asked students which instructor announced the study for purposes of extra credit. Finally, the form required participants to provide their signature to indicate that they were paid for "administrative purposes" (see Appendix E for a copy of the final questionnaire).

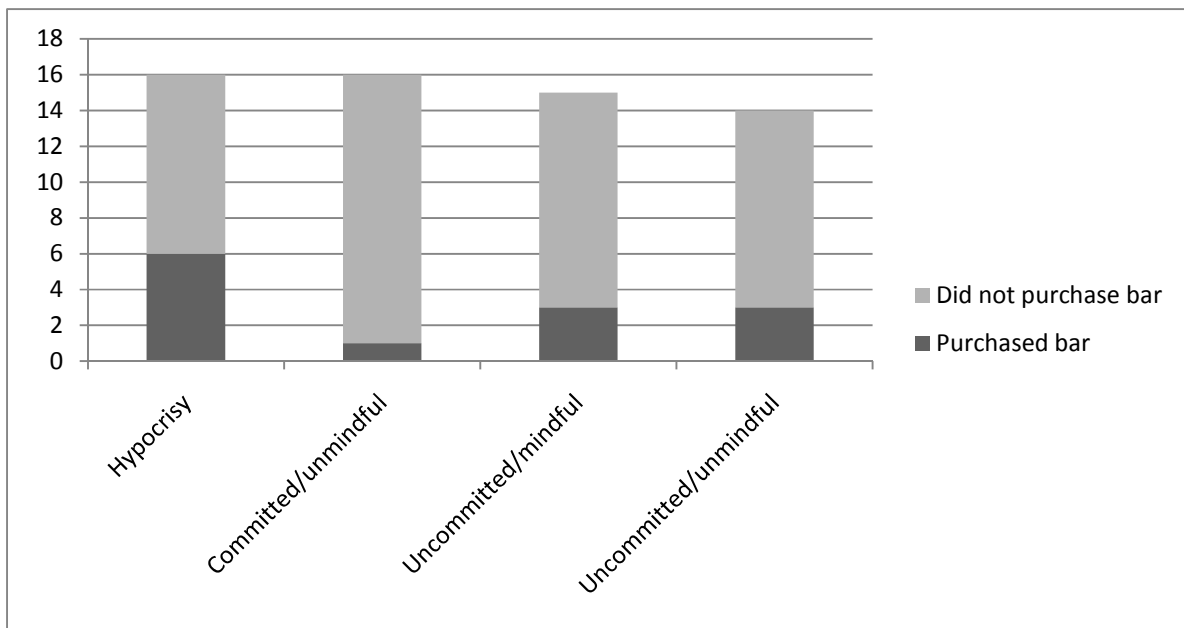
After paying the participant and giving them the final questionnaire, the researcher informed the participant that she was going to excuse herself to "use the restroom," "drop off a form in the department office," or "refill her water bottle.". She told all of the participants that if they finished the final questionnaire before she returned they could leave the questionnaire on the table and "let themselves out." But just prior to leaving the room, the researcher explained that the participant could "feel free to purchase a nutrition bar for 50 cents" and that they could "use the bowl of money to make change." It is imperative that the researcher leave the room during this portion of the study in order to decrease the possibility that subjects may purchase nutrition bars simply to please the researcher. Therefore, the participant chose to make their purchase in privacy. It is also important that the participants *purchase* the dependent measure. Simply offering students a nutrition bar at the end of the study may have an unintended result. As Stone et al. (1994) also pointed out, students may find it difficult to pass up a "free item" and an unanticipated amount of nutrition bars may be taken as a result.

In addition, a preselected number of nutrition bars were included in the bowl (large enough so the participant did not feel like if they made or did not make a purchase it was noticeable). After exiting the room, the researcher waited in the hall for the participant to open the door. The researcher appeared to be walking back from her errand. She thanked the participant for their time and re-entered the room. Generally, appointments lasted approximately 15 to 20 minutes. So, the researcher had plenty of time to count the number of nutrition bars left in the bowl to determine if the participant made a purchase. She also checked the change bowl to ensure that the bars were purchased and not simply taken. The condition the subject completed and whether or not he or she purchased a nutrition bar was recorded in order to tabulate results

later. Then, the original number of nutrition bars and change were restored prior to the next participant's arrival.

RESULTS

After the data was collected, an analysis was conducted to determine a possible correlation between the participant's condition and the dependent measure, or whether the participant purchased a nutrition bar. No participants purchased more than one bar. The analysis was performed using the SPSS statistical analysis 16.0 software package. Alpha was set at .05. A frequency count yielded the following results:



A two-way hierarchical log-linear analysis by backward elimination was conducted to determine whether any significant associations exist between commitment and mindfulness. One-way effects were not found to be significant, yielding the likelihood ratio $\chi^2(2) = .258$, $p > .05$. The two-way effects were also not found to be significant, yielding the likelihood ratio $\chi^2(1) = .065$, $p > .05$. Though the raw data shows that more people in the hypocrisy condition purchased nutrition bars, only 21% of the subjects purchased a nutrition bar at all. Further, the sex of participants who purchased a bar is balanced: Men and women purchased 7 and 6 bars respectively. Consequently, no support for the hypothesis was found in the study.

DISCUSSION

It was hypothesized that hypocritical participants will purchase a healthy snack more than participants in the committed-only, mindful-only or control group conditions. Although more participants in the hypocrisy condition purchased more nutrition bars than participants in any of the other conditions, the results did not yield statistically significant results. The results of this study are inconsistent with past induced hypocrisy research. The induced hypocrisy paradigm has been used successfully to promote condom use (Stone et al., 1994; Aronson et al., 1991), encourage water conservation (Dickerson et al., 1992), conserve energy (Kantola, Syme & Campbell, 1984) and reduce driving speeds (Fointiat, 2004) among other topic areas. Because the induced hypocrisy paradigm has been effectively executed in a variety of areas, the results of this study beg the obvious question: Why was the induced hypocrisy paradigm unsuccessful in encouraging participants to purchase a nutrition bar? Initially, one might assume that the topic area of nutrition is not suitable for an induced hypocrisy campaign based on the study results. However, a content analysis of the participants' messages suggests that the success of an induced hypocrisy-based campaign relies on *how* the participants *communicate* the importance of nutrition. Consider the following excerpts from participants who elected to purchase a nutrition bar:

Eating unhealthy can cause obesity or maybe even anorexia. Most students come to class, go to have fun, study then eat something like pizza. Then, they do the same thing the next day. That is not good when you eat unhealthy foods. That causes you to have weight put on you and your body can't have too much of it. Not eating at all can cause anorexia. So please make sure you eat healthy so you don't have to worry about those extra pounds. Grab an apple instead of a candy bar! - Participant 29.

Nutrition is something we can learn about from a young age and is repeated so often throughout our lives that we ultimately became deaf to the true messages. Unfortunately, this leads to also ignoring our bodies. Not only is nutrition important to our mental well-being but it is also immensely important to our physical well-being. I have found that through small, gradual changes in things such as making the painful switch from regular soda to diet and trying foods from the store that are lower in calories, that I have not only lost weight but feel better in general! It can be difficult to take the first few steps but it would now be almost as difficult to change back to the old, unhealthy lifestyle!" -

Participant 22.

These participants advocated choosing healthier snacks instead of junk food. Also worthy of noting is that other participants who purchased nutrition bars explained the importance of eating foods with plenty of fiber and proper amounts of protein and choosing snacks with low calorie counts ($N=5$). The nutrition bars that were available for purchase were "high protein cereal bars" and "fiber fit cereal bars." It is not surprising then, with messages advocating the importance of choosing healthier snacks (some even specifically promoting fiber and protein in-take) that these participants would choose to purchase a nutrition bar to relieve their dissonance.

Next, below are three messages composed by participants who elected not to purchase the dependent measure (note: grammatical changes have been made to the messages):

Nutrition is important to me because of the high risk of heart disease in my family. Most men on my father's side have died due to obesity. Obesity has led to heart attacks, strokes and diabetes in my family. Nutrition is also important to me because I do not want to continue the tradition in my family. I want to be able to watch my children grow old and one day meet my grandchildren. - Participant 28.

When you are obese and overweight you increase your chances of a heart attack or even death. Living a healthy lifestyle may prevent osteoporosis, diabetes and even heart failure. I know it's hard not to eat sometimes especially when you're cooking so a great tip is to try and chew gum when you're cooking and then you won't be able to eat anything. - Participant 47

Usually, people that are concerned about getting out of shape or people who are trying to get in shape, there is one simple [piece] of advice; listen to your body and know what your body needs. If you're hungry: eat. Don't worry or feel bad about eating but of course eat a satisfying portion and space them out during the day. This will help drive up the metabolism process. Also, stay hydrated, even if you're not thirsty. Staying hydrated also boosts metabolism. This causes an increase in blood circulation which is important for the blood to transport vital minerals to the rest of your body. Also, many people get mixed up between thirst and hunger. When you constantly stay hydrated, you feel less hungry and therefore you eat when you're actually hungry. - Participant 31.

Like participants 22 and 29, these participants also explained why nutrition is personally important to them. However, their interpretations of the significance of eating nutritiously did not focus specifically on making better food choices. Other participants who elected not to purchase a bar explained how eating nutritiously combats disease, enhances physical attractiveness, improves self-esteem, increases energy and boosts mood, among others (see Appendix F). Because many of their messages were not directly related to the dependent measure, or in some cases, not related *at all* to the dependent measure, it is not surprising that they did not purchase a cereal bar. In other words, the results of this study would suggest that in

order for induced hypocrisy based campaign to be successful, the dependent measure must be included in the messages the participants advocate.

Consider other induced hypocrisy experiments. Stone et al. (1994) asked all of their participants to create messages advocating the importance of practicing safe sex to protect oneself from AIDS to an audience of high school students. More specifically, "Subjects were told that because high school students might be exposed to misinformation from their peers about sex and AIDS, it was important to teach sexually active students that 'condoms are the easiest and most reliable way for them to prevent the transmission of AIDS during intercourse'" (p. 118). Then, participants were exposed to commitment and mindfulness manipulations. After completing their respective condition, the participants were presented with the dependent measure: an opportunity to purchase condoms.

In another example, Dickerson et al. (1992) promoted water conservation on the University of California at Santa Cruz's campus. Efforts had already been made by the university to encourage water conservation on campus. Specifically, people were encouraged to take shorter showers after using the university's swimming complex. In the shower room, the university had posted a sign which read, "Take shorter showers. Turn off the water while soaping up." Dickerson et al. promoted water conservation further by instigating an induced hypocrisy experiment which allowed experimenters to time participant showers after they completed their respective condition (i.e., hypocrisy, committed/unmindful, mindful/uncommitted, and uncommitted/unmindful). All participants, after using the swimming complex, were asked if they were 1) in favor of water conservation and 2) whether they were on the way to the shower. Then, those in the mindfulness condition were asked questions about their showering habits. Those in the commitment condition were asked to sign a poster, to be placed in the shower area,

which read, "Please conserve water. Take shorter showers. Turn showers off while soaping up. IF I CAN DO IT, SO CAN YOU!" All participants' showers were timed and the frequency with which they turned off the shower was also noted. Again, the dependent measure was directly tied to the messages the participants advocated.

It would seem then, that in order to accurately measure behavioral change promoted by the induced hypocrisy paradigm, the dependent measure (or, the behavior the participants are advocating) needs to be included in the participants' message. In other words, if more participants would have advocated selecting healthier snacks as a means of accomplishing a more nutritious lifestyle, then more participants may have purchased the cereal bar as it is a more direct way to resolve their dissonance.

Furthermore, there is some empirical evidence to support this idea. Stone, Wiegard, Cooper and Aronson (1997) studied how participants chose to reduce their dissonance via a direct and indirect dependent measure. Stone et al. modeled their experiment after Stone et al. (1994) which required participants to advocate condom use to prevent AIDS. However, the authors presented two means that the participants could use to reduce their dissonance. Some participants were only given the opportunity to indirectly relieve their dissonance via an anonymous donation to a homeless shelter. Other participants were given the choice to relieve their dissonance indirectly via an anonymous donation to a homeless shelter, *or* directly by purchasing condoms. When the indirect-only choice was available, 83% of hypocritical participants chose to donate to a homeless shelter. However, when the choice was available to directly or indirectly relieve their dissonance, 78% of hypocritical participants chose to purchase condoms whereas 13% of hypocritical participants chose to donate to a homeless shelter. The

results overwhelmingly support the idea that, when given the choice, participants will choose to relieve their dissonance directly.

Stone et al. (1997) provide an alternative explanation for why 83% of participants took advantage of the indirect choice, even though it was not related to the position the participants advocated. Participants donated to relieve their dissonance by increasing their self-integrity. This assumption is grounded in Steele (1988)'s self-affirmation theory. According to Steele, people are driven by their motivation to maintain their self-integrity. This theory postulates that when a person's self-integrity is threatened, he or she will choose a dissonance reduction strategy that restores his or her overall self-worth even if it is not directly related to the behavior that threatened a person's self-integrity. In other words, participants chose to donate to a homeless shelter, even when it did not have a direct connection to their dissonance, because it positively restores their self-worth. Stone and Fernandez (2008) summarize Stone et al.'s findings:

Together the results indicate that when the only dissonance reduction opportunity available to a hypocrite is a behavior that reduced their discomfort but not the discrepancy, they will take advantage of it...[n]evertheless, when a behavior is available that directly resolves the hypocrisy, most people would rather restore their perception of self-integrity by performing the target behavior (p. 1033).

So, if purchasing a nutrition bar is an indirect strategy to reduce dissonance, why didn't more participants take advantage of this opportunity to restore their self-worth? I argue that participants might not have seen this behavior as viable alternative to restore their self-worth. Stone et al. (1997) offered donating to a homeless shelter as the indirect option. Making donations to a homeless shelter would relieve the participants' discomfort by affirming that they are still a "good person." Offering in-direct measures such as donating money to good cause like

a homeless shelter, or volunteering one's time at a recycling center would reaffirm one's self-worth. However, the connection between making a simple purchase and restoring one's self-integrity may not have been clear. Perhaps if the researcher had also added that the proceeds of purchasing a nutrition bar were being donated to the implementation of a nutrition program for disadvantaged youth, more participants would have taken advantage of this indirect dissonance reduction strategy as it positively restores their overall self-worth.

Limitations

There is a ramification of the study design that is necessary to address. The study population was of limited size. As previously noted, although more hypocritical participants purchased nutrition bars than participants in any of the other conditions, this finding was not found to be statistically significant. This may have been partially due to the number of students who participated in the study. However, although more participants would contribute to more accurate results, it should be noted that other studies using the hypocrisy condition utilized roughly similar-sized study population. For example, cognitive dissonance studies have reported a statistically significant relationship between a dependent behavioral measure and the type of condition the subjects fulfilled using 20 subjects or less in their experimental designs (Aronson et al., 1991; Dickerson et al., 1992; Stone et al., 1994).

Directions for Future Research

Although the advanced hypothesis was not supported, this study provides rich avenues for further induced hypocrisy research. Further study is necessary to investigate how the content of a pro-attitudinal message impacts a person's behavior. Future research could examine a topic area (i.e., safe sex, nutrition, safe driving) and study differences between a general pro-social message and a specific pro-social message. For example, perhaps a researcher is interested in

developing a campaign to promote environmentalism. Participants could be required to compose one of two messages promoting this topic area: one general and one specific. To clarify, participants in the committed condition would be asked to compose a message about one of the following topics: 1) advocating the importance of "going green", or 2) advocating the importance of recycling. The prior set of instructions would likely result in a collection of messages with broad interpretations of "going green" (i.e., purchasing a hybrid vehicle, turning off the lights in rooms you're not using, bringing reusable bags to the grocery store, etc.). The latter set of instructions would result in a much narrower collection of messages. Then, the same dependent measure, volunteering at a recycling center, would indicate whether general or specific messages impact participants' behavior.

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APPENDIX A

Instructions

A. Background: According to the latest statistics from the Centers for Disease Control and Prevention, one in three Americans is considered overweight or obese. Surprisingly, young adults reflect this trend. A graduate student from the Communication Studies, Theatre and Dance department is working on developing a health campaign to help reverse overweight and obesity rates in young people on college campuses.

B. Description: She would like to invite you to contribute to this campaign. Participation in would include signing up for a half-hour appointment with the campaign coordinator. In short, she would ask you to compose a short message (no longer than two minutes in length) that explains why nutrition is important and how you personally accomplish this goal. In addition, you may be asked to complete a short survey and answer a brief questionnaire. THAT'S IT!

Participation is completely **VOLUNTARY**. If you sign up for an appointment and decide you do not want to contribute, or even if you get started and decide you do not want to continue, that's okay.

With that being said, the benefits of contributing a message to this campaign include:

1. Extra credit
2. A small amount of monetary compensation
3. Making a valuable contribution to a society
4. Helping a poor student graduate

There is a sign-up sheet at the front of the room. Appointments will be held in Nichols 103. If there is not a time listed that works for you and you would still like to participate, please e-mail _____.

PLEASE BE ON TIME! If you arrive late to your appointment, you may not be able to participate. Appointments are in Nichols 103.

APPENDIX B

Nutrition Fact Sheet

Positive Outcomes

1. Eating at least 3 ounce equivalents a day of whole grains may help with weight management; mypyramid.gov updated October 8, 2008
2. Eating a diet rich in fruits and vegetables as part of an overall healthy diet may reduce risk for type 2 diabetes; mypyramid.gov updated October 8, 2008
3. Vitamin C, found in fruits and vegetables, helps heal cuts and wounds and keeps teeth and gums healthy. Vitamin C aids in iron absorption; mypyramid.gov updated October 8, 2008
4. Dietary fiber from vegetables, as part of an overall healthy diet, helps reduce blood cholesterol levels and may lower risk of heart disease; mypyramid.gov updated October 8, 2008
5. Eating fruits and vegetables rich in potassium as part of an overall healthy diet may reduce the risk of developing kidney stones and may help to decrease bone loss; mypyramid.gov updated October 8, 2008
6. Diets rich in milk and milk products help build and maintain bone mass throughout the lifecycle. This may reduce the risk of osteoporosis; mypyramid.gov updated October 8, 2008
7. Diets high in saturated fat have been linked to chronic disease, specifically, coronary heart disease. The Dietary Guidelines for Americans 2005 recommend consuming less than 10% of daily calories as saturated fat; mypyramid.gov updated March 6, 2008

Negative Consequences

8. Overweight and obese individuals are at increased risk for many diseases and health conditions, including the following: Hypertension...Type 2 diabetes, coronary heart disease, stroke, gallbladder disease, sleep apnea and respiratory problems and some cancers (endometrial, breast, and colon); Centers for Disease Control and Prevention Website updated March 21, 2008
9. According to *The Surgeon General's Call to Action to Prevent and Decrease Overweight and Obesity*, the cost of obesity in the United States in 2000 was more than \$117 billion (\$61 billion direct and \$56 billion indirect); Centers for Disease Control and Prevention Website updated June 20, 2008
10. Obesity during pregnancy is associated with increased risk of death in both the baby and the mother and increases the risk of maternal high blood pressure by 10 times; Office of the Surgeon General's Website updated January 11, 2007
11. An estimated 300,000 deaths per year may be attributable to obesity. The risk of death rises with increasing weight; Office of the Surgeon General's Website updated January 11, 2007
12. Individuals who are obese (BMI > 30)* have a 50 to 100% increased risk of premature death from all causes, compared to individuals with a healthy weight; Office of the Surgeon General's Website updated January 11, 2007
13. Obesity can affect the quality of life through limited mobility and decreased physical endurance as well as through social, academic, and job discrimination; Office of the Surgeon General's Website updated January 11, 2007

APPENDIX C

Below are common reasons why it is often difficult for individuals to consume nutritious foods and beverages. Circle all of the reasons that apply to YOU. In addition, at the bottom of the list, please list other reasons why it is difficult for YOU to eat healthy.

1. I can't find the healthy foods and beverages I like to eat at dining services or the union.
2. I don't have time to prepare healthy meals with my busy schedule.
3. Nutritious food costs too much money.
4. I don't have enough space or the required appliances to store healthy food.
5. Healthy food just doesn't taste very good.
6. I don't have time to go to a grocery store and go shopping for healthier foods.
7. Sometimes I just crave unhealthy food.
8. Unhealthy foods are comforting for me.
9. I usually forget to plan a lunch so I eat fast food instead.
10. I've gotten in the habit of starting my day with caffeine to wake me up.
11. When I get bored, I eat unhealthy food.
12. I eat junk food when I get stressed out.
13. My schedule is so erratic that it is difficult for me to develop good eating habits.
14. I'm generally unaware of the calorie and fat content of the foods I eat.
15. I skip meals because I have too much homework or studying to do.

Other:

APPENDIX D

Survey:

Instructions: The purpose of this survey is for the researcher to examine how involving participants in the construction of a personal message impacts memory retention. List as many of the nutrition facts you can remember (the nutrition facts were included with the first packet). Don't worry if you cannot remember a fact verbatim, just do the best you can. If you cannot remember any of the facts, please leave this survey blank.

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

APPENDIX E

Final Questionnaire

1. What is your sex? _____
2. What is your year in school (freshman, sophomore, junior, senior, etc)? _____
3. What is/are your major(s) and minor(s)? _____

Extra Credit and Payment

1. Who is your communication studies instructor is that allowing participation in this study for extra credit? _____

The researcher will contact your instructor letting him or her know that you participated.

*The contact will serve for attendance purposes **only**.*

2. Please print and sign your name below to indicate that you have received monetary compensation (\$2.00) from the researcher for completing this study.

Print name: _____

Sign name: _____

3. Thank you for participating in this study. Your contribution will promote a successful nutrition-based health campaign in the future.

APPENDIX F

Participant Messages

Note: Grammatical and punctuation changes have been made to the messages.

Hypocrisy Condition

"Usually for people that are concerned about getting out of shape or people who are trying to get in shape, there is one simple [piece] of advice; listen to your body and know what your body needs. If you're hungry: eat. Don't worry or feel bad about eating but of course eat a satisfying portion and space them out during the day. This will help drive up the metabolism process. Also, stay hydrated, even if you're not thirsty. Staying hydrated also boosts metabolism. This causes an increase in blood circulation which is important for the blood to transport vital minerals to the rest of your body. Also, many people get mixed up between thirst and hunger. When you constantly stay hydrated, you feel less hungry and therefore you eat when you're actually hungry." - Participant 31; Did not purchase nutrition bar.

"Being overweight and obese is an unhealthy lifestyle. If you find it hard to eat healthy then you should think of the people around you. You don't want to be here today and gone tomorrow. So diet already!" - Participant 49; Did not purchase nutrition bar.

"You're given one life to live, use it to its fullest, trust your body well and it will treat you well. Regular nutrition can prolong good health and positive emotion. I know it's easy to buy microwavable meals but it just can't compare to home cooking." Participant 44; Purchased nutrition bar.

"If you don't eat nutritiously, the function of the stomach will get worse and worse. Be nutritious to get enough protein, fat and vitamins. You can get vitamins from fruit and vegetables and you can also get protein from cereal" - Participant 9; Purchased nutrition bar.

"Even though eating healthy and exercising may be the last on your list of priorities as a busy student, doing both of those things help give you energy for the studying and numerous different activities that fill your day. A great starting point is to eat a healthy balanced breakfast every day and try to do an activity at some point that gets your heart rate up for thirty minutes. You'll be amazed at how much more energetic you'll feel and your body will thank you!" - Participant 23; Purchased nutrition bar.

"Eating unhealthy can cause obesity or maybe even anorexia. Most students come to class, go to have fun, study, and then eat something like pizza. Then, they do the same thing the next day. That is not good when you eat unhealthy foods. That causes you to have weight put on you and your body can't have too much of it. Not eating at all can cause anorexia. So please make sure you eat healthy so you don't have to worry about those extra pounds. Grab an apple instead of a candy bar!" - Participant 29; Purchased nutrition bar.

"Being active is one of the most overlooked aspects of good health, in my opinion. I don't even think a gym membership is necessary. Go for a 15 - 20 minute walk and try to use the elevator less. Over time, you'll not only look better, but feel better too." - Participant 37; Purchased nutrition bar.

"I believe it's good to stay healthy because coming from a family with a history of heart attacks and high cholesterol, it adds years to your life. More importantly, in many cases, it makes you a

happier person and a more pleasant person to be around." - Participant 8; Did not purchase nutrition bar.

"A hodge-podge of barbeque, beer, the freshman fifteen and the notorious lack of student funding sometimes results in added pound-age. It is very important for students to keep nutrition in mind. Did you know that overweight and obese individuals are at an increased risk for hypertension, diabetes, coronary heart disease, stroke and gall-bladder disease and other nasty cancers such as andrometrical, breast and colon? Stay classy Manhattan!" - Participant 10; Purchased a nutrition bar.

"Taking a class in nutrition can help an individual understand the importance and basics of proper nutrition. I recently took the basic nutrition class here on campus and ever since I have changed my eating habits." - Participant 1; Did not purchase a nutrition bar.

There are many reasons why nutrition is important. My own personal reason is my weak immune system. I was in the hospital a lot and once I was sick long enough, I started eating better. I don't drink anything but water and juice. And I try to eat two vegetables and fruits with each meal and after doing that it has helped me stop being sick and stay out of the hospital and I feel a lot better. You should try and eat as many nutrients as possible. That's one way you can start getting better." - Participant 15; Did not purchase a nutrition bar.

"I think that eating junk food is a lot like taking out a loan. There's that immediate gratification but there's a debt to be owed. So when you eat junk food you have that immediate gratification but you still owe something to your body." - Participant 61; Did not purchase a nutrition bar.

"When I think of proper nutrition, I sometimes think of body image but when I really sit down and think about it, it's about piece of mind for me. When I've been eating fairly healthy for awhile, I feel more confident in myself, my self esteem is always higher so not only do I physically feel better but mentally, I feel pretty great about myself. And the thing that keeps me on track nutritiously is making events out of things. If you make meals with your roommates, you go to a farmer's market together and it becomes this big event and you become really proud of this healthy meal you're going to make for yourself. And, so that's my nutritional advice." - Participant 17; Did not purchase a nutrition bar.

"Nutrition is the energy in my life. Everyday I wake up and have an apple or an energy drink. So fruits and vegetables can reduce type II diabetes and reduce kidney stones. So I challenge you all to have fruit and vegetables with every meal and you will live a long and happy life." - Participant 24; Did not purchase a nutrition bar.

"Aging is a piece we all do so nutrition in our daily lives helps us to stay engaged longer and live longer with more health." - Participant 60; Did not purchase a nutrition bar.

"I believe that nutrition is important because it has everything to do with energy." - Participant 55; Did not purchase a nutrition bar.

Committed/Unmindful Condition

"Healthy foods make you live longer. Fast food can cause cancer. You can be killed by bad food. Eat Japanese food. Japanese food is absolutely healthy and very delicious." - Participant 12; Did not purchase a nutrition bar.

"Just take five seconds to read the ingredients on the back of a label. You'd be surprised how much of your food actually started in a lab. A good rule of thumb is: If you can't pronounce more than two of the ingredients on the back, it's probably not a very good idea to eat it." - Participant 2; Did not purchase a nutrition bar.

"I prefer to get the proper nutrition because when my body and mind is functioning to its fullest capacity I can live my life to the fullest. I have three roommates plus myself and I do most of the cooking for all of us. I find it easy when I'm at the grocery store to buy the reduced fat goods. It costs the same but it has added benefits. I also like to incorporate fruits and vegetables into meals whenever I can. You can make a simple thing of rice and add vegetables to it to make it even healthier for everyone. And because one of my roommates doesn't eat ground beef, we've started using ground turkey which is a lot healthier. So those are some ways we try and stay nutritious at my household." - Participant 16; Did not purchase a nutrition bar.

"Nutrition is important because if you do not have proper nutrition it can lead to negative consequences. You can become overweight or obese and it can lead to other diseases. For instance, my mom and my grandfather have type II diabetes from eating poorly. However with eating properly they are doing well even though they still have diabetes. I would not consider them to be overweight but that is my main concern with improper nutrition. I don't want to become fat so I tried to watch what I snack on. I don't want people to judge me as a fat person. I try to eat fruits and vegetables when I have the urge to eat." - Participant 6; Did not purchase a nutrition bar.

"Eating a diet that is rich in fruits and vegetables can reduce risks that include diabetes, bone loss and heart disease. Some things you can do to make sure you are eating healthy would be to diet

with a friend. Going to the store full can reduce your chances of buying many unhealthy items and just making sure you are eating plenty of vegetables and fruits. Living a healthy lifestyle is very rewarding, and making the right food choices will help you to have a very long and fulfilling life." - Participant 42; Did not purchase a nutrition bar.

"When you are obese and overweight you increase your chances of a heart attack or even death. Living a healthy lifestyle may prevent osteoporosis, diabetes and even heart failure. I know it's hard not to eat sometimes especially when you're cooking so a great tip is to try and chew gum when you're cooking and then you won't be able to eat anything." - Participant 47

"Being healthy. What's the first thing you think of when you hear that? Being obese and being healthy? I know when I hear of health and healthy people I think of skinny people and that's not necessarily true. My grandpa died of a stroke when I was just a little baby and now that my mom has told me stories about him I want to make sure I stay healthy. He had diabetes, high blood pressure and high cholesterol. I don't want any of that to contribute to the way I pass. I want to pass naturally and not for my bad health decisions. So just think, the next time you put salt on something, ask yourself, is it really worth it?" - Participant 25; Did not purchase a nutrition bar.

"An international student told me that her boyfriend said, "You look like a fat pig" four months after she arrived in the United States. I suggested that she check the calorie counts in the dorm's dining service or anywhere else and that she should exercise more." - Participant 57; Did not purchase a nutrition bar.

"A great way to stop eating as much candy is to substitute fruit. Fruit has a natural sugar to calm your craving and it will be much healthier eating that and reducing your candy craving all at once." - Participant 50; Did not purchase a nutrition bar.

"I am an athlete and I think that eating a balanced diet and drinking plenty of water is essential in living a healthy lifestyle. Nutrition is a huge component for me and helps me to be strong. Go state!" - Participant 21; Did not purchase a nutrition bar.

"To me, nutrition is important because it leads to a happier, healthier life. When I was younger, I was overweight and I really wasn't happy with myself. Then in high school, I started eating healthier and exercising and I lost a lot of weight. Now not only do I feel healthier, but I feel like I'm a more confident, happier person." - Participant 32; Did not purchase a nutrition bar.

"Personal choices made regarding nutrition can greatly affect an individual's lifespan and quality of life. Statistically speaking, people who choose healthier choices have smaller chances of getting debilitating or life-ending diseases. With eating plenty of fiber, coronary heart disease can be kept at bay. Furthermore, the individual will have a much smaller chance of becoming obese. Obesity is a condition which greatly increases a person's chance of health complications. I believe that good examples and strong education of proper nutrition at an early age can positively affect the health of a general population" - Participant 58; Purchased a nutrition bar.

"Nutrition is vital to your body. If you're using too many energy drinks it's like a drug, you get more addicted to it. Addiction to energy drinks is worse than addiction to a common drug. The simple solution to this is to have cardiovascular training every day and the energy that you get

from that will be enough to sustain you throughout the day without the nutritional downfalls." - Participant 33; Did not purchase a nutrition bar.

"Nutrition is important because your body must be healthy to survive. By having a balanced diet of four food groups and healthy quality food and a good exercise regimen, you can improve the quality of your life. I eat plenty of fruits, vegetables and grains which help me get through the day. Your body can go days without food but it cannot go very long without water. Staying away from processed food is hard because it is easily available with all the fast food restaurants in America. Much of the food from these places is so processed that it contains very little nutrients. Having a good exercise regimen is important also to a healthy balance. Our body needs energy and exercise provides energy. We also need water to keep from dehydrating. Nutrition is like a big circle. It is important to maintain the big circle for a healthy way of life." - Participant 30; Did not purchase a bar.

"Being obese and being overweight is unhealthy. If you find it hard to eat healthy, then you should think of the people around you." - Participant 49; Did not purchase a nutrition bar.

"The things that I like to keep in mind as far as nutrition is skin care. One of the big things that I keep in mind as far as skin care is sunscreen. I wear sunscreen when I'm outside in the sun walking around and doing my daily activities as well as drinking a lot of water. Both of which reduce the risk of skin cancer and keep your skin looking healthy and nice." - Participant 59; Did not purchase a nutrition bar.

Uncommitted/mindful condition

"In my point of view, being nutritious is important in our lives. First of all, nutrition leads to a healthy lifestyle. Eating right and exercising daily not only helps us maintain a good body shape but also prevents us from different kinds of diseases. Eating fruits and vegetables rich in potassium as part of an overall healthy diet may reduce the risk of developing kidney stones and may help to decrease bone loss. Second, people feel more confidence when they maintain a nutritious lifestyle. They look more attractive and are always in a good mood. Obesity has been a big issue recently in years. Individuals who are obese have a 50 to 100% increased risk of premature death from all causes compared to individuals with a healthy weight." - Participant 45; Did not purchase a nutrition bar.

"Having good nutrition is essential to have an overall good performance in our daily lives. Our bodies look and feel good, our immune system fights diseases better and we lower our risk of obtaining any chronic disease like cardio-vascular disease, cancer, diabetes, etc. Chronic diseases are a big problem for our nation nowadays. I believe, as a nation, we should focus on preventing rather than controlling these diseases. We could see a more expected change. Changing the way we eat and how we eat is the most important thing to do." - Participant 27; Did not purchase a nutrition bar.

"Being healthy and living a healthy life is important to me because I am a much happier person. Happiness is a direct result of my self-esteem. My self-esteem is kept high by maintaining an average weight for my height and age. One way to manage weight is to eat at least 3 oz. of whole grains a day. A good healthy life with an appropriate weight can also reduce the risk of some diseases." - Participant 18; Did not purchase a nutrition bar.

"I think nutrition is good because for one thing you are keeping yourself healthy; meaning that when you eat healthy food like vegetables and fruits you lower your cholesterol and heart disease. And the other thing is that most people who are overweight don't watch what they eat and get sick very easily." - Participant 34; Did not purchase a nutrition bar.

"Healthy nutritional choices, for young people, can be an area of contention. What one person believes to be healthy is not healthy to another. For example, the choice to have a small cheese pizza satisfies many criteria like maintaining a diet rich in milk which reduces bone loss. However, the source of the milk was fed an all natural diet or was fed antibiotics and hormones, can be the problem. I choose my dairy products with the care that they don't contain antibiotics or hormones and satisfy both sides of the issue." - Participant 20; Purchased a nutrition bar.

"For me nutrition is very important. I enjoy working out on a regular basis, usually 1 - 1 1/2 hours about 4 days a week. I try very hard to watch what I eat daily. I try to make healthy choices. Eating fruits and vegetables rich in potassium as part of an overall healthy diet may reduce the risk of developing kidney stones and bone loss. Although I try to eat healthy, I definitely splurge sometimes and eat something that is not so good for me. An estimated 300,000 deaths per year may be attributed to obesity. The risk of death rises with increasing weight." - Participant 7; Did not purchase a nutrition bar.

"From my personal experience, my grandfather is a little bit overweight. He has been that way for the last 20 to 30 years and he turned 75 this year. The last couple of years he has had serious heart problems mainly because of his high fat diet. Eating healthy will make your body healthy and you will live a longer and better life." - Participant 3; Did not purchase a nutrition bar.

"It is very important to eat healthy. Eat at least three equivalents a day of whole grains to help with weight management because overweight and obese individuals are at increased risk for many diseases and health conditions. Some of these include: hypertension, type II diabetes, coronary heart disease, gallbladder disease, sleep apnea and respiratory problems and some cancers." - Participant 11; Did not purchase a nutrition bar.

"I believe that nutrition is extremely important so that you can live a healthier life. If you have poor health than your quality of life is probably not as high as it should be. I believe there are certain foods that you should eat to maintain a healthy lifestyle. A diet rich in fruits and vegetables as part of a healthy diet may decrease the risk for type II diabetes. And if you are the type that ignores nutrition and you eat in an unhealthy way, then you may have a chance for obtaining serious health problems or becoming obese. About 300,000 deaths each year may be attributed to obesity. And also, as you increase your weight, the risk of death also increases." - Participant 13; Did not purchase a nutrition bar.

"Nutrition is important because when someone eats healthy, they avoid health risks like diabetes, hypertension, coronary heart disease, stroke, gallbladder disease, sleep apnea, and other respiratory problems and some cancers. When someone eats fruits and vegetables as part of a healthy diet, it reduces these health risks. When someone eats nutritiously, they can fight against these health problems and obesity." - Participant 29; Did not purchase a nutrition bar.

"Nutrition is important for the simple fact that you need to be healthy. Without nutrition it is hard to maintain a healthy weight. Without maintaining a healthy weight it is hard to participate in everyday activities as a young adult. Also, when you get older your health is more likely to suffer if you haven't had the right nutrition. With healthy nutrition, it can help you out in every

aspect of life. For the single reason that they had a poor diet that didn't give them the nutrition they needed. The simplest things, such as fruits and vegetables can improve one's nutrition so it makes it a poor excuse to say it's too hard to have good nutrition. If nutrition is that important and that easy to receive, there should be no reason why we have such an obesity problem in the United States." - Participant 56; Did not purchase a nutrition bar.

"Living a healthier life will make you smarter, stronger and less stressed and more energized in the long run. Eating healthy can help with weight management, lower the risk of health problems and can help maintain strength for later in life. There are only benefits to eating healthy so what do you have to lose?" - Participant 54; Did not purchase a nutrition bar.

"It is extremely important to eat nutritious foods because you are what you eat! The foods you choose are fuel for your body. So if you eat empty calories like sugary and fatty foods you will have unstable blood sugar levels, feel fatigue and gain weight! Also eating more fruits and vegetables may reduce the risk of type II diabetes. Diets high in saturated fats have been linked to chronic diseases. Fat grams have double the calories of protein grams and carbohydrate grams: Less than 10% of daily calories as saturated fat." - Participant 52; Did not purchase a nutrition bar.

"Nutrition is something we can learn about from a young age and is repeated so often throughout our lives that we ultimately became deaf to the true messages. Unfortunately, this leads to also ignoring our bodies. Not only is nutrition important to our mental well-being but it is also immensely important to our physical well-being. I have found that through small, gradual changes in things such as making the painful switch from regular soda to diet and trying foods from the store that are lower in calories, that I have not only lost weight but feel better in

general! It can be difficult to take the first few steps but it would now be almost as difficult to change back to the old, unhealthy lifestyle!" - Participant 22. Purchased a nutrition bar.

"Nutrition has become more important with the studies and technology we have today. Having good nutrition can help with keeping your weight down. Having whole grains can help. People with out of control weight management are at increased risk for many diseases and health condition like heart disease, stroke, type II diabetes and many others. Eating healthy foods like fruits and vegetables has its benefits. Vitamin C is in them and it helps heal cuts and wounds and keeps teeth and gums healthy. It is also very important to eat healthy during pregnancy. Obesity during pregnancy can result in death of both the baby and the mother and can also increase the risk of maternal high blood pressure." - Participant 43; Purchased a nutrition bar.

Uncommitted/Unmindful Condition

"I'm a perfect example of a non-nutritional person. I lived in the dorm last semester when I first came to the United States. Having a buffet every meal was a risk for me. I ate whatever I wanted, less fruit and vegetables, more sugar and meat. Then the consequence was when I gained a lot of weight and became very unhealthy. I even got sick when I came back to _____ during winter break because I gained weight too fast. Because of my unhealthy and non-nutritional diet, I suffered a lot. Now I eat more fruits and vegetables, almost no sugar and cheese, and do more exercises in order to keep me healthy." - Participant 35; Did not purchase a nutrition bar.

"Nutrition is very important for a healthy lifestyle. The saying, "we are what we eat" comes to mind very quickly when thinking about foods we choose to consume. Making good choices about your diet can lead to a longer, healthier life. Poor choices can have just the opposite effect.

"The risk of death increases with increasing weight. However, diets rich with milk and milk products produces build and maintain bone mass throughout the life cycle. This reduces the risk of osteoporosis. The good and bad affects of various diets are fairly well known. It is now a personal choice to make about having a quick, unhealthy meal now, or longer healthier life later." - Participant 19; Did not purchase a nutrition bar.

"In today's society nutrition is becoming a nationwide issue. In the past few years I personally have changed my diet significantly and the changes I have noticed have been significant. I switched to eating only whole grain food for all of my breads and found that I have much more energy throughout the day. Eating whole grains helps with weight management. A very key part to one's nutrition should be the intake of both fruits and vegetables. The dietary fiber alone from vegetables, as part of an overall healthy diet, helps reduce blood cholesterol levels and may lower the risk of heart disease as well. The benefits from eating healthy are overwhelming and hopefully it's only a matter of time until our nation notices it." - Participant 14; Did not purchase a nutrition bar.

"I feel that nutrition is very important to a person's well-being. Proper nutrition will give you more energy for exercise and other activities. It will also make you feel better about yourself and will help promote a healthy metabolism which will lead to a healthier weight. Eating at least 3 ounces equivalent a day of whole grains may help with weight management." - Participant 36; Did not purchase a nutrition bar.

"Nutrition is important for me because as I get older, I realize that my health is very important. My body is changing and I can't eat certain things now because it will effect me in a negative way than when I was younger. My family has a history of high blood cholesterol and I want to

watch what I eat so my cholesterol will be where it needs to be. I found that fiber helps reduce blood cholesterol levels." - Participant 6; Purchased a nutrition bar.

"Nutrition is important to everyone in many different ways. If you eat at least 3 ounces a day of whole grains it may help with weight management. Eating a diet rich in fruits and veggies as part of your diet may reduce risk for type II diabetes. If you eat Vitamin C, which is found in fruits and veggies, it can help heal cuts. Also eating fruits and veggies rich in potassium as part of your diet may reduce the risk of developing kidney stones. Eating very healthy can make you a healthier person." - Participant 53. Did not purchase a nutrition bar.

"Striving to lead a nutritious and healthy lifestyle may not be at the front of most people's mind. A failure to maintain nutritious eating habits can lead to obesity which can increase the risk of premature death by 50 to 100%. Not only that, this can affect a person's quality of life through limited mobility as well as various forms of discrimination. Why suffer this when something as simple as maintaining a diet rich in vegetables and fruits can not only help you feel good, but also decreases the likelihood of becoming obese and developing diseases? Developing a healthy lifestyle may require some discipline but the cost is minimal when compared to the reward." - Participant 41; Did not purchase a nutrition bar.

"There are many reasons why health is important. For starters, the things we eat (or don't eat) have an effect on us whether we like it or not. We can not control the consequences of what we eat. We can, however, control what to eat and what not to eat. Eating fruits and vegetables rich in potassium as part of an overall diet may reduce the risk of developing kidney stones and may help to decrease bone loss. Eating at least three ounce equivalents of whole grains may help with weight management. But knowing facts such as these can be important when trying to combat

obesity. Individuals who are at risk have a 50 - 100% increased risk of premature death from all causes; compared to individuals with a healthy weight. An estimated 300,000 deaths per year may be attributable to obesity. The risk of death rises with increasing weight. These facts, while stunning, are not only true but alarming. If they say that one out of three people are overweight and 1 out of 5 is obese that means the next time you go out in public you are guaranteed to see a handful of overweight and obese individuals. They are at risk for many diseases and health conditions. We as a nation can help ourselves by knowing and controlling what we eat. It could make us a healthier nation and that's never a bad thing." - Participant 46; Did not purchase a nutrition bar.

"As a type I diabetic, I know how important it is to eat right. My risk for type II diabetes increases as I get older so it is important that I eat enough fruits and vegetables. My body also does not heal as quickly as others and as long as I eat things with vitamin C it should help with this situation. If I were to neglect these foods from my diet, type II diabetes is something I am at a high risk for. My other main motivation for eating healthy would be the risks that go along with obesity. I plan on living a long and healthy life and obesity may cause premature death compared to people who have normal weights. These are all reasons I find it important to eat healthy." - Participant 51; Did not purchase a nutrition bar.

"Nutrition is important to me because of the high risk of heart disease in my family. Most men on my father's side have died due to obesity. Obesity has led to heart attacks, strokes and diabetes in my family. Nutrition is also important to me because I do not want to continue the tradition in my family. I want to be able to watch my children grow old and one day meet my grandchildren." - Participant 28; Did not purchase a nutrition bar.

"Staying healthy and fit is a full time job but one worth working at. After all who wouldn't want more time to enjoy this beautiful world we live on? A trick that I do to maintain a healthy diet is to drink water, water, water! In my fridge you will find 100% juice, whole milk and bottles of water. It's important not to fill up on sugary drinks such as soda, beer and juice concentrates. The other trick I make sure to keep up on is eating whole grain breads and pastas. White breads don't give you the "good" carbs that give you energy for an extended amount of time. Be sure it is 100% whole grain. This is different from wheat bread which is used to market to people who don't know the difference. Stay healthy!" - Participant 4; Purchased a nutrition bar.

"Almost 300,000 deaths each year are attributed to obesity. That's an alarming rate. One way you can keep from becoming obese or overweight is to eat nutritious food. I learned saturated fat will increase the risk of heart disease. So choose food that is lower in saturated fat and calories." - Participant 5; Purchased nutrition bar.