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Correlates Of Overweight And Obesity In A Hispanic Community Sample

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CORRELATES OF OVERWEIGHT AND OBESITY IN A HISPANIC
COMMUNITY SAMPLE

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Dedication

This thesis is dedicated to the Blow, Castro, Redfearn, and Nelson families for all their support in my studies and in my life in general. I am especially thankful to my husband Chris for always encouraging me to pursue my dreams and being by my side in all of those pursuits. I am also thankful to my parents for everything they have done to help me get to this point in my life and making it possible for me to achieve my goals.

This thesis is also dedicated to my mentor, Theodore V. Cooper. His guidance throughout the years has been invaluable. I will always be appreciative and grateful for having the opportunity to work with and learn from him.

CORRELATES OF OVERWEIGHT AND OBESITY IN A HISPANIC
COMMUNITY SAMPLE

by

JULIE A. BLOW, B. S.

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Abstract

There is a dearth of literature regarding culturally- and theoretically-based constructs related to weight control in Hispanic populations. Aims of this study included observing culturally and theoretically based correlates of weight and waist circumference in an overweight / obese Hispanic sample. Data were collected from 232 participants at a local health care clinic. Measures included demographics, cultural constructs, and theoretical constructs from Self-Determination Theory (SDT), the Transtheoretical Model (TTM), and Social Cognitive Theory (SCT). Participants completed paper and pencil measures in English or Spanish and had height, weight, and waist circumference measured. Inferential analyses used hierarchical regression models to predict weight and waist circumference. The final steps in each model assessed which culturally- or theoretically- based constructs were significantly associated with weight and waist circumference. Inferential findings suggest no association between weight variables and cultural constructs, while lower weight was associated with greater SDT perceived competence for diet and exercise ($\beta = -.176, p = .054$; $\beta = -.202, p = .040$), TTM reduced pros of weight loss ($\beta = .246, p = .007$), greater TTM environmental reevaluation ($\beta = -.254, p = .009$) and TTM stimulus control ($\beta = -.200, p = .054$), and reduced TTM helping relationships ($\beta = .234, p = .005$), and TTM social liberation ($\beta = .226, p = .019$). Additionally, lower waist circumference was associated with the maintenance stage of change for weight ($\beta = -.304, p = .028$) for exercise. Implications include a strong need for future research and treatment of overweight and obesity and the further exploration of the TTM model and SDT perceived competence as they relate to reductions in overweight and obesity within Hispanic populations.

Table of Contents

Acknowledgements.....	v
Abstract.....	vi
Table of Contents.....	vii
List of Tables	ix
Introduction.....	1
Obesity in Hispanics	2
Potential Cultural Correlates.....	4
Potential Theoretical Correlates	5
Aims and Hypotheses	10
Methods	11
Participants	11
Measures	12
Procedure	17
Results.....	18
Discussion.....	50
Cultural Constructs and Weight.....	51
Self-Determination Theory and Weight	52
Transtheoretical Model and Weight	53
Social Cognitive Theory and Weight	55
Waist Circumference and Theory	56
Strengths and Limitations	57
Conclusions and Future Directions.....	58
References.....	59
Appendix.....	68

Appendix A.....	68
Appendix B.....	69
Appendix C.....	70
Appendix D.....	74
Appendix E.....	79
Appendix F.....	82
Appendix G.....	85
Appendix H.....	86
Appendix I.....	87
Appendix J.....	89
Appendix K.....	91
Appendix L.....	92
Appendix M.....	93
Appendix N.....	96
Appendix O.....	102
Appendix P.....	105
Appendix Q.....	107
Vita	108

List of Tables

Table 1: Participant Characteristics	19
Table 2: Correlations Among Theoretical and Cultural Constructs and Dependent Variables.....	22
Table 3: Model Structure.....	29
Table 4: Hierarchical Regression Predicting Weight using Components of SDT	30
Table 5: Hierarchical Regression Predicting Weight Using Components of TTM.....	33
Table 6: Hierarchical Regression Predicting Weight using Components of SCT.....	38
Table 7: Hierarchical Regression Predicting Waist Circumference using Components of SDT	40
Table 8: Hierarchical Regression Predicting Waist Circumference Using Components of TTM	43
Table 9: Hierarchical Regression Predicting Waist Circumference using Components of SCT	48

Introduction

In the United States, 32.2% of men and 35.5% of women are obese, and an even greater number, 72.3% of men and 64.1% of women, are overweight (Flegal, Carroll, Ogden, & Curtin, 2010). Obesity, which is defined as a body mass index (BMI) of 30 or greater (Centers for Disease Control and Prevention [CDC], 2010) is associated with many diseases, such as coronary heart disease, Type 2 diabetes, certain cancers, hypertension, stroke, osteoarthritis, and high cholesterol (Weight Control Information Network, 2007). It is estimated that 300,000 deaths per year are associated with obesity (Surgeon General, 2007). Overweight status, which is defined as a BMI between 25 and 29.9 (CDC, 2010), is associated with health risks similar to that of obesity (Weight Control Information Network, 2007). Even moderate weight excess can increase the risk of premature death or developing diseases associated with obesity (Surgeon General, 2007). Clinical guidelines recommend weight loss for overweight individuals who meet the following criteria: a body mass index of 25 or greater, a high waist circumference (i.e., greater than 35 inches in women and 40 inches in men), and at least two risk factors such as physical inactivity, smoking, and personal or family history of high cholesterol, hypertension, or diabetes (Weight Control Information Network, 2007). Those who are overweight and do not meet the above criteria are advised to prevent further weight gain or to attempt moderate weight loss, as a loss of a mere 5 to 15% of body weight can reduce the risk of developing diseases associated with obesity, particularly heart disease (Surgeon General, 2007).

Obesity in Hispanics

The rates of obesity and overweight in Mexican-American populations in the U. S. are significantly higher than the national average, with 35.9% of men and 45.1% of women being obese, and 80% of men and 76.9% of women being overweight (Flegal et al., 2010). Even though obesity and overweight in Hispanic populations are clearly important to address, research is limited as to what types of weight loss interventions are appropriate for this group. It has been observed that Hispanics are less likely to report seeking evidence-based treatment for weight loss (Tsai et al., 2009), which suggests that this population would benefit from interventions that are culturally-sensitive in order to engage participants.

Some studies suggest that taking cultural constructs into consideration when developing an intervention prioritizing the population of interest may be beneficial in promoting behavior change (Cousins et al., 1992; Diaz, Mainous, & Pope, 2007; Domel, Alford, Cattlet, Rodriguez, & Gench, 1992; Suris, del Carmen Trapp, DiClemente, & Cousins, 1998). For instance, interventions that incorporate social support or are family-oriented have resulted in greater weight loss than manual only comparison groups, individual intervention groups (Cousins et al., 1992; Foreyt, Ramirez, & Cousins, 1991), or a no treatment control group (Domel et al., 1992). However, few studies have quantitatively measured cultural constructs or assessed their impact on weight and weight control (Diaz et al., 2007). Moreover, other cultural constructs that may be useful to incorporate into a weight loss intervention are not as well-defined in the literature, as culturally-sensitive or appropriate interventions range from incorporating familiar foods into diet plans to offering measurements and materials in Spanish (Domel et al., 1992; Foreyt et al., 1991), and do not tap into specific constructs that may be relevant to the priority population.

There is also a dearth of literature with regard to what theoretically-based components should be incorporated into weight loss interventions for Hispanic populations, with many studies loosely basing interventions on theoretical models (Cousins et al., 1992; Domel et al., 1992; Foreyt et al., 1991), and

only one using empirically based measures to assess the relationship between overweight/obese status and theory, more specifically the Transtheoretical Model (Suris et al., 1998). Because there are so many unknown variables when it comes to weight loss interventions in this particular population, it seems appropriate to first assess potential correlates that could inform a future intervention rather than developing and implementing an actual intervention. Thus, there is a need for studies that assess both potentially relevant cultural constructs and appropriate theoretical models that can be incorporated into a weight loss intervention that is suitable for Hispanic populations.

Potential Cultural Correlates

There are many cultural constructs that are thought to be salient to Hispanic culture and should therefore be taken into consideration when developing behavioral interventions for this particular population. Some of the more prevalent constructs include familismo, simpatia, espiritismo, and cultural pride. Familismo is the belief that the family unit should take precedence over the individual (Bermudez, Kirkpatrick, Hecker, & Torres-Robles, 2010; Kao & Travis, 2005; Kim, Soliz, Orellana, & Alamilla, 2009; Lugo Steidel & Contreras, 2003; Villarreal, Blozis, & Widaman, 2005). Simpatia, or congeniality, places emphasis on external positive behaviors and minimizes negative behaviors (Kim et al., 2009; Triandis, Marin, Lisansky, & Betancourt, 1984). Espiritismo is the belief that spirituality should be incorporated into many realms of daily life and can even be incorporated into health behaviors (Bermudez et al., 2010; Kim et al., 2009). Cultural pride emphasizes strong identification with one's culture (Kim et al., 2009) and the importance of passing down important cultural values to one's children (Romero, Cuellar, & Roberts, 2000).

Familismo has previously been studied with promising results. For example, studies which incorporate family into weight loss interventions have yielded significantly greater weight loss in comparison to individual-oriented treatments (Cousins et al., 1992; Foreyt et al., 1991). Other cultural constructs have been less well-studied. Constructs like simpatia, espiritismo, and cultural pride have been measured, yet not incorporated into behavioral interventions. However, one study found that higher levels cultural pride is associated with lower reported cigarette and alcohol use in Hispanic female adolescents, suggesting that it may serve as a protective factor to adapting unhealthy behaviors (Castro, Stein, & Bentler, 2009). It is important to study these constructs in order to determine whether they are salient to the current population of interest, and also to determine whether they should be incorporated into future culturally-sensitive interventions.

Potential Theoretical Correlates

Behavioral weight loss interventions have primarily been derived from one of three theoretical models: Self-Determination Theory (SDT) (Ryan & Deci, 2000), the Transtheoretical Model (TTM) (Prochaska & Velicer, 1997), and/or Social Cognitive Theory (SCT) (Bandura, 1997).

SDT is a motivation-based model, which purports that successful behavior change occurs when one moves from being amotivated to being externally motivated, and finally to being internally motivated. SDT has three constructs: autonomy, competence, and relatedness. Autonomy refers to the belief of control over circumstances and the decisions one makes. Competence refers to the belief in one's ability to make changes, and relatedness refers to the belief of being connected to others in one's endeavors and that those efforts are supported by others. SDT posits that interventions which increase autonomy, competence, and relatedness are ideal in order to elicit internally motivated behavior change (Ryan & Deci, 2000).

Many studies have used SDT-based weight loss, physical activity, and dietary behavior interventions with promising results. Studies that assessed weight loss as an outcome variable have found that SDT-based interventions yielded significant weight loss generally (Teixeira et al., 2006; Williams, Grow, Freedman, Ryan, & Deci, 1996), and relative to control groups (Mata et al., 2009; Silva et al., 2010). Moreover, it has been found that increased levels of autonomous motivation predicted long term maintenance of weight loss (Williams et al., 1996). It has also been observed that SDT-based interventions can increase autonomous self-regulation, intrinsic motivation, and perceived competence for exercise, and level of physical activity relative to general non-theory based interventions (Mata et al., 2009; Silva et al., 2010). Relative to brief physical activity counseling presented by a health care provider, additional SDT-based intensive counseling was associated with higher levels of autonomous support and motivation, as well as greater physical activity (Fortier, Sweet, O'Sullivan, & Williams, 2007). SDT constructs have been found to have predictive value with regard to the maintenance of

dietary behavior change (e.g., reduced fat and saturated fat intake) (Pelletier, Dion, Slovinec-D'Angelo, & Reid, 2004). Previous studies however have not focused on Hispanics, so while SDT-based constructs have demonstrated efficacy in other populations, it is unknown whether they can be successfully applied to the population of interest. It is imperative to assess whether constructs of this model warrant inclusion in future interventions with Hispanic populations.

TTM is a motivation-based model that seeks to increase readiness to change a behavior using five stages of change: precontemplation, contemplation, preparation, action, and maintenance. In the precontemplation stage one is currently not thinking about behavior change and may not even feel that the particular behavior is an issue (i.e. weight is not affecting health or that no benefit would be gained from weight loss). In the contemplation stage, one may recognize the need to engage in behavior change, and is thinking of change but has not yet committed to taking action. One in the preparation stage is planning behavior change with the intention of changing his or her behavior within the next month. Individuals in the action stage are currently engaged in behavior change, while those in the maintenance stage are continuing behavior change with the intention of preventing relapse into former, maladaptive behaviors. It is thought that identifying an individual's stage of change is beneficial in determining how to intervene (Prochaska & Velicer, 1997).

TTM has been studied extensively and has been found to be an appropriate model to use to determine readiness to change across multiple health behaviors (Laforge, Velicer, Richmond, & Owen, 1999). Studies have found that an individual's stage of change is related to motivational readiness to change in terms of increasing physical activity and improving nutrition (Robinson et al., 2008). Stage of change can also be matched to certain behaviors, such as intensity of exercise (Sarkin, Johnson, Prochaska, & Prochaska, 2001) as well as weight reduction (Prochaska, Norcross, Fowler, Follick, & Abrams, 1992). One study found that a TTM-based healthy lifestyle intervention yielded moderate weight loss and significant positive outcomes in terms of cardiorespiratory fitness, cholesterol levels,

and fat intake in comparison to a control group (Riebe et al., 2003). However, the literature is inconsistent in terms of some behavior and demographic variables' ability to be matched to stage of change. For example one study found that determining stage of change has little use in predicting long term weight control (Jeffery, French, & Rothman, 1999) and another found that stage of change for physical activity is not associated with BMI (Hellsten et al., 2008). The Hellsten et al. (2008) study argues that this may be because exercise is one of many components involved in weight loss, and therefore retains an imperfect association with BMI. TTM has also been successfully applied in overweight populations of Mexican-American women with regard to their progress in a weight-loss treatment program (Suris, et al., 1998). Given the inconsistencies of the overall efficacy of TTM as well as the paucity of literature with regard to its use in Hispanic populations, studying these constructs with the current population of interest is essential.

With regard to Social Cognitive Theory, it is believed that behavior change stems from the interaction of environment and personal beliefs. The factors in SCT that are believed to affect behavior are: goals, perceived self-efficacy, outcome expectancies, facilitators, and impediments. It is thought that goal-setting can lend direction to one's behavior, thereby eliciting change. Perceived self-efficacy refers to the belief that one is able to make changes to a given behavior despite any barriers that may be present. In reference to outcome expectancies, behavior change is more likely to take place when one believes the benefits of change will outweigh the costs of change. Facilitators and impediments refer to any real or perceived issues in one's environment that could either act as a hindrance or an aide in changing one's behavior (Bandura, 1997).

It has been observed that factors related to SCT are also related to many dietary and exercise behaviors. For instance, greater self-efficacy is related to healthier food choices (Anderson, Winett, & Wojcik, 2000; Anderson, Winett, & Wojcik, 2007) and greater levels of physical activity (Anderson, Wojcik, Winett, & Williams, 2006). Outcome expectations also have a strong effect on nutrition

behavior, such that those who expected healthy food to be more affordable and satisfying were more likely to make healthy food purchases (Anderson et al., 2000). Interventions that are SCT-based have been successful at improving weight-related health behaviors (Anderson, Winett, Wojcik, & Williams, 2010; Anderson, Winett, Wojcik, Winett, & Bowden, 2001; Turner-McGrievy et al., 2009; Winett et al., 1991). One study that utilized an SCT-based weight loss intervention found that the experimental group lost significant amounts of weight relative to a control group that used a non-theory based intervention (Turner-McGrievy et al., 2009). Other SCT-based interventions that focused on improving nutrition behavior found that those in the experimental groups made better dietary choices (e.g., choosing foods higher in fiber and lower in fat) than control groups (Anderson et al., 2001; Winett et al., 1991). One other study that used an SCT-based intervention to increase levels of physical activity and improve nutrition demonstrated that self-efficacy mediated the effects of the intervention on both variables (Anderson et al., 2010). However, contrary to what has been previously observed (Anderson et al., 2000), outcome expectancies were not mediators of change in physical activity or nutrition behaviors in the intervention condition (Anderson et al., 2010). Given the inconsistencies in the literature and that these constructs have yet to be studied in Hispanic populations, SCT-based constructs should be assessed in the priority population.

One unique study of interest examined the effect of an SCT-based weight loss intervention on constructs of SDT, TTM, and SCT, as well as an additional theory, the Theory of Planned Behavior (Palmeira et al., 2007). The study primarily found that weight loss was predicted by several single constructs of various models, as well as some of the models as a whole. For instance, weight loss was most highly associated with greater self-efficacy (SDT; TTM), followed by increased social support (SCT), importance/effort for exercise (SDT), and intrinsic motivation to exercise (SDT). Weight loss was also associated with decreased perceived barriers (SCT). The strongest model observed to explain weight management variables was TTM, followed by SCT (Palmeria, 2007). This study was a European

study, and did not include a Hispanic population. This warrants study in the current population of interest in order to determine what models, or constructs from models, would be most suitable to apply to Hispanics.

Aims and Hypotheses

Primary aims include observing culturally- and theoretically based correlates of weight and waist circumference in an overweight / obese Hispanic sample to build the best fitting model to use in future weight loss interventions with Hispanic community populations. Cultural constructs (cultural pride and familismo) and theoretical constructs (derived from SDT, TTM, and SCT) were assessed. Hypotheses were that lower weight and waist circumference would be associated with: higher scores on SDT constructs, increased readiness to change (TTM), and higher scores on all SCT constructs with the exception of impediments.

Methods

Participants

Community members of Hispanic descent ($N = 232$) were recruited from a local health care clinic, Centro San Vicente Family Health Center. One individual who originally agreed to participate was removed from the study and subsequent analyses because s/he was under 18 years old, resulting in a total sample size of 231. Participants were 64.6% female with an average age of 45.07 years ($SD = 13.81$). The average waist circumference was 43.04 inches for males ($SD = 6.38$) and 41.42 inches for females ($SD = 6.64$). The average BMI was 31.69 for males ($SD = 5.59$) and 32.26 for females ($SD = 6.42$).

Effects considered most proximal to study interests were found in a prior European study of a social cognitive weight loss program (Palmeira et al., 2007). Specifically, authors examined the association of Social Cognitive Theory, the Transtheoretical Model, and Self-Determination Theory with weight loss in a social cognitive oriented intervention. Variability in weight loss accounted for by each theory was highly variable dependent on measures used. However, the smallest adjusted R^2 accounted for 3.3% of the variability in weight loss. This effect was for Self-Determination Theory exercise motivation (Palmeira et al., 2007, p. 9). All other theoretical models examined accounted for substantially more variance in weight loss.

As the interest of this study is on theoretical correlates to motivation to lose weight as well as actual weight loss in the future, a power analysis was conducted within a correlational framework. This power analysis set $\alpha = .05$, and set statistical power = .80. An adjusted R^2 of 3.3% translates to an $f^2 = .034$. One predictor was used in the analysis (as the adjusted R^2 used represented the variable which accounted for the least amount of variance in Palmeira et al., 2007). The resulting necessary sample size is 232 participants to detect an effect that accounts for approximately 3% or more of the variability in outcomes of interest in future intervention programs.

Measures

The following paper and pencil measures were completed by participants.

In order to determine eligibility to participate in the current study, a brief screening form (see Appendix A) which assessed age, ethnicity, and self-reported height and weight was used. Body mass index was determined using a body mass index table (see Appendix B). Participants were eligible if they reported being aged 18 or older, being of Hispanic ethnicity, and a height and weight which gave them a body mass index of 25 or greater.

Typical demographic information was obtained, such as age, gender, and ethnicity (see Appendix C). In addition, information regarding risks associated with obesity and overweight was gathered, such as smoking status, physical activity level, and family or personal history of type 2 diabetes, high blood pressure, heart disease, and high cholesterol. The reliability for all measures was assessed using coefficient alpha.

Hispanic cultural values were assessed using the Latino/a Values Scale (LVS; Kim et al., 2009; see Appendix D). The LVS is a 35-item scale that assesses the importance the individual places on cultural values such as familismo and cultural pride. Each item is averaged in order to obtain a total score. Although a relatively new scale, the psychometric properties were established in the original validation study (Kim et al., 2009). Internal reliabilities for the familismo and cultural pride subscales in this study were .69 and .63, respectively.

Components of the Self-Determination Theory were assessed using the Treatment Self-Regulation Questionnaires for Diet and Exercise, the Perceived Competence Scales for Diet and Exercise, and the Health Care Climate Questionnaires for Diet and Exercise (Short Form) (TSRQ; PCS; HCCQ; Deci & Ryan, 1985).

The TSRQ for Diet (see Appendix E) is a 15-item measure that assesses why the participant would engage in maintaining a healthy diet. It has three subscales: autonomous regulatory style,

controlled regulatory style, and amotivation. Each item of the scale is averaged to determine a score for each subscale. The TSRQ for Exercise (see Appendix F) is identical in number of items and scoring to the TSRQ for Diet, with the exception the measure assesses why the participant would engage in regular exercise (Deci & Ryan, 1985). These measures have demonstrated adequate internal reliability across multiple health behaviors (Levesque et al., 2006). All subscales demonstrated adequate internal reliability in this study with the lowest being the TSRQ amotivation subscale for diet, whose reliability was .63.

The PCS for Diet (see Appendix G) is a 4-item measure that assesses the degree to which one feels confident s/he could maintain a healthy diet. Scores are derived by taking an average of the four items. The PCS for Exercise (see Appendix H) is similar in scoring and number of items, but the scale instead assesses the degree to which one feels confident s/he could maintain a regular exercise program. The psychometric properties of this measure have previously been established (Deci & Ryan, 1985). Internal reliabilities for PCS for diet and exercise in this study were .96 and .97, respectively.

The HCCQ Short Form for Diet (see Appendix I) is a 6-item measure that assesses the degree to which the participant feels his/her health care provider is autonomously supportive versus controlling when it comes to maintaining a healthy diet. Items are averaged, with higher scores indicating more autonomous support. The HCCQ Short Form for Exercise (see Appendix J) is similar in item number and scoring; however, it assesses the degree to which the participant feels his/her health care provider is autonomously supportive versus controlling when it comes to maintaining a regular exercise program (Deci & Ryan, 1985). The measures have been validated and demonstrated sufficient psychometrics properties (Williams et al., 1996). Internal reliabilities for HCCQ for diet and exercise in the current study were .96 and .95, respectively.

Components of the Transtheoretical Model were assessed using the Exercise Stage of Change (Short Form) (ESC; Marcus, Selby, Niaura, & Rossi, 1992), the Weight Decisional Balance (WDB;

O'Connell & Velicer, 1988), the Weight Stage of Change-Short Form and Weight Process of Change (WSC; WPC; Prochaska et al., 1992).

The ESC Short Form (see Appendix K) is a single item algorithm which asks whether the participants is currently engaged in or plans to engage in regular exercise. The answer the participant chooses determines whether s/he is in the Precontemplation, Contemplation, Preparation, Action, or Maintenance stage of change (Marcus et al., 1992).

The WDB (see Appendix L) form is a 20-item measure that assesses the weight the participant places on the pros of losing weight versus the cons of losing weight. The cons are contained in the odd-numbered questions, and the pros are contained in the even-numbered questions; each type of response is summed to create pros and cons scores (O'Connell & Velicer, 1988). The pros and cons scales have demonstrated high internal consistency ($\alpha = .91$ and $\alpha = .84$ respectively; Prochaska et al., 1994). Internal reliabilities of the pros and cons scales in this study were .85 and .86.

The WSC Short Form (see Appendix M) is 4-item algorithm that assesses whether the participant is actively trying to lose weight or is thinking about losing weight. The way the participant answers each question determines which stage of change s/he is in (Prochaska et al., 1992).

The WPC (see Appendix N) is a 48-item measure that assesses the underlying thought processes that factor in deciding to change one's weight. There are several subscales, including: Consciousness Raising, Counterconditioning, Dramatic Relief, Environmental Reevaluation, Helping Relationships, Interpersonal Systems Control, Reinforcement Management, Self-Liberation, Self-Reevaluation, Social Liberation, Stimulus Control, and Substance Use. The items of the subscales are summed in order to obtain a score for that subscale. The measure demonstrates adequate psychometric properties (Prochaska et al., 1992). All subscales in the current study demonstrated good internal reliability with the exception of Counterconditioning (.59), and Social Liberation (.48).

Components of Social Cognitive Theory were assessed using the Weight Efficacy Lifestyle Questionnaire (WEL; Clark, Abrams, Niaura, Eaton, & Rossi, 1991) and the Self-Efficacy for Exercise Behaviors Scale (also referred to as the Exercise Confidence Survey; ECS; Sallis, Pinski, Grossman, Patterson, & Nader, 1988).

The WEL (see Appendix O) is a 20-item measure that contains five subscales which assess efficacy for weight management. Constructs include: availability, negative emotions, physical discomfort, positive activities, and social pressure. Scores on each subscale are summed, with higher score indicating greater endorsement of the respective dimension of weight management. The measure has been found to demonstrate adequate psychometric properties generally (Clark et al., 1991) and for use with minority populations (Dutton, Martin, Rhode, & Brantley, 2004). Each subscale demonstrated acceptable internal reliability in this study.

The ECS, (see Appendix P) is a 12-item measure that assesses how confident one is that s/he can motivate his or her self to engage in regular exercise. The measure contains two subscales which are Sticking to It and Making Time to Exercise. Each item in the subscale is averaged. The psychometric properties of the scales have previously been established and are adequate (Sallis et al., 1988). Internal reliabilities for Sticking to It and Making Time to Exercise were .89 and .76 respectively.

All measures were translated and back-translated according to recommendations (Beaton, Bombardier, Guillemin, & Bosi-Ferraz, 2000; Brislin, 1970; Brislin, 2000). Measures were counterbalanced within the survey packet in order to eliminate bias that may result from the order in which the measures appear. There were six different orders of survey packets such that the demographic measure always appeared first, the LVS was always presented last, and the groupings of theoretical measures were maintained yet counterbalanced across theory.

In addition to the paper and pencil measures, participants also had their height, weight, and waist circumference measured (please see Appendix Q). Height and weight were taken simultaneously on a

medical grade scale. Participants were asked to remove their shoes for measurements. Participants were asked to stand as straight as possible in order to take the most accurate measurement of height. Waist circumference was measured by asking the participant to place a finger on his/her belly button over his/her clothing and the researcher used this as a guide to place a soft tape measure over his/her waist. In order to take the most accurate measurement, the researcher held the tape loosely enough so as not to create any indentation in the skin, but tight enough so that the tape did not sag.

Procedure

University Institutional Review Board approval was obtained prior to implementation.

Researchers approached potential participants in the waiting areas of Centro San Vicente, introduced themselves, and asked if s/he would like the researcher to determine their eligibility to participate in the current study. In the interest of sensitivity, researchers handed the participant a brief screening form which asks for height and weight, as well as age and ethnicity so that the potential participants may answer the questions in private. Participants were eligible if they were of Hispanic descent, over the age of 18, and had a body mass index of 25 or greater. The researcher determined body mass index using a table which lists different heights, weights, and corresponding body mass indices. Those who are eligible were invited to participate. Those who were not were assured that the information they provided would be destroyed and would not be used as data in the study.

Eligible participants were offered the choice of completing all materials in English or in Spanish. After informed consent was provided, participants completed the survey packets which, in addition to demographics, included measures that assess components related to risk factors, Hispanic cultural values, Self-Determination Theory, the Transtheoretical Model, and Social Cognitive Theory. The researcher then measured the participant's height and weight, as well as waist circumference. Measurements were taken following survey completion so as not to affect participant survey responses. After completion of survey materials and measurements, participants were debriefed and given a \$10 gift card to Wal-Mart. As further incentive, participants had the opportunity to be chosen randomly to receive one of five \$50 giftcards to Wal-Mart. Interested participants provided the researchers with their contact information.

As part of the debriefing process, participants were informed about the purpose of the study. The confidentiality of their survey responses and information was once again reassured. Any questions that might have arisen during their participation were answered by researchers.

Results

All missing data were imputed prior to analyses using the hot deck imputation method (Roth, 1994). In hot deck imputation, missing values are assigned using “donors” from the same dataset that match variables determined by the researcher. Typically, the variables that are chosen should meet the following criteria: 1) They should contain little or no missing data, 2) should be non-continuous variables, and 3) should be related to the variables being imputed but not of proximal interest to the researcher (Myers, 2011). The variables used to match participants for imputation in the current study were sex, education, and annual income. Responses from participants who had complete data and who matched the participant with missing values on the aforementioned variables were used to impute missing values in order to obtain a complete dataset (Myers, 2011). Hot deck imputation is recommended for datasets that contain 20% or less missing data. Missing data analyses for the current dataset found that 1.34% of the values were missing. One major limitation to hot deck imputation should be noted. Cases that are unique in the dataset such that matches cannot be found across the specified variables can be problematic and result in an incompletely imputed dataset. Such instances can occur in small datasets or when the chosen sorting variables are numerous or continuous (Myers, 2011).

Participant characteristics were analyzed using descriptive statistics. Descriptive statistics were also used to assess weight-related risk factors (e.g., smoking status, familial history; see Table 1). More than 24% of participants reported a personal history of type 2 diabetes and high blood pressure, while over 50% reported a family history of the aforementioned illnesses. In terms of risk factors relating to lifestyle, nearly 18% of the sample reported smoking at least one cigarette in the past month, and 20.4% reported not exercising regularly. The majority of the sample reported high motivation to lose weight ($M = 8.15$, $SD = 2.41$; Likert scale range from 1-10).

Table 1: Participant Characteristics

Characteristic (N = 231)	Mean	SD	Frequency (%)
<u>Survey Language</u>			
English			17.8%
Spanish			81.7%
Age	45.07	13.81	
<u>Sex</u>			
% Female			64.6
% Male			35.4
<u>Education</u>			
% Less than high school			30.1
% High school or equivalent			29.2
% Some college			13.7
% Vocational school/Associate's degree			9.7
% College graduate			14.2
% Some post-graduate training			3.1
<u>Weight</u>			
Males	206.85	38.87	
Females	183.04	36.23	
<u>BMI</u>			
Males	31.69	5.59	
Females	32.26	6.42	
<u>Waist circumference</u>			
Males	43.04	6.38	
Females	41.42	6.64	
<u>Smoking status</u>			
% Daily > 10			4.4
% Daily 5 < 10			3.6
% Daily < 5			4.4
% Weekly			4.0
% Monthly			1.3
% No longer smoke, in past smoked at least 1 per day			16.9
% No longer smoke, in past smoked weekly			6.2
% Experimented with cigarettes			12.4
% Never smoked			46.7
<u>Days per week of exercise (at least 30 min)</u>			
% 1-2 days per week			41.2
% 3-4 days per week			21.7
% 5-6 days per week			10.2
% Everyday			6.6
% No regular exercise			20.4
<u>Type 2 diabetes history</u>			
Personal			
% Yes			27.7
% No			72.3
Family			

% Yes			57.6
% No			42.0
<u>Heart disease history</u>			
Personal			
% Yes			8.2
% No			91.8
Family			
% Yes			24.7
% No			75.3
<u>High cholesterol history</u>			
Personal			
% Yes			23.8
% No			76.2
Family			
% Yes			43.0
% No			57.0
<u>High blood pressure history</u>			
Personal			
% Yes			24.2
% No			75.8
Family			
% Yes			50.2
% No			49.8
Motivation to change weight (range 1-10)	8.15	2.41	
<u>SDT</u>			
TSRQ D Autonomous Motivation (range 1-7)	6.01	1.09	
TSRQ D Controlled Motivation (range 1-7)	4.10	1.39	
TSRQ D Amotivation (range 1-7)	3.56	1.58	
TSRQ E Autonomous Motivation (range 1-7)	6.09	1.08	
TSRQ E Controlled Motivation (range 1-7)	3.73	1.53	
TSRQ E Amotivation (range 1-7)	3.05	1.72	
PCS D (range 1-7)	5.51	1.44	
PCS E (range 1-7)	5.34	1.66	
HCCQ D (range 1-7)	4.56	1.88	
HCCQ E (range 1-7)	4.59	1.84	
<u>TTM</u>			
WSC			
Precontemplation			10.0
Contemplation			17.8
Action			38.3
Maintenance			33.9
ESC			
Precontemplation			6.5
Contemplation			9.6
Planning			24.8
Action			26.1
Maintenance			33.0
WDB Pros (range 10-50)	37.33	7.79	

WDB Cons (range 10-50)	31.07	8.20
WPC Consciousness Raising (range 4-20)	11.24	3.67
WPC Counterconditioning (range 4-20)	11.36	3.16
WPC Dramatic Relief (range 4-20)	11.59	4.04
WPC Environmental Reevaluation (range 4-20)	11.29	4.49
WPC Helping Relationships (range 4-20)	12.46	4.21
WPC Interpersonal Systems Control (range 4-20)	8.44	3.75
WPC Reinforcement Management (range 4-20)	9.24	4.03
WPC Self-Liberation (range 4-20)	13.65	3.93
WPC Self-Reevaluation (range 4-20)	12.05	3.88
WPC Social Liberation (range 4-20)	11.69	3.29
WPC Stimulus Control (range 4-20)	8.32	3.88
WPC Substance Use (range 4-20)	7.63	4.16
<u>SCT</u>		
WEL Negative Emotion (range 0-36)	24.72	9.35
WEL Availability (range 0-36)	21.79	9.86
WEL Social (range 0-36)	23.67	9.86
WEL Physical Discomfort (range 0-36)	25.90	8.73
WEL Positive Activities (range 0-36)	24.66	9.15
ECS Sticking to It (range 0-5)	3.74	.99
ECS Making Time (range 0-5)	3.83	.99
<u>Culture</u>		
LVS Cultural Pride (range 1-4)	2.69	.41
LVS Familismo (range 1-4)	3.16	.54

To assess for univariate associations among variables, zero order correlations were computed.

Significant correlations with the dependent variable measured weight were: Amotivation for diet ($r = .18, p < .001$) and exercise ($r = .14, p = .040$), Perceived Competence for diet ($r = -.22, p < .001$) and exercise ($r = -.20, p < .001$), WDP Pros ($r = .14, p = .032$), and WPC Helping Relationships ($r = .13, p = .042$). Significant correlations with the dependent variable waist circumference were: WDP Pros ($r = .13, p = .044$), and WPC Helping Relationships ($r = .17, p < .001$). Other significant correlations among independent variables can be seen in Table 2.

Table 2: Correlations Among Theoretical and Cultural Constructs and Dependent Variables

Variable	TSRQ D Autonomous	TSRQ D Controlled	TSRQ D Amotivation	TSRQ E Autonomous	TSRQ E Controlled	TSRQ E Amotivation	PCS D	PCS E	HCCQ D	HCCQ E	WDB Pros	WDB Cons	WPC Consciousness Raising	WPC Counterconditioning	WPC Dramatic Relief	WPC Environmental Reevaluation	WPC Helping Relationships	WPC Interpersonal Systems Control	WPC Reinforcement Management	WPC Self-Liberation	WPC Self-Reevaluation	WPC Social Liberation	WPC Stimulus Control	WPC Substance Use	WEL Negative Emotion	WEL Availability	WEL Social	WEL Physical Discomfort	WEL Positive Activities	ECS Sticking to It	ECS Making Time	LVS Cultural Pride	LVS Familismo	Weight	Waist Circumference
TSRQ D Autonomous	1	.38**	.01	.84**	.19**	-.08	.56**	.62**	.22**	.24**	.24**	-.00	.18**	.21**	.16*	.27**	.24**	.05	.12	.42**	.22**	.10	-.03	.05	.35**	.22**	.32**	.29**	.27**	.25**	.28**	.27	.19**	-.12	-.02
TSRQ D Controlled	.38**	1	.57*	.24**	.83**	.58**	.32**	.25**	.36**	.42**	.39**	.30**	.34**	.32**	.32**	.48**	.30**	.46**	.56**	.26**	.37**	.38**	.38**	.29**	.03	.06	.02	-.05	.01	.05	.10	-.05	.30**	.08	.08
TSRQ D Amotivation	.01	.57**	1	-.05	.55**	.77**	.09	.02	.21**	.28**	.23**	.39**	.22**	.12	.27**	.26**	.21**	.30**	.35**	.06	.20**	.21**	.25**	.26**	-.02	.11	.03	-.03	.03	-.06	-.05	.02	.27**	.18**	.13
TSRQ E Autonomous	.84**	.24**	-.05	1	.18**	-.11	.58**	.67**	.26**	.23**	.21**	-.015	.16*	.18**	.14*	.24**	.24**	.04	.07	.36**	.21**	.08	-.004	.01	.31**	.21**	.29**	.26**	.23**	.31**	.34**	.03	.20**	-.11	.00

TSRQ E Controlled	.19**	.83**	.55**	.18**	1	.70**	.26**	.24**	.35**	.36**	.41**	.33**	.32**	.31**	.29**	.41**	.28**	.44**	.53**	.23**	.38**	.34**	.43**	.31**	.00	.06	-.03	-.06	-.02	.07	.12	-.10	.23**	.08	.08
TSRQ E Amotivation	-.08	.59**	.77**	-.11	.70**	1	.09	.02	.24**	.25**	.29**	.42**	.21**	.18**	.22**	.27**	.20**	.40**	.44**	.04	.21**	.26**	.32**	.30**	-.09	.02	-.07	-.10	-.06	-.02	.03	-.15*	.26**	.14*	.09
PCS D	.55**	.32**	.09	.58**	.26**	.09	1	.69**	.39**	.38**	.16**	.03	.13	.26**	.12	.27**	.09	.13*	.17**	.25**	.09	.07	.06	.03	.32**	.37**	.31**	.15*	.29**	.42**	.45**	.01	.16*	-.22**	-.13
PCS E	.62**	.25**	.02	.67**	.24**	.02	.69**	1	.35**	.35**	.16*	-.04	.15*	.22**	.10	.26**	.20**	.08	.12	.37**	.19**	.02	.07	-.04	.35**	.35**	.35**	.28**	.34**	.60**	.57**	-.004	.16*	-.20**	-.12
HCCQ D	.22**	.36**	.21**	.26**	.35**	.24**	.39**	.35**	1	.84**	.16*	.14*	.21**	.24**	.25**	.31**	.16*	.32**	.31**	.14*	.18**	.16*	.23**	.12	.04	.19**	.15*	.03	.13	.20**	.23**	-.07	.16*	-.06	.00
HCCQ E	.24**	.42**	.28**	.23**	.36**	.25**	.38**	.35**	.84**	1	.16*	.15*	.22**	.21**	.17**	.31**	.18**	.26**	.35**	.12	.14*	.16*	.17**	.10	.07	.22**	.15*	.06	.15*	.18**	.21**	-.06	.19**	.00	.04

WDB Pros	.24 **	.40 **	.23 **	.21 **	.41 **	.29 **	.16 *	.16 *	.16 *	.16 *	1	.56 **	.48 **	.38 **	.49 **	.43 **	.32 **	.35 **	.50 **	.44 **	.55 **	.51 **	.35 **	.32 **	.03	-.04	.02	.07	.03	-.06	.04	-.16 *	.28 **	.14 *	.13 *
WDB Cons	-.00 1	.30 **	.39 **	-.01	.33 **	.42 **	.03	-.04	.14 *	.15 *	.56 **	1	.35 **	.22 **	.41 **	.31 **	.16 *	.44 **	.40 **	.18 **	.43 **	.48 **	.40 **	.39 **	-.10	-.1	-.05	-.12	-.09	-.15 *	-.15 *	-.18 **	.24 **	.05	.07
WPC Consciousness Raising	.18 **	.34 **	.22**	.16 *	.32 **	.21 **	.13	.15 *	.21 **	.22 **	.48 **	.35 **	1	.61 **	.66 **	.62 **	.48 **	.46 **	.57 **	.57 **	.67 **	.56 **	.61 **	.60 **	.06	.07	.04	.04	.02	-.004	.10	-.06	.24 **	.07	.06
WPC Counterconditioning	.21	.32	.12	.18	.31	.18	.26	.22	.24	.20	.38	.22	.61	1	.47	.57	.52	.56	.55	.63	.55	.52	.57	.45	.20	.22	.18	.13	.15	.12	.21	-.02	.22	-.03	.02
WPC Dramatic Relief	.16 *	.32 **	.27 **	.14 *	.29 **	.22 **	.12	.10	.25 **	.17 **	.50 **	.41 **	.66 **	.47 **	1	.57 **	.37 **	.52 **	.55 **	.44 **	.71 **	.61 **	.59 **	.48 **	-.04	-.04	.02	.04	-.02	-.11	.02	.01	.27 **	.03	.08
WPC Environmental Reevaluation	.27 **	.48 **	.26 **	.24 **	.41 **	.27 **	.27 **	.26 **	.31 **	.31 **	.43 **	.31 **	.62 **	.57 **	.57 **	1	.42 **	.58 **	.60 **	.53 **	.57 **	.59 **	.54 **	.41 **	.07	.13	.08	-.01	.02	.18 **	.24 **	.07	.33 **	-.08	-.01

WPC Helping Relationships	.24**	.30**	.21**	.24**	.28**	.20**	.09	.20**	.16*	.18**	.32**	.16*	.48**	.52**	.37**	.42**	1	.30**	.45**	.63**	.48**	.33**	.30**	.34**	.17*	.07	.20**	.19**	.15*	.03	.15*	-.04	.23**	.13*	.17**
WPC Interpersonal Systems Control	.05	.46**	.30**	.04	.44**	.40**	.13*	.08	.32**	.26**	.35**	.44**	.46**	.56**	.52**	.58**	.30**	1	.66**	.31**	.52**	.57**	.71**	.49**	.01	.08	.01	-.05	-.02	.04	.11	-.01	.26**	.04	.05
WPC Reinforcement Management	.12	.56**	.35**	.07	.53**	.44**	.17**	.12	.31**	.35**	.50**	.40**	.57**	.55**	.55**	.60**	.45**	.66**	1	.43**	.58**	.57**	.62**	.51**	-.09	-.03	-.07	-.08	-.08	-.07	.01	.02	.31**	.12	.10
WPC Self-Liberation	.42**	.26**	.06	.36**	.23**	.04	.25**	.37**	.14*	.12	.44**	.18**	.57**	.63**	.44**	.53**	.63**	.31**	.43**	1	.64**	.48**	.35**	.28**	.23**	.11	.20**	.19**	.16*	.12	.20**	-.03	.18**	.01	.08
WPC Self-Reevaluation	.22**	.37**	.19**	.21**	.38**	.21**	.09	.19**	.18**	.14*	.55**	.43**	.67**	.55**	.71**	.57**	.48**	.52**	.58**	.64**	1	.68**	.64**	.48**	-.04	-.08	-.08	.01	-.06	-.08	.05	.03	.30**	.04	.11
WPC Social Liberation	.10	.38**	.21**	.08	.34**	.26**	.07	.02	.16*	.16*	.51**	.48**	.56**	.52**	.61**	.59**	.33**	.57**	.57**	.48**	.68**	1	.58**	.46**	-.11	-.10	-.11	-.13*	-.16*	-.15*	-.07	-.04	.27**	.08	.12

WPC Stimulus Control	-.03	.38**	.25**	-.004	.43**	.32**	.06	.07	.23**	.17**	.35**	.40**	.61**	.57**	.59**	.54**	.30**	.71**	.62**	.35**	.64**	.58**	1	.62**	-.03	-.03	-.10	-.08	-.10	-.06	.01	.02	.29**	-.03	-.02
WPC Substance Use	.05	.29**	.26**	.01	.31**	.30**	.30	-.04	.12	.10	.32**	.39**	.60**	.45**	.48**	.41**	.34**	.49**	.51**	.28**	.48**	.46**	.62**	1	-.01	-.02	-.08	-.13*	-.13*	-.18**	-.13	-.12	.18**	.05	.02
WEL Negative Emotion	.35**	.03	-.02	.31	.00	-.09	.32	.35**	.04	.07	.03	-.10	.06	.20**	-.04	.07	.17*	.01	-.09	.23**	-.04	-.11	-.03	-.01	1	.70**	.82**	.77**	.77**	.41**	.42	.00	.07	-.12	-.07
WEL Availability	.22**	.06	.11	.21**	.06	.02	.37**	.35**	.19**	.22**	-.04	-.1	.07	.22**	-.04	.13	.07	.08	-.03	.11	-.08	-.10	-.03	-.02	.70**	1	.77**	.61**	.76**	.43**	.41**	-.02	.08	-.08	-.03
WEL Social	.32**	.02	.03	.29**	-.03	-.07	.31**	.35**	.15*	.15*	.02	-.05	.04	.18**	.02	.08	.20**	.01	-.07	.20**	-.08	-.11	-.10	-.08	.82**	.77**	1	.81**	.83**	.40**	.40**	-.02	.07	-.11	-.06
WEL Physical Discomfort	.29**	-.05	-.04	.26**	-.06	-.1	.15*	.28**	.03	.06	.07	-.12	.04	.13	.04	-.01	.19**	-.05	-.08	.19**	.01	-.13*	-.08	-.13*	.77**	.61**	.81**	1	.80**	.31**	.38*	.06	.07	-.10	-.07

WEL Positive Activities	.27**	.01	.03	.23**	-.02	-.06	.29**	.34**	.13	.15*	.03	-.09	.02	.15*	-.02	.02	.15*	-.02	-.08	.16**	-.06	-.16*	-.10	-.13*	.77**	.76**	.83**	.80**	1	.42**	.43**	-.01	.01	-.14*	-.09
ECS Sticking to It	.25**	.05	-.06	.31**	.07	-.02	.42**	.60**	.20**	.18**	-.06	-.15*	-.004	.12	-.11	.18**	.03	.04	-.07	.12	-.08	-.15*	-.06	-.18**	.41**	.43**	.40**	.31**	.42**	1	.84**	-.04	-.01	-.15*	-.13
ECS Making Time	.28**	.10	-.05	.34**	.12	.03	.45**	.57**	.23**	.21**	.04	-.15*	.10	.21**	.02	.24**	.15*	.11	.01	.20**	.05	-.07	.01	-.13	.42**	.41**	.40**	.38**	.43**	.84**	1	.01	.05	-.16*	-.14*
LVS Cultural Pride	.03	-.05	.02	.03	-.10	-.15*	.01	-.004	-.07	-.06	-.16*	-.18**	-.06	-.02	.01	.07	-.04	-.01	.02	-.03	.03	-.04	.02	-.12	.00	-.02	-.02	.06	-.008	-.04	.01	1	.17*	-.08	-.08
LVS Familismo	.19**	.30**	.27**	.20**	.23**	.21**	.16*	.16*	.16*	.19**	.28**	.24**	.24**	.22**	.27**	.33**	.23**	.26**	.31**	.18**	.30**	.27**	.29**	-.18**	.07	.08	.07	.07	.01	-.01	.05	.17*	1	-.01	.05
Weight	-.12	.08	.18**	-.11	.08	.14*	-.22**	-.20**	-.06	.00	.14*	.05	.07	-.03	.03	-.08	.13*	.04	.12	.01	.04	.08	-.03	.05	-.12	-.08	-.11	-.10	-.14*	-.15*	-.16*	-.08	-.01	1	.80**

Waist Circumference	-.02	.08	.13	.00	.07	.09	-.13	-.12	.00	.04	.13 *	.07	.06	.02	.08	-.01	.17 **	.05	.10	.08	.11	.12	-.02	.02	-.07	-.02	-.06	-.07	-.09	-.13	-.14 *	-.08	.05	.80 **	1
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Note: * all values significant at the .05 level
 **all values significant at the .001 level

Inferential analyses included six hierarchical regression models. Multicollinearity was assessed among variables within each model to determine appropriateness for inclusion; multicollinearity was not observed in any model. The WSC and ESC were dummy coded for inclusion in Models 2 and 5, in which the precontemplation stage was the reference group. The first three models used measured weight as the dependent variable and the variables age, gender, survey language, and measured height were entered into the models first as control variables. Please see Table 3 for a depiction of model structure.

Table 3: Model Structure

Control Variables: Age, Sex, Measured Height, Survey Language					
Dependent Variable: Measured Weight			Dependent Variable: Waist Circumference		
Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Step 1: Control Variables	Step 1: Control Variables	Step 1: Control Variables	Step 1: Control Variables	Step 1: Control Variables	Step 1: Control Variables
Step 2: SDT (TSRQ, PCS, HCCQ)	Step 2: Proximal TTM (WSC, ESC, WDB)	Step 2: SCT (WEL, ECS)	Step 2: SDT (TSRQ, PCS, HCCQ)	Step 2: Proximal TTM (WSC, ESC, WDB)	Step 2: SCT (WEL, ECS)
Step 3: Culture (LVS)	Step 3: Remaining TTM (WPC)	Step 3: Culture (LVS)	Step 3: Culture (LVS)	Step 3: Remaining TTM (WPC)	Step 3: Culture (LVS)
Step 4: SDT x Culture	Step 4: Culture (LVS)	Step 4: SCT x Culture	Step 4: SDT x Culture	Step 4: Culture (LVS)	Step 4: SCT x Culture
	Step 5: Proximal TTM x Culture			Step 5: Proximal TTM x Culture	
	Step 6: Remaining TTM x Culture			Step 6: Remaining TTM x Culture	

Model 1 used predictors relevant to SDT (scores for TSRQ for Diet and Exercise, PCS Diet and Exercise, HCCQ Diet and Exercise) in the second step, followed by cultural values as taken from the LVS in the third step of the model. The last step of the model entered the interaction between SDT variables and cultural variables. The first step of the overall model was significant accounting for 15% of the variance in weight. Of the predictors entered in the first step, height was the only variable that was statistically significant ($\beta = .347, p < .001$). In step 2, the overall model was significant, accounting for 24.9% of the variance in weight. Height ($\beta = .305, p = .001$) and Perceived Competence for Exercise ($\beta = -.202, p = .040$) were significant. Perceived Competence for Diet was marginally significant ($\beta = -.176, p = .054$). Incremental variance in this step was also significant, uniquely contributing an additional 10% of the variability in weight. In steps 3 and 4 the overall model was not significant (See Table 4).

Table 4: Hierarchical Regression Predicting Weight using Components of SDT

Variable	B	SE B	β
Step 1			
Age	.012	.179	.004
Sex	-4.101	7.148	-.050
Height	4.346	1.116	.347**
Survey Language	-3.496	5.097	-.043
R ²			.150**
Step 2			
Age	.033	.185	.012
Sex	-6.992	7.101	-.086
Height	3.815	1.098	.305**
Survey Language	-3.208	5.102	-.039
TSRQ D Autonomous Motivation	-1.665	4.349	-.047
TSRQ D Controlled Motivation	1.959	3.417	.071
TSRQ D Amotivation	3.905	2.538	.160
TSRQ E Autonomous Motivation	8.406	4.411	.237
TSRQ E Controlled Motivation	.132	3.239	.005
TSRQ E Amotivation	-.301	2.698	-.013
PCS D	-4.705	2.423	-.176
PCS E	-4.628	2.245	-.202*

HCCQ D	-2.680	2.325	-.131	
HCCQ E	2.024	2.426	.097	
ΔR^2				.100**

Step 3

Age	.113	.193	.040	
Sex	-7.617	7.114	-.094	
Height	3.827	1.096	.305**	
Survey Language	-3.552	5.094	-.044	
TSRQ D Autonomous Motivation	-1.464	4.345	-.042	
TSRQ D Controlled Motivation	2.278	3.433	.083	
TSRQ D Amotivation	4.704	2.578	.192	
TSRQ E Autonomous Motivation	8.111	4.471	.229	
TSRQ E Controlled Motivation	.109	3.235	.004	
TSRQ E Amotivation	-1.013	2.751	-.045	
PCS D	-4.823	2.426	-.180*	
PCS E	-4.614	2.240	-.201*	
HCCQ D	-2.835	2.322	-.139	
HCCQ E	2.047	2.421	.098	
LVS Cultural Pride	-7.663	5.884	-.082	
LVS Familismo	-4.413	4.944	-.061	
ΔR^2				.011

Step 4

Age	.075	.204	.027	
Sex	-4.840	7.503	-.059	
Height	4.192	1.159	.335**	
Survey Language	-3.002	5.377	-.037	
TSRQ D Autonomous Motivation	25.958	45.911	.737	
TSRQ D Controlled Motivation	25.482	32.328	.923	
TSRQ D Amotivation	-6.750	25.445	-.276	
TSRQ E Autonomous Motivation	4.939	49.671	.139	
TSRQ E Controlled Motivation	-8.814	32.069	-.350	
TSRQ E Amotivation	471	27.066	.021	
PCS D	3.917	23.965	.147	
PCS E	-1.479	22.512	-.064	
HCCQ D	-4.559	20.584	-.223	
HCCQ E	5.145	22.420	.246	
LVS Cultural Pride	-22.702	50.069	-.244	
LVS Familismo	91.294	38.678	1.269*	
TSRQ D Autonomous Motivation x LVS Cultural Pride	-13.882	13.822	-1.426	
TSRQ D Autonomous Motivation x LVS Familismo	1.896	8.770	.253	
TSRQ D Controlled Motivation x LVS Cultural Pride	4.717	10.385	.507	

TSRQ D Controlled Motivation x LVS Familismo	-10.944	7.658	-1.597
TSRQ D Amotivation x LVS Cultural Pride	-4.648	6.767	-.540
TSRQ D Amotivation x LVS Familismo	7.624	5.819	1.167
TSRQ E Autonomous Motivation x LVS Cultural Pride	19.962	14.658	2.062
TSRQ E Autonomous Motivation x LVS Familismo	-15.206	10.488	-2.040
TSRQ E Controlled Motivation x LVS Cultural Pride	-6.187	9.747	-.686
TSRQ E Controlled Motivation x LVS Familismo	7.710	7.394	1.167
TSRQ E Amotivation x LVS Cultural Pride	4.264	7.032	.493
TSRQ E Amotivation x LVS Familismo	-3.693	6.008	-.586
PCS D x LVS Cultural Pride	-3.053	6.411	-.359
PCS D x LVS Familismo	.163	4.961	-.025
PCS E x LVS Cultural Pride	-4.852	6.558	-.643
PCS E x LVS Familismo	2.983	5.077	.494
HCCQ D x LVS Cultural Pride	-3.779	5.963	-.534
HCCQ D x LVS Familismo	3.190	6.172	.569
HCCQ E x LVS Cultural Pride	9.147	6.871	1.264
HCCQ E x LVS Familismo	-8.644	6.673	-1.526
ΔR^2			.071

Note: Step 1 $R^2 = .150$; Step 2 $R^2 = .249$; Step 3 $R^2 = .260$; Step 4 $R^2 = .331$

* all values significant at the .05 level

**all values significant at the .001 level

Model 2 entered the most proximal components relevant to TTM (scores for WSC, ESC and WDB) as its second step, followed by the remainder of the TTM constructs (WPC), in the third step. Scores from the LVS were entered into the fourth step. Then the fifth step entered the interaction between proximal TTM variables and cultural variables. The sixth and final step in Model 2 entered the remaining TTM variables and their interactions with the LVS variables. The first step of the overall model was significant accounting for 14.8% of the variance in weight. Of the predictors entered in the first step, height was the only variable that was statistically significant ($\beta = .347, p < .001$). In step 2, the overall model was significant, accounting for 25.6% of the variance in weight. The variables that were statistically significant in the second step were height ($\beta = .311, p < .001$), Contemplation stage of change for exercise (ESC Contemplation; $\beta = .202, p = .004$), and WDB Pros ($\beta = .239, p = .004$).

Incremental variance in this step was also significant, uniquely contributing an additional 10.7% of the variability in weight. In step 3 the overall model was significant, accounting for 34.2% of the variance in weight. Of the predictors entered into the third step sex ($\beta = -.182, p = .044$), height ($\beta = .301, p = .001$), ESC Contemplation ($\beta = .138, p = .05$), WDB Pros ($\beta = .246, p = .007$), WPC Environmental Reevaluation ($\beta = -.254, p = .009$), WPC Helping Relationships ($\beta = .234, p = .005$), and WPC Social Liberation ($\beta = .226, p = .019$) were significant. WPC Stimulus Control was marginally significant ($\beta = -.200, p = .054$). Incremental variance in this step was also significant, uniquely contributing an additional 8.6% of the variability in weight. Steps 4, 5, and 6 in the overall model were not significant (See Table 5).

Table 5: Hierarchical Regression Predicting Weight Using Components of TTM

Variable	B	SE B	β	
Step 1				
Age	.016	.179	.006	
Sex	-3.930	7.162	.048	
Height	4.348	1.117	.347**	
Survey Language	-3.423	5.105	-.042	
R^2				.148**
Step 2				
Age	.084	.176	.030	
Sex	-10.123	7.187	-.124	
Height	3.897	1.090	.311**	
Survey Language	-6.604	4.988	-.081	
WSC Contemplation	18.445	9.917	.185	
WSC Action	11.568	9.475	.145	
WSC Maintenance	11.832	9.277	.146	
ESC Contemplation	26.084	8.948	.202*	
ESC Preparation	-7.491	10.305	-.084	
ESC Action	-5.735	10.350	-.065	
ESC Maintenance	-12.240	10.081	-.157	
WDB Pros	1.184	.403	.239*	
WDB Cons	-.374	.357	-.079	
ΔR^2				.107**

Step 3

Age	.154	.191	.055	
Sex	-14.773	7.299	-.182*	
Height	3.769	1.086	.301**	
Survey Language	-8.014	5.044	.099	
WSC Contemplation	16.284	10.026	.164	
WSC Action	12.859	9.537	.162	
WSC Maintenance	14.372	9.314	.177	
ESC Contemplation	17.850	9.052	.138*	
ESC Preparation	-4.511	10.471	-.050	
ESC Action	-2.195	10.635	-.025	
ESC Maintenance	-5.915	10.518	-.076	
WDB Pros	1.220	.446	.246*	
WDB Cons	-.524	.388	-.111	
WPC Consciousness Raising	.999	1.066	.095	
WPC Counterconditioning	-1.618	1.165	-.133	
WPC Dramatic Relief	.954	.940	.098	
WPC Environmental Reevaluation	-2.186	.825	-.254*	
WPC Helping Relationships	2.147	.749	.234*	
WPC Interpersonal Systems Control	1.297	1.042	.125	
WPC Reinforcement Management	-.047	.912	-.005	
WPC Self-Liberation	-.559	.995	-.057	
WPC Self-Reevaluation	-1.256	1.109	-.126	
WPC Social Liberation	2.676	1.134	.226*	
WPC Stimulus Control	-2.029	1.046	-.200	
WPC Substance Use	.314	.817	.033	
ΔR^2				.086*

Step 4

Age	.274	.203	.098	
Sex	-17.190	7.398	-.211*	
Height	3.654	1.085	.292**	
Survey Language	-8.751	5.045	-.108	
WSC Contemplation	13.873	10.083	.139	
WSC Action	10.775	9.583	.135	
WSC Maintenance	13.461	9.298	.166	
ESC Contemplation	20.474	9.149	.158	
ESC Preparation	-2.229	10.515	-.025	
ESC Action	.643	10.716	.007	
ESC Maintenance	-5.407	10.489	-.069	
WDB Pros	1.418	.461	.286	
WDB Cons	-.508	.390	-.108	
WPC Consciousness Raising	.907	1.069	.086	
WPC Counterconditioning	-1.553	1.162	-.128	
WPC Dramatic Relief	.815	.940	.083	
WPC Environmental Reevaluation	-2.173	.828	-.252	

WPC Helping Relationships	2.276	.751	.248
WPC Interpersonal Systems Control	1.186	1.042	.114
WPC Reinforcement Management	-.065	.916	-.007
WPC Self-Liberation	-.639	.996	-.066
WPC Self-Reevaluation	-1.187	1.120	-.119
WPC Social Liberation	2.861	1.135	.242
WPC Stimulus Control	-1.925	1.046	-.189
WPC Substance Use	.417	.818	.044
LVS Cultural Pride	3.305	5.982	.035
LVS Familismo	-9.208	5.111	-.128
ΔR^2			.011

Step 5

Age	.265	.213	.095
Sex	-14.992	7.707	-.184
Height	3.708	1.137	.296*
Survey Language	-8.874	5.392	-.109
WSC Contemplation	-10.204	88.716	-.103
WSC Action	-21.928	81.107	-.276
WSC Maintenance	-26.415	80.879	-.326
ESC Contemplation	-88.959	82.674	-.688
ESC Preparation	131.502	123.125	1.470
ESC Action	202.640	124.272	2.293
ESC Maintenance	97.764	118.844	1.256
WDB Pros	.482	3.483	.097
WDB Cons	-1.688	3.153	-.359
WPC Consciousness Raising	.990	1.144	.094
WPC Counterconditioning	-1.693	1.272	-.139
WPC Dramatic Relief	.458	.989	.047
WPC Environmental Reevaluation	-1.826	.857	-.212*
WPC Helping Relationships	2.260	.786	.246*
WPC Interpersonal Systems Control	1.291	1.093	.124
WPC Reinforcement Management	.058	.961	.006
WPC Self-Liberation	-1.032	1.061	-.106
WPC Self-Reevaluation	-.993	1.190	-.099
WPC Social Liberation	3.405	1.237	.288*
WPC Stimulus Control	-2.224	1.123	-.219*
WPC Substance Use	.667	.861	.070
LVS Cultural Pride	15.106	41.183	.162
LVS Familismo	-10.887	34.996	-.152
WSC Contemplation x LVS Cultural Pride	-14.664	26.686	-.401
WSC Contemplation x LVS Familismo	20.166	19.140	.631
WSC Action x LVS Cultural Pride	13.702	23.910	.482
WSC Action x LVS Familismo	-1.137	18.816	-.046
WSC Maintenance x LVS Cultural Pride	16.723	23.813	.550
WSC Maintenance x LVS Familismo	-1.963	18.160	-.080
ESC Contemplation x LVS Cultural Pride	37.645	25.589	.758

ESC Contemplation x LVS Familismo	2.907	18.155	.073
ESC Preparation x LVS Cultural Pride	-25.504	33.886	-.791
ESC Preparation x LVS Familismo	-21.291	22.350	-.770
ESC Action x LVS Cultural Pride	-47.155	34.355	-1.461
ESC Action x LVS Familismo	-24.070	22.437	-.899
ESC Maintenance x Cultural Pride	-27.867	32.192	-.980
ESC Maintenance x Familismo	-9.750	21.487	-.402
WDB Pros x LVS Cultural Pride	-1.163	1.065	-.733
WDB Pros x LVS Familismo	1.228	.864	1.162
WDB Cons x LVS Cultural Pride	1.646	.979	.973
WDB Cons x LVS Familismo	-.967	.720	-.880
ΔR^2			.048

Step 6

Age	.348	.243	.125
Sex	-19.760	8.953	-.243*
Height	2.907	1.348	.2332*
Survey Language	-9.327	5.885	-.115
WSC Contemplation	86.667	111.686	.871
WSC Action	60.583	102.486	.762
WSC Maintenance	51.575	100.563	.636
ESC Contemplation	-86.416	101.111	-.668
ESC Preparation	219.829	155.265	2.458
ESC Action	260.109	157.264	2.943
ESC Maintenance	166.107	150.218	2.134
WDB Pros	-2.547	4.588	-.514
WDB Cons	.274	3.842	.058
WPC Consciousness Raising	-8.700	13.076	-.826
WPC Counterconditioning	-4.275	12.130	-.352
WPC Dramatic Relief	-5.273	10.027	-.540
WPC Environmental Reevaluation	8.368	8.357	.971
WPC Helping Relationships	-1.480	7.932	-.161
WPC Interpersonal Systems Control	2.685	12.831	.259
WPC Reinforcement Management	4.615	11.636	.472
WPC Self-Liberation	2.898	10.766	.298
WPC Self-Reevaluation	-6.387	13.101	-.640
WPC Social Liberation	15.365	12.014	1.299
WPC Stimulus Control	-.938	12.006	-.092
WPC Substance Use	-9.235	8.901	-.975
LVS Cultural Pride	39.716	55.688	.427
LVS Familismo	-8.151	45.057	-.113
WSC Contemplation x LVS Cultural Pride	-24.315	31.768	-.665
WSC Contemplation x LVS Familismo	-4.335	24.330	-.136
WSC Action x LVS Cultural Pride	3.487	29.628	.123
WSC Action x LVS Familismo	-20.404	23.994	-.835
WSC Maintenance x LVS Cultural Pride	11.520	27.471	.379
WSC Maintenance x LVS Familismo	-23.631	24.404	-.958

ESC Contemplation x LVS Cultural Pride	36.897	32.882	.743
ESC Contemplation x LVS Familismo	3.777	22.992	.095
ESC Preparation x LVS Cultural Pride	-55.331	42.929	-1.715
ESC Preparation x LVS Familismo	-24.751	27.950	-.895
ESC Action x LVS Cultural Pride	-65.175	42.021	-2.019
ESC Action x LVS Familismo	-27.635	30.093	-1.032
ESC Maintenance x Cultural Pride	-50.304	41.196	-1.768
ESC Maintenance x Familismo	-14.026	29.183	-.578
WDB Pros x LVS Cultural Pride	-.737	1.410	-.464
WDB Pros x LVS Familismo	1.814	1.150	1.717
WDB Cons x LVS Cultural Pride	1.072	1.242	.634
WDB Cons x LVS Familismo	-1.101	.857	-1.002
WPC Consciousness Raising x LVS Cultural Pride	.692	3.853	.193
WPC Consciousness Raising x LVS Familismo	2.430	2.850	.927
WPC Counterconditioning x LVS Cultural Pride	-.657	3.5770	-.167
WPC Counterconditioning x LVS Familismo	1.457	2.827	.507
WPC Dramatic Relief x LVS Cultural Pride	2.571	3.237	.809
WPC Dramatic Relief x LVS Familismo	-.498	2.579	-.202
WPC Environmental Reevaluation x LVS Cultural Pride	.409	2.804	.144
WPC Environmental Reevaluation x LVS Familismo	-3.648	2.320	-1.683
WPC Helping Relationships x LVS Cultural Pride	-.324	2.420	-.106
WPC Helping Relationships x LVS Familismo	1.439	1.924	.602
WPC Interpersonal Systems Control x LVS Cultural Pride	-1.313	3.799	-.363
WPC Interpersonal Systems Control x LVS Familismo	.641	2.530	.236
WPC Reinforcement Management x LVS Cultural Pride	.782	3.594	.237
WPC Reinforcement Management x LVS Familismo	-1.900	2.516	-.743
WPC Self-Liberation x LVS Cultural Pride	-.148	3.084	-.046
WPC Self-Liberation x LVS Familismo	-1.059	2.504	-.435
WPC Self-Reevaluation x LVS Cultural Pride	.068	2.988	.027
WPC Self-Reevaluation x LVS Familismo	2.047	3.816	.629
WPC Social Liberation x LVS Cultural Pride	-3.448	3.563	-.890
WPC Social Liberation x LVS Familismo	-.777	2.594	-.278
WPC Stimulus Control x LVS Cultural Pride	-3.288	3.973	-.943
WPC Stimulus Control x LVS Familismo	2.146	2.549	.795
WPC Substance Use x LVS Cultural Pride	3.518	3.119	.987
WPC Substance Use x LVS Familismo	.217	1.750	.082

ΔR^2 .042

Note: Step 1 $R^2 = .148$; Step 2 $R^2 = .256$; Step 3 $R^2 = .342$; Step 4 $R^2 = .353$; Step 5 $R^2 = .401$; Step 6 $R^2 = .443$

* all values significant at the .05 level

**all values significant at the .001 level

Reference group for WSC and ESC is Precontemplation

Model 3 entered variables relevant to SCT, which are scores for the WEL and the ECS, as a second step in the hierarchical analysis. The third step in Model 3 entered cultural variables from the LVS, and as a final step, the interaction between SCT variables and cultural variables. This final step assessed which culturally- or theoretically- based constructs are significantly associated with weight considering all other relevant constructs. Only the first step of the model was significant, accounting for 14.9% of the variance in weight, with height being the only significant variable in the equation ($\beta = .347, p < .001$) (See Table 6).

Table 6: Hierarchical Regression Predicting Weight using Components of SCT

Variable	B	SE B	β
Step 1			
Age	.012	.179	.004
Sex	-4.090	7.168	-.050
Height	4.346	1.118	.347**
Survey Language	-3.490	5.110	-.043
R^2			.149*
Step 2			
Age	.081	.188	.029
Sex	-6.992	7.391	-.086
Height	4.182	1.121	.334**
Survey Language	-4.144	5.186	-.051
WEL Negative Emotion	-.115	.488	-.028
WEL Availability	.278	.419	.071
WEL Social	-.289	.593	-.074
WEL Physical Discomfort	.668	.553	.153
WEL Positive Activities	-.658	.561	-.157
ECS Sticking to It	-5.216	4.826	-.133
ECS Making Time	-1.339	4.641	-.035

ΔR^2 .045

Step 3

Age	.150	.200	.054
Sex	-7.846	7.435	-.096
Height	4.168	1.120	.333**
Survey Language	-4.382	5.184	-.054
WEL Negative Emotion	-.098	.488	-.024
WEL Availability	.283	.419	.073
WEL Social	-.381	.596	-.097
WEL Physical Discomfort	.782	.559	.179
WEL Positive Activities	-.675	.561	-.161
ECS Sticking to It	-5.801	4.841	-.148
ECS Making Time	-.990	4.643	-.026
LVS Cultural Pride	-8.509	5.972	-.091
LVS Familismo	-2.012	4.893	-.028
ΔR^2			.009

Step 4

Age	.130	.210	.047
Sex	-8.966	8.027	-.110
Height	3.887	1.183	.310**
Survey Language	-3.137	5.537	-.039
WEL Negative Emotion	2.906	4.911	.708
WEL Availability	-3.348	4.023	-.860
WEL Social	-.188	5.438	-.048
WEL Physical Discomfort	.56	5.597	.129
WEL Positive Activities	.237	5.841	.056
ECS Sticking to It	14.954	38.271	.383
ECS Making Time	-22.571	39.458	-.586
LVS Cultural Pride	-3.332	31.231	-.035
LVS Familismo	1.168	18.569	.016
WEL Negative Emotion x LVS Cultural Pride	-.840	1.294	-.601
WEL Negative Emotion x LVS Familismo	-.205	1.124	-.179
WEL Availability x LVS Cultural Pride	.330	1.243	.241
WEL Availability x LVS Familismo	.894	.920	.815
WEL Social x LVS Cultural Pride	1.239	1.733	.915
WEL Social x LVS Familismo	-1.231	1.177	-1.108
WEL Physical Discomfort x LVS Cultural Pride	-.862	1.951	-.592
WEL Physical Discomfort x LVS Familismo	.832	1.003	.703
WEL Positive Activities x LVS Cultural Pride	-.150	1.597	-.103
WEL Positive Activities x LVS Familismo	-.149	1.213	-.127
ECS Sticking to It x LVS Cultural Pride	5.053	12.536	.399

ECS Sticking to It x LVS Familismo	10.945	9.234	-1.072	
ECS Making Time x LVS Cultural Pride	-2.871	13.259	-.238	
ECS Making Time x LVS Familismo	9.256	8.879	.923	
ΔR^2				.023

Note: Step 1 $R^2 = .149$; Step 2 $R^2 = .194$; Step 3 $R^2 = .203$; Step 4 $R^2 = .226$

* all values significant at the .05 level

**all values significant at the .001 level

Models 4 through 6 used waist circumference as the dependent variable and entered variables such as age, gender, survey language, and measured height first as control variables. Model 4 then entered components relevant to SDT, followed by cultural values as taken from the LVS. The last step of the model entered the interaction between SDT variables and cultural variables. The first step of the overall model was significant accounting for 4.3% of the variance in waist circumference. Age was the only significant variable in the equation ($\beta = .140, p = .040$) (See Table 7). Steps 2, 3, and 4 of the model were not statistically significant.

Table 7: Hierarchical Regression Predicting Waist Circumference using Components of SDT

Variable	B	SE B	β	
Step 1				
Age	.067	.032	.140*	
Sex	-.021	1.295	-.001	
Height	.368	.202	.172	
Survey Language	-.587	.923	-.042	
R^2				.043*
Step 2				
Age	.071	.034	.149*	
Sex	-.618	1.320	-.044	
Height	.284	.204	.133	
Survey Language	-.415	.949	-.030	
TSRQ D Autonomous Motivation	.015	.809	.002	
TSRQ D Controlled Motivation	-.007	.635	-.002	
TSRQ D Amotivation	.350	.472	.084	
TSRQ E Autonomous Motivation	1.285	.832	.212	
TSRQ E Controlled Motivation	.327	.602	.076	
TSRQ E Amotivation	.001	.502	.000	

PCS D	-.812	.451	-.178	
PCS E	-.705	.417	-.180	
HCCQ D	-.346	.432	-.104	
HCCQ E	.420	.451	.118	
ΔR^2				.067

Step 3

Age	.081	.036	.169*	
Sex	-.671	1.324	-.048	
Height	.286	.204	.134	
Survey Language	-.474	.948	-.034	
TSRQ D Autonomous Motivation	-.028	.809	.005	
TSRQ D Controlled Motivation	-.011	.639	.002	
TSRQ D Amotivation	.493	.480	.118	
TSRQ E Autonomous Motivation	1.294	.832	.214	
TSRQ E Controlled Motivation	.336	.602	.078	
TSRQ E Amotivation	-.150	.512	-.039	
PCS D	-.815	.451	-.179	
PCS E	-.705	.417	-.180	
HCCQ D	-.388	.432	-.111	
HCCQ E	.417	.451	.117	
LVS Cultural Pride	-1.591	1.095	-.100	
LVS Familismo	-.331	.920	-.027	
ΔR^2				.011

Step 4

Age	.075	.038	.158	
Sex	.259	1.409	.019	
Height	.434	.218	.203*	
Survey Language	-.554	1.010	-.040	
TSRQ D Autonomous Motivation	3.270	8.623	.544	
TSRQ D Controlled Motivation	9.720	6.072	2.063	
TSRQ D Amotivation	-.499	4.779	-.119	
TSRQ E Autonomous Motivation	-4.745	9.329	-.783	
TSRQ E Controlled Motivation	-2.405	6.023	-.559	
TSRQ E Amotivation	-2.532	5.084	-.652	
PCS D	-1.863	4.501	-.408	
PCS E	3.886	4.228	.992	
HCCQ D	-.354	3.866	-.101	
HCCQ E	-.554	4.211	-.153	
LVS Cultural Pride	-4.298	9.404	-.270	
LVS Familismo	8.49	7.265	.655	
TSRQ D Autonomous Motivation x LVS Cultural Pride	-1.919	2.607	-1.154	
TSRQ D Autonomous Motivation x LVS Familismo	.375	1.647	.344	

TSRQ D Controlled Motivation x LVS Cultural Pride	-.876	1.951	-.551
TSRQ D Controlled Motivation x LVS Familismo	-2.207	1.438	-1.886
TSRQ D Amotivation x LVS Cultural Pride	-.916	1.271	-.623
TSRQ D Amotivation x LVS Familismo	1.104	1.093	.990
TSRQ E Autonomous Motivation x LVS Cultural Pride	4.189	2.753	2.534
TSRQ E Autonomous Motivation x LVS Familismo	-1.577	1.970	-1.239
TSRQ E Controlled Motivation x LVS Cultural Pride	-.435	1.831	-.283
TSRQ E Controlled Motivation x LVS Familismo	1.146	1.389	1.016
TSRQ E Amotivation x LVS Cultural Pride	1.544	1.321	1.046
TSRQ E Amotivation x LVS Familismo	-.534	1.128	-.496
PCS D x LVS Cultural Pride	-.753	1.204	-.519
PCS D x LVS Familismo	1.047	.932	.936
PCS E x LVS Cultural Pride	-.765	1.232	-.593
PCS E x LVS Familismo	-.841	.953	-.816
HCCQ D x LVS Cultural Pride	-1.547	1.120	-1.274
HCCQ D x LVS Familismo	1.205	1.159	1.258
HCCQ E x LVS Cultural Pride	1.782	1.291	1.442
HCCQ E x LVS Familismo	-1.143	1.253	-1.182
ΔR^2			.070

Note: Step 1 $R^2 = .041$; Step 2 $R^2 = .110$; Step 3 $R^2 = .121$; Step 4 $R^2 = .191$

* all values significant at the .05 level

Model 5 entered proximal components relevant to TTM as its second step, followed by scores from the remaining TTM constructs as the third step. The fourth step entered constructs from the LVS. Then fifth step of Model 5 entered the interaction between proximal TTM variables and cultural variables. The final step of Model 5 entered the interaction between the remaining TTM variables and the LVS constructs. The first step of the overall model was significant, accounting for 4.3% of the variance in waist circumference. Age was the only significant variable in the equation ($\beta = .143$, $p = .037$). Step 2 of the overall model was significant, accounting for 16.1% of the variance in waist circumference. Of the predictors entered into the second step, age ($\beta = .169$, $p = .012$), WSC Contemplation ($\beta = .252$, $p = .018$), WSC Action ($\beta = .273$, $p = .032$), WSC Maintenance ($\beta = .294$, $p = .016$), ESC Contemplation ($\beta = .242$, $p = .001$), and ESC Maintenance ($\beta = -.304$, $p = .028$) were

statistically significant. Incremental variance in this step was also significant, uniquely contributing an additional 11.8% of the variability in waist circumference. Steps 3, 4, 5, and 6 of the model were not significant (See Table 8).

Table 8: Hierarchical Regression Predicting Waist Circumference Using Components of TTM

Variable	B	SE B	β	
Step 1				
Age	.068	.032	.143*	
Sex	.035	1.294	.003	
Height	.369	.202	.173	
Survey Language	-.563	.922	-.041	
R^2				.043*
Step 2				
Age	.080	.032	.169*	
Sex	-.909	1.300	-.066	
Height	.285	.197	.134	
Survey Language	-1.012	.902	-.073	
WSC Contemplation	4.277	1.794	.252*	
WSC Action	3.704	1.714	.273*	
WSC Maintenance	4.067	1.679	.294*	
ESC Contemplation	5.328	1.619	.242**	
ESC Preparation	-2.572	1.864	-.169	
ESC Action	-2.772	1.873	-.184	
ESC Maintenance	-4.034	1.824	-.304*	
WDB Pros	.103	.073	.122	
WDB Cons	-.044	.065	-.055	
ΔR^2				.118**
Step 3				
Age	.091	.035	.191*	
Sex	-1.566	1.348	-.113	
Height	.245	.201	.115	
Survey Language	-1.425	.932	-.103	
WSC Contemplation	3.959	1.852	.233*	
WSC Action	3.818	1.762	.282*	
WSC Maintenance	4.479	1.721	.324*	
ESC Contemplation	4.297	1.672	.195*	
ESC Preparation	-2.491	1.934	-.163	
ESC Action	-2.736	1.965	-.182	

ESC Maintenance	-3.675	1.943	-.277	
WDB Pros	.078	.082	.092	
WDB Cons	-.059	.072	-.073	
WPC Consciousness Raising	-.048	.197	-.027	
WPC Counterconditioning	-.205	.215	-.099	
WPC Dramatic Relief	-.016	.174	-.009	
WPC Environmental Reevaluation	-.226	.152	-.154	
WPC Helping Relationships	.374	.138	.239*	
WPC Interpersonal Systems Control	.127	.192	.072	
WPC Reinforcement Management	.051	.169	.031	
WPC Self-Liberation	-.070	.184	-.042	
WPC Self-Reevaluation	.028	.205	.017	
WPC Social Liberation	.431	.209	.214*	
WPC Stimulus Control	-.303	.193	-.175	
WPC Substance Use	.033	.151	.020	
ΔR^2				.066

Step 4

Age	.106	.038	.224*	
Sex	-1.805	1.373	-.130	
Height	.231	.201	.108	
Survey Language	-1.512	.936	-.109	
WSC Contemplation	3.717	1.871	.219*	
WSC Action	3.649	1.778	.269*	
WSC Maintenance	4.367	1.725	.316*	
ESC Contemplation	4.512	1.698	.205*	
ESC Preparation	-2.229	1.951	-.146	
ESC Action	-2.432	1.989	-.161	
ESC Maintenance	-3.613	1.946	-.272	
WDB Pros	.092	.086	.109	
WDB Cons	-.064	.072	-.080	
WPC Consciousness Raising	-.071	.198	-.039	
WPC Counterconditioning	-.199	.216	-.096	
WPC Dramatic Relief	-.031	.174	-.018	
WPC Environmental Reevaluation	-.212	.154	-.144	
WPC Helping Relationships	.384	.139	.245*	
WPC Interpersonal Systems Control	.109	.193	.062	
WPC Reinforcement Management	.064	.170	.038	
WPC Self-Liberation	-.088	.185	-.053	
WPC Self-Reevaluation	.058	.208	.034	
WPC Social Liberation	.446	.211	.221*	
WPC Stimulus Control	-.286	.194	-.165	
WPC Substance Use	.038	.152	.023	
LVS Cultural Pride	-.406	1.110	-.026	
LVS Familismo	-1.010	.948	-.083	
ΔR^2				.006

Step 5

Age	.097	.039	.204
Sex	-1.616	1.407	-.117
Height	.268	.208	.126
Survey Language	-1.414	.985	-.102
WSC Contemplation	3.325	16.200	.196
WSC Action	-1.325	14.810	-.098
WSC Maintenance	-5.854	14.769	-.424
ESC Contemplation	-33.172	15.096	-1.505
ESC Preparation	19.044	22.483	1.249
ESC Action	22.268	22.692	1.478
ESC Maintenance	15.902	21.701	1.198
WDB Pros	.607	.636	.719
WDB Cons	-.537	.576	-.669
WPC Consciousness Raising	-.067	.209	-.037
WPC Counterconditioning	-.143	.232	-.069
WPC Dramatic Relief	-.052	.181	-.031
WPC Environmental Reevaluation	-.176	.156	-.120
WPC Helping Relationships	.380	.143	.243
WPC Interpersonal Systems Control	.118	.200	.067
WPC Reinforcement Management	.078	.176	.047
WPC Self-Liberation	-.173	.194	-.104
WPC Self-Reevaluation	.027	.217	.016
WPC Social Liberation	.502	.226	.249
WPC Stimulus Control	-.311	.205	-.180
WPC Substance Use	.090	.157	.056
LVS Cultural Pride	5.918	7.520	.373
LVS Familismo	-1.301	6.390	-.106
WSC Contemplation x LVS Cultural Pride	-3.841	4.873	-.616
WSC Contemplation x LVS Familismo	3.447	3.495	.633
WSC Action x LVS Cultural Pride	1.818	4.366	.375
WSC Action x LVS Familismo	.069	3.436	.017
WSC Maintenance x LVS Cultural Pride	5.822	4.348	1.123
WSC Maintenance x LVS Familismo	-1.695	3.316	-.403
ESC Contemplation x LVS Cultural Pride	11.905	4.673	1.407
ESC Contemplation x LVS Familismo	1.909	3.315	.282
ESC Preparation x LVS Cultural Pride	-3.476	6.188	-.632
ESC Preparation x LVS Familismo	-3.793	4.081	-.805
ESC Action x LVS Cultural Pride	-5.193	6.273	-.944
ESC Action x LVS Familismo	-3.412	4.097	-.748
ESC Maintenance x Cultural Pride	-4.858	5.878	-1.002
ESC Maintenance x Familismo	-2.111	3.924	-.510
WDB Pros x LVS Cultural Pride	-.248	.194	-.915
WDB Pros x LVS Familismo	.051	.158	.282
WDB Cons x LVS Cultural Pride	.155	.179	.537
WDB Cons x LVS Familismo	.024	.131	.131
ΔR^2			.080

Step 6

Age	.115	.044	.241
Sex	-2.693	1.612	-.194
Height	.065	.243	.031
Survey Language	-1.515	1.060	-.109
WSC Contemplation	11.315	20.113	.667
WSC Action	7.808	18.456	.576
WSC Maintenance	.150	18.110	.011
ESC Contemplation	-33.129	18.209	-1.503
ESC Preparation	33.526	27.961	2.199
ESC Action	31.525	28.321	2.093
ESC Maintenance	27.184	27.052	2.048
WDB Pros	-.201	.826	-.238
WDB Cons	-.017	.692	-.021
WPC Consciousness Raising	-.251	2.355	-.140
WPC Counterconditioning	-2.860	2.184	-1.380
WPC Dramatic Relief	-1.301	1.806	-.782
WPC Environmental Reevaluation	.367	1.505	.250
WPC Helping Relationships	-1.434	1.428	-.917
WPC Interpersonal Systems Control	1.263	2.311	.713
WPC Reinforcement Management	2.173	2.096	1.305
WPC Self-Liberation	3.092	1.939	1.866
WPC Self-Reevaluation	-.891	2.359	-.524
WPC Social Liberation	.764	2.163	.379
WPC Stimulus Control	.315	2.162	.182
WPC Substance Use	-2.396	1.603	-.1485
LVS Cultural Pride	6.743	10.029	.425
LVS Familismo	-4.085	8.114	-.334
WSC Contemplation x LVS Cultural Pride	-3.295	5.721	-.528
WSC Contemplation x LVS Familismo	.245	4.382	.045
WSC Action x LVS Cultural Pride	.934	5.336	.193
WSC Action x LVS Familismo	-2.524	4.321	-.606
WSC Maintenance x LVS Cultural Pride	5.560	4.947	1.073
WSC Maintenance x LVS Familismo	-3.662	4.395	-.871
ESC Contemplation x LVS Cultural Pride	10.739	5.922	1.269
ESC Contemplation x LVS Familismo	3.100	4.141	.459
ESC Preparation x LVS Cultural Pride	-9.134	7.731	-1.661
ESC Preparation x LVS Familismo	-4.109	5.033	-.872
ESC Action x LVS Cultural Pride	-8.439	7.567	-1.534
ESC Action x LVS Familismo	-4.033	5.419	-.884
ESC Maintenance x Cultural Pride	-9.201	7.419	-1.897
ESC Maintenance x Familismo	-2.577	5.255	-.623
WDB Pros x LVS Cultural Pride	-.189	.254	-.699
WDB Pros x LVS Familismo	.244	.207	1.356
WDB Cons x LVS Cultural Pride	.018	.224	.062
WDB Cons x LVS Familismo	-.023	.154	-.125

WPC Consciousness Raising x LVS Cultural Pride	-.325	.694	-.532
WPC Consciousness Raising x LVS Familismo	.305	.513	.682
WPC Counterconditioning x LVS Cultural Pride	-.077	.644	-.115
WPC Counterconditioning x LVS Familismo	.920	.509	1.876
WPC Dramatic Relief x LVS Cultural Pride	.556	.583	1.026
WPC Dramatic Relief x LVS Familismo	-.094	.464	-.223
WPC Environmental Reevaluation x LVS Cultural Pride	-.143	.505	-.296
WPC Environmental Reevaluation x LVS Familismo	-.081	.418	-.218
WPC Helping Relationships x LVS Cultural Pride	.489	.437	.936
WPC Helping Relationships x LVS Familismo	.149	.347	.366
WPC Interpersonal Systems Control x LVS Cultural Pride	-.264	.684	-.428
WPC Interpersonal Systems Control x LVS Familismo	-.142	.456	-.307
WPC Reinforcement Management x LVS Cultural Pride	.133	.647	.237
WPC Reinforcement Management x LVS Familismo	-.700	.453	-1.605
WPC Self-Liberation x LVS Cultural Pride	-.361	.555	-.658
WPC Self-Liberation x LVS Familismo	-.694	.451	1.673
WPC Self-Reevaluation x LVS Cultural Pride	.066	.538	.157
WPC Self-Reevaluation x LVS Familismo	.318	.687	.573
WPC Social Liberation x LVS Cultural Pride	-.102	.642	-.154
WPC Social Liberation x LVS Familismo	-.006	.467	-.013
WPC Stimulus Control x LVS Cultural Pride	-.564	.715	-.949
WPC Stimulus Control x LVS Familismo	.223	.459	.485
WPC Substance Use x LVS Cultural Pride	1.062	.562	1.747
WPC Substance Use x LVS Familismo	-.076	.315	-.169
ΔR^2			.065

Note: Step 1 $R^2 = .043$; Step 2 $R^2 = .161$; Step 3 $R^2 = .227$; Step 4 $R^2 = .233$; Step 5 $R^2 = .313$; Step 6 $R^2 = .378$

* all values significant at the .05 level

**all values significant at the .001 level

Reference group for WSC and ESC is Precontemplation

Model 6 entered variables relevant to SCT as a second step in the hierarchical analysis. The third step in Model 6 entered cultural variables from the LVS, and as a final step, the interaction between SCT

variables and cultural variables. This final step assessed which culturally- or theoretically- based constructs are significantly associated with waist circumference considering all other relevant constructs. In Model 6, only the first step of the overall model was significant, accounting for 4.3% of the variance in waist circumference. Age was the only significant variable in the equation ($\beta = .141, p = .040$) (See Table 9).

Table 9: Hierarchical Regression Predicting Waist Circumference using Components of SCT

Variable	B	SE B	β	
Step 1				
Age	.067	.032	.141*	
Sex	.008	1.297	.001	
Height	.368	.202	.172	
Survey Language	-.572	.925	-.041	
R ²				.043*
Step 2				
Age	.079	.034	.166*	
Sex	-.430	1.348	-.031	
Height	.334	.205	.156	
Survey Language	-.717	.946	-.052	
WEL Negative Emotion	.029	.089	.041	
WEL Availability	.064	.076	.096	
WEL Social	-.058	.108	-.086	
WEL Physical Discomfort	.047	.101	.062	
WEL Positive Activities	-.070	.102	-.098	
ECS Sticking to It	-.787	.880	-.118	
ECS Making Time	-.471	.846	-.072	
ΔR^2				.036
Step 3				
Age	.086	.037	.180*	
Sex	-.516	1.356	-.037	
Height	.332	.204	.155	
Survey Language	-.751	.946	-.054	
WEL Negative Emotion	.030	.089	.043	
WEL Availability	.063	.076	.095	
WEL Social	-.072	.109	-.107	
WEL Physical Discomfort	.063	.102	.085	

WEL Positive Activities	-.071	.102	-.099	
ECS Sticking to It	-.869	.883	-.130	
ECS Making Time	-.415	.847	-.063	
LVS Cultural Pride	-1.639	1.089	-.102	
LVS Familismo	.072	.893	.006	
ΔR^2				.010

Step 4

Age	.079	.038	.166*	
Sex	-.627	1.455	-.045	
Height	.281	.214	.131	
Survey Language	-.505	1.004	-.036	
WEL Negative Emotion	.703	.891	1.004	
WEL Availability	-.596	.729	-.899	
WEL Social	-.804	.986	-1.204	
WEL Physical Discomfort	-.271	1.015	-.362	
WEL Positive Activities	.830	1.059	1.159	
ECS Sticking to It	6.207	6.939	.931	
ECS Making Time	-5.767	7.155	-.878	
LVS Cultural Pride	-2.143	5.663	-.134	
LVS Familismo	2.121	3.367	.172	
WEL Negative Emotion x LVS Cultural Pride	-.171	.235	-.718	
WEL Negative Emotion x LVS Familismo	-.057	.204	-.291	
WEL Availability x LVS Cultural Pride	-.016	.225	-.070	
WEL Availability x LVS Familismo	.225	.167	1.205	
WEL Social x LVS Cultural Pride	.394	.314	1.709	
WEL Social x LVS Familismo	-.119	.213	-.626	
WEL Physical Discomfort x LVS Cultural Pride	-.004	.354	-.016	
WEL Physical Discomfort x LVS Familismo	.110	.182	.545	
WEL Positive Activities x LVS Cultural Pride	-.265	.290	-1.702	
WEL Positive Activities x LVS Familismo	-.064	.220	-.321	
ECS Sticking to It x LVS Cultural Pride	-.053	2.273	-.024	
ECS Sticking to It x LVS Familismo	-2.205	1.674	-1.267	
ECS Making Time x LVS Cultural Pride	.654	2.404	.317	
ECS Making Time x LVS Familismo	1.134	1.610	.663	
ΔR^2				.037

Note: Step 1 $R^2 = .043$; Step 2 $R^2 = .078$; Step 3 $R^2 = .088$; Step 4 $R^2 = .125$

* all values significant at the .05 level

Discussion

Study inclusion criteria (i.e., BMI of 25 or greater) ensured participants met clinical guidelines for recommending weight loss (Weight Control Information Network, 2007); however, it appears a high quantity of the sample met additional criteria, particularly with regard to personal and family histories of risk factors/diseases associated with overweight/obesity. Most saliently, the rate of type 2 diabetes was higher than the national average reported for Mexican Americans (27.7% vs. 13.3%; CDC, 2011). Given that the sample was derived from a clinical population, this finding may be expected. Still, future studies within similar populations should take into account potential pre-existing health conditions when administering interventions. Perhaps future interventions prioritizing Hispanic populations could incorporate diabetes management and/or prevention as a health education component in order to stress the importance and benefits of weight loss.

More than 20% of the sample reported not exercising regularly, and over 40% of the sample reported exercising for at least 30 minutes on 1-2 days a week. While it is promising that a large portion of the sample are exercising regularly, this falls short of guidelines recommending physical activity at least 5 days a week (CDC, 2010). It may be that some of the medical conditions that are associated with overweight/obesity are also acting as barriers to engaging in physical activity. Future studies should assess chronic medical conditions associated with overweight/obesity and their effect on engaging in exercise. It may be that future interventions should encourage participants to discuss potential physical limitations with their healthcare providers and then develop an exercise regimen that is both beneficial and safe.

Cultural Constructs and Weight

Cultural pride and familismo were not associated with weight after controlling for demographic variables and constructs related to SDT, TTM, and SCT. As previously mentioned, cultural pride is not a well-studied construct. Given the dearth of literature with regard to cultural pride, further study of this construct and its relation to weight is warranted. However, that familismo was not associated with weight is contrary to previous findings and hypotheses (Cousins et al., 1992; Foreyt et al., 1991). However, familismo was significantly correlated with TTM variables, particularly those pertaining to social constructs (WPC Helping Relationships, $r = .23, p < .001$; WPC Environmental Reevaluation, $r = .33, p < .001$; See Table 2), and these constructs were significantly related to weight. As such, social support related constructs may be relevant to weight; however, it may be that more general social support and not particularly family belonging and support are salient. Future studies should likely continue to assess support related constructs, and future interventions should focus on capitalizing on the social components of the TTM model in this particular population.

Self-Determination Theory and Weight

Consistent with previous findings and hypotheses, the SDT constructs that were associated with weight were perceived competence for diet and exercise (Ryan & Deci, 2000; Teixeira et al., 2006; Williams et al., 1996), in which increased perceived competence for diet and exercise were associated with lower weight. Although there is a dearth of literature examining the relationship between perceived competence for diet and implementing a healthy diet, it has been found that increased perceived competence for exercise is associated with higher levels of physical activity (Milne, Wallman, Guilfoyle, Gordon, & Courneya, 2008). Future interventions in similar populations should focus on implementing components designed to increase perceived competence for diet and exercise in order to encourage the adoption of healthier diets and regular exercise regimens. For instance, in motivational enhancement interventions, confidence can be bolstered by eliciting potentially useful ideas and strategies for weight loss from the client, such as focusing on the client's personal strengths or outlining systems of support the client has access to in order to facilitate behavior change (Miller & Rollnick, 2002).

Transtheoretical Model and Weight

With regard to the TTM, contrary to hypotheses and previous findings, being in the contemplation stage for exercise, relative to the precontemplation stage, was associated with higher weight (Prochaska et al., 1992; Robinson et al., 2008). This finding makes intuitive sense, however, in that those of higher weight may be more aware of the negative impact weight has on health and therefore are considering changing current unhealthy behaviors. Future longitudinal studies in overweight and obese populations should assess how movement through the stages of change is impacted as weight and health status change.

Restricted variability within the sample may be another reason for this finding, as the current sample was made up of an overweight or obese clinical population, and it has been found that such populations tend to report being in advanced stages of change, regardless of weight (Wee, Davis, & Phillips, 2005). This may indeed be the case in the current sample, as the majority of the sample reported being in the action or maintenance stages for weight loss and exercise. In future studies, the inclusion of normal weight individuals or overweight/obese non-clinical populations may be warranted for comparison.

Higher weight was also associated with greater endorsement of the positive aspects of engaging in weight loss. It may be that those of lower weight do not endorse the positive aspects of weight loss because they do not perceive themselves as overweight or that weight loss is needed. As previous research suggests that in order for behavior change to occur the positive aspects of behavior change should outweigh the negatives (Prochaska et al., 1994), that heavier individuals already endorse the benefits of weight loss is promising. Future studies should focus on highlighting the positive aspects and assist participants in minimizing the negative aspects of weight loss. Moreover, future interventions should utilize greater endorsement of the benefits of weight loss in order to encourage weight change. The Decisional Balance, an exercise used in motivational enhancement interventions, outlines the pros

and cons of changing a behavior, and can be a useful tool in order to elicit the benefits of weight loss that are most salient to the client (Miller & Rollnick, 2002).

Lower weight was associated with greater awareness about the effect weight-related behaviors have on one's social environment (Environmental Reevaluation) and greater control over situations that may trigger unhealthy behaviors in one's environment (Stimulus Control) Higher weight was associated with utilizing the support of others when attempting to change behavior (Helping Relationships) and greater awareness of the possibility of a less problematic lifestyle (Social Liberation). It is difficult to determine whether this is contrary to current literature as studies that have utilized the WPC have collapsed the items into fewer subscales (Chung, Hoerr, Levine, & Coleman, 2006) or have removed some scales completely (Suris et al., 1998). However, these findings do make intuitive sense given the high level of motivation to lose weight that this sample reported. Increasing awareness of the impact of weight-related behaviors on one's social environment may be a beneficial component in future interventions, particularly when it comes to assessing potential socially-related facilitators or barriers to weight loss. In addition, interventions that assist the client in navigating situations that are not conducive to healthy weight loss behaviors may be efficacious. Also, encouraging the use of social support and implementing goal-setting as a weight loss tool may be warranted with the current population. One method used in motivational enhancement interventions, developing change strategies (Miller & Rollnick, 2002), could be utilized in weight loss interventions prioritizing this particular population. With this method, the interventionist elicits from the client, not only reachable goals for weight loss, but a specific plan as to how those goals will be met, taking into account potential triggers the client may encounter.

Social Cognitive Theory and Weight

Contrary to hypotheses and previous findings, SCT constructs were not associated with weight (Anderson et al., 2010; Anderson et al., 2001; Palmeira et al., 2007; Turner-McGrievy et al., 2009; Winett et al., 1991). It may be that SCT constructs are not salient to this particular population. Many constructs of the three theoretical models have common themes, such as self-efficacy, self-confidence and motivation to engage in behavior change. Indeed many of the SCT variables are significantly correlated with items from SDT, particularly the perceived competence scales for diet and exercise (See Table 2). It may be that in this population the constructs of SDT better capture the association with weight.

An alternative explanation is that the WEL primarily focuses on eating behavior and specific antecedents for overeating or eating unhealthy foods, whereas the majority of the measures for SDT and TTM focus on general motivation and competence for adopting or maintaining a healthy diet or on weight loss in general. For example, one item from the WEL is “I can resist eating even when I have a headache,” which is very specific compared to items from SDT and TTM such as “I feel confident in my ability to maintain a healthy diet” or “My health would improve if I lost weight.” It may be that when faced with specific situations with regard to food, participants may not feel as confident in highly endorsing self-efficacy for successfully dealing with such situations. The same could be true for the ECS, in which questions are more specific and situational rather than general, as in the SDT and TTM scales for exercise.

Waist Circumference and Theory

With regard to waist circumference and cultural constructs, there were no associations after accounting for SDT, TTM, and SCT constructs. Given the dearth of literature on cultural constructs, future exploration with health related variables is warranted.

Waist circumference was also not associated with SDT or SCT constructs. As for the TTM, higher waist circumference was associated with being in advanced stages of change for weight loss. Moreover, being in the contemplation stage for exercise, relative to the precontemplation stage, was associated with higher waist circumference. Even though this is contrary to hypotheses, findings are similar to the relationship between weight and stage of change for exercise. This suggests that waist circumference could indeed have predictive value of weight-related behaviors and attitudes which should be explored in future studies, especially those that are longitudinal in design. Interestingly, being in the maintenance stage for exercise was associated with lower waist circumference, which is consistent with hypotheses. It may be that while those of higher waist circumference in the contemplation stage have recognized a need for exercise, those of lower waist circumference have already implemented a plan of action and are currently engaged in behavior change. There is a dearth of literature with regard to waist circumference and theory. Previous studies either did not assess waist circumference (Prochaska et al., 1992; Teixeira et al., 2006; Turner-McGrievy et al., 2009; Williams et al., 1996) or used waist circumference as a control variable rather than an outcome variable (Standage, Sebire, & Loney, 2008). As a high waist circumference indicates the presence of greater abdominal fat which increases the risk of developing diseases associated with obesity/overweight (Weight Control Information Network, 2007), its inclusion in future studies, both as a risk assessment tool and an outcome variable, is warranted.

Strengths and Limitations

Limitations of the current study are its cross-sectional design and use of a clinical population, which potentially limits generalizability to other overweight/obese populations. In addition, the lack of inclusion of normal weight individuals limits the ability to compare associations across other weight classes. Strengths of the current study are the assessment within an underserved population and of multiple theoretical and cultural constructs which could be utilized in future interventions in Hispanic populations.

Conclusions and Future Directions

This study provides an examination of multiple cultural and theoretical constructs in an overweight/obese Hispanic community population. A large portion of the sample met clinical guidelines for recommending weight loss beyond BMI. It appears that constructs from the Transtheoretical model are better suited to the characteristics of the current sample and contribute best to understanding weight and warrant inclusion in pilot weight loss programs with Hispanic populations. Pilot programs should also consider adding components designed to bolster perceived competence for diet and exercise. Though cultural constructs were not related to weight or waist circumference, future studies should continue to examine these constructs with other Hispanic populations. Future interventions are clearly warranted, and at present, the inclusion of TTM based assessments and intervention components seems most fitting in an effort to reduce overweight and obesity in border region Hispanic populations.

References

- Anderson, E. S., Winett, R. A., & Wojcik, J. R. (2000). Social-cognitive determinants of nutrition behavior among supermarket food shoppers: A structural equation analysis. *Health Psychology, 19*, 479-486. doi:10.1037/0278-6133.19.5.479
- Anderson, E. S., Winett, R. A., & Wojcik, J. R. (2007). Self-regulation, self-efficacy, outcome expectations, and social support: Social cognitive theory and nutrition behavior. *Annals of Behavioral Medicine, 34*, 304-312. doi:10.1007/BF02874555
- Anderson, E. S., Winett, R. A., Wojcik, J. R., & Williams, D. M. (2010). Social cognitive mediators of change in a group randomized nutrition and physical activity intervention: Social support, self-efficacy, outcome expectations, and self-regulation in the Guide-to-Health trial. *Journal of Health Psychology, 15*, 21-32. doi:10.1177/1359105309342297
- Anderson, E. S., Winett, R. A., Wojcik, J. R., Winett, S. G., & Bowden, T. (2001). A computerized social cognitive intervention for nutrition behavior: Direct and mediated effects on fat, fiber, fruits, and vegetables, self-efficacy, and outcome expectations among food shoppers. *Annals of Behavioral Medicine, 23*, 88-100. doi:10.1207/S15324796ABM2302_3
- Anderson, E. S., Wojcik, J. R., Winett, R. A., & Williams, D. M. (2006). Social-cognitive determinants of physical activity: The influence of social support, self-efficacy, outcome expectations, and self-regulation among participants in a church-based health promotion study. *Health Psychology, 25*, 510-520. doi:10.1037/0278-6133.25.4.510
- Bandura, A. Self-Efficacy: The Exercise of Control. New York, W. H. Freeman and Company; 1997.
- Beaton, D. E., Bombardier, C., Guillemin, F., Bosi Ferraz, M. (2000). Guidelines for the process of cross-cultural adaptation of self-report measures. *Spine, 25*, 3186-3191. doi:10.1097/00007632-200012150-00014

- Bermudez, J. M., Kirkpatrick, D. R., Hecker, L., & Torres-Robles, C. (2010). Describing Latinos families and their help-seeking attitudes: Challenging the family therapy literature. *Contemporary Family Therapy*, 32, 155-172. doi:10.1007/s10591-009-9110-x
- Brislin, R. (1970). Back-translation for cross-cultural research. *Journal of Cross-Cultural Psychology*, 1, 185-216. doi:10.1177/135910457000100301
- Brislin, R. (2000). Back-translation. *Encyclopedia of psychology, Vol. 1* (pp. 359-360). Washington, DC New York, NY USUS: American Psychological Association. doi:10.1037/10516-122
- Castro, F., Stein, J. A., & Bentler, P. M. (2009). Ethnic pride, traditional family values, and acculturation in early cigarette and alcohol use among Latino adolescents. *The Journal Of Primary Prevention*, 30, 265-292. doi:10.1007/s10935-009-0174-z
- Centers for Disease Control (2011). National Diabetes Factsheet, 2011. Retrieved at http://www.cdc.gov/diabetes/pubs/pdf/ndfs_2011.pdf
- Centers for Disease Control (2010). Defining overweight and obesity. Retrieved from <http://www.cdc.gov/obesity/defining.html>
- Chung, S. J., Hoerr, S. S., Levine, R. R., & Coleman, G. G. (2006). Processes underlying young women's decisions to eat fruits and vegetables. *Journal of Human Nutrition and Dietetics*, 19, 287-298. doi:10.1111/j.1365-277X.2006.00704.x
- Clark, M. M., Abrams, D. B., Niaura, R. S., Eaton, C. A., & Rossi, J. S. (1991). Self-efficacy in weight management. *Journal of Consulting and Clinical Psychology*, 59, 739-744. doi:10.1037//0022-006X.59.5.739
- Cousins, J. H., Rubovits, D. S., Dunn, J. K., Reeves, R. S., Ramirez, A. G., & Foreyt, J. P. (1992). Family versus individually oriented intervention for weight loss in Mexican American women. *Public Health Reports*, 107, 549-555. Retrieved from <http://www.publichealthreports.org/>

- Deci, E. L. & Ryan, R. M. (1985). Intrinsic Motivation and Self-Determination in Human Behavior. New York; Plenum.
- Diaz, V. A., Mainous, A. G., & Pope, C. (2007). Cultural conflicts in the weight loss experience of overweight Latinos. *International Journal of Obesity*, 31, 328-333. doi:10.1038/sj.ijo.0803387
- Domel, S. B., Alford, B. B., Cattlett, H. N., Rodriguez, M. L., & Gench, B. E. (1992). A pilot weight control program for Hispanic women. *Journal of the American Dietetic Association*, 92, 1270-1272. Retrieved from <http://www.adajournal.org/>
- Dutton, G. R., Martin, P. D., Rhode, P. C., & Brantley, P. J. (2004). Use of the Weight Efficacy Lifestyle Questionnaire with African American women: Validation and extension of previous findings. *Eating Behaviors*, 5, 375-384. doi:10.1016/j.eatbeh.2004.04.005
- Edmunds, J., Ntoumanis, N., & Duda, J. (2006). A test of self-determination theory in the exercise domain. *Journal of Applied Social Psychology*, 36, 2240-2265. doi:10.1111/j.0021-9029.2006.00102.x
- Flegal, K. M., Carroll, M. D., Ogden, C. L., & Curtin, L. R. (2010). Prevalence and trends in obesity among US adults, 1999-2008. *Journal of the American Medical Association*, 303, 235-241. doi:10.1001/jama.2009.2014
- Foreyt, J. P., Ramirez, A. G., & Cousins, J. H. (1991). Cuidando El Corazon- a weight-reduction intervention for Mexican-Americans. *American Journal of Clinical Nutrition*, 53, 1639S-41S. Retrieved from <http://www.ajcn.org/content/vol53/issue6/index.dtl>
- Fortier, M. S., Sweet, S. N., O'Sullivan, T. L., & Williams, G. C. (2007). A self-determination process model of physical activity adoption in the context of a randomized controlled trial. *Psychology of Sport and Exercise*, 8, 741-757. doi:10.1016/j.psychsport.2006.10.006

- Hellsten, L., Nigg, C., Norman, G., Burbank, P., Braun, L., Breger, R. et al. (2008). Accumulation of behavioral validation evidence for physical activity stage of change. *Health Psychology, 27*, S43-S53. doi:10.1037/0278-6133.27.1(Suppl.).S43
- Jeffery, R. W., French, S. A., & Rothman, A. J. (1999). Stage of change as a predictor of success in weight control in adult women. *Health Psychology, 18*, 543-546. doi:10.1037//0278-6133.18.5.543
- Kao, H. S. & Travis, S. S. (2005). Development of the Expectations of Filial Piety Scale – Spanish version. *Journal of Advanced Nursing, 52*, 682–688. doi:10.1111/j.1365-2648.2005.03635.x
- Kim, B. S. K., Soliz, A., Orellana, B., & Alamilla, S. G. (2009). Latino/a values scale: Development, reliability, and validity. *Measurement and Evaluation in Counseling and Development, 42*, 71-91. doi:10.1177/0748175609336861
- Kreuter, M. W., Scharff, D. P., Brennan, L. K., Lukwago, S. N. (1997). Physician advice for diet and physical activity. *Preventive Medicine, 26*, 825–33. doi:10.1006/pmed.1997.0216
- Laforge, R. G., Velicer, W. F., Richmond, R. L., & Owen, N. (1999). Stage distribution for five health behaviors in the United States and Australia. *Preventive Medicine, 28*, 61-74. doi:10.1006/pmed.1998.0384
- Levesque, C. S., Williams, G. C., Elliot, D., Pickering, M. A., Bodenhamer, B., & Finley, P. J. (2006). Validating the theoretical structure of the Treatment Self-Regulation Questionnaire (TSRQ) across three different health behaviors. *Health Education Research, 22*, 691-702. doi:10.1093/her/cyl148
- Lugo Steidel, A. G. & Contreras, J. M. (2003). A new familism scale for use with Latino populations. *Hispanic Journal of Behavioral Sciences, 25*, 312-330. doi:10.1177/0739986303256912

- Marcus, B.H., Selby, V.C., Niaura, R.S., & Rossi, J.S. (1992). Self-efficacy and the stages of exercise behavior change. *Research Quarterly for Exercise and Sport*, 63, 60-66. Retrieved from <http://www.aahperd.org/rc/publications/rqes/>
- Mata, J., Silva, M. N., Viera, P. N., Carraca, E. V., Andrade, A. M., Coutinho, S. R., Sardinha, L. B., & Teixeira, P. J. (2009). Motivational “spill-over” during weight control: increased self-determination and exercise intrinsic motivation predict eating self-regulation. *Health Psychology*, 28, 709-716. doi:10.1037/a0016764
- Miller, W. R., & Rollnick, S. (2002). *Motivational interviewing: Preparing people for change (2nd ed.)*. New York, NY US: Guilford Press.
- Milne, H. M., Wallman, K. E., Guilfoyle, A., Gordon, S., & Courneya, K. S. (2008). Self-Determination Theory and physical activity among breast cancer survivors. *Journal of Sport & Exercise Psychology*, 30, 23-38. Retrieved from <http://0-journals.humankinetics.com.lib.utep.edu/JSEP-back-issues>
- Myers, T. A. (2011). Goodbye listwise deletion: Presenting hotdeck imputation as an easy and effective tool for handling missing data. *Communication Methods and Measures*, 5, 297-310. doi:10.1080/19312458.2011.624490
- O’Connell, D. & Velicer, W.F. (1988). A decisional balance measure for weight loss. *The International Journal of the Addictions*, 23, 729-750. doi:10.3109/10826088809058836
- Palmeira, A. L., Teixeira, P. J., Branco, T. L., Martins, S. S., Minderico, C. S., Barata, J. T., et al. (2007). Predicting short-term weight loss using four leading health behavior change theories. *International Journal of Behavioral Nutrition and Physical Activity*, 4, 14-25. doi:10.1186/1479-5868-4-14
- Pelletier, L. G., Dion, S. C., Slovinec-D’Angelo, & Reid, R. (2004). Why do you regulate what you eat? Relationships between forms of regulation, eating behaviors, sustained dietary behavior change,

and psychological adjustment. *Motivation and Emotion*, 28, 245-277.

doi:10.1023/B:MOEM.0000040154.40922.14

Prochaska, J. O., Norcross, J. C., Fowler, J. L., Follick, M. J., & Abrams, D. B. (1992). Attendance and outcome in a work site weight control program: Processes and stages of change as process and predictor variables. *Addictive Behaviors*, 17, 35-45.

Prochaska, J. O. & Velicer, W. F. (1997). The transtheoretical model of health behavior change.

American Journal of Health Promotion, 12, 38-48. Retrieved from

<http://healthpromotionjournal.com>

Prochaska, J. O, Velicer, W. F., Rossi, J. S., Goldstein, M. G., Marcus, B. S. Rakowski, W. et al. (1994).

Stages of change and decisional balance for 12 problem behaviors. *Health Psychology*, 13, 39-46. doi:10.1037/0278-6133.13.1.39

Riebe, D., Greene, G. W., Ruggiero, L., Stillwell, K. M., Blissmer, B., Nigg, C. R., & Caldwell, M.

(2003). Evaluation of a healthy-lifestyle approach to weight management. *Preventive Medicine*, 36, 45-54. doi:10.1006/pmed.2002.1126

Robinson, A. H., Norman, G. J., Sallis, J. F., Calfas, K. J., Rock, C. L., & Patrick, K. (2008). Validating stage of change measures for physical activity and dietary behaviors for overweight women.

International Journal of Obesity, 32, 1137-1144. doi:10.1038/ijo.2008.65

Romero, A. J., Cuellar, I., & Roberts, R. E. (2000). Ethnocultural variables and attitudes toward cultural socialization of children. *Journal of Community Psychology*, 28, 79-89. doi:

10.1002/(SICI)1520-6629(200001)28:1<79::AID-JCOP8>3.0.CO;2-N

Roth, P. L. (1994). Missing data: A conceptual review for applied psychologists. *Personnel Psychology*, 47, 537-560. doi: 10.1111/j.1744-6570.1994.tb01736.x

- Ryan, R. M. & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55, 68-78. doi:10.1037/0003-066X.55.1.68
- Sallis, J. F., Grossman, R. M., Pinski, R. B., Patterson, T. L., & Nader, P. R. (1988). The development of scales to measure social support for diet and exercise behaviors. *Preventive Medicine*, 16, 825-836. doi:10.1016/0091-7435(87)90022-3
- Sarkin, J. A., Johnson, S. S., Prochaska, J. O., & Prochaska, J. M. (2001). Applying the Transtheoretical model to regular moderate exercise in an overweight population: Validation of a stages of change measure. *Preventive Medicine*, 33, 462-469. doi:10.1006/pmed.2001.0916
- Silva, M. N., Vieira, P. N., Coutinho, S. R., Minderico, C. S., Matos, M. G., Sardinha, L. B., & Teixeira, P. J. (2010). Using self-determination theory to promote physical activity and weight control: A randomized controlled trial in women. *Journal of Behavioral Medicine*, 33, 110-122. doi:10.1007/s10865-009-9239-y
- Standage, M., Sebire, S. J., & Loney, T. (2008). Does exercise motivation predict engagement in objectively assessed bouts of moderate-intensity exercise?: A self-determination theory perspective. *Journal of Sport & Exercise Psychology*, 30, 337-352. Retrieved from <http://0-journals.humankinetics.com.lib.utep.edu/JSEP-back-issues>
- Surgeon General (2007). Overweight and obesity: Health consequences. Retrieved from http://www.surgeongeneral.gov/topics/obesity/calltoaction/fact_consequences.html
- Suris, A. M., del Carmen Trapp, M., DiClemente, C. C., & Cousins, J. (1998). Application of the Transtheoretical Model of behavior change for obesity in Mexican American women. *Addictive Behaviors*, 23, 655-668. doi:10.1016/S0306-4603(98)00012-4
- Teixeira, P. J., Going, S. B., Houtkooper, L. B., Cussler, E. C., Metcalfe, L. L., Blew, R. M., Sardinha, L. B., Lohman, T. G. (2006). Exercise motivation, eating, and body image variables as predictors

of weight control. *Medicine and Science in Sports And Exercise*, 38, 179-188.

doi:10.1249/01.mss.0000180906.10445.8d

Triandis, H. C., Marin, G., Lisansky, J., & Betancourt, H. (1984). Simpatia as cultural script of Hispanics. *Journal of Personality and Social Psychology*, 47, 1363-1375. doi:10.1037/0022-3514.47.6.1363

Tsai, A. G., Wadden, T. A., Pillitteri, J. L., Sembower, M. A., Gerlach, K. K., Kyle, T. A., & Burroughs, V. J. (2009). Disparities by ethnicity and socioeconomic status in the use of weight loss treatments. *Journal of the National Medical Association*, 101, 62-70. Retrieved from <http://www.nmanet.org/>

Turner-McGrievy, G. M., Campbell, M. K., Tate, D. F., Truesdale, K. P., Bowling, M., & Crosby, L. (2009). Pounds off digital study: A randomized podcasting weight-loss intervention. *American Journal of Preventive Medicine*, 37, 263-269. doi:10.1016/j.amepr.2009.06.010

Villarreal, R., Blozis, S. A., & Widaman, K. F. (2005). Factorial invariance of a Pan-Hispanic familism scale. *Hispanic Journal of Behavioral Sciences*, 27, 409-425. doi:10.1177/0739986305281125

Wee, C. C., Davis, R. B., & Phillips, R. S. (2005). Stage of Readiness to Control Weight and Adopt Weight Control Behaviors in Primary Care. *Journal of General Internal Medicine*, 20, 410-415. doi:10.1111/j.1525-1497.2005.0074.x

Weight Control Information Network (2007). Do you know the health risks of being overweight? *NIH Publication No. 07– 4098*.

Williams, G. C., Grow, V. M., Freedman, Z. R., Ryan, R. M., & Deci, E. L. (1996). Motivational predictors of weight loss and weight-loss maintenance. *Journal of Personality and Social Psychology*, 70, 115-126. Retrieved from <http://www.sciencedirect.com/science/journal/00223514>

Winett, R. A., Moore, J. F., Wagner, J. L., Hite, L. A., Leahy, M., Neubauer, T. E. et al. (1991). Altering shoppers' supermarket purchases to fit nutritional guidelines: an interactive information system. *Journal of Applied Behavior Analysis*, 24, 95-105. doi:10.1901/jaba.1991.24-95

Appendix

Appendix A

How old are you? _____

Please indicate the ethnic group(s) to which you belong:

____ Mexican National ____ Mexican American

____ Other Hispanic/Latin ethnic group (please specify)

____ Other ethnic group

Please give an estimate of your current height and weight:

Height: _____ ft _____ in.

Weight: _____ lbs.

Appendix B

Adult Body Mass Index Chart*

BMI																																																					
Height	Body Weight (pounds)																																																				
4' 10"	91	96	100	105	110	115	119	124	129	134	138	143	148	153	158	162	167	172	177	181	186	191	196	201	205	210	215	220	224	229	234	239	244	248	253																		
4' 11"	94	99	104	109	114	119	124	128	133	138	143	148	153	158	163	168	173	178	183	188	193	198	203	208	212	217	222	227	232	237	242	247	252	257	262																		
5' 0"	97	102	107	112	118	123	128	133	138	143	148	153	158	163	168	174	179	184	189	194	199	204	209	215	220	225	230	235	240	245	250	255	261	266	271																		
5' 1"	100	106	111	116	122	127	132	137	143	148	153	158	164	169	174	180	185	190	195	201	206	211	217	222	227	232	238	243	248	254	259	264	269	275	280																		
5' 2"	104	109	115	120	126	131	136	142	147	153	158	164	169	175	180	186	191	196	202	207	213	218	224	229	235	240	246	251	256	262	267	273	278	284	289																		
5' 3"	107	113	118	124	130	135	141	146	152	158	163	169	175	180	186	191	197	203	208	214	220	225	231	237	242	248	254	259	265	270	278	282	287	293	299																		
5' 4"	110	116	122	128	134	140	145	151	157	163	169	174	180	186	192	197	204	209	215	221	227	232	238	244	250	256	262	267	273	279	285	291	296	302	308																		
5' 5"	114	120	126	132	138	144	150	156	162	168	174	180	186	192	198	204	210	216	222	228	234	240	246	252	258	264	270	276	282	288	294	300	306	312	318																		
5' 6"	118	124	130	136	142	148	155	161	167	173	179	186	192	198	204	210	216	223	229	235	241	247	253	260	266	272	278	284	291	297	303	309	315	322	328																		
5' 7"	121	127	134	140	146	153	159	166	172	178	185	191	198	204	211	217	223	230	236	242	249	255	261	268	274	280	287	293	299	306	312	319	325	331	338																		
5' 8"	125	131	138	144	151	158	164	171	177	184	190	197	203	210	216	223	230	236	243	249	256	262	269	276	282	289	295	302	308	315	322	328	335	341	348																		
5' 9"	128	135	142	149	155	162	169	176	182	189	196	203	209	216	223	230	236	243	250	257	263	270	277	284	291	297	304	311	318	324	331	338	345	351	358																		
5' 10"	132	139	146	153	160	167	174	181	188	195	202	209	216	222	229	236	243	250	257	264	271	278	285	292	299	306	313	320	327	334	341	348	355	362	369																		
5' 11"	136	143	150	157	165	172	179	186	193	200	208	215	222	229	236	243	250	257	265	272	279	286	293	301	308	315	322	329	338	343	351	358	365	372	379																		
6' 0"	140	147	154	162	169	177	184	191	199	206	213	221	228	235	242	250	258	265	272	279	287	294	302	309	316	324	331	338	346	353	361	368	375	383	390																		
6' 1"	144	151	159	166	174	182	189	197	204	212	219	227	235	242	250	257	265	272	280	288	295	302	310	318	325	333	340	348	355	363	371	378	386	393	401																		
6' 2"	148	155	163	171	179	186	194	202	210	218	225	233	241	249	256	264	272	280	287	295	303	311	319	326	334	342	350	358	365	373	381	389	396	404	412																		
6' 3"	152	160	168	176	184	192	200	208	216	224	232	240	248	256	264	272	279	287	295	303	311	319	327	335	343	351	359	367	375	383	391	399	407	415	423																		
6' 4"	156	164	172	180	189	197	205	213	221	230	238	246	254	263	271	279	287	295	304	312	320	328	336	344	353	361	369	377	385	394	402	410	418	426	435																		

To use the table, find the appropriate height in the left-hand column labeled Height. Move across to a given weight (in pounds). The number at the top of the column is the BMI at that height and weight. Pounds have been rounded off. *Children and adolescents DO NOT USE this chart. They use the BMI-for-age growth charts to interpret the BMI number because BMI is both age-and sex-specific for children and teens. These criteria are different from those used to interpret BMI for adults — which do not take into account age or sex.



Lexington-Fayette County Health Department
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Appendix C

Participant # _____

Questionnaire

Today's Date: _____

How old are you? _____

Gender: _____ Male _____ Female

What is your level of education?

- _____ Less than High School
- _____ High School or equivalent
- _____ Some College
- _____ Vocational School/Associate's Degree
- _____ College Graduate (e.g., B.A., B.S.)
- _____ Some Post-Graduate training

I am

- _____ Single (never married)
- _____ Married
- _____ Divorced
- _____ Widow/Widower
- _____ Separated
- _____ Living with someone

Please indicate the ethnic group(s) to which you belong:

- _____ Mexican National _____ Mexican American
- _____ Other Hispanic/Latin ethnic group (please specify) _____

What is your total annual household/family income from all sources? (Check one)

- _____ Less than \$15,000

- _____ Between \$15,000 and \$30,000
- _____ Between \$30,000 and \$50,000
- _____ More than \$50,000

Have you ever received Mental Health Services? _____ Yes
 _____ No

If yes, what conditions
 were you treated for?

- _____ Substance Abuse
- _____ Depression
- _____ Anxiety
- _____ Post Traumatic Stress Disorder
- _____ Schizophrenia
- _____ Other (please describe) _____

What is your smoking status?

- _____ I smoke daily and more than 10 cigarettes per day
- _____ I smoke daily more than 5 cigarettes but less than 10 cigarettes per day
- _____ I smoke daily but less than 5 cigarettes per day
- _____ I smoke weekly but not every day
- _____ I smoke monthly but not weekly
- _____ I no longer smoke at all, but in the past smoked at least 1 cigarette per day;

If so, how many cigarettes per day? _____

- _____ I no longer smoke at all, but in the past I smoked weekly but not daily
- _____ I have smoked a cigarette or a few, just to try it
- _____ I have never smoked before, not even a puff

How many days a week do you exercise for at least 30 minutes?

- _____ 1-2 day(s) per week
- _____ 3-4 days per week
- _____ 5-6 days per week
- _____ I exercise every day
- _____ I do not exercise regularly

How important is weight to you?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10

Not at all
Important

Very
Important

How motivated are you to change your weight?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10

Not at all
Motivated

Very
Motivated

How much effort do you think it would take to change your weight?

1-----2-----3-----4-----5-----6-----7-----8-----9-----10

Not a lot of
Effort

A lot of
Effort

Is there a history of any of the following illnesses in your family? (Check all that apply)

_____ Type 2 diabetes

_____ Heart disease

_____ High blood pressure

_____ High cholesterol

_____ Stroke

_____ Sleep apnea or other breathing problems

_____ Arthritis

_____ Cancer

please list the type(s) _____

Do you have a history of any of the following illnesses? (Check all that apply)

_____ Type 2 diabetes

_____ Heart disease

_____ High blood pressure

_____ High cholesterol

_____ Stroke

_____ Sleep apnea or other breathing problems

_____ Arthritis

_____ Cancer

please list the type(s) _____

Please give an estimate of your current height and weight:

Height: _____ ft _____ in.

Weight: _____ lbs.

Latino/a Values Scale

1 = strongly disagree 2 = disagree 3 = agree 4 = strongly agree

- 1-----2-----3-----4
Strongly Disagree Agree Strongly
Disagree Agree

- 1-----2-----3-----4
Strongly Disagree Disagree Agree Strongly Agree

- 1-----2-----3-----4
Strongly Disagree Disagree Agree Strongly Agree

- 1-----2-----3-----4
Strongly Disagree Agree Strongly
Disagree Agree

- 1-----2-----3-----4
Strongly Disagree Agree Strongly
Disagree Agree

- 1-----2-----3-----4
Strongly Disagree Disagree Agree Strongly Agree

- 1-----2-----3-----4

Strongly Disagree	Disagree	Agree	Strongly Agree
----------------------	----------	-------	-------------------

8. One should be able to question one's elders.

1-----2-----3-----4			
Strongly Disagree	Disagree	Agree	Strongly Agree

9. One should never bring shame upon one's family.

1-----2-----3-----4			
Strongly Disagree	Disagree	Agree	Strongly Agree

10. One does not need to practice one's cultural celebrations.

1-----2-----3-----4			
Strongly Disagree	Disagree	Agree	Strongly Agree

11. A man's strength comes from being a good father and husband.

1-----2-----3-----4			
Strongly Disagree	Disagree	Agree	Strongly Agree

12. One does not need to be emotionally affectionate to familiar individuals.

1-----2-----3-----4			
Strongly Disagree	Disagree	Agree	Strongly Agree

13. A woman should sacrifice everything for her family.

1-----2-----3-----4			
Strongly Disagree	Disagree	Agree	Strongly Agree

14. One's successes should be attributed to one's family.

1-----2-----3-----4			
Strongly Disagree	Disagree	Agree	Strongly Agree

15. A mother must keep the family unified.

1-----2-----3-----4			
Strongly	Disagree	Agree	Strongly

Disagree

Agree

16. One does not need to always present oneself as likeable to others.

1-----2-----3-----4
Strongly Disagree Agree Strongly
Disagree Agree

17. A woman is considered the backbone of the family.

1-----2-----3-----4
Strongly Disagree Agree Strongly
Disagree Agree

18. One's family is the main source of one's identity.

1-----2-----3-----4
Strongly Disagree Agree Strongly
Disagree Agree

19. One must not offend others.

1-----2-----3-----4
Strongly Disagree Agree Strongly
Disagree Agree

20. One does not need to always be cordial to others.

1-----2-----3-----4
Strongly Disagree Agree Strongly
Disagree Agree

21. One must defer to one's elders for advice.

1-----2-----3-----4
Strongly Disagree Agree Strongly
Disagree Agree

22. One does not need to have faith in premonitions.

1-----2-----3-----4
Strongly Disagree Agree Strongly
Disagree Agree

23. One must maintain a sense of interdependence with one's group.

1-----2-----3-----4

Strongly Disagree	Disagree	Agree	Strongly Agree
----------------------	----------	-------	-------------------

24. One does not need to trust a higher being.

1-----2-----3-----4			
Strongly Disagree	Disagree	Agree	Strongly Agree

25. One does not need to maintain one's cultural traditions.

1-----2-----3-----4			
Strongly Disagree	Disagree	Agree	Strongly Agree

26. One does not need to always support one's group.

1-----2-----3-----4			
Strongly Disagree	Disagree	Agree	Strongly Agree

27. One must help one's group to achieve its goals.

1-----2-----3-----4			
Strongly Disagree	Disagree	Agree	Strongly Agree

28. One does not need to always avoid conflict with others.

1-----2-----3-----4			
Strongly Disagree	Disagree	Agree	Strongly Agree

29. A woman must be a source of strength for her family.

1-----2-----3-----4			
Strongly Disagree	Disagree	Agree	Strongly Agree

30. One should be respectful to people who have a higher status.

1-----2-----3-----4			
Strongly Disagree	Disagree	Agree	Strongly Agree

31. One should never offend one's elders.

1-----2-----3-----4

Strongly Disagree Disagree Agree Strongly Agree

32. A woman does not need to successfully endure all adversity.

1-----2-----3-----4
Strongly Disagree Disagree Agree Strongly Agree

33. A woman should be the spiritual leader in the family.

1-----2-----3-----4
Strongly Disagree Disagree Agree Strongly Agree

34. One does not need to preserve the customs of one's cultural background.

1-----2-----3-----4
Strongly Disagree Disagree Agree Strongly Agree

35. One must be proud of one's cultural group.

1-----2-----3-----4
Strongly Disagree Disagree Agree Strongly Agree

TSRQ (Diet)

Please circle a number from 1 to 7.

1. Because I feel that I want to take responsibility for my own health.

6. Because I have carefully thought about it and believe it is very important for many aspects of my

1-----2-----3-----4-----5-----6-----7
not at all somewhat very
true true true

- 1-----2-----3-----4-----5-----6-----7
not at all somewhat very
true true true

- 1-----2-----3-----4-----5-----6-----7
not at all somewhat very
true true true

- 1-----2-----3-----4-----5-----6-----7
not at all somewhat very
true true true

- 1-----2-----3-----4-----5-----6-----7
not at all somewhat very
true true true

- 1-----2-----3-----4-----5-----6-----7
not at all somewhat very
true true true

- 1-----2-----3-----4-----5-----6-----7
not at all somewhat very
true true true

13. Because it is very important for being as healthy as possible.

1-----2-----3-----4-----5-----6-----7
not at all somewhat very
true true true

14. Because I want others to see I can do it.

1-----2-----3-----4-----5-----6-----7
not at all somewhat very
true true true

15. I don't really know why.

1-----2-----3-----4-----5-----6-----7
not at all somewhat very
true true true

TSRQ (exercise)

Please circle a number from 1 to 7.

1. Because I feel that I want to take responsibility for my own health.

2. Because I would feel guilty or ashamed of myself if I did not exercise regularly.

3. Because I personally believe it is the best thing for my health.

4. Because others would be upset with me if I did not.

5. I really don't think about it.

6. Because I have carefully thought about it and believe it is very important for many aspects of my

life.

1-----2-----3-----4-----5-----6-----7
not at all somewhat very
true true true

7. Because I would feel bad about myself if I did not exercise regularly.

1-----2-----3-----4-----5-----6-----7
not at all somewhat very
true true true

8. Because it is an important choice I really want to make.

1-----2-----3-----4-----5-----6-----7
not at all somewhat very
true true true

9. Because I feel pressure from others to do so.

1-----2-----3-----4-----5-----6-----7
not at all somewhat very
true true true

10. Because it is easier to do what I am told than think about it.

1-----2-----3-----4-----5-----6-----7
not at all somewhat very
true true true

11. Because it is consistent with my life goals.

1-----2-----3-----4-----5-----6-----7
not at all somewhat very
true true true

12. Because I want others to approve of me.

1-----2-----3-----4-----5-----6-----7
not at all somewhat very
true true true

13. Because it is very important for being as healthy as possible.

1-----2-----3-----4-----5-----6-----7
not at all somewhat very
true true true

14. Because I want others to see I can do it.

1-----2-----3-----4-----5-----6-----7
not at all somewhat very
true true true

15. I don't really know why.

1-----2-----3-----4-----5-----6-----7
not at all somewhat very
true true true

Appendix G

Perceived Competence (Maintaining a Healthy Diet)

Please indicate the extent to which each statement is true for you, assuming that you were intending either to permanently improve your diet now or to maintain a healthy diet.

Please circle a number from 1 to 7.

1. I feel confident in my ability to maintain a healthy diet.

1-----2-----3-----4-----5-----6-----7
not at all somewhat very
true true true

2. I now feel capable of maintaining a healthy diet.

1-----2-----3-----4-----5-----6-----7
not at all somewhat very
true true true

3. I am able to maintain a healthy diet permanently.

1-----2-----3-----4-----5-----6-----7
not at all somewhat very
true true true

4. I am able to meet the challenge of maintaining a healthy diet.

1-----2-----3-----4-----5-----6-----7
not at all somewhat very
true true true

Appendix H

Perceived Competence (Exercising Regularly)

Please indicate the extent to which each statement is true for you, assuming that you were intending either to begin now a permanent regimen of exercising regularly or to permanently maintain your regular exercise regimen.

Please circle a number from 1 to 7.

1. I feel confident in my ability to exercise regularly.

1-----2-----3-----4-----5-----6-----7
not at all somewhat very
true true true

2. I now feel capable of exercising regularly.

1-----2-----3-----4-----5-----6-----7
not at all somewhat very
true true true

3. I am able to exercise regularly over the long term.

1-----2-----3-----4-----5-----6-----7
not at all somewhat very
true true true

4. I am able to meet the challenge of exercising regularly.

1-----2-----3-----4-----5-----6-----7
not at all somewhat very
true true true

Appendix I

HCCQ (Healthy Diet)

This questionnaire contains items that are related to your visits with a health-care practitioner (or group of practitioners) in which your diet was discussed in any way. Health-care practitioners (doctors, nurses, counselors, etc.) have different styles in dealing with patients, and we would like to know very specifically about your experience of your provider(s) in any encounters when your diet was discussed. Your responses will be kept confidential, so none of your practitioners will know about your responses. Please be honest and candid. In some cases, you may have met with only your physician; in other cases you may have discussed your diet with several people. If you have met only with your physician, please respond with respect to him or her; if you have met with several practitioners concerning this issue, please answer in terms of your experience of all these practitioners together.

Please circle a number from 1 to 7.

1. I feel that my health-care practitioners have provided me with choices and options about changing my diet (including not changing).

1-----2-----3-----4-----5-----6-----7
not at all somewhat very
true true true

2. I feel my health-care providers understand how I see things with respect to my diet.

1-----2-----3-----4-----5-----6-----7
not at all somewhat very
true true true

3. My health-care providers convey confidence in my ability to make changes regarding my diet.

1-----2-----3-----4-----5-----6-----7
not at all somewhat very
true true true

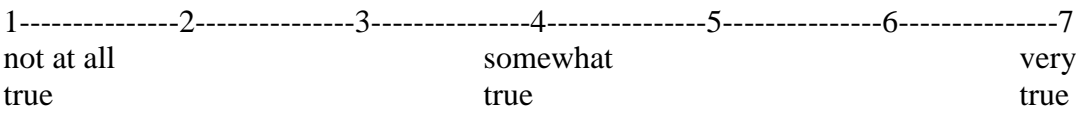
4. My health care practitioners listen to how I would like to do things regarding my diet.

[illegible]

5. My health-care practitioners encourage me to ask questions about my diet.

1-----2-----3-----4-----5-----6-----7
not at all somewhat very
true true true

6. My health-care practitioners try to understand how I see my diet before suggesting any changes.



HCCQ (Exercising Regularly)

Please circle a number from 1 to 7.

- 1-----2-----3-----4-----5-----6-----7
not at all somewhat very
true true true

- 1-----2-----3-----4-----5-----6-----7
not at all somewhat very
true true true

- 1-----2-----3-----4-----5-----6-----7
not at all somewhat very
true true true

- 1-----2-----3-----4-----5-----6-----7
not at all somewhat very
true true true

- 1-----2-----3-----4-----5-----6-----7

not at all
true

somewhat
true

very
true

6. My health-care practitioners try to understand how I see my exercising before suggesting any changes.

1-----2-----3-----4-----5-----6-----7
not at all somewhat very
true true true

Appendix K

Exercise Stage of Change (Short Form)

Regular Exercise is any *planned* physical activity (e.g., brisk walking, aerobics, jogging, bicycling, swimming, rowing, etc.) performed to increase physical fitness. Such activity should be performed *3 to 5 times* per week for *20-60 minutes* per session. Exercise does not have to be painful to be effective but should be done at a level that increases your breathing rate and causes you to break a sweat.

Question:

Do you exercise regularly according to that definition?

- Yes, I have been for MORE than 6 months. _____
- Yes, I have been for LESS than 6 months. _____
- No, but I intend to in the next 30 days. _____
- No, but I intend to in the next 6 months. _____
- No, and I do NOT intend to in the next 6 months. _____

Appendix L

Weight Stage of Change (Short Form)

1. In the past month, have you been actively try to lose weight?

Yes_____ No_____

2. In the past month, have you been actively trying to keep from gaining weight?

Yes_____ No_____

3. Are you seriously considering trying to lose weight to reach your goal in the next 6 months?

Yes_____ No_____

4. Have you maintained your desired weight for more than 6 months?

Yes_____ No_____

Appendix M

Weight Decisional Balance

Each statement represents a thought that might occur to a person who is deciding whether or not to lose weight. Please indicate how IMPORTANT each of these statements might be to you if you were considering a decision to lose weight. There are FIVE possible responses to each of the items that reflect your answer to the question "How important would this be to you?" Please circle the number that best describes how important each statement would be to you if you were deciding whether or not to lose weight.

1. The exercises needed for me to lose weight would be a drudgery.

1	2	3	4	5
Not important	Slightly Important	Moderately important	Very important	Extremely important

2. I would feel more optimistic if I lost weight.

1	2	3	4	5
Not important	Slightly Important	Moderately important	Very important	Extremely important

3. I would be less productive.

1	2	3	4	5
Not important	Slightly Important	Moderately important	Very important	Extremely important

4. I would feel sexier if I lost weight.

1	2	3	4	5
Not important	Slightly Important	Moderately important	Very important	Extremely important

5. In order to lose weight I would be forced to eat less appetizing foods.

1	2	3	4	5
Not important	Slightly Important	Moderately important	Very important	Extremely important

6. My self-respect would be greater if I lost weight.

1	2	3	4	5
Not important	Slightly Important	Moderately important	Very important	Extremely important

7. My dieting could make meal planning more difficult for my family or housemates.

1	2	3	4	5
Not	Slightly	Moderately	Very	Extremely
important	Important	important	important	important

8. My family would be proud of me if I lost weight.

1	2	3	4	5
Not	Slightly	Moderately	Very	Extremely
important	Important	important	important	important

9. I would not be able to eat some of my favorite foods if I were trying to lose weight.

1	2	3	4	5
Not	Slightly	Moderately	Very	Extremely
important	Important	important	important	important

10. I would be less self-conscious if I lost weight.

1	2	3	4	5
Not	Slightly	Moderately	Very	Extremely
important	Important	important	important	important

11. Dieting would take the pleasure out of meals.

1	2	3	4	5
Not	Slightly	Moderately	Very	Extremely
important	Important	important	important	important

12. Others would have more respect for me if I lost weight.

1	2	3	4	5
Not	Slightly	Moderately	Very	Extremely
important	Important	important	important	important

13. I would have to cut down on some of my favorite activities if I try to lose weight.

1	2	3	4	5
Not	Slightly	Moderately	Very	Extremely
important	Important	important	important	important

14. I could wear more attractive clothing if I lost weight.

1	2	3	4	5
Not	Slightly	Moderately	Very	Extremely
important	Important	important	important	important

15. I would have to avoid some of my favorite places if I were trying to lose weight.

1	2	3	4	5
Not	Slightly	Moderately	Very	Extremely
important	Important	important	important	important

16. My health would improve if I lost weight.

1	2	3	4	5
Not	Slightly	Moderately	Very	Extremely
important	Important	important	important	important

17. Trying to lose weight could end up being expensive when everything is taken into account.

1	2	3	4	5
Not	Slightly	Moderately	Very	Extremely
important	Important	important	important	important

18. I would feel more energetic if I lost weight.

1	2	3	4	5
Not	Slightly	Moderately	Very	Extremely
important	Important	important	important	important

19. I would have to cut down on my favorite snacks while I was dieting.

1	2	3	4	5
Not	Slightly	Moderately	Very	Extremely
important	Important	important	important	important

20. I would be able to accomplish more if I carried fewer pounds.

1	2	3	4	5
Not	Slightly	Moderately	Very	Extremely
important	Important	important	important	important

Appendix N

Weight Process of Change

The following experiences can affect the weight of some people. Think of any similar experiences you may have in trying to lose weight or keep from gaining weight. Please rate how FREQUENTLY you use(d) each of these during the past month. There are FIVE possible responses to each of the questionnaire items. Please circle the number that best describes your experience.

1. I read about people who have successfully lost weight.

1	2	3	4	5
Never	Seldom	Occasionally	Often	Always

2. Instead of eating I engage in some physical activity.

1	2	3	4	5
Never	Seldom	Occasionally	Often	Always

3. Warnings about the health hazards of being overweight move me emotionally.

1	2	3	4	5
Never	Seldom	Occasionally	Often	Always

4. I consider the belief that people who lose weight will help to improve the world.

1	2	3	4	5
Never	Seldom	Occasionally	Often	Always

5. I can be open with at least one special person about my experience with overeating behavior.

1	2	3	4	5
Never	Seldom	Occasionally	Often	Always

6. I leave places where people are eating a lot.

1	2	3	4	5
Never	Seldom	Occasionally	Often	Always

7. I am rewarded by others when I lose weight.

1	2	3	4	5
Never	Seldom	Occasionally	Often	Always

8. I tell myself I can choose to over-eat or not.

1	2	3	4	5
Never	Seldom	Occasionally	Often	Always

9. My dependency on food makes me feel disappointed in myself.

1	2	3	4	5
Never	Seldom	Occasionally	Often	Always

10. I am the object of discrimination because of my being overweight.

1	2	3	4	5
Never	Seldom	Occasionally	Often	Always

11. I remove things from my place of work that remind me of eating.

1	2	3	4	5
Never	Seldom	Occasionally	Often	Always

12. I take some type of medication to help me control my weight.

1	2	3	4	5
Never	Seldom	Occasionally	Often	Always

13. I think about information from articles or ads concerning the benefits of losing weight.

1	2	3	4	5
Never	Seldom	Occasionally	Often	Always

14. I find that doing other things with my hands is a good substitute for eating.

1	2	3	4	5
Never	Seldom	Occasionally	Often	Always

15. Dramatic portrayals of the problems of overweight people affect me emotionally.

1	2	3	4	5
Never	Seldom	Occasionally	Often	Always

16. I stop to think that overeating is taking more than my share of the world's food supply.

1	2	3	4	5
Never	Seldom	Occasionally	Often	Always

17. I have someone who listens when I need to talk about my losing weight.

1	2	3	4	5
Never	Seldom	Occasionally	Often	Always

18. I change personal relationships which contribute to my overeating.

1	2	3	4	5
Never	Seldom	Occasionally	Often	Always

19. I expect to be rewarded by others when I don't overeat.

1	2	3	4	5
Never	Seldom	Occasionally	Often	Always

20. I tell myself that I am able to lose weight if I want to.

1	2	3	4	5
Never	Seldom	Occasionally	Often	Always

21. I get upset when I think about my overeating.

1	2	3	4	5
Never	Seldom	Occasionally	Often	Always

22. I notice that overweight people have a hard time buying attractive clothes.

1	2	3	4	5
Never	Seldom	Occasionally	Often	Always

23. I keep things around my place of work that remind me not to eat.

1	2	3	4	5
Never	Seldom	Occasionally	Often	Always

24. I use diet aids to help me lose weight.

1	2	3	4	5
Never	Seldom	Occasionally	Often	Always

25. I think about information from articles and advertisements on how to lose weight.

1	2	3	4	5
Never	Seldom	Occasionally	Often	Always

26. When I am tempted to eat, I think about something else.

1	2	3	4	5
Never	Seldom	Occasionally	Often	Always

27. I react emotionally to warnings about gaining too much weight.

1	2	3	4	5
---	---	---	---	---

Never	Seldom	Occasionally	Often	Always
-------	--------	--------------	-------	--------

28. I consider the view that overeating can be harmful to the environment.

1	2	3	4	5
Never	Seldom	Occasionally	Often	Always

29. I have someone whom I can count on when I am having problems with overeating.

1	2	3	4	5
Never	Seldom	Occasionally	Often	Always

30. I relate less often to people who contribute to my overeating.

1	2	3	4	5
Never	Seldom	Occasionally	Often	Always

31. I reward myself when I do not overeat.

1	2	3	4	5
Never	Seldom	Occasionally	Often	Always

32. I tell myself that if I try hard enough I can keep from overeating.

1	2	3	4	5
Never	Seldom	Occasionally	Often	Always

33. I reassess the fact that being content with myself includes changing my overeating.

1	2	3	4	5
Never	Seldom	Occasionally	Often	Always

34. I find society more supportive of thin people.

1	2	3	4	5
Never	Seldom	Occasionally	Often	Always

35. I put things around my home that remind me not to overeat.

1	2	3	4	5
Never	Seldom	Occasionally	Often	Always

36. I take drugs to help me control my weight.

1	2	3	4	5
Never	Seldom	Occasionally	Often	Always

37. I recall information people have personally given me on how to lose weight.

1	2	3	4	5
Never	Seldom	Occasionally	Often	Always

38. I do something else instead of eating when I need to relax or deal with tension.

1	2	3	4	5
Never	Seldom	Occasionally	Often	Always

39. Remembering studies about illnesses caused by being overweight upsets me.

1	2	3	4	5
Never	Seldom	Occasionally	Often	Always

40. I consider the idea that overeating could be harmful to world food supplies.

1	2	3	4	5
Never	Seldom	Occasionally	Often	Always

41. I have someone who understands my problems with eating.

1	2	3	4	5
Never	Seldom	Occasionally	Often	Always

42. I ask people not to overeat in my presence.

1	2	3	4	5
Never	Seldom	Occasionally	Often	Always

43. Other people in my daily life try to make me feel good when I do not overeat.

1	2	3	4	5
Never	Seldom	Occasionally	Often	Always

44. I make commitments to lose weight.

1	2	3	4	5
Never	Seldom	Occasionally	Often	Always

45. I struggle to alter my view of myself as an overweight person.

1	2	3	4	5
Never	Seldom	Occasionally	Often	Always

46. I notice the world's poor are asserting their rights to a greater share of the food supplies.

1	2	3	4	5
Never	Seldom	Occasionally	Often	Always

47. I remove things from my home that remind me of eating.

1	2	3	4	5
Never	Seldom	Occasionally	Often	Always

48. I take diet pills to help me lose weight.

1	2	3	4	5
Never	Seldom	Occasionally	Often	Always

Appendix O

Weight Efficacy Lifestyle Questionnaire

This form describes some typical eating situations. Everyone has situations which make it very hard for them to keep their weight down. The following are a number of situations relating to eating patterns and attitudes. This form will help you to identify the eating situations which you find the hardest to manage.

Read each situations listed below and decide how confident (or certain) you are that you will be able to resist eating in each of the difficult situations. In other words pretend that you are in the eating situation right now. On a scale from 0 (not confident) to 9 (very confident), choose ONE number that reflects how confident you feel now about being able to *successfully resist* the desire to each.

I AM CONFIDENT THAT:

1. I can resist eating when I am anxious.

0	1	2	3	4	5	6	7	8	9
Not at all									Very
confident									Confident

2. I can control my eating on the weekends.

0	1	2	3	4	5	6	7	8	9
Not at all									Very
confident									Confident

3. I can resist eating even when I have to say “no” to others.

0	1	2	3	4	5	6	7	8	9
Not at all									Very
confident									Confident

4. I can resist eating when I feel physically run down.

0	1	2	3	4	5	6	7	8	9
Not at all									Very
confident									Confident

5. I can resist eating when I am watching TV.

0	1	2	3	4	5	6	7	8	9
Not at all									Very
confident									Confident

6. I can resist eating when I am depressed (or down).

0	1	2	3	4	5	6	7	8	9
---	---	---	---	---	---	---	---	---	---

Not at all
confident

Very
Confident

7. I can resist eating when there are many different kinds of food available.

0
Not at all
confident

1

2

3

4

5

6

7

8

9
Very
Confident

8. I can resist eating even when I feel it is impolite to refuse a second helping.

0
Not at all
confident

1

2

3

4

5

6

7

8

9
Very
Confident

9. I can resist eating even when I have a headache.

0
Not at all
confident

1

2

3

4

5

6

7

8

9
Very
Confident

10. I can resist eating when I am reading.

0
Not at all
confident

1

2

3

4

5

6

7

8

9
Very
Confident

11. I can resist eating when I am angry (or irritable).

0
Not at all
confident

1

2

3

4

5

6

7

8

9
Very
Confident

12. I can resist eating even when I am at a party.

0
Not at all
confident

1

2

3

4

5

6

7

8

9
Very
Confident

13. I can resist eating even when others are pressuring me to eat.

0
Not at all
confident

1

2

3

4

5

6

7

8

9
Very
Confident

14. I can resist eating when I am in pain.

0

1

2

3

4

5

6

7

8

9

Not at all
confident

Very
Confident

15. I can resist eating just before going to bed.

0
Not at all
confident

1

2

3

4

5

6

7

8

9
Very
Confident

16. I can resist eating when I have experienced failure.

0
Not at all
confident

1

2

3

4

5

6

7

8

9
Very
Confident

17. I can resist eating even when high-calorie foods are available.

0
Not at all
confident

1

2

3

4

5

6

7

8

9
Very
Confident

18. I can resist eating even when I think others will be upset if I don't eat.

0
Not at all
confident

1

2

3

4

5

6

7

8

9
Very
Confident

19. I can resist eating when I feel uncomfortable.

0
Not at all
confident

1

2

3

4

5

6

7

8

9
Very
Confident

20. I can resist eating when I am happy.

0
Not at all
confident

1

2

3

4

5

6

7

8

9
Very
Confident

Appendix P

EXERCISE CONFIDENCE SURVEY

Below is a list of things people might do while trying to increase or continue regular exercise. We are interested in exercises like running, swimming, brisk walking, bicycle riding, or aerobics classes.

Whether you exercise or not, please rate how confident you are that you could really motivate yourself to do things like these consistently, for at least six months.

Please circle one number for each question.

How sure are you that you can do these things?

1. Get up early, even on weekends, to exercise.

1-----	2-----	3-----	4-----	5-----	N/A
I know		Maybe		I know	Does not
I cannot		I can		I can	apply

2. Stick to your exercise program after a long, tiring day at work.

1-----	2-----	3-----	4-----	5-----	N/A
I know		Maybe		I know	Does not
I cannot		I can		I can	apply

3. Exercise even though you are feeling depressed.

1-----	2-----	3-----	4-----	5-----	N/A
I know		Maybe		I know	Does not
I cannot		I can		I can	apply

4. Set aside time for a physical activity program; that is, walking, jogging, swimming, biking, or other continuous activities for at least 30 minutes, 3 times per week.

1-----	2-----	3-----	4-----	5-----	N/A
I know		Maybe		I know	Does not
I cannot		I can		I can	apply

5. Continue to exercise with others even though they seem too fast or too slow for you.

1-----	2-----	3-----	4-----	5-----	N/A
I know		Maybe		I know	Does not
I cannot		I can		I can	apply

6. Stick to your exercise program when undergoing a stressful life change (e.g., divorce, death in

the family, moving).

1-----	2-----	3-----	4-----	5-----	N/A
I know		Maybe		I know	Does not
I cannot		I can		I can	apply

7. Attend a party only after exercising.

1-----	2-----	3-----	4-----	5-----	N/A
I know		Maybe		I know	Does not
I cannot		I can		I can	apply

8. Stick to your exercise program when your family is demanding more time from you.

1-----	2-----	3-----	4-----	5-----	N/A
I know		Maybe		I know	Does not
I cannot		I can		I can	apply

9. Stick to your exercise program when you have household chores to attend to.

1-----	2-----	3-----	4-----	5-----	N/A
I know		Maybe		I know	Does not
I cannot		I can		I can	apply

10. Stick to your exercise program even when you have excessive demands at work.

1-----	2-----	3-----	4-----	5-----	N/A
I know		Maybe		I know	Does not
I cannot		I can		I can	apply

11. Stick to your exercise program when social obligations are very time consuming.

1-----	2-----	3-----	4-----	5-----	N/A
I know		Maybe		I know	Does not
I cannot		I can		I can	apply

12. Read or study less in order to exercise more.

1-----	2-----	3-----	4-----	5-----	N/A
I know		Maybe		I know	Does not
I cannot		I can		I can	apply

Appendix Q

To Be Completed by Staff

Measured Height _____ feet _____ inches

Measured Weight _____ lbs

Waist Circumference _____ inches

Blood Pressure _____ / _____

Recruiter Initials _____

Any language assistance required? List specific areas of trouble _____

Vita

Julie Ann Blow was born in El Paso, TX. She enrolled as an undergraduate at the University of Texas at El Paso in 2002. There she earned her Bachelor of Science degree in Psychology with a minor in Biology. She entered the Doctoral program in Psychology at UTEP in 2007, where she works with Dr. Theodore V. Cooper in the Prevention and Treatment in Clinical Health laboratory. She has been an author on publications that appear in multiple scientific journals, including *Eating Behaviors* and *The American Journal on Addictions*.

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This thesis/dissertation was typed by Julie A. Blow.