

The Role of Attitudes with Ambivalence and the Theory of Planned Behavior

Lisa Kristine Samuel

Walden University

Abstract

The purpose of this research proposal is to discuss the serious national social problem of obesity in the context of personal and social identity factors including personal attitude regarding eating behaviors and the impact upon theory of planned behavior's model of ambivalence towards healthy eating behavioral programs. This study is important for social psychologist so that an understanding of the success and failure rates of weight reduction programs can be measured with the goal of reducing obesity and a preliminary literature review has found significant research gaps in this area. The hypothesis is that there is an association between a negative attitude towards healthy eating behavior and high ambivalence towards healthy eating behavioral programs.

The Role of Attitudes with Ambivalence and the Theory of Planned Behavior

Social psychologists recognize that many current social issues are health related and may be resolved with behavior modification research (Roth & Armstrong, 1990). The social problem of unhealthy eating behavior in the United States is a serious issue and can be associated with high death rates, obesity related diseases, physical and mental disabilities, and increases in healthcare expenditures (American Obesity Association, 2007). Medical research confirms that poor diet contributes to obesity which is the second leading cause of death in the United States (The New York Times, 2004). The American Obesity Association (AOA) stated that 64.5 percent of Americans are obese and that obesity is a chronic illness which increases the probability of developing high blood pressure, type 2 diabetes, and additional heart diseases and soon will likely overtake smoking as the leading cause of death due to these obesity related health disorders (2005).

Poor eating behaviors also result in greater social psychological disabilities such as poor self image and self esteem, and psychopathologies such as social anxiety and depression and this is important for social psychological research (Center for Disease Control, 2008). Phares, Steinber, and Thompson (2004) noted multiple cases of depression and low self-worth in young people which was directly associated with dysfunctional body image perceptions associated with obesity and explained that there was a high risk for these disorders to become lifelong dysfunctions. Another reason that the social problem of unhealthy eating behavior must be addressed is that medical spending in 1998 attributed to obesity and overweight related disorders was

approximately \$78.5 billion according to the National Health Accounts (NHA) data and this amount is increasing annually (Center for Disease Control, 2008).

Even with this compelling evidence regarding the dangers of unhealthy eating behaviors many individuals still demonstrate ambivalence regarding changing their eating behaviors and as this is often associated with personal decisions (attitudes) and social influences (Snow, 2000). Armitage, Conner, Loach, and Willetts (1999) noted that the theory of planned behavior has been studied in relationship to a variety of social psychology issues including eating behaviors which can be evaluated using a variety of measurements such as self-reporting, Likert-based scales, and body mass indexes in conjunction. Psychologically this theory is similar to understanding how a person measures locus of control; however, it also measures a person's feeling of control over a behavior rather than just the internal control of events.

The theory of planned behavior was created to understand the interactions of beliefs, attitudes, and social influences on a person's final behavior with regard to their personal intentions (Aizen, 2007). The model has three tiers and the first is that a person will have behavioral beliefs surrounding whether or not a specific behavior will result in an outcome which impacts personal attitudes towards a behavior (Armitage et. al, 1999). The second tier addresses normative beliefs (which are perceived behavioral expectations of individuals the person feels is important) and subjective norms (which are the perceived social pressure to perform the specific behavior) as they apply to an initial behavioral belief (Aizen, 2007). The third tier consists of control beliefs and perceived behavioral control which is the person's internal and external feeling of how much control they have on the specific behavior (Armitage et. al, 1999). This theory has been

popularized with the use in a variety of social issues that are related to personal behavior such as understanding the spread of HIV, measuring health behaviors for those with chronic illnesses, and understanding goal directed behaviors for drug abuse recovery treatments (Young, 1991).

The theory of planned behavior can be applied to personality and attitudes regarding health eating behavior which is often formed through the media's usage of agenda setting or their ability to frame the issue with a specific angle to influence public opinion (Halliwell & Harvey, 2006). Although neuropsychological and satiety issues are associated with eating behavior, personalities and attitudes toward poor eating behaviors can be changed through educational programs and behavioral modification (Ozelli, 2007). One such example was demonstrated by Carpenter, Finely, and Barlow (2004) who conducted a pilot study in which they compared three groups of individuals (all suffering from poor eating behaviors according to the USDA's Health Eating Index) who either received weekly nutritional educational and training, Internet based nutritional educational training, or no educational training. The results demonstrated a significant improvement in eating behavior and a change in the associated attitude towards changing their behavior in the group that received weekly nutritional education and training (Carpenter, Finely, & Barlow, 2004).

Although measuring behavior such as in the Carpenter, Finely, and Barlow (2004) study can reflect a change in attitude the measurement of an attitude before a specific treatment, such as nutritional education or behavioral modification, is often not applied as a variable in similar research studies. This research proposal recommends the measurement of attitudes in areas such as perceived benefits of healthy eating, self-

efficacy, or social opinions using scaling techniques to determine any association with ambivalence measurements when utilized in the theory of planned behavior (Reid, 2006).

Conner, Povey, Sparks, James, and Shepard (2003) used the theory of planned behavior to assess attitudinal ambivalence with regard to eating behaviors. They used an increase in ambivalence towards healthy eating behaviors as the dependent variable and attitudes and intentions, attitudes and behavior, and perceived behavioral control as independent variables. By performing correlation studies based upon results from two theory of planned behavior designed Likert scales, the study found that it was possible to predict that those participants who demonstrated higher ambivalence with their healthy eating behaviors were more likely to have weaker relationships between the independent variables and the outcome of healthy eating behavior (Conner et. al, 2003).

Weakness and gaps in the related studies and literature discussed prior include not addressing the fundamental attribution error or the correspondence bias (Jansen & Tenney, 2001). An example of what would be preferred to be noted would be any observations of a person behaving in a manner that is not consistent with his or her nutritional program and determining whether or not the behavior is a result of social pressures or internal behavior (Stephens, Prentice-Dunn, & Spruill, 1994). Possibly this discrepancy could be related to a person's attitude having an effect upon his or her ambivalence. Additionally, if a person is going to participate in a nutritional behavioral modification plan, measurements of any pre-existing attitudes towards eating, nutrition, dieting, cooking, education, and other related variables should be noted (Steptoe, Perkins-Porras, Rink, & Hilton, 2004). Some individuals may feel ambivalent about eating behaviors while others may have strong attitudes towards these topics (Atlas, 2004).

Therefore, an understanding of how attitudes are formed, how they can be measured, how they can be changed, and how a social psychologist can measure the attitude change with regard to eating behaviors becomes important.

A preliminary literature review was performed which further demonstrated gaps in current research regarding eating behaviors, obesity, the theory of planned behavior, and attitudes or personality. A search for the terms “obesity” and “eating behavior” resulted in 10,300 articles in Google Scholar and 1,964 articles in the EBSCO databases (Academic Search Premier, SocINDEX, Health Source, PsychARTICLES, PsychINFO, MEDLINE, and Mental Measurements). When the term “theory of planned behavior” was added the Google Scholar results decreased to 88 and the EBSCO results decreased to 2. Finally, when the term “personality” or “attitude” was introduced the EBSCO results were zero and the Google Scholar results were limited to 55 (although the term ‘personality’ or ‘attitude’ was not found in any of the titles or main-descriptive). This suggests that perhaps there has not been a great deal of research conducted or documented in this area.

This research proposal will be conducted with the objective of exploring the relationship between the theory of planned behavior and ambivalence with the introduction of a personality (attitude) variable. The specific null hypothesis for this study would be that having a negative attitude towards healthy eating behavior is not associated with having high ambivalence towards healthy eating behavioral programs. The alternative hypothesis would be that having a negative attitude towards healthy eating behavior is associated with having high ambivalence towards healthy eating

behavioral programs. The dependent variable would be ambivalence and the independent variable would be having a negative or positive attitude towards healthy eating behaviors.

Method

The research design and approach will be a quantitative design using a random sample of participants and two Likert-based scales. A non-parametric test and SPSS software (a statistical program readily available and approved by Walden University) will be used for data analysis (Walden Research Center, 2008).

Participants

The population from which the sample will be drawn consists of residents of Boulder County, Colorado. Participants for this study will be recruited by advertisements placed in several local newspapers, coffee shops, markets, bars, workout centers, and universities in this area. The advertisement will ask those who are interested to send an e-mail to a research e-mail address with a request in the subject line to be registered in the study. Once this e-mail has been received the participant will receive a questionnaire to insure they are in compliance with the Institutional Review Board (IRB). The IRB ensures that all research conducted under Walden University is in compliance with U.S. federal regulations and the university's ethical standards (Walden University, 2008). This review board will have already approved the collection of data prior to the beginning of this research project. Next, the participants' information will be incorporated into a study research database (which will be in the form of Excel and SPSS documents) and he or she will be informed of the future receipt of two e-mail surveys. The goal of the survey method is to receive a respondent base of 300 initial respondents with approximately 242 respondents completing the first survey and approximately 235 completing the second

survey based upon similar research studies (Conner, Bell, & Norman, 2002; Conner et al., 2003). Once the initial respondents who have not participated have been removed from the dataset with appropriate notations, the expected demographics of the participants should be 232 with 51.6 male, 48.4 female, 86.6% non-Hispanic, and median age to be determined (Podunk, 2008). An enticement to encourage the full participation in the plan will include free access to the results as well as access to free online newsletters from the author(s) of the study upon completion of the second survey.

Materials

The effectiveness of a weight loss plan is determined by the ability of the person on the program to achieve the set goals and maintain those goals for the long term. Very often weight that was lost is regained and this may be because the program did not take the time to investigate the theory of planned behavior as they apply to exercise and eating (Baum & Posluszny, 1999). The theory of planned behavior was developed to predict behavior with the knowledge and understanding that each person is unique and therefore, has unique attitudes (Ajzen & Fishbein, 1980). Therefore, the first questionnaire will be focused upon measuring each participant's attitude towards healthy eating with no prior intervention or preface with regard to the purpose of the study. For the purpose of this proposal this questionnaire will be titled "Attitude Toward Healthy Eating" but this title will not be revealed to participants to avoid any bias associated with what may or may not constitute health eating (Aizen, 2006). The questionnaire will be a Likert-based measurement scale asking for self-reported responses to a combination of questions using the theory of planned behavior as a conceptual guideline. Sample questions would be based upon self reported eating inventories in which a person tracks his or her feelings

with regard to cognitive restraint, disinhibition, and hunger. Stunkard and Messick (1988) noted that reliability coefficients were reported in similar studies for combined samples of restrained eaters, and unrestrained eaters with coefficients ranging from .93 for the combined sample-cognitive restraint to .79 for the restrained eaters-cognitive restraint. Additional recent data and studies will be incorporated in the statistical management for the first questionnaire in the literature review (Aizen, 2006). This questionnaire will assess attitude towards healthy eating prior to any bias associated with the second questionnaire and will be presented to all participants on a 5 point scale. Not all extremely negative or extremely positive answers will be presented in the same order on each quiz. Sample questions for the first questionnaire would be scaled from 1 to 5 with 1 meaning “strongly disagree,” 3 meaning “unsure,” and 5 meaning “strongly agree” to include questions such as “I dislike healthy food,” “I never monitor my diet,” or “I eat whatever I want”.

The second questionnaire will use measures based upon the theory of planned behavior with questions that discuss each participant’s feelings regarding eating behavioral programs in the context of personal attitude, subjective norms, perceived behavioral control and behavioral intentions (Aizen, 2007). For the purpose of this proposal this second questionnaire will be titled “Theory of Planned Behavior: Healthy Eating Behavioral Programs” and this title will not be revealed to participants to avoid any bias associated with what may or may not constitute health eating programs. In this case the questions would remain constant with a rating scale of 1 meaning “strongly disagree,” 4 meaning “unsure,” and 7 meaning “strongly agree”. Sample questions for the behavioral beliefs section of the second questionnaire would be “I enjoy eating fruit”

or “I enjoy a healthful diet.” Sample questions for the subjective norms section of the second questionnaire would be “people important to me eat well” or “my role models eat a balanced diet”. Sample questions for the perceived behavioral control section of the second questionnaire would be “I think it is easy to decide what I eat” or “I can say no to eating unhealthy foods.” Lastly, sample questions for the behavioral control section of the second questionnaire are based upon prior studies including the Aizen’s theory of planned behavior model and will demonstrate any ambivalence for behavioral change programs based upon the combined results (2007).

Procedure

Both questionnaires will be provided via Excel spreadsheet software in a returned email that will include a download from Microsoft Office so that the user can open and use the Excel document without having to purchase the software (Microsoft, 2003). The first questionnaire will be taken upfront by the participants and e-mailed back to the research center and the data will be incorporated into SPSS software. Next, the second questionnaire will be sent to the same set of participants and the same procedure for answering the questions in Excel and the incorporation of this data into SPSS software will occur as well. Upon the completion of the second questionnaire, the participants will receive an e-mail notification that they have been included in the free newsletter and will receive a free copy of the study results upon completion.

The data analysis will use the chi-square test for independence (Gravetter & Wallnau, 2007, p.592). Chi-square test for independence is used to investigate any relationship between two categorical variables. For the proposed study, chi-square test will be used to examine if the variables attitude and ambivalence are independent of each

other using the data gathered. The following hypotheses will be evaluated in this investigation. H_0 : attitude is independent of ambivalence. That is, the frequency distribution of attitude towards healthy eating behavior has the same form for people with a high level of ambivalence towards healthy eating behavioral programs and a low level of ambivalence towards healthy eating behavioral programs. H_1 : attitude and ambivalence are related. In order to use the chi-square test for independence in this study key assumptions must be satisfied which are that each observed frequency must be generated by a different subject and that size of expected frequencies in 20% or more cells cannot be less than 5.0 (Gravetter & Wallnau, 2007, p.604). The final research report would contain a contingency table in which the data would be classified in two classifications. The first classification would be comprised of those with a negative attitude (scores 1 and 2), unsure attitude (score 3), or a positive attitude (score 4 and 5), and the second classification would be comprised of those with a high ambivalence (scores 6 and 7), medium ambivalence (scores 3, 4, and 5), or low ambivalence (scores 1 and 2) levels with regard to healthy eating behavioral programs.

Discussion

Upon completion of the data analysis portion of the study and assuming that the null hypothesis of having a negative attitude towards healthy eating behavior is not associated with having high ambivalence towards healthy eating behavioral programs (attitude being independent from ambivalence) is rejected, the discussion portion will include an analysis of the assumptions, limitations, implications, applications, and directions for future research. For example, using the selected alpha level of .05 with degrees of freedom being 4, the critical region for chi-square is 9.49 (Gravetter &

Wallnau, 2007, p.711). The results section should confirm a chi-square statistic that is in the critical region and therefore the null hypothesis will be rejected. This will demonstrate any associations between a preconceived attitude regarding healthy eating behaviors with a person's ambivalence regarding healthy eating behavioral programs (Gravetter & Wallnau, 2007, p.591).

The implications of these findings will change our understanding of social psychological phenomenon of the importance of why people form attitudes and why attitudes influence behavior. For example, the fact that an attitude can sway a person's interactions of beliefs, attitudes, and social influences on his or her final behavior with regard to their personal intentions may place additional importance on the need for researchers to focus on and understand the impact of attitudes for a variety of other social behaviors (Ajzen, 2007). This current study could benefit from the inclusion of taking height and weight measurements, body mass indices, gender, age, income level, education level, amount of exercise per week, body mass index of parents, and body mass index of close friends or spouses for the purpose of assessing long-term behavioral changes. Over time, data could be collected regarding various predictor variables and obesity information from those who participated in the study to determine any association with attitude towards eating behavior over time or with any of the other variables. This could lead to research regarding changes in attitude towards healthy eating behavioral programs and social learning.

Social learning is one important way in which individuals develop attitudes through classical conditioning, observational learning, and social comparison. These psychological concepts are associated with the development of attitudes and, as seen

through the potential results in this study, with the association of the role of ambivalence with regard to health eating behaviors (Baron, Byrne, & Branscombe, & 2006, p. 130). Classical conditioning can be described as a process in which one behavior signals another so, in future research studies, hypotheses could be developed surrounding any associations between a person listening to his or her parent who is morbidly obese and any demonstration of a negative attitude towards weight loss programs. Likewise, observational learning could occur in a similar situation in which a person's social network promotes the consumption of unhealthy foods which could become a part of the social norms and social comparisons for a person whom desires to join this particular group (Baron, Byrne, & Branscombe, & 2006, p. 130).

Besides having implications for future research in established social psychology areas of interest, these research findings will support the theory of planned behavior as a predictor of behavior with regard to participation and success with healthy eating behavioral programs (Godin, 1996). Continuous research in this area could support additional models regarding eating behaviors and benefits from weight loss reduction programs based upon the participant's psychological characteristics (Carrier, 1994; Roth & Armstrong, 1990). To be specific an attitude, which is one of the factors in the theory of planned behavior as well as a psychological characteristic, is a personal feeling about certain behavior that has been built upon throughout that person's lifetime based upon experiences, observations, and information they have acquired about the behavior (Higgins & Marcum, 2005). Therefore, by incorporating and understanding the importance of the individual's attitude and ambivalence towards a behavior, social psychologists can work with physicians to develop behaviorally focused interventions

and plans to help combat the obesity epidemic (Carpenter, Finley, & Barlow, 2004).

Many applications exist for this research to be incorporated to the national obesity epidemic from a social change perspective. For example, social psychologists can help with the obesity epidemic by contributing, in conjunction with medical physicians, to the development of healthy eating behavioral programs as social psychologists are actively involved in research surrounding human behaviors that can contribute to health problems (Baum & Posluszny, D. 1999). When physicians or psychologists assess a person's overall health, his or her existing eating behavior and attitudes should be taken into consideration as well as understanding whether or not he or she demonstrates any ambivalence about food and exercise from a psychological perspective. This can help the social psychologists and physicians to get a baseline understanding of what the likelihood of success is for a change in eating and exercise behavior to occur because of a health program and then make any changes or recommendations for behavioral modification (Carrier, 1994).

Opportunities exist to further this specific research study and to conduct additional related studies in this area. Future work could include furthering the statistical portion of the research and analysis with tests such as a Spearman correlation study. A Spearman correlation study can measure the strength of the relationship between negative attitude towards healthy eating and ambivalence towards healthy eating behavioral programs. The Spearman correlation study would be beneficial to measure the existing data in this study (upon completion) because the data has been collecting using Likert-based scales resulting in an ordinal scale of measurement (Gravetter & Wallnau, 2007, p.526). Additionally, Doll and Ajzen (1992) have noted that a relationship between

attitude and ambivalence may be complicated with varying measures of strength, systematic processing of feelings regarding the topic, as varying levels of motivation associated with changing behavior once attitudes are uncovered. This further supports the need to perform additional statistical analyses.

Additionally, opportunities exist to improve the manner in which data is collected. As with any theory of planned based research study, there are some assumptions and limitations associated with the utilization of a theory of planned behavior questionnaire. For example, Ajzen (2006) noted that it would be preferable to have three answers for each question to ensure reliability of response as well as accuracy in self-reporting and internal consistency metrics. For example instead of using just the Likert-scale based question 'for me eating healthy on a regular basis is' extremely difficult to very easy as rated on a one to seven scale, (as noted in Appendix B) Ajzen (2006) would prefer the inclusion of an exact numerical report as well as a rough numerical estimate to provide further testing reliability.

Lastly, the theory of planned behavior clearly notes that the more favorable a person's attitude is toward a behavior, the more likely they are to demonstrate low ambivalence towards acting upon or demonstrating the behavior. This study will be beneficial to adding to the body of literature that not only support the theory of planned behavior but also demonstrates a link between attitudes and how they influence ambivalence associated with actual behavioral control over health eating behaviors (Connor, Bell, & Norman, 2002). Several additional areas for future research would include looking at any potential associations between attitude, ambivalence, and social factors. Biological research has noted that social factors seem to have a stronger

influence on eating behavior than blood sugar levels do (Franklin, Germov, & Williams, 2001). For instance, in a study conducted by the University of Toronto 120 female college students were observed eating either alone or with friends (Liebman, 1995). The students who ate alone consumed 375 calories whereas the students who ate with friends consumed over 700 calories suggesting that social factors influence how much someone eats and the social influence usually results in increased consumption. Unfortunately, negative social pressures, such as a perception to lose weight, can be attributed to the onset of eating disorders such as bulimia, anorexia nervosa, or extreme exercise behaviors to compensate for caloric intake (Kansi, Wichstrom, & Bergman, 2005). With that being noted, social psychologists have a broad opportunity to look deeper into the relationships between social behavior, personality and attitudes, the theory of planned behavior, and healthy eating behavioral programs.

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Appendix A

Attitude Toward Healthy Eating

Please answer each of the following questions by circling the number that best describes your opinion. Some of the questions may appear to be similar, but they do address somewhat different issues. Please read each question carefully.

1. I enjoy eating fruits and vegetables

Strongly Disagree : ___1___ : ___2___ : ___3___ : ___4___ : ___5___ : Strongly Agree

2. The cost of buying healthy food is not worth it

Strongly Disagree : ___1___ : ___2___ : ___3___ : ___4___ : ___5___ : Strongly Agree

3. Eating fast food is not that bad for me

Strongly Disagree : ___1___ : ___2___ : ___3___ : ___4___ : ___5___ : Strongly Agree

4. I never monitor my diet

Strongly Disagree : ___1___ : ___2___ : ___3___ : ___4___ : ___5___ : Strongly Agree

5. It is not realistic to have balanced meals

Strongly Disagree : ___1___ : ___2___ : ___3___ : ___4___ : ___5___ : Strongly Agree

6. It is my business if I eat foods with transfats, not anyone else's

Strongly Disagree : ___1___ : ___2___ : ___3___ : ___4___ : ___5___ : Strongly Agree

7. I never eat candy for a snack

Strongly Disagree : ___1___ : ___2___ : ___3___ : ___4___ : ___5___ : Strongly Agree

8. I prefer water to soda throughout my day

Strongly Disagree : ___1___ : ___2___ : ___3___ : ___4___ : ___5___ : Strongly Agree

Appendix B

Theory of Planned Behavior: Healthy Eating Behavioral Programs

Please answer each of the following questions by circling the number that best describes your opinion. Some of the questions may appear to be similar, but they do address somewhat different issues. Please read each question carefully.

1. For me eating healthy on a regular basis is

extremely difficult : __1__ : __2__ : __3__ : __4__ : __5__ : __6__ : __7__ : extremely
easy

2. Most people who are important to me think that healthy eating programs are

beneficial : __1__ : __2__ : __3__ : __4__ : __5__ : __6__ : __7__ : useless

3. For me to attend a behavioral health program on a regular basis is

extremely good : __1__ : __2__ : __3__ : __4__ : __5__ : __6__ : __7__ : extremely bad

4. I plan to learn more about how to eat healthfully

extremely likely : __1__ : __2__ : __3__ : __4__ : __5__ : __6__ : __7__ : extremely
unlikely

5. Generally speaking, how much do you care an instructor of a behavioral health
program thinks you should do?

not at all : __1__ : __2__ : __3__ : __4__ : __5__ : __6__ : __7__ : very much

6. Generally speaking, how much do you care what your peers think of your eating
patterns?

Very much : __1__ : __2__ : __3__ : __4__ : __5__ : __6__ : __7__ : not at all

7. Attending a behavioral health program meeting on a regular basis will help me to gain a better understanding of healthy eating behavior

extremely unlikely :__1__:__2__:__3__:__4__:__5__:__6__:__7__: extremely likely

8. Attending these meetings will give me an opportunity to get healthier

extremely unlikely :__1__:__2__:__3__:__4__:__5__:__6__:__7__: extremely likely