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IMPACT OF REVERSE ETHNOCENTRISM ON COMPETENCE REGARDING
FOOD RELATED BEHAVIORS AS A FUNCTION OF ATTACHMENT STYLE,
ETHNIC IDENTITY, AND LOCUS OF CONTROL

by

Sheryl A. Holter Vogel
Bachelor of Arts, University of North Dakota, 2011

A Thesis

Submitted to the Graduate Faculty

of the

University of North Dakota

in partial fulfillment of the requirements

for the degree of

Master of Arts

Grand Forks, North Dakota

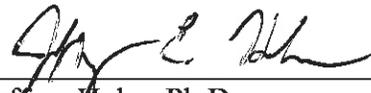
December
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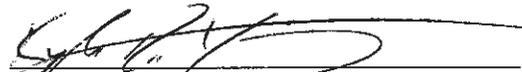
This thesis, submitted by Sheryl A. Holter Vogel in partial fulfillment of the requirements for the Degree of Master of Arts from the University of North Dakota, has been read by the Faculty Advisory Committee under whom the work has been done and is hereby approved.



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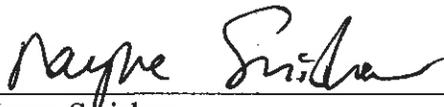


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December 10, 2014

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Sheryl A. Holter Vogel
December 5, 2014

TABLE OF CONTENTS

LIST OF FIGURES	viii
LIST OF TABLES.....	ix
ACKNOWLEDGMENTS	x
ABSTRACT.....	xi
CHAPTER	
I. INTRODUCTION	1
Attachment.....	2
Disrupted Healthy Behaviors.....	3
Attachment Influence.....	3
Hyperactivation and Deactivation Strategies of Coping.....	5
External Locus of Control.....	6
Ethnic Identity Model	6
Ethnocentrism	7
Present Study	7
II. METHOD	9
Participants.....	9
Apparatus	9
Background Information.....	9
Revised Adult Attachment Scale	10

Multigroup Ethnic Identity Measure Revised.....	11
Rotter’s Internal-External Scale.....	11
Dieter’s Inventory of Eating Temptations	12
Procedure	12
III. RESULTS	14
Participant Exclusions.....	14
Data Preparation.....	15
Hypothesis 1.....	15
Race.....	15
Attachment.....	15
Identity	16
LOC.....	17
Hypothesis 2.....	17
Hypothesis 3.....	18
Attachment.....	18
Ethnic Identity.....	21
Locus of Control	24
IV. DISCUSSION.....	27
Limitations	32
Clinical Implications/Future Directions.....	33

APPENDICES	36
REFERENCES	54

LIST OF FIGURES

Figure	Page
1. The plotted interaction between RAAS subscales Anxiety and Avoidance from Linear Regression results of DIET competence at time 1.	16
2. The plotted nonsignificant interaction between MEIM subscales Exploration and Commitment from Linear Regression results of DIET competence at time 1.	17
3. The plotted slopes of the between-subject main effects of Anxiety and Attachment subscales of the RAAS from Linear Regression results of DIET competence at time 1 and time 2.	19
4. The plotted three-way interaction of competence x condition x LOC from GLM results of DIET competence.	25

LIST OF TABLES

Table	Page
1. Results for the 2 (Race - White v. American Indian) x 2 (Condition - Control v. Experimental) Repeated Measures ANOVA	18
2. Results for the 2 Race (White v. American Indian) x 2 Condition (Control v. Experimental) x Attachment Anxiety x Attachment Avoidance Repeated Measures	20
3. Results for the 2 Race (White v. American Indian) x 2 Condition (Control v. Experimental) x Ethnic Identity Exploration x Ethnic Identity Commitment Repeated Measures	22
4. Results for the 2 Race (White v. American Indian) x 2 Condition (Control v. Experimental) x LOC Repeated Measures	25

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ABSTRACT

The present study investigated associations between attachment styles, locus of control (LOC), ethnic identity, and competence regarding food-related behavior (competence) among 168 White and 61 American Indian participants. An experimental manipulation was also conducted in which the concept of reverse ethnocentrism was tested. Attachment style accounted for the most significant variance of competence at 9% followed by ethnicity at 2%. Ethnic identity and LOC accounted for nonsignificant variance at 4% and less than 1% respectively. Prior to the experimental manipulation, results found competence was significantly negatively associated with low anxiety and high avoidance (dismissing attachment style), and American Indian participants scored significantly higher in competence than White participants. After manipulation, repeated measures analyses revealed no significant within-subject main effects or interactions for race. Thus support for reverse ethnocentrism was not found. However, in the experimental condition competence scores increased for those with more internal LOC while more external LOC exhibited significant decreases in competence.

CHAPTER I

INTRODUCTION

According to the most recent data released by the Centers for Disease Control and Prevention (CDC), the results of the 2009-2010 National Health and Nutrition Examination Survey (NHANES) revealed 33% of adults in America, age 20 and older, were overweight as designated by a Body Mass Index (BMI) between 25.0 and 29.9. Additionally, 35.7% adults were obese (BMI \leq 30.0), and 6.3% were extremely obese (BMI \leq 40.0). While the data on overweight Americans remains relatively unchanged since NHANES 1988-1994 survey with 33.1% adults in the overweight category, increases were noted in the obese and extremely obese categories with obese increasing from 22.9% to 35.7% and extremely obese increasing from 2.8% to 6.3%. These increases were comparatively stable across racial and ethnic groups and no significant group differences were found for men. However, the increased obesity measured in non-Hispanic Black women was significantly higher than either non-Hispanic White women or Mexican-American women (58.5%, 32.2%, and 44.9%).

In recent efforts to curb the increase in obesity, the American Recovery and Reinvestment Act of 2009 included funding for a CDC program, Communities Putting Prevention to Work, which sought to control and prevent obesity through physical activity and better nutrition. While factors such as the amount of exercise and

availability of healthy food may contribute to the occurrence of being overweight, the ability to self-regulate emotions such as anxiety as well as the notion of being in control of your own destiny (locus of control) may also contribute to the occurrence of being overweight. Questions remain about whether something may have occurred in early infancy that not only affected our relationship with others but our confidence to control our own actions. Does race and feelings of superiority and/or inferiority also affect our perception of our ability to control our eating behaviors? The present study focuses on the attachment theory, locus of control, and the concept of ethnocentrism and reverse ethnocentrism as they related to competence regarding certain eating behaviors.

Attachment

Bowlby (1969) originated the theory of attachment while researching anxiety and fear responses in infants during their developing independence from their caregivers. Attachment was the description of behavior an infant exhibited to their preferred caregiver in times of distress. A securely attached infant explored their environment, became increasingly confident, and formed the ability to self-regulate. Insecurely attached infants fell into two subcategories, anxious or avoidant, and in both cases, failed to develop an ease of exploration. Bowlby believed these attachments to permeate throughout one's lifespan. Once formed, an attachment style became the internal working model or template to which an individual viewed all future events involving them and others. Perceptions and expectations were guided by this model as well as self-appraisal, social experiences, and interpersonal behavior (Bowlby, 1969 & 1973).

Disrupted Healthy Behaviors

Under Bowlby's original construct, an infant's capacity to determine if they are worthy or deserving of good care was compromised through their failure to regulate their own care (Bowlby, 1973). During the period of infant attachment development, the right orbital frontal cortex is shaped through interactions with a primary caregiver. This area of the brain not only regulates sleep, breathing, body temperature, and heart rates but also eating and growth hormones (Hofer, 1995; Farber, 1996; Farber, 1997; and Farber, 2002). Disruptions during the infant's encoding of these body functions have been shown to cause disturbed affect regulation (Farber, 2008 and Hofer, 1995). Farber (2008) and Hofer's (1995) findings of disturbed affect regulation reinforced Bowlby's assertion that those with insecure attachments exhibited poor self-esteem and weak senses of self. Further, these findings also lent credence to Bowlby's (1973) contention that the development of healthy behaviors of self would be impaired in infants with insecure attachments.

Attachment Influence

The stability of attachment theory through the lifespan has lent credence to the argument that it influences an individual's stress responses, ability to cope, social functioning, and psychological as well as physical health. In general, most children will stay within their attachment classification (Moss, Cyr, Bureau, Tarabulsky, and Dubois-Comtois, 2005). Failure to develop solid attachments early in life reflected difficulty developing close relationships later in life (Mikulincer, Florian and Hirschberger, 2003).

Bartholomew and Horowitz's (1991) four category model classified individuals into secure, dismissing, preoccupied, and fearful by incorporating a dimensional

approach to measuring anxiety and avoidance within attachment styles. A securely attached individual was characterized by an absence of anxiety along with an absence of avoidance related to close relationships. Insecurely attached individuals were subdivided into the following three categories: preoccupied, dismissing, and fearful. Individuals with preoccupied attachment were characterized with high anxiety but low avoidance whereas those with dismissing attachment were characterized by low anxiety with high avoidance. Individuals with fearful attachments presented with high anxiety coupled with high avoidance (Hazan and Shaver, 1987). Utilization of these four styles on a two-dimensional continuum represented an individual's beliefs of self and others. Negative views directed toward self were exhibited through anxiety of attachment while attachment avoidance displayed negative views of others (Bartholomew and Horowitz, 1991). These dimensions allowed description of attachment styles in a variety of ways. Individuals could have a negative sense of self but maintain a desire and willingness to develop intimate relationships with others (preoccupied style). Individuals with dismissing attachment styles could have a healthy sense of self-worth despite a belief that outside relationships were risky and hence preferred to remain distant from others. Finally, individuals with a fearful attachment style tended to combine the dismissing preference of distance and the preoccupied negative sense of self which culminated in a lack of confidence to control events (Cooper, Shaver, and Collins, 1998).

A study by Ognibene and Collins (1998) suggested that the four category model of attachment styles related to methods of coping. They found that secure and preoccupied individuals were more likely to seek support from other people while dismissing and fearful individuals distanced themselves, potentially securing non-

interpersonal coping methods such as using drugs, medicating, smoking, eating, or drinking when confronted with a crisis situation (Ognibene and Collins, 1998). An examination between anxious and avoidant attachment styles revealed a significant positive association between anxious attachment style and binge eating (Boone, 2013).

Hyperactivation and Deactivation Strategies of Coping

Although the theory of attachment can be utilized to postulate the direction an individual takes in pursuing and forming relationships, it may actually represent a network of cognitive responses in a more general representation of events. Strategies for coping during times of crises may display either hyperactivation or deactivation. Individuals coping with stress in a hyperactivated manner remained constantly vigilant in an abnormally intense effort to attain security from another individual. This intensity tended to aggravate psychological discomfort when an attachment figure was unavailable. Individuals with preoccupied attachment have been shown to exhibit this hyperactivation. When unable to distinguish negativity toward themselves, they have an exaggerated perception of others and are specifically focused on relationship losses. This hypervigilance may have led to a person allowing their feelings to direct their behaviors while failing to consider consequences (Bartholomew and Horowitz, 1991). Deactivated strategies attempted to handle the stress alone by keeping oneself isolated to avoid frustration and further distress when an attachment figure was unavailable. Individuals with dismissing attachment displayed this deactivation of senses. Unable to identify others and even their own emotions, they maintained their autonomy by being exceedingly self-sufficient (Shaver and Mikulincer, 2002). Preoccupied attachment has been linked to hyperactivation coping strategies which are more susceptible to emotional

influences on eating behavior through bingeing or purging while failing to consider consequences. Individuals with dismissing attachment displayed deactivation strategies which may be seen through eating restriction (Tasca et al, 2009).

External Locus of Control

Hyperactivation and deactivation strategies both reflect an external locus of control (LOC), or the individual's perception of outside forces controlling their personal events and situations. An external locus of control has been related to the development of eating behaviors which included constrained and unrestrained food consumption. Additionally, research has suggested that external LOC is related to severe eating behaviors culminating into anorexia nervosa (Harding and Lachenmeyer, 1986), bulimia (Williams and Manaster, 1990; Waller, 1998), and obesity (Mills, 1991; Mills 1994).

Ethnic Identity Model

In 1968, Erikson developed the ego identity model in which he stated that ego identity began in childhood and developed over time. By adolescence a person could achieve a stable identity, however not everyone does (Erickson, 1968). James Marcia advanced this theory in 1980 by proposing a two factor process of exploration and commitment that could be used in a four category model of personal identity that included achievement, foreclosure, moratorium, and diffusion. The four category model of ethnic identity followed the same process as Marcia's ego identity model by replacing ego identification with race identification. Ethnic identity achievement indicates an individual who has both exploration and commitment to their ethnic group. A person who has explored but not committed to a group was in moratorium while someone who has committed but not exploration was in foreclosure. Ethnic identity diffusion was a

person who has neither exploration nor commitment to their ethnic group (Phinney, 1989).

Ethnocentrism

Ethnocentrism, in its basic form, was defined by Sumner (1906) as the belief that one's own ethnic group was superior to that of another, and that any person outside this ethnic group was inferior (Sumner, 1906). Reverse ethnocentrism has been defined as a person's perception that they are a member of a subordinate ethnic group (Brown, Condor, Matthews, and Wade, 1986). This perception of one's ethnic group as inferior or subordinate may have occurred from viewing the majority race as the standard to which they assess their group (Jost and Banaji, 1994). In Rudman, Feinberg, and Fairchild, 2002, not only did the findings reveal automatic devaluation of ethnic groups among Jewish and Asian people in favor of the white majority race, results also showed people who were overweight automatically devalued their group in favor of slim people (Rudman, Feinberg, and Fairchild, 2002). Subordinate ethnic groups also polarized their locus of control by crediting their achievements to external factors while crediting achievements in the superior ethnic group to internal factors (Taylor and Jaggi, 1974; Hewstone and Ward, 1985; Raden, 2003).

Present Study

The present study contained three aims. The first aim was to identify the degree to which attachment style, ethnic identity, and locus of control were associated with participants' competence regarding food-related behavior (competence). It was hypothesized that competence regarding food related behavior would be negatively

associated with insecure attachment styles, external locus of control, and unachieved ethnic identity.

The second aim was to determine if competence regarding food related behavior would increase for American Indian participants who were randomly assigned to the experimental condition in which they received a scenario regarding the health of American Indian people as it related to eating behaviors and historical facts. It was hypothesized that the manipulation would result in increases in competence regarding food related behavior for American Indian participants in the experimental condition while remaining relatively unchanged for White participants.

The third aim was to identify to what degree, if any, participant's attachment style, ethnic identity, and locus of control were associated with changes to their competence regarding food-related behavior when under the experimental condition. It was hypothesized that, for American Indian participants, the experimental condition would result in increases in competence regarding food related behavior positively associated with insecure attachment styles, achieved ethnic identity, and external locus of control.

CHAPTER II

METHOD

Participants

A total of 360 participants age 18 and over were recruited through Amazon Mechanical Turk (MTurk), the University of North Dakota's Psychology Department Sona System (Sona), the 2014 University of North Dakota Indian Association Time Out Wacipi Powwow, and direct emails to American Indian students on the campus of the University of North Dakota through American Indian Student Services during Spring 2014. Students recruited through Sona received one hour of credit toward a psychology class. Nonstudents recruited through MTurk received an incentive of \$0.50. American Indian participants who did not enter the study through either Sona or MTurk had the chance to earn 1 of 5, \$10 VISA gift cards. The number of participants were chosen a priori by entering desired information for an ANOVA repeated measures into G*Power, using $\alpha = .05$ to achieve a medium effect size of .25 with a power of .95 with 4 groups (2 race – White, American Indian, and 2 conditions – Control, Experimental) (Faul and Erdfelder, 1992).

Apparatus

Background Information

Participants were asked to provide general background information regarding their age, gender, race, socioeconomic status, education level, relationship status, current

occupation, current health problems, current medications including vitamins and supplements, self-rated health status, height, weight, highest weight ever when not pregnant, number of times they have attempted to diet and/or constrict their eating behavior, and how much weight was lost during each diet/constriction attempt.

Revised Adult Attachment Scale

The Revised Adult Attachment Scale (RAAS) as developed by Collins in 1996 is a revised version of Collins and Read's original AAS from 1990. Both the AAS and RAAS are 18-item likert-style self-report measures of attachment. The RAAS differs from the AAS in the use of relationship wording. The AAS referred to romantic relationships whereas the RAAS referred to close relationships. Participants rate each item from 1 = *not at all* to 5 = *very characteristic of me*. Each item assesses a component of how a person generally feels in important close relationships in their life. Close relationships, as redefined in the RAAS, may include family members, romantic partners, and close friends. Six different items comprise each of three subscales. The "close" subscale measures a person's closeness and intimacy comfort. The "depend" subscale measures a person's comfort in not only depending on others but confidence that others can depend on them. The "anxiety" subscale measures a person's abandonment and rejection fear. Cronbach's alpha reliabilities for each of these three subscales were found to be .77, .78, and .85 respectively (Collins, 1996). Shaver, Belsky and Brennan also found internal consistency to be reliable for the RAAS subscales with alpha coefficients of .71, .81, and .75 respectively (2000). By combining depend and close subscales, the RAAS may also be used to create two dimensions of anxiety and avoidance factors to derive the four group model of attachment styles (Collins & Feeney, 1996, 2004). This

two-factor structure was achieved by Brennan, Clark, and Shaver who found combining depend and close subscales created the avoidance factor with .86 and .79 test-retest reliability, and anxiety subscale alone reflects the anxiety factor at .74 test-retest reliability (1998). A four year study by Kirkpatrick and Hazan showed test-retest reliability of the AAS was 70% (1994).

Multigroup Ethnic Identity Measure Revised

The Multigroup Ethnic Identity Measure Revised (MEIM-R) was developed by Phinney and Ong in 2007. The MEIM-R is a 6-item likert-style self-report measure of ethnic identity. Participants rate each item from 1 = *strongly disagree* to 5 = *strongly agree*. These items assess how the person feels about their race, how important their race is to them, and how their race affects their behavior. The MEIM-R also contains an open-ended question about the race a participant considers themselves to be, and forced-choice questions on what race they, their mother, and their father are. Two subscales, exploration and commitment, have been derived from the MEIM-R with Cronbach's alphas of .76 and .78 respectively and .81 overall (Phinney and Ong, 2007). Replications of the MEIM-R among European Americans found Cronbach alpha reliabilities of .91 and .84 respectively as well as .87 and .88 respectively for minorities (Yoon 2011). These subscales may be used as dimensions to determine a person's ethnic identity within Phinney's four-factor model of ethnic identity.

Rotter's Internal-External Scale

Rotter's Internal-External Scale (IES) is a self-report measure developed by Julian B. Rotter to assess locus of control (LOC) (1966). The IES is a 29 item forced-choice measure. Six items are filler questions. The remaining 23 questions each have a two

response choice. One choice reflects internal LOC, and the other reflects external LOC. When developed, internal reliabilities of the IES was measured between .65 and .76. Split half Spearman-Brown reliability was $r=.65$ for males and $r=.79$ for females. Kuder-Richardson reliabilities were between $r=.69$ to $r=.76$ among different groups of individuals. Test-retest reliability ranged from .49 to .83. The lowest test-retest reliability score (.49) was obtained with men who were tested in a two-month interval and included the first administration in a group setting with the second administration in an individual setting. The highest test-retest reliability (.83) was obtained with women who were tested in a one-month interval and included administration in a group setting (Rotter, 1966).

Dieter's Inventory of Eating Temptations

The Dieter's Inventory of Eating Temptations (DIET) was developed by Schlundt and Zimering (1988). DIET is a 30-item self-report measure to assess an individual's competence in six food-related behaviors. The six behaviors include weight control, overeating, negative emotional eating, exercise, resisting temptation, positive social eating, and food choice. Internal consistency alpha for DIET was .93 overall with subscales ranging from .68 to .79. DIET has a one-week retest reliability of .96 overall with subscales ranging from .81 to .92 (Schlundt and Zimering, 1988).

Procedure

Participants for the present study responded through an online survey via Qualtrics that began with requesting background information, DIET, IES, MEIM-R, and RAAS. Participants were randomly assigned to either the control or experimental group. The experimental group was shown a screen on which they received a scenario regarding

the history and health of American Indian people as it related to eating behaviors. After reviewing this information, participants received a quiz as a manipulation check. One to two weeks later, participants were contacted automatically via the Qualtrics system and asked to respond to the DIET, MEIM-R, and manipulation quiz.

CHAPTER III

RESULTS

Participant Exclusions

A review of the data collected from 360 participants revealed that 96 participants failed to respond to requests to complete the second part of the study. Of those 96 participants, 5 were recruited via direct email and identified themselves as American Indian; 28 were recruited via MTurk and identified themselves as American Indian; 20 were recruited via MTurk and identified themselves as White; and 43 were recruited via Sona and identified themselves as White.

An additional 35 participants, who were all recruited via MTurk, were excluded for not endorsing personal race and/or race consistently (e.g., reported Asian, Black, or Hispanic race on MEIM questions despite answering background question on race as either White or American Indian). Consistency was determined by examining five background and MEIM responses that prompted for either race or specific ethnicity. Analyses were, therefore, conducted on 229 participants (n=168 White, n=61 American Indian). The control condition contained 94 White participants and 32 American Indian participants. The experimental condition contained 74 White participants and 29 American Indian participants.

Data Preparation

Prior to any analyses, the depend and close subscales of the RAAS for the 229 participants were combined to form an avoidance attachment subscale. The attachment dimensions (anxiety and avoidance), ethnic identity dimensions (exploration and commitment), and LOC were mean centered.

Hypothesis 1

A series of linear regression analyses were conducted to examine the degree to which race, attachment, identity, and LOC were associated with competence as measured by DIET.

Race

A linear regression analysis was conducted using race (American Indian, White) as the independent variable with DIET competence scores at time 1 as the dependent variable. Results indicated that race accounted for 2% of variance in DIET competence ($R^2 = .023$, $R^2_{\text{adj}} = .018$, $F(1, 227) = 5.272$, $p = .023$). The main effect of race ($\beta = .151$, $t = 2.296$, $p = .023$, $sr^2 = .023$) was significant. Competence scores for American Indian participants were significantly higher than scores for White participants.

Attachment

A linear regression analysis was conducted using the anxiety and avoidance attachment subscales from RAAS with the DIET competence scores at time 1 as the dependent variable. Results indicated that RAAS attachment scores accounted for 9% of variance in DIET competence ($R^2 = .090$, $R^2_{\text{adj}} = .078$, $F(3, 225) = 7.39$, $p < .001$). The interaction of anxiety x avoidance was significant ($\beta = .215$, $t = 3.343$, $p < .001$, $sr^2 =$

.048) and was qualified by significant main effects of anxiety ($\beta = .286, t = 3.33, p < .001, sr^2 = .047$) and avoidance ($\beta = -.219, t = -2.547, p = .012, sr^2 = .028$). See Figure 1.

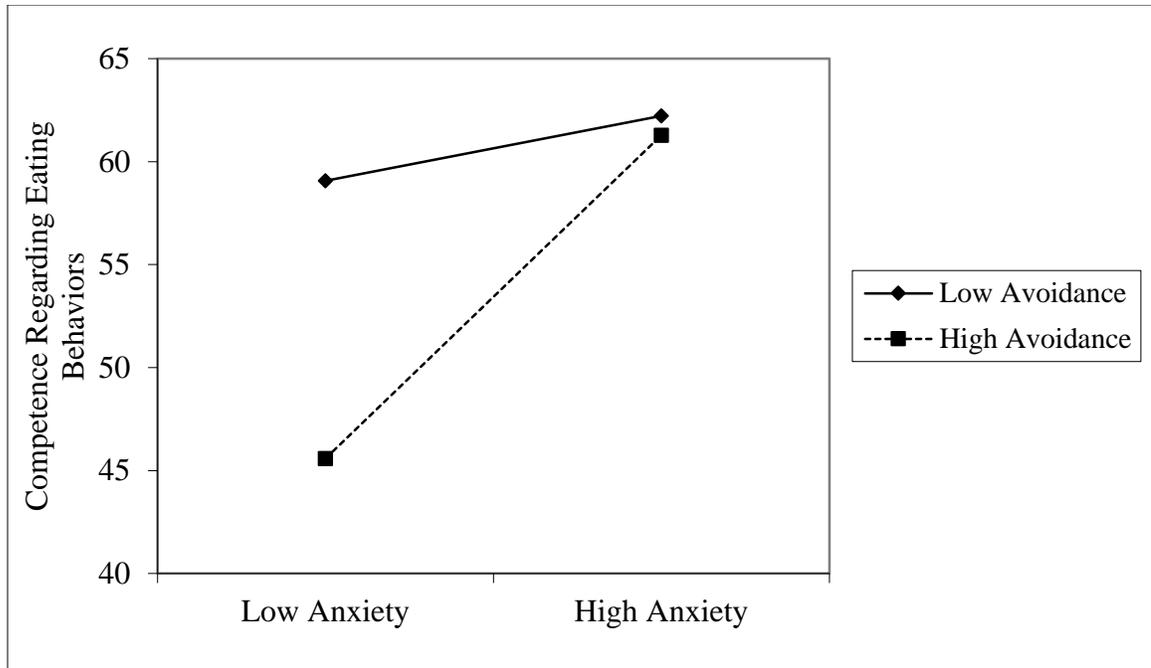


Figure 1. The plotted interaction between RAAS subscales Anxiety and Avoidance from Linear Regression results of DIET competence at time 1. The dependent variable was a continuous measure of competence regarding eating behaviors, ranging from 0 to 100%.

Identity

A linear regression analysis was conducted using the exploration and commitment ethnic identity subscales from MEIM with the DIET competence scores at time 1 as the dependent variable. Results indicated that MEIM ethnic identity scores accounted for 4% of variance in DIET competence ($R^2 = .040, R^2_{adj} = .028, F(3, 225) = 3.156, p = .026$).

The interaction of exploration by commitment was not significant ($\beta = -.060, t = -.860, p = .391, sr^2 = .003$). See Figure 2. Main effects of exploration ($\beta = .107, t = 1.331, p = .185, sr^2 = .008$) and commitment ($\beta = 1.07, t = 1.293, p = .197, sr^2 = .007$) were also not significant.

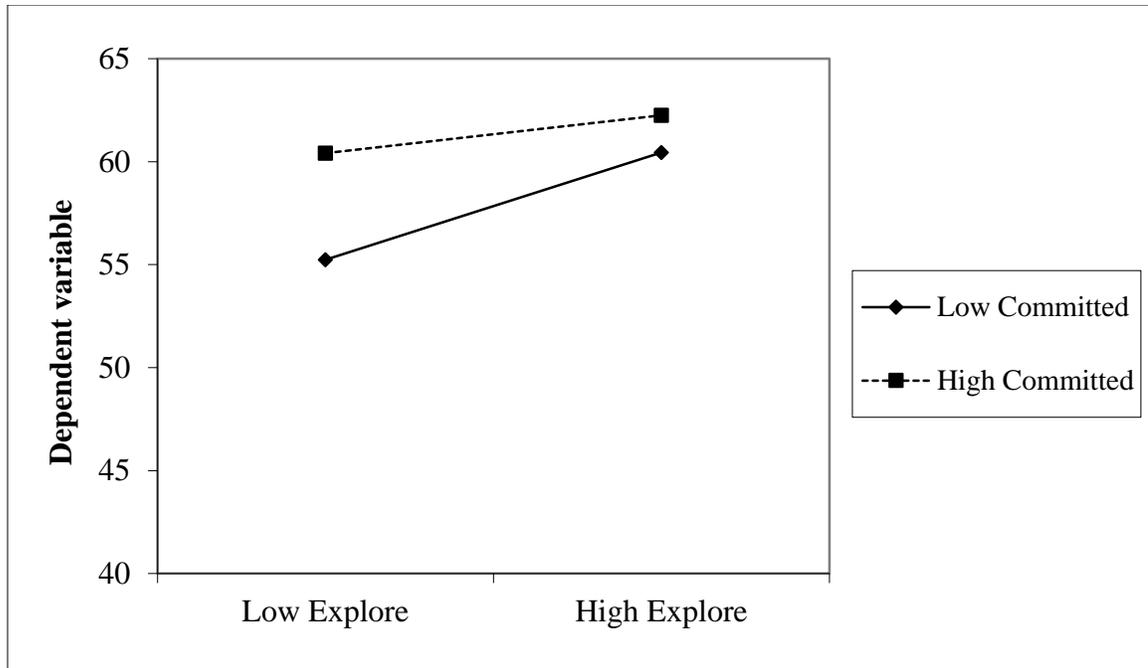


Figure 2. The plotted nonsignificant interaction between MEIM subscales Exploration and Commitment from Linear Regression results of DIET competence at time 1. The dependent variable was a continuous measure of competence regarding eating behaviors, ranging from 0 to 100%.

LOC

A linear regression analysis was conducted using mean centered scores from LOC with the DIET competence scores at time 1 as the dependent variable. Results indicated that LOC scores accounted for less than 1% of variance in DIET competence ($R^2 = .004$, $R^2_{adj} = .000$, $F(1, 227) = 945$, $p = .332$). The main effect of LOC was not significant ($\beta = -.064$, $t = -.972$, $p = .332$, $sr^2 = .004$).

Hypothesis 2

A 2 (race - White v. American Indian) x 2 (condition - control v. experimental) repeated measures ANOVA was conducted on the mean score of DIET competence that was measured two weeks apart. The results revealed no significant within-subject main effects or interactions. However, there was one significant between-subject main effect

of race $F(1,225) = 4.966, p = .027, partial \eta^2 = .022$. See Table 1 for full results. DIET competence scores for American Indian participants ($M=63.83, SD=2.08$) were significantly higher than for White participants ($M=58.42, SD=1.26$).

Table 1. Results for the 2 (Race - White v. American Indian) x 2 (Condition - Control v. Experimental) Repeated Measures ANOVA

Within-Subject Effect	<i>MS</i>	<i>df</i>	<i>F</i>	<i>p</i>	<i>partial η^2</i>
Competence	159.971	1	2.755	.098	.012
Competence x Race	.629	1	.011	.917	.000
Competence x Condition	18.056	1	.311	.578	.001
Competence x Race x Condition	.010	1	.000	.990	.000
Between-Subject Effect					
Race	1300.728	1	4.966	.027*	.022
Condition	.261	1	.001	.975	.000
Race x Condition	84.479	1	.323	.571	.001

$N=229, *p < .05$

Hypothesis 3

Three general linear model (GLM) repeated measures were conducted to examine the effect of attachment style, ethnic identity, and locus of control on DIET competence in the control and experimental conditions.

Attachment

A 2 Race (White v. American Indian) x 2 Condition (Control v. Experimental) x Attachment Anxiety x Attachment Avoidance GLM repeated measures analysis was conducted. Results revealed no significant within-subject main effects or interactions and

two significant between-subject main effects of anxiety $F(1,213)=12.210, p < .001$, $partial \eta^2 = .054$ and avoidance $F(1,213)=7.263, p = .008, partial \eta^2 = .033$. See Figure 3. See Table 2 for full results. With respect to attachment style, the regression slopes of the main effects of anxiety and avoidance remained relatively the same demonstrating no significant effect of condition. DIET competence scores were negatively associated with participants who scored low on anxiety and high on avoidance as measured by the RAAS subscales.

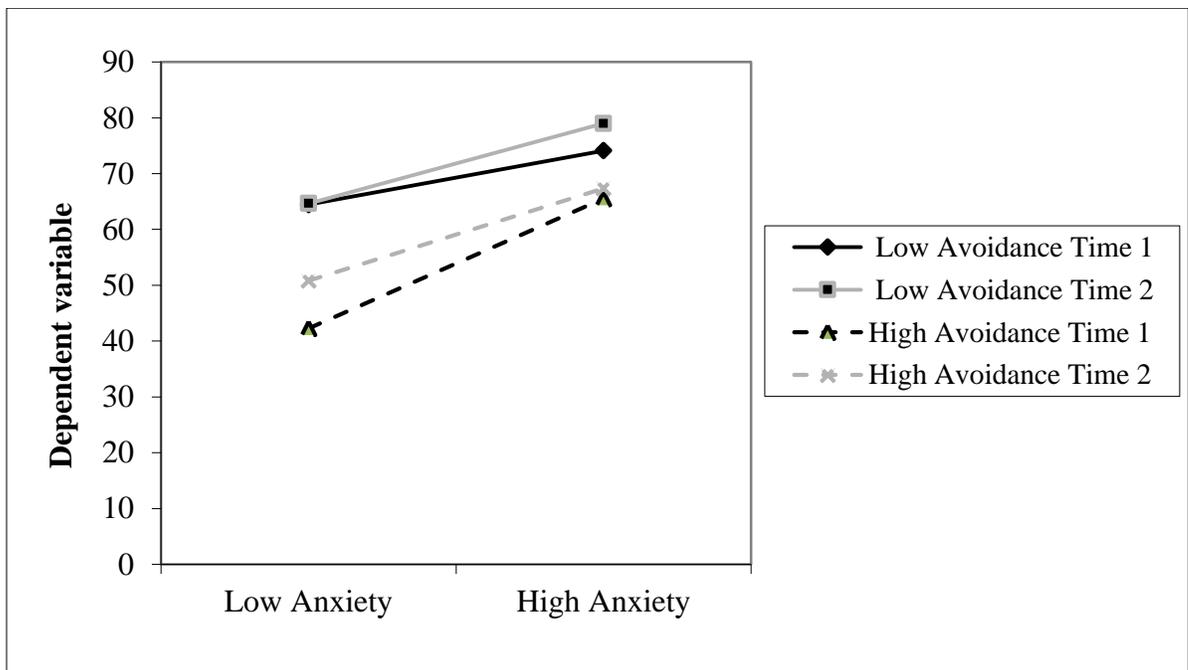


Figure 3. The plotted slopes of the between-subject main effects of Anxiety and Attachment subscales of the RAAS from Linear Regression results of DIET competence at time 1 and time 2. The dependent variable was a continuous measure of competence regarding eating behaviors, ranging from 0 to 100%.

Table 2. Results for the 2 Race (White v. American Indian x 2 Condition (Control v. Experimental) x Attachment Anxiety x Attachment Avoidance Repeated Measures

Within-Subject Effect	<i>MS</i>	<i>df</i>	<i>F</i>	<i>p</i>	<i>partial η²</i>
Competence	144.253	1	2.531	.113	.012
Competence x Condition	92.533	1	1.624	.204	.008
Competence x Race	.002	1	.000	.995	.000
Competence x Anxiety	4.120	1	.072	.788	.000
Competence x Avoidance	36.615	1	.642	.424	.003
Competence x Anxiety x Avoidance	62.113	1	1.090	.298	.005
Competence x Condition x Race	49.248	1	.864	.354	.004
Competence x Condition x Anxiety	5.539	1	.097	.756	.000
Competence x Condition x Avoidance	.089	1	.002	.968	.000
Competence x Condition x Anxiety x Avoidance	72.198	1	1.267	.262	.006
Competence x Race x Anxiety	.171	1	.003	.956	.000
Competence x Race x Avoidance	147.998	1	2.597	.109	.012
Competence x Race x Anxiety x Avoidance	.131	1	.002	.962	.000
Competence x Condition x Race x Anxiety	8.272	1	.145	.704	.001
Competence x Condition x Race x Avoidance	2.860	1	.050	.823	.000
Competence x Condition x Race x Anxiety x Avoidance	76.317	1	1.339	.248	.006
Between-subjects Effects					
Condition	313.529	1	.639	.425	.003

Table 2. cont.

	<i>MS</i>	<i>df</i>	<i>F</i>	<i>p</i>	<i>partial η²</i>
Race	1452.534	1	2.959	.087	.014
Anxiety	5993.476	1	12.210	.001*	.054
Avoidance	3565.321	1	7.263	.008*	.033
Anxiety x Avoidance	1306.207	1	2.661	.104	.012
Condition x Race	51.965	1	.106	.745	.000
Condition x Anxiety	20.658	1	.042	.838	.000
Condition x Avoidance	295.183	1	.601	.439	.003
Condition x Anxiety x Avoidance	10.979	1	.022	.881	.000
Race x Anxiety	824.059	1	1.679	.196	.008
Race x Avoidance	14.150	1	.029	.865	.000
Race x Anxiety x Avoidance	19.217	1	.039	.843	.000
Condition x Race x Anxiety	4.308	1	.009	.925	.000
Condition x Race x Avoidance	157.080	1	.320	.572	.002
Condition x Race x Anxiety x Avoidance	44.417	1	.090	.764	.000

N=229, **p* < .05

Ethnic Identity

A 2 Race (White v. American Indian) x 2 Condition (Control v. Experimental) x Ethnic Identity Exploration x Ethnic Identity Commitment GLM repeated measures analysis was conducted. Results revealed no significant within-subject main effects or

interactions and no significant between-subject main effects or interactions. See Table 3 for full results.

Table 3. Results for the 2 Race (White v. American Indian x 2 Condition (Control v. Experimental) x Ethnic Identity Exploration x Ethnic Identity Commitment Repeated Measures

Within-Subject Effect	<i>MS</i>	<i>df</i>	<i>F</i>	<i>p</i>	<i>partial η²</i>
Competence	117.784	1	1.986	.160	.009
Competence x Condition	4.998	1	.084	.772	.000
Competence x Race	1.131	1	.019	.890	.000
Competence x Exploration	2.952	1	.050	.824	.000
Competence x Commitment	7.046	1	.119	.731	.001
Competence x Exploration x Commitment	44.469	1	.750	.388	.004
Competence x Condition x Race	6.797	1	.115	.735	.001
Competence x Condition x Exploration	23.225	1	.392	.532	.002
Competence x Condition x Commitment	14.278	1	.241	.624	.001
Competence x Condition x Exploration x Commitment	10.403	1	.175	.676	.001
Competence x Race x Exploration	.000	1	.000	.998	.000
Competence x Race x Commitment	7.040	1	.119	.731	.001
Competence x Race x Exploration x Commitment	7.405	1	.125	.724	.001
Competence x Condition x Race x Exploration	10.809	1	.182	.670	.001
Competence x Condition x Race x Commitment	.162	1	.003	.958	.000

Table 3. cont.

	<i>MS</i>	<i>df</i>	<i>F</i>	<i>p</i>	<i>partial η²</i>
Competence x Condition x Race x Exploration x Commitment	21.108	1	.356	.551	.002
Between-subjects Effects					
Condition	24.489	1	.047	.829	.000
Race	16.083	1	.031	.861	.000
Exploration	154.609	1	.296	.587	.001
Commitment	4.024	1	.008	.930	.000
Exploration x Commitment	214.631	1	.411	.522	.002
Condition x Race	83.151	1	.159	.690	.001
Condition x Exploration	226.916	1	.435	.510	.002
Condition x Commitment	3.118	1	.006	.938	.000
Condition x Exploration x Commitment	1.737	1	.003	.954	.000
Race x Exploration	28.072	1	.054	.817	.000
Race x Commitment	18.700	1	.036	.850	.000
Race x Exploration x Commitment	963.253	1	1.845	.176	.009
Condition x Race x Exploration	39.157	1	.075	.784	.000
Condition x Race x Commitment	15.417	1	.030	.864	.000
Condition x Race x Exploration x Commitment	682.622	1	1.307	.254	.006
<hr/> <i>N</i> =229, * <i>p</i> < .05 <hr/>					

Locus of Control

A 2 Race (White v. American Indian) x 2 Condition (Control v. Experimental) x LOC GLM repeated measures analysis was conducted. Results revealed a significant within-subject three-way interaction of DIET competence x condition x LOC $F(1,221)=4.364, p =.038, partial \eta^2 = .019$ which was qualified by a significant within-subject two-way interaction of DIET competence x LOC $F(1,221)=6.101, p =.014, partial \eta^2 = .027$. Results also revealed a significant between-subject main effect of race $F(1,221)=4.875, p =.028, partial \eta^2 = .022$. See Figure 4. No other between-subject main effects or interactions were significant. See Table 4 for full results. Results suggest that the experimental condition had a different effect depending on participant's LOC entering the study. Participants with an internal LOC regardless of being in the control or experimental condition had DIET competence scores equivalent to participants with an external LOC in the control condition at time 1. Participants in the experimental condition with an external LOC exhibited significantly higher DIET competence scores measured at time 1 and demonstrated a significant decrease in competence between time 1 and time 2.

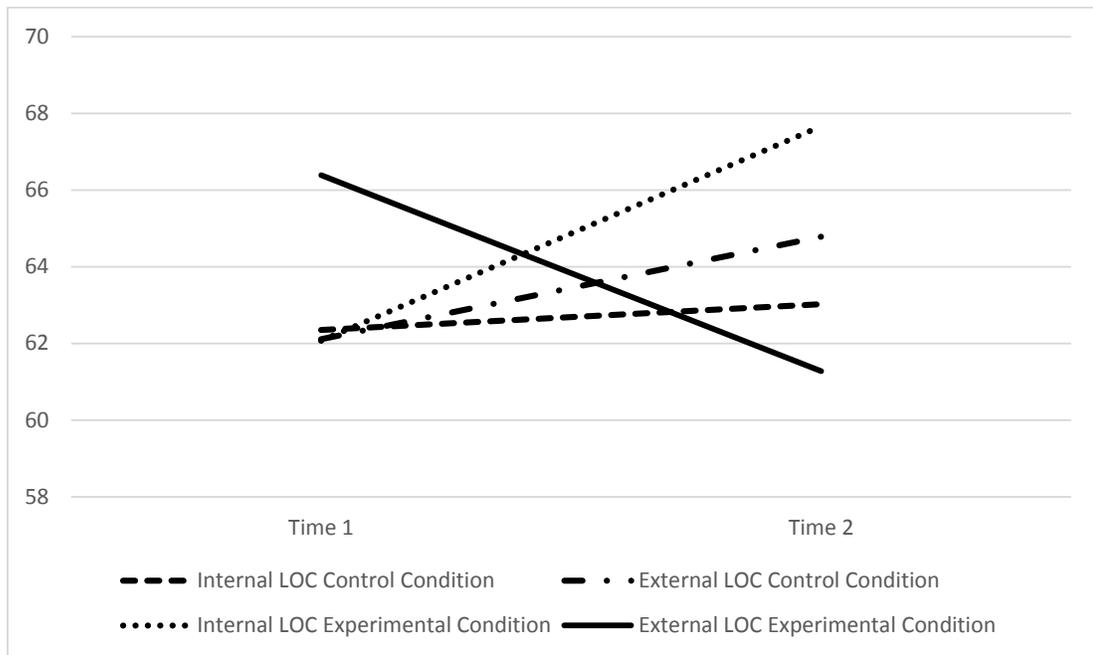


Figure 4. The plotted three-way interaction of competence x condition x LOC from GLM results of DIET competence. The independent variable was a continuous measure of locus of control as measured by IES. The dependent variable was a continuous measure of competence regarding eating behaviors, ranging from 0 to 100%.

Table 4. Results for the 2 Race (White v. American Indian) x 2 Condition (Control v. Experimental) x LOC Repeated Measures

Within-Subject Effect	<i>MS</i>	<i>df</i>	<i>F</i>	<i>p</i>	<i>partial η²</i>
Competence	116.939	1	2.077	.151	.009
Competence x Condition	26.475	1	.470	.494	.002
Competence x Race	6.348	1	.113	.737	.001
Competence x LOC	343.538	1	6.101	.014*	.027
Competence x Condition x LOC	245.717	1	4.364	.038*	.019
Competence x Race x LOC	22.826	1	.405	.525	.002
Competence x Condition x Race	2.528	1	.045	.832	.000
Competence x Condition x Race x LOC	197.119	1	3.501	.063	.016

Table 4. cont.

	<i>MS</i>	<i>df</i>	<i>F</i>	<i>p</i>	<i>partial</i> η^2
Between-subjects Effects					
Condition	.292	1	.001	.981	.000
Race	2552.838	1	4.875	.028*	.022
LOC	595.559	1	1.137	.287	.005
Condition x Race	131.885	1	.252	.616	.001
Condition x LOC	1.914	1	.004	.952	.000
Race x LOC	496.847	1	.949	.331	.004
Condition x Race x LOC	49.248	1	.094	.759	.000
<i>N</i> =229, * <i>p</i> < .05					

CHAPTER IV

DISCUSSION

The present study sought to examine the impact, if any, of reverse ethnocentrism on competence regarding food-related behaviors as measured by DIET competence, specifically dependent on attachment style, ethnic identity or locus of control. Three aims were developed to examine these factors and how they related to competence. The first aim established the degrees to which race, attachment style, ethnic identity, and locus of control were associated with participants' competence prior to any manipulation. The second aim was to develop a scenario regarding the health of American Indian people as it related to eating behaviors and historical facts to use as an experimental manipulation. The third aim was to identify what, if any, impact the experimental manipulation had on competence taking into consideration a participant's race, attachment style, ethnic identity, and locus of control. It was hypothesized that competence would be negatively associated with insecure attachment styles, external locus of control, and unachieved ethnic identity; that the manipulation would result in increases in competence for American Indian participants in the experimental condition while remaining relatively unchanged for White participants; and that the experimental manipulation would result in increases in competence positively associated with insecure attachment styles, achieved ethnic identity, and external locus of control. These hypotheses were partially supported. The factors of race, attachment style, ethnic

identity, and locus of control were found to account for a total of 16% of the variance in participants' competence. Attachment style accounted for the most significant variance at 9% followed by race at 2%. Ethnic identity and LOC accounted for nonsignificant variance at 4% and less than 1% respectively.

Partial support was found for the attachment style hypotheses. The present study found competence to be negatively associated with participants who scored low on anxiety and high on avoidance as measured by the RAAS. If Bartholomew and Horowitz's four-category model is taken into consideration, this result would seem to indicate that individuals with a dismissing attachment style exhibited significantly lower DIET competence scores than either fearful, preoccupied, or secure attachment styles. Thus, the insecure attachment style of dismissing was negatively correlated with competence. However, contrary to prediction, insecure attachment styles of preoccupied and fearful along with secure attachment style were positively associated with competence. After manipulation, the between-subject main effects of anxiety and avoidance were significant, but within-subject condition effects were not significant. Thus, any attachment hypotheses related to aim 3 were not supported. Regression slopes for anxiety and avoidance subscales of the RAAS remained relatively similar and, again, competence scores were negatively associated with participants who scored low on anxiety and high on avoidance which represent a dismissing attachment style. However, though not significant, the greatest increase in competence scores between time 1 and time 2 were observed in participants displaying a dismissing attachment style.

Prior research by Ognibene and Collins found that individuals with high avoidance of others (dismissing and fearful attachment styles) distanced themselves and

potential secured noninterpersonal coping methods, which included eating, during crises (1998). Shaver and Mikulincer found dismissing attachment style to display a deactivation of senses (2002). Additionally, Tasca found dismissing attachment style to display a deactivation strategy of coping via eating restriction (2009). Taking these prior studies into account, it may appear that scores on the DIET are negatively associated with deactivation coping strategies.

Prior research suggests hyperactivation and deactivation strategies reflect external LOC, and external LOC has been related to severe eating behaviors such as anorexia nervosa (Harding and Lachenmeyer, 1986), bulimia (Williams and Manaster, 1990; Waller, 1998), and obesity (Mills, 1991; Mills 1994). In the present study, although LOC was found to account for less than 1% of the variance in DIET competence scores, and that variance was not significant, examination of GLM repeated measures analysis revealed a significant three-way interaction of competence, condition, and LOC. This interaction was qualified by a significant two-way interaction of competence and LOC. Results suggest that the experimental condition had a different effect depending on participant's LOC entering the study. Despite random assignment prior to any measurements taken including background information, individuals in the experimental condition who also had an external LOC displayed higher competence than those with external LOC in the control condition. However, participants in the experimental condition with an internal LOC exhibited increases in competence that were higher than increases observed for participants in the control condition regardless of internal or external LOC. Participants in the experimental condition with an external LOC exhibited significant decreases in competence from time 1 to time 2.

No support was found for the hypotheses regarding ethnic identity. Ethnic identity accounted for a nonsignificant 4% of the variance in competence. Though regression analysis revealed competence scores to be negatively associated with low exploration and low commitment, there were no significant main effects or interactions. Additionally, after manipulation, no within-subject or between-subject effects were significant. Applying Phinney's theory and, as hypothesized, using the exploration and commitment subscales of the MEIM, the present study found, that participants who scored low in exploration and low in commitment (ethnic identity diffusion) also scored low in DIET competence. Though caution is warranted in considering this an actual association as differences were not found to be significant. Ethnic identity, unlike the attachment theory, could change over time. While possible to achieve a stable ego identity by adolescence, not everyone does (Erickson, 1968).

A linear regression was also conducted using race as the independent variable. Participants were classified as either American Indian or White as indicated in background questions and questions within the MEIM requesting specific race/ethnicity regardless of how much a person had exploration or commitment to that identity. Results of the initial linear regression revealed American Indian participants to have significantly higher competence scores than White participants, and this accounted for 2% of the significant variance. After manipulation, race was included as an independent variable in all GLM repeated measures analyses. However, the only significant between-subject effect was found in examining LOC which was less than 1% of the variance in competence. No significant within-subject effects were found that included race.

The results of the present study did not support the theory of ethnocentrism or reverse ethnocentrism with regard to evaluating one's competence regarding food-related behaviors. Prior to any manipulation, American Indian participants rated their competence significantly higher than White participants. As an ethnic minority in the United States, one might expect American Indian participants to have rated their competence lower than White participants if they were indeed devaluing themselves as prior research on minorities have shown. The lack of significant effects of race or ethnic identity adds to the support that American Indian participants were not devaluing their competence regarding food-related behaviors within the context of the present study.

With respect to the theory of attachment, the present study observed significantly lower competence regarding food-related behaviors scores as an individual became more avoidant but not anxious. Individuals with high avoidance and low anxiety are typically categorized as dismissing attachment style (Cooper, Shaver, and Collins, 1998). Prior research has suggested people with dismissing attachment styles exhibit a deactivation coping style in which they are more likely to seeking non-interpersonal coping methods during crises rather than seek others for assistance (Ognibene and Collins, 1998). This deactivation coping style has been linked to eating restriction in prior research (Tasca et al, 2009). The present study found that the more a participant exhibited a dismissing/deactivation coping style the less competent they were regarding their food-related behavior. Prior research suggests people with dismissing attachment style have a negative view of others while maintaining a positive view of self (Cooper, Shaver, and Collins, 1998). The DIET which was used in the present study to measure competence discusses scenarios that contain either just self or self and others. With respect to the

theory of attachment it seems that dismissing attachment style may have more of an effect on competence regarding food-related behavior than either secure, preoccupied, or fearful attachment styles.

Additionally, external LOC has been linked, in prior studies, to constrained and unrestrained food consumption and severe eating behaviors such as Anorexia Nervosa, Bulimia Nervosa, and obesity (Harding and Lachenmeyer, 1986; Williams and Manaster, 1990; Waller, 1998; Mills, 1991; Mills 1994). Despite accounting for less than 1% of the variance in competence scores, the current study exhibited a unique effect of LOC when subjected to the manipulation. For participants in the experimental group, after manipulation, those who had a more external LOC exhibited significantly decreased competence regarding their food-related behaviors. Whereas, the control group, regardless of LOC, and participants with a more internal LOC in the experimental group, all exhibited increases in their competence. This result appears to support the theory that someone with an external LOC may be more affected by situations in which they perceive external forces have more control over their internal self than may actually exist.

Limitations

Limited research had been conducted on American Indian populations. This could happen for any number of reasons including privacy philosophies of the population and ease of access to nonnative population recruitment. During recruitment for the present study at an American Indian powwow, some potential participants stated they did not have access to the internet which precluded them from participating in this two-part, computer-based study. Findings regarding ethnic identity of American Indian participants could have been influenced by the manner in which they were recruited (e.g.

powwow, university student American Indian program). An additional limitation to this study was the reliance on self-report data via computer surveys. Five questions requested racial and/or ethnic identity in different ways. Results for these five questions were compared for consistency in reporting ethnicity and/or race. Inconsistencies among these questions resulted in the exclusion of 35 participants (e.g., reported Asian, Black, or Hispanic race on MEIM questions despite answering background question on race as either White or American Indian). An additional 96 participants were excluded due to failure to finish the study by noncompletion of either the first part or second part of this study or for failure to respond to requests for completing the second part. While attrition is a natural part of any study, the one to two-week time period of this study could have further exacerbated attrition.

Clinical Implications/Future Directions

This study sought to examine the concept of reverse ethnocentrism and its impact on competence regarding as associated with attachment styles, ethnic identity, and locus of control. The experimental manipulation did not result in differences between groups of White ethnicity and American Indian ethnicity despite containing adequate power. These findings may imply that highlighting historical aspects of American Indian people may not impact current psychological competence regarding eating behavior. However, caution is warranted in this regard as this was the first study to utilize this written scenario. Future studies may seek to examine the impact of the scenario further or employ other methods and/or techniques to highlight historical aspects of American Indian people's health and eating behavior. Additionally, due to limitations of the recruitment process addressed above, it is not within the scope of the present study to

confirm and generalize that no differences actually exist. American Indian participants were not asked whether they live on or off a reservation and, therefore, this sample may or may not be an accurate reflection of national averages of 22% American Indian people living on reservations and/or in off-reservation trust lands (U.S. Census, 2010). Future researchers who would like to continue to examine reverse ethnocentrism may want to reexamine recruitment processes to ensure numbers of on-reservation and off-reservation American Indian participants are commensurate with national averages.

Ethnocentrism is thought to be the belief that one's own ethnic group was superior to others, thus anyone outside their group was inferior or subordinate (Sumner, 1906). The concept of reverse ethnocentrism involves a person's perception of belonging to the subordinate group (Brown, Condor, Matthews, and Wade, 1986). Rudman, Feinberg, and Fairchild not only found Jewish and Asian participants devalued themselves in favor of the white majority, but also found that overweight individuals devalued themselves over slim individuals (2002). Additional studies have found subordinate groups to credit personal achievements to external factors while crediting internal factors for achievements in the superior ethnic group (Taylor and Jaggi, 1974; Hewstone and Ward, 1985; Raden, 2003). It does not appear that the present study found any effect of ethnocentrism or reverse ethnocentrism with respect to the races of White and American Indian. In fact, the present study found American Indian participants entered the study with higher competence scores than White participants. Rather, any differences found in competence was related to differences in attachment styles and LOC. The results of the present study appear to suggest that rather than race or ethnic identity, one's locus of control and internal working model of interpersonal behavior (attachment

style) may contribute to competence regarding food-related behavior that may ultimately affect the occurrence or nonoccurrence of severe eating behavior that may lead to anorexia nervosa, bulimia, and obesity. Future studies may wish to continue examining these constructs.

APPENDICES

Appendix A DIET

Each item in this questionnaire describes a situation and a behavior that promotes weight loss or weight control. Imagine that you are in the situation described, and rate the percent of the time you would behave in the way described. If you would always act in the way described then give a rating of 100%. If you would never act that way give a rating of 0%. If you would sometimes act that way then circle the number at the point on the scale that shows how often you would act as described. If you feel that you never get into a situation like the one described (it does not apply to you), then rate how often you engage in the kind of behavior described in general.

1. You're having dinner with your family and your favorite meal has been prepared. You finish the first helping and someone says, "Why don't you have some more? What percent of the time would you turn down a second helping?
0 ... 10 ... 20 ... 30 ... 40 ... 50 ... 60 ... 70 ... 80 ... 90 ... 100
2. You would like to exercise every day but it is hard to find the time because of your family and work obligations. What percent of the time would you set aside a daily time for exercise?
0 ... 10 ... 20 ... 30 ... 40 ... 50 ... 60 ... 70 ... 80 ... 90 ... 100
3. You like to eat high calorie snack food (e.g., cookies, potato chips, crackers cokes, beer, cake) while watching television. What percent of the time would you watch TV without eating a high calorie snack?
0 ... 10 ... 20 ... 30 ... 40 ... 50 ... 60 ... 70 ... 80 ... 90 ... 100
4. When you eat in a good restaurant, you love to order high calorie foods. What percent of the time would you order a low calorie meal?
0 ... 10 ... 20 ... 30 ... 40 ... 50 ... 60 ... 70 ... 80 ... 90 ... 100
5. When planning meals, you tend to choose high calorie foods. What percent of the time would you plan low calorie meals?
0 ... 10 ... 20 ... 30 ... 40 ... 50 ... 60 ... 70 ... 80 ... 90 ... 100
6. You are at a party and there is a lot of fattening food. You have already eaten more than you should and you are tempted to continue eating. What percent of the time would you stop with what you have already eaten?

0 ··· 10 ··· 20 ··· 30 ··· 40 ··· 50 ··· 60 ··· 70 ··· 80 ··· 90 ··· 100

7. You like to flavor your vegetables with butter, margarine, ham, or bacon fat. What percent of the time would you choose a low calorie method of seasoning?

0 ··· 10 ··· 20 ··· 30 ··· 40 ··· 50 ··· 60 ··· 70 ··· 80 ··· 90 ··· 100

8. You often prepare many of your foods by frying. What percent of the time would you prepare your food in a way that is less fattening?

0 ··· 10 ··· 20 ··· 30 ··· 40 ··· 50 ··· 60 ··· 70 ··· 80 ··· 90 ··· 100

9. You allow yourself a snack in the evening, but you find yourself eating more than your diet allows. What percent of the time would you reduce the size of your snack?

0 ··· 10 ··· 20 ··· 30 ··· 40 ··· 50 ··· 60 ··· 70 ··· 80 ··· 90 ··· 100

10. Instead of putting foods away after finishing a meal, you find yourself eating the leftovers. What percent of the time would you put the food away without eating any?

0 ··· 10 ··· 20 ··· 30 ··· 40 ··· 50 ··· 60 ··· 70 ··· 80 ··· 90 ··· 100

11. You are asked by another person to go for a walk but you feel tired and kind of low. What percent of the time would you overcome these feelings and say “yes” to the walk?

0 ··· 10 ··· 20 ··· 30 ··· 40 ··· 50 ··· 60 ··· 70 ··· 80 ··· 90 ··· 100

12. You often overeat at supper because you are tired and hungry when you get home. What percent of the time would you not overeat at supper?

0 ··· 10 ··· 20 ··· 30 ··· 40 ··· 50 ··· 60 ··· 70 ··· 80 ··· 90 ··· 100

13. When you have errands to run that are only a couple of blocks away you usually drive the car. What percent of the time would you walk on an errand when it only involves a couple of blocks?

0 ··· 10 ··· 20 ··· 30 ··· 40 ··· 50 ··· 60 ··· 70 ··· 80 ··· 90 ··· 100

14. You are invited to someone’s house for dinner and your host is an excellent cook. You often overeat because the food tastes so good. What percent of the time would you not overeat as a dinner guest?

0 ··· 10 ··· 20 ··· 30 ··· 40 ··· 50 ··· 60 ··· 70 ··· 80 ··· 90 ··· 100

15. You like to have something sweet to eat on your coffee break. What percent of the time would you only have coffee?
- 0 ··· 10 ··· 20 ··· 30 ··· 40 ··· 50 ··· 60 ··· 70 ··· 80 ··· 90 ··· 100
16. When you cook a meal you snack on the food. What percent of the time would you wait until the meal is prepared to eat?
- 0 ··· 10 ··· 20 ··· 30 ··· 40 ··· 50 ··· 60 ··· 70 ··· 80 ··· 90 ··· 100
17. You planned to exercise after work today but you feel tired and hungry when the time arrives. What percent of the time would you exercise anyway?
- 0 ··· 10 ··· 20 ··· 30 ··· 40 ··· 50 ··· 60 ··· 70 ··· 80 ··· 90 ··· 100
18. There is a party at work for a co-worker and someone offers you a piece of cake. What percent of the time would you turn it down?
- 0 ··· 10 ··· 20 ··· 30 ··· 40 ··· 50 ··· 60 ··· 70 ··· 80 ··· 90 ··· 100
19. You would like to climb the stairs instead of taking the elevator. What percent of the time would you take the stairs to go one or two flights?
- 0 ··· 10 ··· 20 ··· 30 ··· 40 ··· 50 ··· 60 ··· 70 ··· 80 ··· 90 ··· 100
20. You are happy and feeling good today. You are tempted to treat yourself by stopping for ice cream. What percent of the time would you find some other way to be nice to yourself?
- 0 ··· 10 ··· 20 ··· 30 ··· 40 ··· 50 ··· 60 ··· 70 ··· 80 ··· 90 ··· 100
21. You are at a friend's house and your friend offers you a delicious looking pastry. What percent of the time would you refuse this offer?
- 0 ··· 10 ··· 20 ··· 30 ··· 40 ··· 50 ··· 60 ··· 70 ··· 80 ··· 90 ··· 100
22. You feel like celebrating. You are going out with friends to a good restaurant. What percent of the time would you celebrate without overeating?
- 0 ··· 10 ··· 20 ··· 30 ··· 40 ··· 50 ··· 60 ··· 70 ··· 80 ··· 90 ··· 100
23. You finished your meal and you are still hungry. There is cake and fruit available. What percent of the time would you choose the fruit?

0 ··· 10 ··· 20 ··· 30 ··· 40 ··· 50 ··· 60 ··· 70 ··· 80 ··· 90 ··· 100

24. You are at home feeling lonely, blue, and bored. You are craving something to eat. What percent of the time would you find another way of coping with these feelings besides eating?

0 ··· 10 ··· 20 ··· 30 ··· 40 ··· 50 ··· 60 ··· 70 ··· 80 ··· 90 ··· 100

25. Today you did something to hurt your ankle. You want to get something to eat to make yourself feel better. What percent of the time would you find some other way to take your mind off your mishap?

0 ··· 10 ··· 20 ··· 30 ··· 40 ··· 50 ··· 60 ··· 70 ··· 80 ··· 90 ··· 100

26. When you spend time alone at home you are tempted to snack. You are spending an evening alone. What percent of the time would you resist the urge to snack?

0 ··· 10 ··· 20 ··· 30 ··· 40 ··· 50 ··· 60 ··· 70 ··· 80 ··· 90 ··· 100

27. You are out with a friend at lunch time and your friend suggests that you stop and get some ice cream. What percent of the time would you resist the temptation?

0 ··· 10 ··· 20 ··· 30 ··· 40 ··· 50 ··· 60 ··· 70 ··· 80 ··· 90 ··· 100

28. You just had an upsetting argument with a family member. You are standing in front of the refrigerator and you feel like eating everything in sight. What percent of the time would you find some other way to make yourself feel better?

0 ··· 10 ··· 20 ··· 30 ··· 40 ··· 50 ··· 60 ··· 70 ··· 80 ··· 90 ··· 100

29. You are having a hard day at work and you are anxious and upset. You feel like getting a candy bar. What percent of the time would you find a more constructive way to calm down and cope with your feelings?

0 ··· 10 ··· 20 ··· 30 ··· 40 ··· 50 ··· 60 ··· 70 ··· 80 ··· 90 ··· 100

30. You just had an argument with your (husband, wife, boyfriend, girlfriend). You are upset, angry, and you feel like eating something. What percent of the time would you talk the situation over with someone or go for a walk instead of eating?

0 ··· 10 ··· 20 ··· 30 ··· 40 ··· 50 ··· 60 ··· 70 ··· 80 ··· 90 ··· 100

APPENDIX B
IES
Rotter's Internal-External Scale (1966)

Please choose either A or B.

1. a. Children get into trouble because their parents punish them too much.
 b. The trouble with most children nowadays is that their parents are too easy with them.
2. a. Many of the unhappy things in people's lives are partly due to bad luck.
 b. People's misfortunes result from the mistakes they make.
3. a. One of the major reasons why we have wars is because people don't take enough interest in politics.
 b. There will always be wars, no matter how hard people try to prevent them.
4. a. In the long run people get the respect they deserve in this world.
 b. Unfortunately, an individual's worth often passes unrecognized no matter how hard he or she tries.
5. a. The idea that teachers are unfair to students is nonsense.
 b. Most students don't realize the extent to which their grades are influenced by accidental happenings.
6. a. Without the right breaks one cannot be an effective leader.
 b. Capable people who fail to become leaders have not taken advantage of their opportunities.
7. a. No matter how hard you try some people just don't like you.
 b. People who can't get others to like them don't understand how to get along with others.
8. a. Heredity plays the major role in determining one's personality.
 b. It is one's experiences in life which determine what they are like.
9. a. I have often found that what is going to happen will happen.
 b. Trusting to fate has never turned out as well for me as making a decision to take a definite course of action.
10. a. In the case of the well prepared student, there is rarely, if ever, such a thing as an unfair test.
 b. Many times exam questions tend to be so unrelated to course work that studying is really useless.

11.
 - a. Becoming a success is a matter of hard work, luck has little or nothing to do with it.
 - b. Getting a good job depends mainly on being in the right place at the right time.
12.
 - a. The average citizen can have an influence in government decisions.
 - b. This world is run by the few people in power, and there is not much the little guy can do about it.
13.
 - a. When I make plans, I am almost certain that I can make them work.
 - b. It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.
14.
 - a. There are certain people who are just no good.
 - b. There is some good in everybody.
15.
 - a. In my case getting what I want has little or nothing to do with luck.
 - b. Many times we might just as well decide what to do by flipping a coin.
16.
 - a. Who gets to be the boss often depends on who was lucky enough to be in the right place first.
 - b. Getting people to do the right thing depends upon ability, luck has little or nothing to do with it.
17.
 - a. As far as world affairs are concerned, most of us are the victims of forces we can neither understand, nor control.
 - b. By taking an active part in political and social affairs the people can control world events.
18.
 - a. Most people don't realize the extent to which their lives are controlled by accidental happenings.
 - b. There really is no such thing as "luck.
19.
 - a. One should always be willing to admit mistakes.
 - b. It is usually best to cover up one's mistakes.
20.
 - a. It is hard to know whether or not a person really likes you.
 - b. How many friends you have depends upon how nice a person you are.
21.
 - a. In the long run the bad things that happen to us are balanced by the good ones.
 - b. Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.
22.
 - a. With enough effort we can wipe out political corruption.

- b. It is difficult for people to have much control over the things politicians do in office.
- 23.
- a. Sometimes I can't understand how teachers arrive at the grades they give.
 - b. There is a direct connection between how hard I study and the grades I get.
- 24.
- a. A good leader expects people to decide for themselves what they should do.
 - b. A good leader makes it clear to everybody what their jobs are.
- 25.
- a. Many times I feel that I have little influence over the things that happen to me.
 - b. It is impossible for me to believe that chance or luck plays an important role in my life.
- 26.
- a. People are lonely because they don't try to be friendly.
 - b. There's not much use in trying too hard to please people, if they like you, they like you.
- 27.
- a. There is too much emphasis on athletics in high school.
 - b. Team sports are an excellent way to build character.
- 28.
- a. What happens to me is my own doing.
 - b. Sometimes I feel that I don't have enough control over the direction my life is taking.
- 29.
- a. Most of the time I can't understand why politicians behave the way they do.
 - b. In the long run the people are responsible for bad government on a national as well as on a local level.

APPENDIX C
MEIM-R
Multigroup Ethnic Identity Measure

In this country, people come from a lot of different cultures and there are many different words to describe the different backgrounds or ethnic groups that people come from. Some examples of the names of ethnic groups are Mexican-American, Hispanic, Black, Asian-American, American Indian, Anglo-American, and White. Every person is born into an ethnic group, or sometimes two groups, but people differ on how important their race is to them, how they feel about it, and how much their behavior is affected by it. These questions are about your race or your ethnic group and how you feel about it or react to it.

Please fill in:

In terms of ethnic group, I consider myself to be _____

Use the numbers given below to indicate how much you agree or disagree with each statement.

1. I have spent time trying to find out more about my ethnic group, such as its history, traditions, and customs.

1	2	3	4	5
strongly disagree	disagree	neutral	agree	strongly agree

2. I have a strong sense of belonging to my own ethnic group.

1	2	3	4	5
strongly disagree	disagree	neutral	agree	strongly agree

3. I understand pretty well what my ethnic group membership means to me.

1	2	3	4	5
strongly disagree	disagree	neutral	agree	strongly agree

4. I have often done things that will help me understand my ethnic background better.

1	2	3	4	5
strongly disagree	disagree	neutral	agree	strongly agree

5. I have often talked to other people in order to learn more about my ethnic group.

1	2	3	4	5
strongly	disagree	neutral	agree	strongly

disagree

agree

6. I feel a strong attachment towards my own ethnic group.

1
strongly
disagree

2
disagree

3
neutral

4
agree

5
strongly
agree

My race is

- Asian, Asian American, or Oriental
- Black or African American
- Hispanic or Latino
- White, Caucasian, European, not Hispanic
- American Indian
- Mixed, parents are from two different groups
- Other

My father's race is _____

My mother's race is _____

APPENDIX D

Revised Adult Attachment Scale (Collins, 1996) - Close Relationships Version

The following questions concern how you **generally** feel in **important close relationships in your life**. Think about your past and present relationships with people who have been especially important to you, such as family members, romantic partners, and close friends. Respond to each statement in terms of how you **generally** feel in these relationships.

Use the numbers given below to indicate how much you agree or disagree with each statement.

1. I find it relatively easy to get close to people.

1	2	3	4	5
Not at all				Very
characteristic of me				characteristic of me

2. I find it difficult to allow myself to depend on others.

1	2	3	4	5
Not at all				Very
characteristic of me				characteristic of me

3. I often worry that other people don't really love me.

1	2	3	4	5
Not at all				Very
characteristic of me				characteristic of me

4. I find that others are reluctant to get as close as I would like.

1	2	3	4	5
Not at all				Very
characteristic of me				characteristic of me

5. I am comfortable depending on others.

1	2	3	4	5
Not at all				Very
characteristic of me				characteristic of me

6. I don't worry about people getting too close to me.

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

Not at all
characteristic of me

Very
characteristic of me

7. I find that people are never there when you need them.

1
Not at all
characteristic of me

2

3

4

5
Very
characteristic of me

8. I am somewhat uncomfortable being close to others.

1
Not at all
characteristic of me

2

3

4

5
Very
characteristic of me

9. I often worry that other people won't want to stay with me.

1
Not at all
characteristic of me

2

3

4

5
Very
characteristic of me

10. When I show my feelings for others, I'm afraid they will not feel the same about me.

1
Not at all
characteristic of me

2

3

4

5
Very
characteristic of me

11. I often wonder whether other people really care about me.

1
Not at all
characteristic of me

2

3

4

5
Very
characteristic of me

12. I am comfortable developing close relationships with others.

1
Not at all
characteristic of me

2

3

4

5
Very
characteristic of me

13. I am uncomfortable when anyone gets too emotionally close to me.

1
Not at all

2

3

4

5
Very

- | | | | | | | |
|-----|--|---|---|---|----------------------|----------------------|
| | characteristic of me | | | | | characteristic of me |
| 14. | I know that people will be there when I need them. | | | | | |
| | 1 | 2 | 3 | 4 | 5 | |
| | Not at all | | | | Very | |
| | characteristic of me | | | | characteristic of me | |
| 15. | I want to get close to people, but I worry about being hurt. | | | | | |
| | 1 | 2 | 3 | 4 | 5 | |
| | Not at all | | | | Very | |
| | characteristic of me | | | | characteristic of me | |
| 16. | I find it difficult to trust others completely. | | | | | |
| | 1 | 2 | 3 | 4 | 5 | |
| | Not at all | | | | Very | |
| | characteristic of me | | | | characteristic of me | |
| 17. | People often want me to be emotionally closer than I feel comfortable being. | | | | | |
| | 1 | 2 | 3 | 4 | 5 | |
| | Not at all | | | | Very | |
| | characteristic of me | | | | characteristic of me | |
| 18. | I am not sure that I can always depend on people to be there when I need them. | | | | | |
| | 1 | 2 | 3 | 4 | 5 | |
| | Not at all | | | | Very | |
| | characteristic of me | | | | characteristic of me | |

APPENDIX E
Manipulation
Native American or American Indian?

Ask around, see which term people prefer to use to describe those Americans who were here first. You know, the ones who “discovered” America long before Christopher Columbus claimed to when he failed to correctly steer his ship. That’s right, the forgotten Americans who graciously fed the early European settlers when they were cold and hungry. Some were American nomads, who roamed free, gathering berries and hunting buffalo by foot and arrow. Others were also quite active, canoeing the oceans and rivers to fish for food. They grew and tended crops of corn, beans, and squash. Certainly this is not the lifestyle they have today.

During the early 1800’s under the guise of a Christian God and authorized by the U.S. Supreme Court’s 1823 ruling, early European settlers carried out Manifest Destiny which forced American Indians from their open lands. American Indians were tricked out of any sustainable land and relegated to live on reservations with the promise of healthcare and education. Yet like true tricksters, rather than bring education to the American Indian children, they took their children as young as five-years old, often 1,000s of miles away, to attend mandatory government-run and missionary-run boarding schools. These children were educated not to supplement their traditional customs and acculturate them to both cultures but, rather, to assimilate them to the more sedentary and materialistic ways of life of the European people. Additionally, many American Indians were not allowed to leave their reservations. With land that was unable to grow their usual crops, remote, and unsustainable, American Indians began to suffer from poor nutrition. Rather than to ensure freedom and help American Indians to live off reservations, the U.S. government decided to once again “help” them by providing them with food. However, this food, much like their promised healthcare, was not healthy or what they were used to eating. Foods were not fresh but, rather, processed and heavy in fats and calories. With underfunded and understaffed healthcare, a sedentary lifestyle, and unfamiliar, fat and calorie laden foods, it is no wonder that American Indians are struggling with weight-related health issues. Traditionally tribal members only ate enough to sustain them through harsh climate conditions. They also very carefully prepared and stored food for these conditions. In addition their lifestyles, regardless of region and sustenance patterns (e.g. fishing v. hunting/gathering), tribal members led a much more active lifestyle that promoted their cultural and spiritual values.

American Indians believe in harmony and balance of mind, body, and spirit for wellness. Throw off any one of the three, and the other two must shoulder the burden. It is clear we have thrown off the bodies of American Indians. So the question is not really Native American or American Indian. The question is have the transgressions of our past damaged their minds and spirits too. Let us hope that every American Indian has the continued strength to lift up their minds to the influence they once had over their bodies. To rise up from the challenges that face their bodies not due to natural evolution but due

to the unnecessary and abrupt changes in the past 100 years so that they may again become people with a well-balanced whole of mind, body, and spirit.

Questions for Manipulation Check

1. Reservation land was:
 - A. sustainable
 - B. unsustainable
 - C. close to fishable oceans
 - D. vast with lots of buffalo

2. For their land, American Indians were promised:
 - A. healthcare
 - B. education
 - C. healthcare and education
 - D. neither

3. The U.S. government helped American Indians with food that was:
 - A. fresh fruits and vegetables
 - B. meat
 - C. processed low-fat
 - D. processed high-fat, high-calorie

4. American Indian harmony includes:
 - A. good relations with white people
 - B. moon, sun, wind
 - C. mind, body, spirit
 - D. earth, wind, fire

APPENDIX F
Background Information

1. **Age:** _____

2. **Gender:** Male Female

3. **Race:**
 - Asian Native Hawaiian/Other Pacific Islander
 - Black/African American Non-Hispanic White/Caucasian
 - Latino/Hispanic Other (please specify) _____
 - Native American/Alaskan Native

4. **Yearly household income**
 - under 20,000 50,000-60,000
 - 20,000-30,000 60,000-70,000
 - 30,000-40,000 70,000-100,000
 - 40,000-50,000 100,000 +

5. **Highest education completed**
 - Some high school
 - High school diploma
 - Some trade/technical school or community college
 - Some college
 - Associate Degree
 - Bachelor Degree
 - Masters Degree
 - PhD, MD, or other professional degree
 - Other (describe)_____

6. **Relationship Status**
 - Single Divorced/Separated
 - Dating Cohabiting
 - Engaged Widowed
 - Married Other (describe)_____

7. **Current Occupation:** _____

8. **Current health problems:** _____

9. **Current medications (include vitamins and supplements):** _____

10. **What do you consider your current health status to be?**

<input type="checkbox"/>				
Very Unhealthy	Moderately Unhealthy	Neutral	Moderately Healthy	Very Healthy

11. **How tall are you?** _____ feet _____ inches

12. **How much do you weigh?** _____ pounds

13. **What has been your highest weight ever (when not pregnant)?** _____ pounds

14. **How many times have you attempted to diet and/or constrict your eating behavior?** _____

15. **How much weight was lost during each diet/constriction attempt?** _____

Consent Form

Competence Regarding Food Related Behaviors as a Function of Attachment Style, Ethnic Identity, and Locus of Control

This study is being conducted as part of a master's thesis in the psychology department at the University of North Dakota (UND). Please take your time in reading through this document. If you choose to continue with this research study, please indicate your acceptance to participate by signing and dating this form.

Study

304 - 400 participants age 18 and over will be recruited through Amazon Mechanical Turk (MTurk) and UND's SONA during fall 2013 and spring 2014 as necessary. Participants must be either White or American Indian/Native American. You will be asked to fill out several questionnaires today, and again, in one to two weeks. This study is expected to take no more than one hour total. Students recruited through SONA will receive one hour of extra credit that may be used toward psychology classes at UND. Nonstudents recruited through MTurk will be receive an incentive of \$0.50 upon full completion of the surveys.

Participation

Participation is completely voluntary. If a student, your academic standing within UND will not be affected by your participation or lack thereof. At any time you wish end the study, you may decide to stop. Your data will not be entered into the research and you will not be adversely penalized.

Confidentiality

You will receive a copy of this consent form for your personal records. All information that you provide on this consent form as well as any information you provide on the subsequent data forms will be kept confidential and anonymous. Consent forms will be stored separate from any data forms and kept in a locked room in Corwin/Larimore Hall. All data forms will be kept in a separate locked room in Corwin/Larimore Hall. Forms will be retained for three (3) years. After that time, all documents will be destroyed. Dr. F. Richard Ferraro, Sheryl Holter Vogel, and IRB auditors are the only individuals who will have access to locked files.

Risk

No physical or financial risk is anticipated during your participation in this study. While participating, you may feel mild anxiety and/or lowered self-esteem. If you experience any discomfort or distress, please contact your local mental health provider. UND students may contact University Counseling Center (701) 777-2127, Psychological Services Center (701) 777-3691, University Crisis Coordination Team (701) 777-3491. Any costs associated with counseling due to anxiety, distress or other adverse reaction will be the responsibility of the participant.

If you have any questions or concerns about this research study, please contact Sheryl Holter Vogel at (218) 791-3688 sheryl.holter@my.und.edu or Dr. F. Richard Ferraro at

(701) 777-2414 f.richard.ferraro@email.und.edu. This research study has been reviewed by the University of North Dakota Institutional Review Board (IRB). If you have any questions about your rights as a participant, concerns, or complaints, the IRB may be reached at (701) 777-4279.

Your signature below indicates your consent to participate in this study. Thank you.

Date

Signature of Participant

Date

Signature of Researcher

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