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Integration of the Stereotype Content Model and Implicit Theories: A Dynamic Understanding of

Stereotyping Against Obese Individuals

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Abstract

The current paper integrated Fiske and colleague's (2002) Stereotype Content Model (SCM) with the implicit theoretical approach to investigate the stereotyping process against obese individuals. Two studies evaluated the proposition that implicit theories of weight, the belief that weight is fixed (entity theorist) versus malleable (incremental theorist), and implicit person theories, the belief that human attributes are fixed or malleable, will predict how people categorize and discriminate against obese individuals. A pilot study found that entity and incremental theorists of weight have equal knowledge of societal stereotypes against obese individuals. Study 1 revealed those whose endorse an entity theory of weight are less likely to hire an obese individual in a hypothetical scenario, because they perceive them as less sincere.

Integration of the Stereotype Content Model and Implicit Theories: A Dynamic Understanding of

Stereotyping Against Obese Individuals

The number of people who are obese and overweight has reached epidemic proportions worldwide (Doll, Peterson, & Stewart-Brown, 2000). The rise in obesity rates has serious personal and societal health effects. For example, it is associated with increased risk for chronic diseases (e.g., cardiovascular disease, diabetes, P-Sunyer, 1995), decreased emotional well-being (Stunkard & Sobal, 1995), and a rise in health care costs (Siedal, 1995). One explanation for the psychological distress associated with obesity might be the stigma that obese individuals are less active, attractive, intelligent, hardworking, self-disciplined, and successful in comparison to people who are of average weight (Pingitore, Dugoni, Tindale, & Spring, 1994). Weight based discrimination has devastating effects on its targets; those who are obese are less likely to marry, obtain desirable jobs, and earn high salaries than other groups of people (e.g., Hebl & Heatherton, 1997, Pingitore et al., 1998). In a review of 29 studies, Roehling (1999) found that weight discrimination exceeds race and gender discrimination in all stages of employment-selection, placement, wages, promotion, compensation, discipline, and discharge.

What causes people to harshly devaluate those who are obese? Research is taking a new approach to understanding what drives people to be prejudice, form stereotypes, and discriminate against specific groups. The new approach, the Stereotype Content Model (SCM), suggests that there is more to the stereotyping process than the uni-dimensional outgroup antipathy suggested in traditional models (Fiske, Cuddy, Glick, & Xu, 2002). Fiske and her colleagues designed the SCM to demonstrate the complex schematic knowledge structure involved in the process of stereotyping to more accurately predict stereotyping (Fiske et al., 2002). In the current paper, I extended the SCM model by merging it with implicit theories of weight management (ITWM)

and implicit person theory research to predict perceptions of obese individuals.

Implicit theories vary along a continuum in which traits are perceived as fixed (an entity theorist) versus malleable (an incremental theorist) (Dweck & Leggett, 1988). Recently, implicit theory research has been applied to the domain of weight management and person perception. Results reveal that believing weight is fixed (an entity theory) versus malleable (an incremental theory), influences motivation and regulatory strategies (Burnette, 2006). Believing that personality is fixed predicts more stereotyping (Levy & Dweck., 1998). I predicted that different theories of weight management (ITWM) and implicit person theories would also predict group categorization, discriminatory intentions, and prejudice attitudes against obese individuals, using the SCM. I used two studies to test this prediction. I ran a pilot test to investigate which stereotypes entity and incremental theorists endorse with regards to obese individuals and whether their beliefs about the truth of the stereotypes differ. In Study 1, I then assessed whether holding entity or incremental theories predicted group categorization of obese individuals using the SCM and discriminatory intentions against obese individuals. In the following sections, I review the literature on SCM and implicit theories of both weight management and person perception, before elaborating on how these models can be integrated.

Stereotype Content Model (SCM)

The SCM evaluates intergroup perceptions, analyzing qualitatively different types of prejudice based on the relative status (competence) and perceived interdependence (warmth) of the target group. Competence (e.g., independent, skillful, economically successful, and able) and warmth (e.g., harmless, trustworthy, good-natured, and friendly) are the two primary dimensions of the model. The variations along the dimensions of the SCM are used to predict emotions, cognitions, and behavioral discrimination. (Fiske et al., 1999, 2002)

For example, groups perceived as being low on both competence and warmth, such as the homeless (Barnett, Qaukenbush, & Pierce, 1997) and those with AIDS (Dijker, Kok, Koomen, 1996) elicit scorn, because their negative outcomes are viewed as something avoidable (Weiner, 1985; see Cuddy, Fiske, Kwan, Glick, Demalin, Leyens et al., 2006). Groups perceived with both high competence and warmth (Cuddy et al., 2006) elicit admiration (Wiener, 1985). The elderly and disabled are often perceived as having low competence and high warmth (Cuddy, Norton, & Fiske, 2005; Fiske et al, 2002; Fiske, Cuddy, & Glick, 1999), and tend to elicit pity and/or a paternalistic response (Cuddy et al., 2006), as their negative outcomes are perceived as uncontrollable (Weiner, 1985). Groups that are portrayed as competing with mainstream society, such as Asian and Jewish people (Glick & Fiske, 2001), and female professionals (Cuddy, Fiske, & Glick, 2004) are perceived with high competence and low warmth and are thus viewed as worthy of respect, but elicit jealousy and/or animosity (see Cuddy et al., 2006).

The SCM model has been validated internationally (Cuddy, Fiske, Kwan et al., 2006) with an array of diverse samples. It offers insight into the feelings and behaviors that different groups elicit. One of the important predictors of categorizations is controllability. Groups perceived as at fault for their conditions elicit more negative emotion and discrimination, whereas those whose outcomes are perceived as incontrollable receive more pity and help. The question then becomes, what predicts perceptions of controllability? It depends on the group. For example, differing in degrees of adherence to more conservative beliefs often predicts whether being gay is a choice or genetic which in turns predicts different levels of prejudice and discrimination (Clausell & Fiske, 2005). In the current paper, I examine prejudice against overweight individuals by integrating the implicit theory approach with the SCM.

The Implicit Theory Approach (ITA)

Implicit theories are commonly defined as unarticulated structures of knowledge that infuse beliefs about the stability of an attribute (Ross, 1989). The implicit theory approach is a social-cognitive model that suggests that people hold varying beliefs revolving around two premises; an entity framework (orients one to believe that human attributes are fixed), and an incremental framework (orients one to believe that human attributes are changeable). These variations in beliefs influence motivation, goals, behavior, cognition, and affect (for review, see Dweck, 2006; Molden & Dweck, 2006). For instance, entity theorists of intelligence (believing intelligence is a fixed attribute) pursue ability-focused goals, regard their attributions as uncontrollable, and use maladaptive regulatory strategies when presented with a failure. On the contrary, incremental theorists of intelligence (intelligence is malleable) pursue learning-focused goals, think that their attributions can change with effort, and respond to failure with mastery-oriented regulatory strategies. (Hong, Dweck, Chui, Lin, & Wan, 1999, also see Dweck, 2000) The ITA has also been used to understand motivation in romantic relationships (e.g., Knee, 1998), athletic contexts (Ommundsen, 2001), and with leadership (Gorenflo-Gilbert, 1999) and management (Tedesco, 1999; Tabernero & Wood, 1999).

Another area in which implicit theories has been applied is in understanding person perception and stereotyping. Consistent results emerge suggesting that based on small and limited amounts of behavior, entity theorists of personality are quick to make global and stable inferences about their own personality traits, those of others, and those of groups. However, incremental theorists regard personality as a malleable attribute, make less global attributes about themselves, others, and groups, and are more likely to evaluate behavior in light of possible contextual and situation influences (Erdley & Dweck, 1993). Building on evidence that entity

theorists view traits as stable and reflective of future behavior, Sheri Levy and her colleagues, in over a dozen studies, found that entity theorists (college aged and grade-school aged students), from a variety of demographic backgrounds reveal higher levels of positive and negative stereotyping towards both existing groups (such as ethnic, racial, gender, and occupational groups) and novel groups (those of which they have just learned about). By inducing people to hold a particular theory of personality (oral presentations supporting a theory, Levy & Dweck 1998), research indicates the causal relation between holding an entity theory and the greater likelihood of endorsing stereotypes (for a review see Dweck, 2000).

Implicit theory of personality research and implicit person theory are closely related as they build on the same structure of thought. Implicit person theory refers to underlying social-cognitive framework that people generally have with regards to the fixedness versus malleability of human attributes. Implicit person theory is not domain specific, but has been shown to forecast differences in stereotyping (Levy, Stroessner, & Dweck, 1998b, Plaks, Stroessner, Dweck, & Sherman, 2001). Levy, Stroessner, and Dweck (1998b) found that those who hold an entity implicit person theory made both more and stronger stereotypical trait judgments of ethnic and occupational groups, and formulated more trait judgments of novel groups. Previous research also indicates that entity implicit person theorists demonstrated more attention to stereotype-confirming information than to stereotype-disconfirming information. In contrast, incremental person theorists demonstrated either no preference (Studies 2 and 4) or more attention to stereotype-disconfirming information (Plaks, Stroessner, Dweck, & Sherman, 2001).

In relation to the current study, I propose merging the implicit person theory research with recent research on implicit theories of weight management to understand stereotyping again obese individuals using the SCM. Recently, implicit theories have been applied to the domain of

weight management, demonstrating that individuals have varying beliefs about the flexibility of body weight, which influence coping strategies following setbacks (Burnette, 2006). Particularly, after controlling for constructs related to successful dieting (e.g., trait self-control, dieing self-confidence), believing that weight is changeable predicted less avoidant coping strategies following weight management setbacks (Burnette, 2006). In another study, inducing participants to hold either an entity or incremental theory of weight, using *Psychology Today* type articles (see Hong, Dweck, Lin, & Wan, 1999 for evidence of theory manipulation), resulted in differences in motivational strategies. Specifically, participants induced to hold an incremental theory of weight used more effective regulatory strategies following a hypothetical dieting setback and this relation was mediated by optimistic expectations (Burnette, 2006). Evidence from these two studies suggests that incremental theories of weight lead to more adaptive coping and motivation in the face of failure. However, the question arises, do incremental theories of weight always result in positive outcomes?

Integrating the SCM and ITA of Weight Management and Person

Although incremental theories of weight lead to more effective regulatory strategies, using the SCM, it follows that these beliefs are also likely to lead to prejudice against overweight and obese individuals. Examination of the SCM literature reveals that those who are perceived as controlling their destiny are labeled as both low competence and low warmth (e.g, Fiske et al., 2002) and are met with contempt. Considering the results from SCM illustrating the importance of perceptions of controllability in predicting prejudice, in Study 1, I predicted that incremental theorists of weight, who see body-weight as malleable would categorize obese people with both low competence and low warmth. In contrast, I predicted that entity theorists of weight would perceive obese people with low competence, but high warmth, as they regard weight as an

uncontrollable attribute (Burnette, 2006). I predicted that these categorizations for entity theorists of weight management should also lead to reduced discriminatory intentions against obese individuals. I predicted that entity person theorists, those who regard attributes as fixed (Levy et al., 1998b, would perceive obese individuals with low competence and low warmth, and that these categorizations would lead to increased discriminatory intentions. In contrast, I predicted that incremental person theorists, those who regard attributes as malleable (Levy et al., 1998b), would regard obese individuals with low competence, but high warmth, and that these categorizations would lead to reduced discriminatory intentions.

As rates of obesity continue to increase at astronomical proportions, discrimination against obese and overweight individuals will continue to increase, which will in turn further delineate them in society. The goal of the current research is to understand how thought structures impact categorizing and discriminating again individuals classified as obese.

Pilot

Before running Study 1, a pilot study was modulated and adopted from Cuddy et al. (2004), to confirm that entity and incremental theorists of weight management would have equal knowledge of the societal stereotypes of obese individuals. The degree to which the stereotypes are perceived as true was predicted to differ as a function of the theories held. Incremental theorists of weight were predicted to be more likely to endorse negative stereotypes of obese individuals, whereas it was predicted that entity theorists of weight would be less likely to do so.

Method

Participants

Fifty-one participants (17 women and 34 men, mean age = 42.1, *SD* = 12.25) were recruited through the *StudyResponse Project*. The participants were mostly White (86.3%), with

small representations of other ethnic groups: Black (9.8%), Latino (2%), and Native American (2%).

The *StudyResponse Project* is an online data collection system that works to (a) increase external validity by obtaining a diversified sample, (b) collect a large amount of data in a relatively short amount of time and (c) eliminate potential errors from researchers' entering the data (Piccolo & Colquitt, 2006). *StudyResponse Project* serves as a *reminder* in that the service sends recruitment/reminder messages to individuals who have explicitly agreed to participate in web-based research studies under the condition that they receive a payment or are entered in a raffle to win a gift certificate from an online retailer. *StudyResponse Project* handles all aspects of participation incentive as included in the researcher's fees (Buchanan & Smith, 1999).

Design and Procedure

Previous findings indicate that regardless of whether participants have high or low prejudice, they are equally informed about societal stereotypes because they share the same cultural background (e.g., Devine, 1989; Lepore & Brown, 1997). In regards to these findings, I used a similar procedure as Levy et al. (1998b) in order to test whether there is a relation between participants' implicit weight theories and their knowledge of societal stereotypes about obese individuals. The degree to which participants believe the stereotypes as true was assed.

After completing a consent form and implicit theories of weight management assessment, participants were asked to project societal stereotypes associated with obese individuals, and then rate the truth of each stereotype by rating the degree to which they agreed with the stereotype (Levy et al., 1998b). At the completion of the study, participants were fully debriefed.

Assessment Implicit Theory of Weight Management (ITWM). An adapted version of Dweck's (2000) six-item questionnaire that measures implicit theories of intelligence was used

to measure ITWM (Burnette, 2006). A three-item shortened version of the implicit theories of weight management scale (Burnette, 2006) was used and was reliable (Cronbach's α = .78). The scale included the following: "You have a certain body weight, and you can't really do much to change it"; "Your body weight is something about you that you can't change very much"; "To be honest, you can't really change your body weight." The measure is unidimensional as it shows that disagreement with the entity framework statements represents agreement with the incremental framework statements (Dweck, Chiu, Hong, 1995a, 1995b).

As done in previous research (e.g., Dweck et al., 1995a), participants with a mean theory score of 3.0 or below (indicating overall disagreement) were classified as entity theorists (n = 11), and participants with mean scores of 4.0 and above (indicating overall agreement) were classified as incremental theorists (n = 31). Participants with mean theory scores that fell between 3.0 and 4.0 were excluded (n = 9) from the analysis, because my predictions were only made for participants with clear implicit theories (n = 42).

Stereotype Measure. The stereotype measure was adapted from Levy et al. (1998) and modulated in order to assess stereotypes of obese individuals. There were two parts of the stereotype measure, one that assessed participant's societal stereotype knowledge and one that assessed their own stereotype beliefs. For Part 1, the participants were asked about their knowledge of societal stereotypes of obese individuals. They were also asked to list the stereotypes under two categories, both positive and negative, which were done to make certain that any differences in endorsement of the stereotypes were not attributable to differences in the way entity and incremental theorists of weight evaluated stereotyped traits. A definition of *stereotype* was defined for the participants "as beliefs about the personal attributes of a group" (Ashmore & Del Boca, 1981, as cited in Levy, 1998b et al.). Part 2 assessed the endorsement of

the stereotypes that were generated by participants in Part 1. In order to reduce demand characteristics of the participants to report that all stereotypes are false, they were provided with an example of a "true" stereotype. Participants were told the following, "Some stereotypes are true. For example, men are stereotyped as physically stronger than women. Studies have supported this view." After participants were asked to list the societal stereotypes of individuals categorized as overweight or obese, they were asked to rate the degree in which they thought each stereotype was true using as five-point Likert scale (*0 = not true at all, 1 = a grain of truth, 2 = moderately true, 3 = mostly true, 4 = extremely true*).

Anti-fat Attitudes Scale (AFAS). The AFAS measures negative attitudes towards overweight individuals (Morrison & O'Connor, 1999), and was reliable (Cronbach's α = .83). The scale includes the following five items: "Fat people are less sexually attractive than thin people"; I would never date a fat person"; On average, fat people are lazier than people"; "Fat people only have themselves to blame for their weight"; "It is disgusting when a fat person wears a bathing suit at the beach." Participants reported agreement with the statements using a five-point Likert scale (1 = *strongly disagree* to 5 = *strongly agree*).

<div align="center">Results</div>

Responses to the Stereotype Measure.

Two judges who were blind to the participants' implicit theory of weight management coded the stereotype into trait categories that consisted of positive and negative trait categories (See Appendix A for coding sheet). The reliability of coding the traits was 81% (calculated by total number of agreements divided by the total number of agreements and disagreements). Discrepancies were resolved by author. The postulation that entity and incremental theorists would not differ in their societal knowledge of stereotypes of obese individuals was supported by

an independent t-tests when looking at total number of negative listed by incremental theorists

(M = 3.55, SD = 2.43) and entity theorists (M = 4.25, SD = 2.86), $t(33)$ = -.68, p > .05), and

total number of positive listed by incremental theorists (M = 2.70, SD = 2.55) and entity

theorists (M = 3.37, SD = 3.11), $t(33)$ = -.62, p > .05, see Table 1 in Appendix). However, a chi-

square analysis revealed that there were significant differences between the number of positive

stereotypes listed by entity and incremental theorists on the traits of funny/humor and warmth.

Incremental theorists were more likely to list happy as a societal stereotype, $\chi^2(1, N = 33) = 5.48$,

$p < .05$. Entity theorists were more likely to list warmth as a societal stereotype, $\chi^2 (1, N = 33) =$

4.04, $p < .05$ (see Table 2).

Ratings of Stereotype Truth. Independent t-tests revealed that my second hypothesis that

that belief in the truth of stereotypes would vary as a function of implicit theory of weight

management was not generally supported. Incremental theorists (M = 2.13, SD = 1.36,) relative

to entity theorists (M = .50, SD = .58) endorsed gluttony as a stereotype as more representative

of obese individuals, $t(33)$ = 2.25, p < .05. The mean endorsement made by entity and

incremental theorists of each stereotype can be found in Table 2 of Appendix B.

Anti-Fat Scale. I also, for exploratory purposes, wanted to examine if incremental

theorists explicitly report prejudice against obese individuals. An independent samples t-test

indicated that ITWM did not significantly predict AFAS scores. Neither incremental theorists

(M = 2.41, SD = .87,) or entity theorists (M = 2.50, SD = .67) significantly endorsed explicit

anti-fat attitudes, $t(40)$ = -2.91, $p > .05$.

Overall, entity and incremental theorists generated the same number of stereotypes, and

agreed upon the positive and negative connotations of those stereotypes, with the exceptions of

the traits *happy* and *warmth*. Both of these characteristics are regarded as traits of *warmth* on the

SCM measure. Consistent with my predictions, incremental theorists relative to entity theorists of weight endorsed gluttony as a stereotype as more representative of obese individuals.

Discussion

In general, my findings suggest that there is no consistent evidence that entity and incremental theorists have knowledge of endorse stereotypes to a different degree. However, there was a slight difference in the degree to which the theories predicted the listing of a couple of positive stereotypes with entity theorist listing warmth more often and incremental theorists listing happy more often. In examining, endorsement, the only clear finding was incremental theorists endorsing gluttony. The gluttony finding makes sense in light of previous research suggesting that incremental theorists of weight management believe that weight is malleable (i.e., Burnette, 2006), and therefore believe that one has a degree of control (i.e., Weiner, 1985) over their weight. This belief about controllability has, in turn, been shown to lead to more discrimination in general (Cuddy et al., 2006) and in the current study to the belief that obese individuals are gluttons. There are few limitation that existed in the current study. For example, because participants generated their own stereotypes, power was somewhat reduced in examining a number of stereotypes. Future research should first list the stereotypes for participants and then have them rate the degree of their truth. Additionally, the current study only examined stereotypes. However, how do implicit theories of weight influence prejudice and discrimination against individuals categorized as obese? Also, what about implicit person theories and discrimination? Building on this initial pilot study, I examined how implicit theories of both weight and person perception relate to prejudice and discrimination against obese individuals.

Study 1

Method

Participants.

The sample consisted of 42 participants (17 women and 25 men, mean age = 37.62, SD = 13.52). The participants were from various ethnic backgrounds; White (67.9%), Black (11.9%), Asian (10.7%), Latino (2.4%), and Other (7.1%).

As in the Pilot Study, I recruited participants from the *StudyResponse Project*. However, for an extra fee, participants were screened and selected only if they were working individuals, because this study involved survey questions that sought to find the degree to which they would request, promote, and train an obese individual. In order to better generalize the results, it was important that the participants had work experience.

Procedure and Design

After participants ITWM and implicit person theories were assessed, they were asked to categorize obese individuals on the dimensions of the SCM. Discriminatory intentions were assessed using methods adapted from Cuddy and colleagues successful work (Cuddy et al., 2004). Specifically, participants responded to scenarios in which they were asked to choose whether they would hire, promote or train an obese individual with appropriate credentials.

Assessment of Implicit Theories of Weight Management (ITWM). The same method of assessment was used in Study 1 as was used in the Pilot Study. However, in order to avoid tiring the participants, only one item from the ITWM was used (e.g., "You have a certain body weight, and you can't really do much to change it"). Additionally, the scale was kept in its continuous form in this Study as we wanted to look at overall variations and not just categories.

Assessment Implicit Person Theory. In adapting Levy et al.'s (1998) study, a domain-general person theory measure was used, and was found to be reliable (Cronbach's α = .86). The three

items that were included in the Implicit Person Theory measure are: "The kind of person

someone is, is something basic about them, and it can't be changed very much"; "People can do

things differently, but the important parts of who they are can't really be changed'; "Everyone is

a certain kind of person, and there is not much they can do to change that." (Levy et al., 1998).

A six-point scale accompanied each item (*1= strongly disagree, 2=disagree, 3=mostly disagree,

4=mostly agree, 5=agree, 6=strongly agree*). Participants were not broken up into entity and

incremental theorist categories but rather were regarded as theorists on a spectrum of the scale.

> *Assessment of Group Categorization.* The Stereotype Content Model (SCM) was adapted

and modified from Fiske et al.'s study (2002) in order to assess how overweight or obese

individuals are perceived by American society. In order to reduce social desirability concerns,

instructions read, "We are not interested in your personal beliefs, but in how you think they

[obese people] are viewed by others" (Fiske et al., 2002, p.884). Two separate dimensions,

warmth and competence, are typically used. Both dimensions were reliable (Cronbach's α = 70.

and .69 respectively). The measure uses a five-point Likert scale (*1 = not at all* to *5 =

extremely*).

> *Assessment of Discriminatory Intentions*. A measure used in previous research (Cuddy et

al, 2004) was used to measure discriminatory intentions against a typical member of a group in

society. It was adapted and modified in order to assess discriminatory intentions against obese

individuals, and was found to be reliable (Cronbach's α = .93). After making SCM trait ratings

of the consultant, the participants evaluated the degree to which they would be likely to request,

promote, and train the consultant (Cuddy et al., 2004). At the top of the online questionnaire,

participants read the following instructions:

> We're studying how people quickly form first impressions, making important decisions
> from little information. We'd like you to read the profile of a consultant at McKinsey &

Company's Manhattan office and give us your first impressions of him. Imagine you're the client, trying to choose a consultant from very little information. Please try to respond with your first, uncensored impression.

The profile of the obese consultant described as followed:

Dan is a consultant who graduated with an MBA. He's been working in his current field for six years. When working with a client, his duties include identifying issues, planning and conducting interviews, synthesizing conclusions into recommendations, and helping implement change in his client's organizations. His hobbies include fishing and socializing with friends. Dan is 32-year old male, who is 5'11, 270 pounds, and a non-smoker. He lives in Central Jersey, commuting to work five days a week.

After reading the description participants rated the consultant on two competence-related traits (efficient and skillful) and warmth-related traits (good-natured and sincere) using a five-point Likert scale (1 = *not at all to* 5 = *extremely*). The scale items were taken from Fiske et al. (2002). After making the trait ratings, participants used the same scale to answer the follow three discriminatory intention items that were taken from Cuddy et al. (2004): "As a client, how likely would you be to request Dan as one your consultants?"; As a client, how likely would you be to recommend Dan for a promotion?"; "As a client, how likely would you be to recommend that McKinsley & Company invest in continuing training and education for Dan?".

Results

I ran hierarchical linear regression examining both first order and interaction effects of implicit theory of weight and implicit person theory on the SCM and discriminatory intentions. Results failed to support hypotheses. Implicit theories of weight and implicit person theory did not explain a significant proportion of variance in warmth scores, $R^2 = .01$, $F(3, 41) = .15$, $p > .05$. Additionally, implicit theories of weight and implicit person theory also did not explain a significant proportion of variance in competence scores, $R^2 = .06$, $F(3, 41) = .89$, $p > .05$. Nor did implicit theories of weight and implicit person theory explain a significant proportion of variance in discriminatory intention scores, $R^2 = .09$, $F(3, 41) = 1.23$, $p > .05$.

However, correlation exploratory analyses on individual trait assessments and individual discriminatory intention items, found a significant relation between ITWM and how independent (i.e., a trait that measures competence within the SCM) obese individuals are perceived by society, $r(40) = .33$, $p < .05$. The more the participants endorsed an entity theory of weight, the less independent they believed society perceives obese individuals. There was also a significant correlation between implicit person theory and how independent obese individuals were perceived by society, $r(40) = -.50$, $p < .01$. The more the participants endorsed an entity person theory, the less independent they believed society perceived obese individuals.

Correlation exploratory analysis also found a significant correlation between ITWM and how sincere the obese consultant was perceived by participants, and how likely they were to request to hire them. Both items were measures on the discriminatory intentions scale. There was a significant correlation between ITWM and how sincere (i.e., trait characteristic of warmth on the SCM, Fiske et al., 2002) the obese consultant was perceived, $r(39) = -.31$, $p < .05$, and how likely one would be likely to request the obese consultant for a position $r(40) = -.31$, $p < .05$. The more the participants endorsed an entity theory of weight, the less likely they were to perceive the consultant as sincere, and the less likely they were to request the consultant for a position. There was also a marginal significant correlation between implicit person theory and how sincere the consultant was perceived, $r(39) = -.33$, $p = .05$, which suggests that the more the participants endorsed an entity person theory, the less likely they were to perceive the consultant as sincere (see Table 3 in Appendix B for correlations).

I examined sincerity as a mediator in the ITWM-request to hire relation. In replication of reported correlation analyses above, regression analyses, revealed that implicit theories accounted for a significant proportion of variance in request to hire; $\beta = -.31$, $t(40) = -2.02$, $p <$

.05, and sincerity; $\beta = -.31$, $t(39) = -2.04$, $p < .05$. I completed steps three and four of the mediation in a single regression analysis that revealed the mediator (sincerity) accounted for unique variance in request to hire above and beyond ITWM, $\beta = .60$, $t(38) = 4.61$, $p < .01$. As perceptions of sincerity increased, individuals were more likely to hire. When sincerity was included in the model, request to hire became non-significant, $\beta = .12$ ns; Sobel $z = -1.86$, $p = .06$ (see Figure 1 in Appendix B). This marginally significant drop in variance suggests that those participants who endorsed an entity theory of weight were less likely to request to hire the obese consultant, in part, because they perceived the individual as less sincere.

Discussion

Overall, implicit theories of weight management and implicit person theories did not significantly predict categorizations of warmth and competence, and discriminatory intentions using the Stereotype Content Model (Study 1). However, I found that incremental theorist of weight relative to entity theorists were more likely to perceive obese individuals as gluttons (Pilot), which reflected my predications based on previous research. Incremental theorists believe that weight is malleable, and can be managed and changed through effort (Burnette, 2006), and this should make them perceive obese individuals as having little warmth and competence in that they perceive this group as having a degree of control over their own negative outcome (Weiner, 1985; Cuddy et al., 2006). Such an orientation of thought, should lead incremental theorists of weight to regard obese individuals as gluttons.

Surprisingly, results revealed in Study 1 that those who were more entity-oriented in their theory of weight reported that individuals categorized as obese were thought of as less independent by society. Additionally, those with more entity-oriented beliefs, after reading the hypothetical scenario, perceived the consultant as less sincere, and in turn were less inclined to

request the consultant. The mediation analysis found that participants who endorsed an entity theory of weight were less likely to request to hire the obese consultant, in part, because they perceived the individual as less sincere, which is trait that indicates *warmth* on the SCM. These exploratory analyses and the mediation reveal interesting relationships that can provide a framework for future studies.

Although the results were in the opposite direction than predicted, there could be a number of theoretical explanations. Perhaps entity theorists of weight believe that weight is so engrained or fixed that they perceive obese individuals as less independent (i.e., less competent) and therefore they perceive these individuals as being innately less competent. In other words, to entity theorists of weight, obese individuals cannot control their heavy weight, and therefore will remain incapable of doing certain things that those who are not overweight can do (i.e., easily maneuver). It is also conceivable that entity theorists of weight are more likely to perceive obese individuals as less sincere, because they think weight is fixed, and that permanently sustaining such a heavy weight most likely will make someone feel a sense of insecurity. In this sense, obese individuals may present themselves in a manner that projects insecurity or insincerity (Bruch, 1948; Deforche, De Bourdeaudhuij, & Tanghe, 2006). That is, perhaps they put forward a sense of self that does not reflect the way they may truly be feeling. Entity theorists of weight may pick up on this insecurity and perceive it as insincerity, or a denial of obese individuals' truth. For instance, overeating may stem from insecurity, and serve as a protection (i.e., "bulk" and "strength") against situations that elicit fear and anxiety (i.e., men, sex, responsibilities of adult womenhood, social contacts; Bruch, 1948). Previous research has found that obese adolescents perceive more attitude barriers toward physical activity (e.g., physical complaints, not being good at it, insecurity of appearance; Deforche et al., 2006) and have less positive

attitudes towards physical activity than normal weight adolescents. Taking this research into account, perhaps entity theorists of weight pick up on this negativity as a sense of insincerity, and attribute as part of their heavy weight. Since this is speculative in nature, future research should investigate the potential relation between ITWM and the perceived insecurity of obese individuals.

The results of Study 1 revealed that those who endorse an entity person theory are more likely to perceive obese individuals as less independent. This finding supported my predictions based on previous research indicating that those who hold an implicit entity person theory (i.e., Levy et al., 1998b) or entity personality theory (i.e., Levy & Dweck, 1998) are more likely to stereotype against specific target groups. Future research should investigate why it is that entity person theorists exhibit somewhat more negative beliefs about overweight individuals.

Although results revealed some interesting findings, limitations should also be noted. For example, in Study 1 there was a small amount of participants used, which reduced the power of the study.   An additional potential limitation is that the weight of participants should have been controlled for, because that may influence the way in which they perceive obese individuals. Also, more than one item should have been used to measure implicit theories of weight. Using more items of the measure would have allowed for participants theories to be more accurately assessed. Another area of improvement is that a within-subjects design would have allowed participants to rate more than one consultant (i.e., normal weight consultant, filler consultant), and would have provided a comparison groups.

The findings in Study 1 did not support the proposed hypotheses which indicates that the implicit theory approach and the SCM may not integrate in trying to understand the way in which stereotypes are formed and discrimination is carried out against obese individuals.

However, before that conclusion can be reached, future studies should address the limitations in the current study, and re-investigate the integration of the models in question in order to understand stereotype formation and discrimination.

References

Barnett, M. A., Qaukenbush, S. W., & Pierce, L. K. (1997). Perception of and reactions to the homeless: A survey of fourth grade, high school, and college students in a small midwestern community. *Journal of Social Distress and the Homeless*, 6, 283-302.

Bruch, H. (1948). Psychological aspects of obesity. *Bulletin of the New York Academy of Medicine*, 24, 73-86.

Buchanan, T., & Smith, J. L. (1999). Using the Internet for psychological research: Personality testing on the World-Wide Web. *British Journal of Psychology,* 90, 125-144.

Burnette, J. (2006). Implicit Theories of Weight Management: A Social Cognitive Approach to Motivation. Unpublished doctoral dissertation, Virginia Commonwealth University.

Clausell, E. & Fiske, S. T. (2005). When do subgroup parts add up to the stereotypic whole? Mixed stereotype content for gay male subgroups explains overall ratings. Social Cognition, 23, 161-181.

Cuddy, A. J. C., Fiske, S. T., & Glick, P. (2004). When professionals become mothers, warmth doesn't cut the ice. *Journal of Social Issues*, 40, 701-718.

Cuddy, A. J. C., Norton, M. I., & Fiske, S. T. (2005). This old stereotype: The pervasiveness and persistence of the elderly stereotype. *Journal of Social Issues*, 61, 267-285.

Cuddy, A. J. C., Fiske, S. T., Kwan, V. S. Y., Glick, P., Demoulin, S., Leyens, J-Ph., Bond, M.

H., et al. (2006). Is the stereotype content model culture-bound? A cross-cultural comparison reveals systematic similarities and differences. Under review as an invited revision to *British Journal of Social Psychology.*

Deforche, B. I., De Bourdeaudhuij, I. M., & Tanghe, A. P. (2006). Attitude toward physical activity in normal-weight, overweight, and obese adolescents. *Journal of Adolescent Health*, 38, 560-568.

Devine, P. G. (1989). Stereotypes and prejudice: Their automatic and controlled components. *Journal of Personality and Social Psychology*, 56, 5-18.

Dijker, A. J., Kok., G, Koomen, W. (1996). Emotional reactions to people with AIDS. *Journal of Applied Social Psychology*, 26, 731-748.

Doll, A. H., Petersen, S., & Stewart-Brown, S. L. (2000). Obesity and physical and emotional well-being: Associations between body mass index, chronic illness, and the physical and mental components of the SF-36 Questionnaire. *Obesity Research*, 8, 160-170.

Dweck, C. S. (2006). *Mindset: The new psychology of success*. New York, NY: Random House.

Dweck, C. S. (2000). *Self-theories: Their role in motivation, personality, and development*. Philadelphia: Psychology Press.

Dweck, C. S., & Leggett, E. L. (1988). A social-cognitive approach to motivation and personality. *Psychological Review, 25,* 109-116.

Dweck, C. S., Chiu, C., & Hong, Y. (1995a). Implicit theories and their role in judgments and reactions: A world from two perspectives. *Psychological Inquiry*, 6, 267-285.

Dweck, C. S., Chiu, C., & Hong, Y. (1995b). Implicit theories: Elaboration and extension of the

model. *Psychological Inquiry*, 6, 322-333.

Erdley, C. A., & Dweck, C. S. (1993). Children's implicit personality theories as predictors of their social judgments. *Child Development*, 64, 863-887.

Flega, K. M., Carrol, M. D., Kjczmarak R. J., & Johnson, C. L. (1998). Overweight and obesity in the United States: Prevalence and trends, 1960-1994, *International Journal of Obesity,* 22, 39-47.

Fiske, S. T., Xu, J., Cuddy, A. J. C., Glick, P. (1999). (Dis)respecting versus (dis)liking: Status and interdependence predict ambivalent stereotypes of competence and warmth. Journal of Social Issues, 55, 473-491.

Fiske, S. T., Cuddy, A. J. C., Glick, P., & Xu. J. (2002). A model of (often mixed) Stereotype content: Competence and warmth respectively follow from perceived status and competition. *Journal of Personality and Social Psychology*, 82, 878-902.

Franiuk, R., Cohen, D., & Pomerantz, E. M. (2002). Implicit theories of relationships: Implications for relationship satisfaction and longevity. *Personal Relationships*, *9*, 345-367.

Glick, P. & Fiske, S. T. (2001) Ambivalent stereotypes as legitimizing ideologies: Differentiating paternalistic and envious prejudice. In J. T. Jost B. Major (Eds.), *The psychology of legitimacy: Emerging perspectives on ideology, justice, and intergroup relations* (pp. 278-306). New York: Cambridge University Press.

Hebl, M., & Heatherton, T. F. (1997). The stigma of obesity: The differences are black and white. *Personality and Social Psychology Bulletin*, 24, 417-426.

Hong, Y., Chiu, C., Dweck, C. S., Lin, D., & Wan, W. (1999). Implicit theories, attributions,

and coping: A meaning system approach. *Journal of Personality and Social Psychology*, 77, 588-599.

Knee, C. R. (1998). Implicit theories of relationships: Assessment and prediction of romantic relationship initiation, coping, and longevity. *Journal of Personality and Social Psychology*, 74, 360-370.

Knee, C. R., Patrick, H., & Lonsbary, C. (2003). Implicit theories of relationships: Orientation toward evaluation and cultivation. *Personality and Social Psychology Review*, 7, 41-55.

Levy, S., & Dweck, C. S. (1998). Trait versus process-focused social judgment. *Social Cognition*, 16, 151-172.

Levy, S. & Dweck, C. S. (1999). The Impact of Children's Static versus Dynamic Conceptions of People on Stereotype Formation. *Child Development*, 70, 1163-1180.

Levy, S. R., Stroessner, S. J., & Dweck, C. S. (1998). Stereotype Formation and Endorsement: The Role of Implicit Theories. *Journal of Personality and Social Psychology*, 74, 1421-1436.

Levy, S. R., Plaks, J. E., Hong, Y., Chiu, C., & Dweck C. S. (2001). Static Versus Dynamic Theories and the Perception of Groups: Different Routes to Different Destinations. *Personality and Social Psychology Review*, 5, 156-168.

Lee, T. L. & Fiske, S. T. (2006). Not an outgroup, not yet an ingroup: Immigrants in the Stereotype content model. *International Journal of Intercultural Relations*, 30, 751-568.

Lepore, L., & Brown, R. (1997). Category and stereotype activation: Is prejudice inevitable?

Journal of Personality and Social Psychology, 72, 275-287.

Molden, D. C., & Dweck, C. S. (2006). Finding "meaning" in psychology: A lay theories approach to self-regulation, social perception, and social development. *American Psychologist,* 61, 192-203.

Morrison T. G., O'Connor, W. E. (1999) Psychometric properties of a scale measuring negative attitudes toward overweight individuals. *The Journal of Social Psychology.* 139, 436-445.

Ommundsen, Y. (2001). Self-handicapping strategies in physical education classes: The influence of implicit theories of the nature of ability and achievement goal orientations. *Psychology of Sport and Exercise*, 2, 141-157.

Roehling, M. (1999). Weight-based discrimination in employment: Psychological and legal aspects. *Personnel Psychology*, 52, 969-1016.

Ross, M. (1989). Relation of implicit theories to the construct of personal histories. *Psychological Review*, 96, 341-357.

Piccolo, R. & Colquitt, J. (2006). Transformational leadership and job behaviors: The mediating role of core job characteristics. *Academy of Management Journal*, 49 (2), 327-340.

Pingitore, R., Dugoni, B. L, Tindale, R. S., Spring, B. (1994). Bias against overweight job a pplicants in a simulated employment interview. *Journal of Applied Psychology*, 79, 909.

Plaks, J. E., Stroessner, S. J., Dweck, C. S., & Sherman, J. W. (2001). Person Theories and Attention Allocation: Preferences for Stereotypic Versus Counterstereotypic Information. *Journal of Personality and Social Psychology*, 80, 876-983.

Pi-Sunyer, F. X. (1995). Medical Complications of Obesity. In K. D. Brownell & C. G. Fairburn (Eds.), *Eating Disorders and Obesity*, (pp. 401-405). New York: The Guilford Press.

Seidell, J. C. (1995). The impact of obesity on health status: Some implications for health

    care costs. *International Journal of Obesity Related Metabolic Disorders*, 6, 13-16.

Stunkard, A. J., Sobal, J. (1995). Psychological Consequences of Obesity. In K. D. Brownell

    & C. G. Fairburn (Eds.), *Eating Disorders and Obesity*, (pp. 417-421). New York: The

    Guilford Press.

Tabernero, C., & Wood, R. E. (1999). Implicit theories versus the social construal of ability in

    self-regulation and performance on a complex task. *Organizational Behavior and Human*

    Decision Processes, 78, 104-127.

Tedesco, A. M. (1999). Implicit theories and self-regulatory processes: Implications for

    organizational behavior. *Dissertation Abstracts International: The Sciences and*

    Engineering, 60, 400.

Weiner, B. (1985). An attribbutional theory of achievement motivation and emotion.

    Psychological Review, 92, 548-573.

Appendix A

Coding Sheet: Person Perception

ID #_____

NAME OF CODER: _____

Number of stereotypes listed:
Positive Listed _____   **Negative Listed** _____
Total Listed _____

Positive Stereotypes	**Indicated**		**How many times?**	**Truth (mean)**
1) Happy	Yes	No	_____	_____
2) Warmth	Yes	No	_____	_____
3) Funny/Humor	Yes	No	_____	_____
4) Well-Fed	Yes	No	_____	_____
5) Good Cook	Yes	No	_____	_____
6) Other	Yes	No	_____	_____

Negative Stereotypes	**Indicated**		**How many times?**	**Truth (mean)**
1) Lazy	Yes	No	_____	_____
2) Glutton	Yes	No	_____	_____
3) Unattractive	Yes	No	_____	_____
4) Smelly	Yes	No	_____	_____
5) Unhealthy	Yes	No	_____	_____
6) Incompetent	Yes	No	_____	_____
7) Other	Yes	No	_____	_____

Agreement =
Disagreement =
_____

_____

Appendix B

Table 1
Independent-Samples T-Test, Differences in Stereotype Knowledge for Incremental and Entity Implicit Weight Theorists

_____

Stereotype	Categories of theory	N	M	SD	*p*
Number of positive stereotypes listed	IT	27	2.7	2.6	.54
	ET	8	3.4	3.1	.59
Number of negative stereotypes listed	IT	27	3.6	2.4	.50
	ET	8	4.3	2.9	.55

_____

Note. ET = entity theorists of weight management, IT = incremental theorists of weight management

Table 2
*Frequently Listed Stereotypes and Mean Truth Ratings for
Each Stereotype as a Function of ITWM, Pilot.*

Traits	Listed (%)			Truth Ratings (Mean)		
	ET	IT	*p*	ET	IT	*p*
Positive Traits						
Happy	12.5	60	<.05	1.5	1.2	
Warmth	62.5	24	<.05	1.4	8.3	
Funny/Humor	25.0	4.0		0.5	-	
Well-Fed	12.5	8.0		-	2.0	
Good Cook	-	13.6		-	1.7	
Other	75.0	56		1.3	2.0	
Negative Traits						
Lazy	87.5	65.4		0.3	1.1	
Glutton	50.0	34.6		0.5	2.1	<.05
Unattractive	25.0	15.4		1.0	1.9	
Smelly	12.5	26.9		1.0	1.8	
Unhealthy	25.0	46.2		1.5	2.9	
Incompetent	75.0	53.8		0.5	1.4	
Other	62.5	50.0		0.8	1.0	

Note. ET = entity theorists of weight management, IT = incremental
theorists of weight management

Table 3
Correlation Matrix, Study 1.

	1	2	3	4
1. ITWM	--			
2. IPT	.39*	--		
3. Independent	-.33*	-.50*	--	
4. Sincere	-.31*	-.31	.37*	--
5. Request	-.31*	-.13	.21	.64**

Note: * p < .05, ** p < .01

Figure 1. The direct effect of ITWM on participants' request to hire became insignificant when sincerity was included in the model.