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THE PRECARIOUS IDENTITIES OF DIETERS: DOES THE PROCESSING OF IDENTITY INFORMATION PLAY A ROLE IN DISTRESS-INDUCED OVEREATING?

by

Heather Anne Brock

A thesis submitted in conformity with the requirements for the degree of Masters of Arts
Graduate Department of Psychology
in the University of Toronto

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THE PRECARIOUS IDENTITIES OF DIETERS: DOES THE PROCESSING OF IDENTITY
INFORMATION PLAY A ROLE IN DISTRESS-INDUCED OVEREATING?

Masters of Arts Degree (M. A.), 1999

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This study is the first to test the theoretical proposition that young females use
dieting and binge eating as means for avoiding dealing with the identity crisis of late
adolescence. No direct support was found for the hypothesis that restrained eaters who
tend to avoid processing identity information (i.e., employ a diffuse-avoidance identity
style) would overeat after being asked to list important life goals as compared to after
listing self-irrelevant television shows. However, detailed analysis of the types of goals
listed in relation to the amount of food consumed and personality measures revealed some
interesting new findings about restrained eaters and the effects of employing a diffuse-
avoidance identity style. In particular, only for diffuse-avoidant restrained participants
was listing fewer career goals correlated with greater food consumption. Important
associations between identity style and eating restraint were also found and several ideas
for future research were discussed.
Acknowledgments

I would first like to thank Dr. Janet Polivy for her technical and practical advice and support in regards to this research project. Also, I am grateful for the additional supervision of Dr. Peter Herman, who took the time to discuss his editorial comments and questions in detail with me over several sessions. Both of you have taught me a tremendous amount in this past year.

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Table 1:
Means (and standard deviations) of experimental measures and their subscales.

Table 2:
Coding scheme for Goals listed in experimental condition.
Many have alluded to a relation between eating disordered behavior and identity disturbances in adolescence (e.g., Bruch, 1973; Minuchin, Rosman, & Baker, 1976; Crisp, 1980), but few have studied it directly. For many adolescents, the decision to diet in the first place, and the preoccupation with body image and food issues, has to do with the desire to become someone other than who one is (Polivy & Herman, 1987). Humphrey's (Humphrey, 1986, 1989) research demonstrates that the separation-individuation period in late adolescence is a particularly sensitive time for the development of eating disorders in females as they struggle to form a solid sense of identity apart from their parents. Indeed, the incidence of bulimia nervosa peaks in the college population, with the prevalence of binge eating (one of the core symptoms of bulimia but also found in dieters) approximating 46% in samples of dieters (Fairburn & Wilson, 1990) and has been reported to range as high as 90% in samples of college student females in general (Hawkins & Clement, 1980). Evidence from a longitudinal study attests also that the incidence of binge eating drops remarkably in the 10 years after college (Heatherton, Mahamed, Striepe, Field, & Keel, 1997). Confusion during the developmentally normal yet anxiety-provoking period of psychosocial pressure to form one's identity in late adolescence could lead one to begin dieting, or could result in the development of an eating disorder (i.e., anorexia or bulimia nervosa) out of dieting, as a means of avoiding dealing with this struggle. That is, in many cases, the continuous preoccupation with dieting, food and body weight issues serves as an identity because it provides a sense of purpose and meaning that adolescents are looking for by giving them goals that they think are achievable. Thus, this dieting may help these adolescents to avoid struggling to form a more complete, authentic and personally chosen identity.
The proposition that dieting serves as an identity – to the point of avoiding the questioning of identity options and the development of nondieting-related, personally meaningful goals associated with the normative adolescent identity crisis – requires an investigation of several factors as they relate to eating behavior. For instance, it implies that chronic dieters (restrained eaters) have a less differentiated or cognitively complex sense of self. This has been supported by Neimeyer and Khouzam (1985), who used a repertory grid to analyze restrained eaters' self-constructions in different eating situations, and their capacity to differentiate the self in these situations. Their results indicate that restrained eaters have fewer alternative ways of construing themselves in relation to food and eating, and the higher the restraint score, the more negative and simplistic the self-schema. Of course, these results do not imply that dieters are less differentiated in general, but this study attests to the concretized thinking of dieters and their lack of openness to other possible identities.

The second implication of the above proposition is that this less complex or less differentiated identity might be a reflection of dieting and binge eating being used as a means for avoiding broader concerns about identity construction. This idea is supported by research that suggests not only that avoidance coping is more common in dieters and eating disordered individuals (Koff & Sangani, 1997; Shatford & Evans, 1986), but also that what they seem to be avoiding is the distress specifically associated with processing ongoing identity (self-relevant) information (Keck & Fiebert, 1986). Indeed, Keck and Fiebert found that eating disorder patients scored high on the Avoidance of Existential Confrontation Scale and speculated that the obsession with food and weight allows them to avoid self-questioning such as “what does my life mean to me?”; moreover, it helps
them to elude the existential anxiety associated with that question (perhaps particularly for
this group of young females). Nevertheless, dieters would remain distressed because of
the lack of consolidated identity that accompanies this avoidance.

It would be important to determine, then, whether some of the consequences of
dieting, including eating disordered behaviors, are related to the avoidance of identity
issues (and consequent distress) in a causal manner. Of particular interest is the
investigation of binge eating, given the aforementioned prevalence of this behavior in
college-aged females. Two main explanations of distress-induced overeating in dieters
have been proposed, both of which suggest a relationship to ego or identity issues. The
escape theory of binge eating put forth by Heatherton and Baumeister (1991) posits that
the overeating is a consequence of a desire to escape the aversive self-awareness that
stems from a restrained eater’s perceived inability to achieve her (perfectionistic) self-
standards. They propose a narrowing of attention away from higher-order, distressing
thoughts about identity and onto stimuli in the immediate environment (i.e., food) or to a
focus on the act of eating, resulting in unintended overeating. A different mechanism is
presented by Polivy, Herman, & McFarlane (1994) wherein the overeating for the
restrained eater is presumed to be more purposeful or functional, in that the eating reduces
anxiety (at least for the time being), because it can be more manageably blamed for the
distress even though the true source of the distress was ego-related. Thus, the increase in
food consumption that has been found in dieters following ego threats (Heatherton,
Herman, & Polivy, 1991) is said to be “masking,” and helping them to avoid dealing with,
the core problem: discrepancies or disturbances in their sense of self. Because the
psychosocial pressure to form one’s identity in late adolescence can be so aversive when
one is uncertain about who they are (or want to be), the externality and specificity of diet failure make it much easier to manage than a reminder of the ongoing calamity associated with the identity crisis. Regardless of whether the mechanism involved in distress-induced eating is intentional (i.e., Polivy et al., 1994) or unintentional (i.e., Heatherton & Baumeister, 1991) though, the research supports the point that restrained eaters will overeat after there is a challenge to, or a stressor that involves, the self. Furthermore, there is agreement that the effect of overeating involves an avoidance of distress related to the self.

As Polivy et al. (1994) note, however, more research is required in order to understand the precise function (provided there is one) that this ego-related, distress-induced overeating is serving. Thus, although Heatherton et al. (1991) demonstrated that threats to one’s ego in terms of failure or performance anxiety disinhibit dieters’ eating significantly more than do threats of a physical nature (i.e., of electrical shock), the question that still remains is why this is so. Heatherton et al. suggested that since only low self-esteem dieters displayed disinhibition following the ego threat in their study, self-esteem is a key to answering this question. However, given the literature suggesting that meaningful thought about one’s identity is being evaded through a preoccupation with diet-related issues (e.g., Keck & Fiebert, 1986, as described above) and binge eating (Heatherton & Baumeister, 1991), it seems appropriate to examine identity, as it is likely to be at the core of both self-esteem deficits and the negative effect of ego threats. Importantly, Herman and Polivy (1988) suggested that the function of overeating or the binge involves not only the masking of immediate ego threats but of a more long-term threatening ego distress. It could be that this “long-term ego distress” that dieters are
evading is related not to task failure or even to self-esteem as such, but to an even broader concern with their lack of a solid identity (which would in turn have helped them cope with such self-related distress, and would mean they probably would have higher self-esteem; see Adams, Abraham, & Markstrom, 1987). Therefore, the proposition being tested in the present study is that the reason that ego threats have unique disinhibiting properties might be related to the way that one processes information about, and the extent to which one has consolidated, one's identity. That is, if the ego-identities of certain restrained eaters are not yet established because they tend to avoid processing identity-related information, then when they are asked to do something that "threatens their ego," it does so because it sparks an awareness that they are uncertain about themselves in a more general sense. Thus, perhaps there is a link between the "purpose" that the binge is serving for restrained eaters and the "sense of purpose" that seems to be lacking more generally in their lives.

Bruch (1973) was one of the first to articulate the idea that patients with eating disorders display greater psychopathology, in the form of ego deficits, than do dieters (restrained eaters). Given that restrained eating is often a precursor to eating disorders, however (Heatherton & Polivy, 1992; Polivy & Herman, 1987), it would be useful to study how consolidated the identities of restrained eaters are. Moreover, it is important to study their eating patterns when the coherence of their identities is threatened, in an attempt to elucidate the mechanism underlying this connection between distress-induced eating and one's sense of self. Unfortunately, there have been only a few studies (and none in a laboratory setting) linking eating disordered behavior directly to the precarious identities of young females.
Sparks (1992) examined the identity status of eating disordered individuals, that is, the extent to which they have experienced a crisis period and made some commitments in terms of beliefs, values, and attitudes central to identity development in late adolescence (Marcia, 1967). Eating disordered individuals scored higher than control subjects on ideological and interpersonal diffusion, implying no crisis or commitment in terms of occupation, religion, politics, philosophical life style, and interpersonal issues. Conversely, they scored lower on ideological and interpersonal identity achievement than did normal controls. These results suggest that eating disordered individuals may be more likely to be avoiding the “crisis” necessary to question and consider alternatives for defining their identity, and are especially avoiding making any commitments to values, beliefs and goals that would signify a firm sense of identity.

Schupak-Neuberg and Nemeroff’s (1993) study of bulimics and binge eaters (i.e., who reported one or more binges per week but not all of the other criteria for bulimia) also lends support for the centrality of the identity crisis in binge eating. They found that these women reported greater identity confusion (measured by a 10-item scale designed by the authors) and greater inconsistency in how they view themselves from one time to another than did a control group of normal women. Schupak-Neuberg and Nemeroff propose that because of the absence of a strong sense of identity in other respects, bulimics and binge eaters are using their bodies to concretize the notion of self and to represent their inner identity. Thus, these results lend support to the notion that the personality deficits and interpersonal problems that characterize eating disordered individuals (even long after their symptoms have been relieved) are rooted in a disturbed sense of identity.
Also, identity confusion in Schupak-Neuberg and Nemeroff’s (1993) study was positively correlated with a reported “escape from self” during a binge. Although this finding does not allow us to understand what the experience is like for those who are not “identity confused,” it fits with Herman and Polivy’s (1988) comment that the binge for many bulimics has been described as a meaningful experience. Moreover, it supports the possibility that the identities of restrained eaters (perhaps many that have subclinical eating disorders) revolve around their eating and weight-related issues. Their identity confusion is a reflection of the fact that they have not given much thought or energy to forming values, beliefs, and goals that do not have to do with food, weight or appearance. Their narrow self-definition in terms of dieting precludes the development of a general identity and the lack of meaning or purpose in this broader sense is distressing, especially in late adolescence when typically there is heightened pressure to make decisions about who one is and what one wants to do with life in important life domains. Thus, the desire to evade this source of distress is understandable, and the binge may bring relief from thinking about these decisions when one’s lack of a secure sense of identity is made salient, which may occur as often as several times a day.

In any case, both Sparks’s (1992) and Schupak-Neuberg and Nemeroff’s (1993) results underscore the importance of examining young women’s sense of identity. If, however, as this research demonstrates, bulimics (and possibly restrained eaters, who also have a tendency towards distress-induced eating) have not yet formed a solid sense of self, it is more appropriate to measure the process by which they are moving towards that development, as opposed to focusing only on the structure or “status” of their self-
identities. That is, there is a need to measure whether bulimics and restrained eaters avoid processing identity information as is implicated in previous research.

One construct used to describe this avoidance of identity issues in a process-oriented manner is Baumeister's (1991) notion of "identity deficits." Baumeister characterizes those adolescents whose identity is inadequately defined and who lack firm commitments to goals and values as having an identity deficit. In effect, the adolescent struggles with decisions because she does not know what she wants to be, and has no self-referents (i.e., goals and values) she feels she can use to help her decide. However, Baumeister (1991) does not propose how we can measure this construct in late adolescents.

The only well-validated method known for studying this tendency to avoid identity issues is by measuring the use of a diffuse/avoidance identity style (Berzonsky, 1989). Focusing on identity as a dynamic construct that plays an active role in our decision-making, Berzonsky (e.g., 1989, 1990) reconceptualized Marcia's (1967) four identity statuses into cognitive processing orientations or styles of personal problem-solving that individuals use to form, maintain, revise, or confirm their identity. The diffuse/avoidance orientation involves the tendency to delay, procrastinate, and avoid dealing with problems and decisions until situational consequences and rewards dictate a course of action (Berzonsky, 1989, 1990). Essentially, this identity orientation is a relatively stable individual difference in the manner in which individuals tend to process or cope with self-relevant problems and potential stressors. Furthermore, this style is highly correlated with Marcia's diffuse identity status, which conceptually implies that no "crisis" (or self-
questioning) is occurring, and no commitments are being made in terms of core values, goals, and beliefs.

Several research findings with diffuse/avoiders are notable here as they are remarkably similar to results found for restrained eaters or eating disordered individuals. First, a diffuse/avoidance identity style has been found to predict higher levels of chronic negative affect (Nurmi, Berzonsky, Tammi, & Kinney, 1997). The authors suggest this might be a result of having delayed identity work (i.e., the self-questioning involved in the identity crisis of late adolescence) and having delayed making life choices in some key life domains; this lack of a sense of self combined with the constant pressure to form an identity inevitable in a college setting is likely to contribute to this negative affect and feelings of inadequacy. Furthermore, the tendency to adopt a diffuse/avoidance style is also related to greater debilitative anxiety reactions and less openness to personal feelings (Berzonsky, 1989), a decreased ability to handle mental complexity (i.e., reduced ability to process identity information effectively), less introspectiveness and more self-focusing (Berzonsky, 1990). Also, identity diffusion is related to a narrow attentional focus (Read, Adams, & Dobson, 1984). Finally, Berzonsky (1992) found that diffuse/avoiders engage in mainly emotion-focused coping, or attempt to reduce, deny, or escape from immediate emotional distress rather than actively deal with the problem; in this way, diffuse/avoiders minimize the need to make changes in their self-structures because they avoid having to directly confront the source of stress (in line with Polivy et al.'s, 1994, masking theory for restrained eaters' distress-induced eating). Thus, it seems most suitable to adopt Berzonsky's (1989, 1990) process-based perspective and to use his Identity Style Inventory (ISI) for measuring the extent to which restrained eating is related to the
tendency to avoid confronting information specifically related to the self, and for studying how this tendency might be related to their reactions (e.g., disinhibition of eating) to ego-related stressors.

Erik Erikson (1968) emphasized that forming an identity is a quintessential task because one's identity serves as an adaptive framework for interpreting personal experiences, allowing one to answer questions about the purpose and meaning of life. Adopting a diffuse/avoidance identity style, then, makes it difficult to cope with challenges to the self or questions about one's definition of self (i.e., goals, values), and in the short term, dieting and overeating may serve the purpose of helping one to avoid coping with these questions (and related distress). Also, in the long term, the ego-related distress-induced eating might be helping the restrained eater avoid processing information about her identity (which, in turn, would be reflected in a greater tendency to use a diffuse-avoidance identity style). Therefore, it is uncertain where this cycle begins, but it seems reasonable to think that the diet-binge cycle and identity diffusion might perpetuate one another.

The present study is designed to investigate these relations between the processing of identity information and eating behavior. It is hypothesized that if restrained eaters are not exploring possible alternative goals, values, and beliefs, and thus lack a stable system of commitments apart from their dieting goals (i.e., diffuse-avoidant restrained), then they will become disinhibited after being asked to write down their goals (and rating how achievable they think each of them are), because this will be a difficult and distressing task for them. In turn, this self-relevant task of asking themselves “who am I, and what do I want to do with my life?” (i.e., their goals) should result in greater food consumption in a
subsequent ad-lib eating session than would the task of processing self-irrelevant information. The listing goals condition is not expected to have an effect on the amount of food consumed by unrestrained eaters, however (see Heatherton et al., 1991), nor for those restrained eaters who have less of a tendency to adopt a diffuse-avoidance identity style (i.e., who are more likely to actively process identity information on a regular basis) and who therefore cope with stressors more adaptively.

In addition, this study will examine the effect of being a restrained eater, as well as a diffuse-avoidant restrained eater, on the number and type of goals that are listed in the experimental condition. Obviously, we expect that those who are diffuse (regardless of eating status) will have fewer goals, or at least fewer well-defined goals about career and core values or beliefs. The restrained and unrestrained groups (regardless of diffuse-avoidance) will also be compared, however, to see whether restraint can predict the extent to which these young women have well-defined goals in areas of their lives apart from dieting or weight-related activities. In this way, the proposed relation between having an identity that is embedded in the world of dieting (i.e., restraint) and the way in which one processes identity information can be tested by analyzing type and number of goals listed. To some extent related to this is Markus’s (Markus, Hamill, & Sentis, 1987) work on self-schemas and their effect on the processing of particular types of information. Markus et al. found that those individuals with self-schemas pertaining to body weight (i.e., those for whom body weight is a salient dimension of their self-construction as it is, for example, for restrained eaters) had clear, quick, and consistent patterns of responding in the processing of weight-related information regarding oneself. Extrapolating from these results, we predict that the restrained eaters in the present study will organize their thoughts on the
basis of their dieting or weight-related schema (i.e., an identity that is mainly defined in relation to food and weight issues) and do less well at processing information about their goals or identity in other areas (e.g., career, life tasks). Thus, the pattern of goals listed for restrained and unrestrained eaters will be compared as well as how the process of writing the list of goals (as opposed to a list of television shows) affects the amount eaten for restrained versus unrestrained and diffuse-avoidant versus nondiffuse-avoidant participants.

Method

Participants

Eighty-five female undergraduate volunteers from the University of Toronto (mean age = 20, SD = 2.2) participated in exchange for course credit. Using the Restraint Scale's (Herman & Polivy, 1980) cutoff of 15 and above, 39 participants were classified as restrained eaters and 46 were classified as unrestrained eaters. Restrained eaters had a significantly higher BMI (M=25, SD = 3.2) than unrestrained eaters (M=21.6, SD= 2.9), F(83) = 27.2, p<.0005. The participants were run between 11:00 a.m. and 6:30 p.m. and each session took approximately one hour.

Procedure

The study was portrayed as a market research study assessing personality and consumer ratings (including a taste test); participants were told that their self-related responses would be used collectively to tell us a little about university students for the purpose of improving the effectiveness of advertising campaigns for their age group. They began by filling out a Hunger and Mood Scale to assess their current (initial) hunger and mood state.
Next, participants in the experimental (self-relevant) condition were given a sheet of paper with numbered lines on which they were asked to write down as many life goals and aspirations as are meaningful to them, and then rate each on a 10-point scale as to how achievable they believe the goal to be. Participants in the control (self-irrelevant) condition were instead given a sheet on which to list as many television shows as they could think of, along with a rating (on a 10-point scale) of how much they enjoy the show. This list and rating task will be presented as a way of finding out where companies could advertise to reach the female university population. Participants in both conditions were given 10 minutes for this listing and rating task. Following the listing task, state self-esteem (Current Thoughts questionnaire) and affect (Affect Rating Scale) were measured to determine whether these variables mediated the amount of cookies subsequently eaten.

The next section of the experiment involved the tasting and rating of three types of cookies, presented as a market research study. Subjects were presented with three plates full of cookies, and were asked to rate each type on various dimensions such as palatability and texture. They were instructed to taste as many of each type of cookie as was necessary to make an accurate and confident taste rating, and to move on to the next type only after taking a large sip of water so that each cookie type would be rated with a clean palate. Further, participants were told that as soon as they have completed their taste ratings, they could go back and eat as many of the cookies as they wish as long as they do not change their ratings. This warning emphasized the ratings component of the task although amount eaten was our true measure of interest. Each plate of the three types of cookies were weighed before and after the taste-rating task to determine amount eaten. Following the taste-rating task, the subjects completed a series of questionnaires (see
below) both by hand and on the computer. Finally, height and weight was measured to
determine body mass index (BMI), then subjects were fully debriefed and asked not to
reveal the true nature of the experiment.

Measures

The initial mood and hunger scale consists of 11 adjectives (e.g., distressed, happy,
nervous, hungry, full), rated on a seven-point scale from 1 (not at all) through 4
(somewhat) to 7 (extremely) on the basis of how the participant is feeling at that moment.

The Affect Rating Scale (Atkinson & Polivy, 1976) is also designed to measure
how the person feels at the present moment; in this case, it measures what their mood is
after performing the self-relevant as compared to the nonself-relevant listing task.
Participants will respond to a variety of items such as “I am content,” “I feel criticized,” “I
feel jittery,” and “I feel dreamy,” on a four-point scale from 1 (not at all) to 4 (very much
so).

The Current Thoughts questionnaire (Heatherton & Polivy, 1991) was used to
assess state self-esteem following the listing task. It comprises 20 items that assess what
the subject may be thinking at that time (e.g., “I feel displeased with myself,” “I feel
confident that I understand things,” and “I feel unattractive”). The participant is to answer
on a five-point scale from 1 (not at all) to 5 (extremely) as they are true for them at that
moment.

The Exner Self-focus questionnaire (Exner, 1973), requires the participant to
complete a series of open-ended statements such as “I think. . . .”, “It’s hardest to please. . . .”,
“If only I could. . . .”, and “Someday I. . . .”. This provided a measure of how self-focused
subjects are as a result of having to process self-relevant or identity information.
The third version of Berzonsky’s Identity Style Inventory (ISI-3; personal communication, October 1997) has 40 items which assess the extent to which one adopts one of three identity social-cognitive processing orientations (styles) towards, and one’s commitment to, a set of core beliefs and values. The ISI-3 contains a 10-item diffuse/avoidance style scale (e.g., “I’m not really thinking about my future now; it’s still a long way off”), that has a coefficient $\alpha = .76$. The respondent is asked to rate the degree that each statement is not at all like me (1) to very much like me (5). Two-week interval test-retest coefficient for this scale is .83 (personal communication, October 1997). In support of the inventory’s validity, Berzonsky (1992) found identity style to be predictive of coping strategies in late-adolescent college students. Only participants’ scores on the diffuse/avoidance subscale were used; a median split created two levels of the tendency to employ a diffuse/avoidance identity style.

The Janis-Field Feelings of Inadequacy Scale (Pliner, Chaiken, & Flett, 1990) was used to measure trait self-esteem and includes 35 items such as “Do you ever think that you are a worthless individual?” and “How often do you worry whether other people like to be with you?” The respondent rates these items on a five-point scale based on degree to which it is true of themselves (e.g., very often to practically never).

The Perfectionism subscale of the Eating Disorder Inventory (EDI; Garner, Olmsted, & Polivy, 1983) comprises six items assessing excessive personal expectations of achievement (e.g., “My parents have expected excellence of me”). The questions are rated on a six-point scale from always to never.

The Restraint Scale (Herman & Polivy, 1980) is 10 items long. Questions ask directly about how often respondents are dieting, how often they are gaining and losing
weight, how conscious they are about what they eat, and assess other indicators of eating restraint and binge eating behavior.

The final questionnaire given, for assessing the frequency and extent of exercise use for the purpose of weight control, includes questions such as “How often do you feel guilty when you don’t exercise?” and “How often do you feel that your shape compares favorably to other people’s?” It is 28 items long and the participant answers each item on a five- or six-point scale, ranging typically from never or not at all to always or extremely.

Results

Manipulation Checks

Compared to the TV condition, the Goals condition was expected to result in greater self-focus scores for all groups and greater negative affect scores for diffuse-avoidant restrained participants only. Although not significant, a trend toward greater self-focus in the Goals condition based on the Self-External focus difference scores was evident, $F(1, 77) = 2.56, p = .11$. The proposed diffuse-avoidant by restraint interaction for negative affect was not significant. The only difference by Condition was that the percentage of negative self-focused responses (in relation to positive or neutral self-focused responses) on the SFSC was significantly lower for those in the Goals ($M = 45.9$, $SD = 47.3$) than in the TV condition ($M = 74.6$, $SD = 61.9$), $F(1, 75) = 11.47, p = .001$ (after a square-root transformation). Thus, the manipulation did not have the expected effect; in fact, this last finding indicates that listing personal goals had an effect opposite to what was intended.
Main Hypotheses

A between-subjects 2 (Diffuse-avoidance identity style/Non-diffuse-avoidant; a median split) X 2 (Restrained/ Unrestrained) X 2 (Goals/TV) multiple analysis of variance (MANOVA) was used to test the hypothesis that diffuse-avoidant restrained eaters, due to having precarious identities that are embedded in dieting concerns, would be the only group to become disinhibited by the Goals task. No significant differences between groups were found, however, with respect to amount of food eaten. MANOVAs also tested for differences on the other dependent variables, including self-focusing, state and trait self-esteem (and their subscales), negative affect, perfectionism, and pathological exercise. Whenever necessary, analyses were adjusted for unequal variances.

The SFSC was coded by two independent raters (average interrater reliability = .86), with disagreements resolved through discussion. Self-negative percentage scores were calculated by dividing the number of self-focused responses that were negative in content tone by the number of positive or neutral self-focused responses, and multiplying by 100 (see Exner, 1973). These Self-negative scores were transformed into their square roots because they were not normally distributed and, as mentioned above, those in the Goals condition reported relatively fewer self-focused responses that were negative than did those in the TV condition (p=.001). In addition, there was a 3-way (Diffuse-avoidance X Restraint X Condition) interaction on the square-root transformed self-negative scores, F(1, 77)=4.29, p<.05. Subsequent analyses suggest that the diffuse-avoidant/restrained (DR) participants in particular reported relatively fewer negative self-focused responses in the Goals condition (M=42, SD=27.9) than in the TV condition (M=131, SD=88.3), t(20)=2.77, p<.05, yet so did the nondiffuse-avoidant/unrestrained
(NDUR) participants (M=25 vs. 54, SDs=24.5 and 35.3, respectively), t(26) = 2.56, 
*p<.05.

There was also a main effect for restraint such that restrained participants 
(M=79.2, SD= 70.5) reported relatively more negative self-focused responses than did 
unrestrained participants (M=43.9, SD= 34.4), F(1, 77)=11.77, *p=.001. However, 
restrained eaters were also found to be less self- relative to externally-focused (according 
to Self-External difference scores, M=4, SD=4) than were unrestrained participants (M=6, 
SD=3), F(1, 77)=5.03, *p<.05.

Restraint eaters and diffuse-avoiders were similar in terms of several of the 
subscales on the state and trait self-esteem measures. Table 1 presents all of the means and 
significant differences but only the appearance subscale and overall scores will be reported 
here in line with the most relevant findings for the present study. Both restrained eaters 
and diffuse-avoiders exhibited lower appearance, F_s(1,75)= 36.6 and 6.15, respectively, 
*p’s<.02, and overall, F_s(1,75)= 15.2 and 8.87, *p’s<.005, state self-esteem (as compared to 
unrestrained and non-diffuse-avoiders, respectively). ¹ Accordingly, both restrained eaters 
and diffuse-avoiders also had lower appearance trait self-esteem, F_s(1,75)=62.04 and 
4.09, respectively, *p’s<.05, and overall trait self-esteem, F_s(1,75)= 23.87 and 6.04, 
*p’s<.02, than their counterparts. Interestingly, there was a significant 2-way Diffuse-
avoidance X Condition interactions for overall trait self-esteem scores, F_s(1, 75)=5.44, 
*p<.05. t-tests revealed that only in the TV condition did diffuse-avoiders have lower

¹ It should be noted that for all groups, state and trait self-esteem were positively correlated, all r’s > .39, 
p’s<.05, both measures of self-esteem were negatively related to negative affect, r’s >.26, p’s<.05, and negative affect 
was positively related to negative self-focused responses on the SFSC, W’s > .26, p’s<.05.
overall trait self-esteem (M= 80, SD= 19) than nondiffuse-avoiders (M=98.4, SD= 18), t(39) = 3.21, p<.05.

There was a main effect of restraint for negative affect (measured immediately following the listing task) such that restrained participants indicated greater levels of depressive affect, hostility, and lower mood overall than unrestrained participants, Fs(1, 75) = 4.37, 6.94, and 4.90, respectively, p’s <.05. Likewise, diffuse-avoiders were more anxious and hostile, Fs (1, 75) = 3.89 and 4.84 respectively, p’s <.05, as well as (almost significantly) lower in overall mood (p=.07) than nondiffuse-avoiders. Unexpectedly, however, there were no significant interactions between diffuse-avoidance, restraint, and/or condition in terms of negative affect.

Not surprisingly, restrained participants (M=36.6, SD=8.2) also had higher pathological exercise scores than did unrestrained participants (M=27.5, SD=7.6), F[1,75]=25.7, p<.0005, and higher perfectionism² scores (M=9.2, SD=5) than unrestrained participants (M=7.8, SD=4), F(1,75)= 4.23, p<.05. There was a trend suggesting diffuse-avoiders (M=7.6, SD= 5) are less perfectionistic than nondiffuse-avoiders (M=9.18, SD=4), F(1, 75)=3.07, p=.08.

Overview of Analyses of Goals

The goals that were listed in the experimental condition were coded (interjudge agreement = 94%, with disagreements resolved through discussion) into nine categories including weight, fitness and health goals (also combined to create a WFH goals variable), career goals, relationships, and self-improvement, among others (see Table 2 for a

² Perfectionism was also negatively related to state self-esteem, r = -.36, p<.05, in restrained, and to trait self-esteem in unrestrained, -.35, p<.05, participants, but also, paradoxically, to negatively self-focused statements on the SFSC, r = .24, p<.05 in restrained participants.
complete description of each). The number of goals listed that fell into each category was translated into a proportion of total number of goals listed. Each participant also had an average “achievability” score for each category as well as a “total achievability” score representing the average achievability of all goals listed. Since only four scales were normally distributed, a priori predictions about differences in the types of goals listed were tested via individual Mann-Whitney U tests (Us).

Next, hypotheses regarding the effect of listing certain categories of goals on subsequent mood, self-esteem, and eating were tested using correlation matrices and regression analyses. Matrices relating the main dependent variables (i.e., eating, mood, etc.) to proportion scores and, separately, to achievability scores for each of the categories of goals were examined. Separate matrices were used to investigate these correlations first for restrained versus unrestrained participants, and then for each of the diffuse-avoidant restrained (DR), the diffuse-avoidant unrestrained (DUR), the nondiffuse-avoidant restrained (NDR), and the nondiffuse-avoidant unrestrained (NDUR) groups. For those associations that involved two variables that were normally distributed (i.e., Kolmogorov-Smirnov Statistic, ps ≥ .20), Pearson correlation coefficients were used; for those where one or both distributions were not normally distributed, Kendall’s Tau-b’s (Ws) are reported. Statistically significant correlations are reported below based on meaning as opposed to by group.

Mann-Whitney U tests

As hypothesized, restrained eaters listed a significantly greater number and proportion of weight goals (Ms=.65 & .05, SDs=.71 & .05, respectively) than did unrestrained eaters (Ms=.20 & .02, SDs=.41 & .04, respectively), Us>150, ps<.05. Also,
restrained participants listed more, and had a greater proportion of weight, fitness, and
health-related goals combined (WFH goals, $M_s=1.26, SD_s=1.1$) than did
unrestrained participants ($M_s=.67, SD_s=.80$), $t=157, p<.05$. Interestingly,
there was a similar main effect for diffuse-avoidance such that diffuse-avoidant
participants listed a greater number ($M=1.23, SD=.92$) and proportion ($M=.10, SD=.07$)
of WFH goals than did nondiffuse-avoidant participants ($M_s=.73, SD_s=.99$), respectively), $t>146.5, p<.05$.

The hypothesis that employing a diffuse-avoidant identity style would result in
fewer career and total goals was not supported; although diffuse-avoidant participants did
list fewer career goals, the difference was not significant. There were no significant main
effects for either diffuse-avoidance or restraint in the total number of goals, but this might
have to do with the implicit pressure to "fill the lines on the page," even though
participants were explicitly told that the number of goals was not what we were interested
in. In saying this, there were no group differences in what we called "filler goals" (e.g.,
idiosyncratic extras and vague wishes to be rich and famous) although restrained
participants ($M=.08, SD=.06$) did report significantly more "leisure" goals than did
unrestrained participants ($M=.03, SD=.04$), $t=134.5, p<.02$.

Correlational analyses

It is important to note that, due to the exploratory nature of these analyses, it was
considered necessary to report all meaningful correlations significant at the .05 level;

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3 Interestingly, the bigger proportion of "filler" goals listed by diffuse-avoidant restrained participants
(only), the lower their state self-esteem, $W=-.70, p=.007$, and trait self-esteem, $W=-.62, p<.05$. 

however, within reason, one must take caution in interpreting these findings due to the inordinately high number of comparisons that were made.

It was hypothesized that there would be direct associations (particularly for DR subjects) between the types of goals listed and mood, state self-esteem, and amount of food consumed. In particular, it was predicted that if DR participants are indeed avoiding commitment to occupational goals (which are central to resolving the identity crisis) because of their identity as a "dieter" (or as someone who is conscientious about their weight/eating habits, or who is thin), then they would report fewer career goals. Moreover, because of the normative societal pressure to form occupational goals and resolve the identity crisis in late adolescence, these participants would feel distressed and this would lead to disinhibition of eating. Although the DR group did not have significantly fewer goals than the other groups, the latter portion of this hypothesis was supported. In fact, there was a direct association between the proportion of career goals the DR group listed, and eating: the lower the proportion of goals they listed that were career-related, the more they ate, $r = -.57$, $p < .05$. Since there was very little association ($r = -.13$) in proportion of career goals to negative affect as was predicted, perhaps the association is more confusion-mediated than distress-mediated.

Some interesting findings revealed themselves when correlation matrices that were computed for restrained participants versus unrestrained participants overall were compared to those that included the diffuse-avoidance variable. Overall it seemed as though, for both restrained and unrestrained participants, state and trait self-esteem are both negatively associated with negative affect, $r_s > -.48$, $p < .001$. When analyses were done by subgroups including the identity style dimension, however, this relationship is only
true for diffuse-avoidant groups (DR and DUR), \( r_s > -0.45, p < 0.01 \). Similarly, when measured overall, state and trait self-esteem were positively related to the amount of food consumed for unrestrained participants, \( r_s > 0.38, p < 0.01 \), but the same was not true for restrained participants. Once again, however, it was only in diffuse-avoidant groups that there was a positive association between state (but not trait) self-esteem and eating (although not significant for the DUR group), \( r_s = 0.49 \) and \( 0.33 \), \( p < 0.05 \) and \( 0.17 \), for DR and DUR groups respectively. Further, negative affect is negatively related to amount eaten only for DR and DUR groups, \( r_s > -0.38, p < 0.05 \). However, none of these associations are significant for the nondiffuse-avoidant groups. Thus it seems that mood is linked to self-esteem and to eating, and self-esteem is linked to eating, for those who employ a diffuse-avoidant identity style but not for those who do not. More specifically, lower mood and state self-esteem tend to decrease eating only in those who are diffuse-avoidant, and particularly for the DR group.

Also interesting in terms of the eating behavior of restrained eaters overall was that amount eaten was significantly related to the proportion and achievability only of their self-improvement goals, \( W_s = 0.32 \) and \( 0.38 \), respectively, \( p < 0.05 \). However, upon inclusion of the diffuse-avoidance dimension, this finding only held for the DR group, where achievability of self-improvement goals was positively related to eating, \( W = 0.52, p < 0.05 \). It is probable that this association is related to the findings that, for the DR group only, there was a significant positive correlation between state self-esteem and the proportion and the achievability of self-improvement goals, \( W_s > 0.48, p < 0.05 \), and a negative correlation between negative affect and achievability of self-improvement goals, \( W = -0.55, p = 0.01 \).
Notably, the trait self-esteem of restrained eaters was positively related to the proportion of fitness goals they listed, $r = .34$, $p < .05$, but this was not the case for unrestrained participants. Moreover, it seems that this correlation may be limited even further to diffuse-avoidant restrained eaters (DR), $r = .55$, $p = .01$, as it is not found in the NDR group ($r = .11$, $p = .71$). The trait self-esteem of restrained eaters is also positively related to the proportion and achievability of career goals, $r's > .35$, $p's < .05$.

The proportion of career goals listed by unrestrained eaters, on the other hand, is not significantly related to self-esteem but is negatively associated with total number of goals listed, $r = -.46$, $p < .05$, and proportion of fitness goals, $r = -.45$, $p = .01$. Thus, the salience of career goals to the unrestrained eater is related to a diminished focus on fitness and other goals, but this does not seem to be true for the restrained eater.

For all groups, the perceived achievability of career goals seems important for, or at least is positively related to, participants’ beliefs that they can, on average, achieve any of their goals (total achievability score), $W_s > .57$, $p < .05$. Yet only for the DR group are weight, fitness, and health goals (WFH) also positively related to their total perceived achievability scores, $W = .70$, $p = .001$. The false hope that the perceived achievability of weight-related goals brings for DR participants is also seen in its relationship to their trait self-esteem, $W = .40$, $p < .05$, which is stronger when looking at only the achievability of fitness goals, $W = .64$, $p < .005$. Also, the greater the achievability of WFH goals for all restrained participants in this study (but not unrestrained), the greater the total number of goals they listed, $W = .46$, $p = .005$. It is important to point out, however, that the associations of WFH goals to total achievability scores and to self-esteem were not found in the NDR group, which suggests that it might be something about the diffuse-avoidance
identity style that results in the heightened significance of WFH goals for dieters. In fact, in the NDR group, the achievability of WFH goals is negatively associated with their total achievability scores, $W = -0.59$, $p < 0.05$ and, interestingly, the same is true for NDUR participants, $W = -0.51$, $p < 0.05$. This suggests that if one is not diffuse-avoidant in terms of processing identity information, then one is more apt to believe that they can achieve their career goals and most of their goals if (and perhaps despite the fact that) they do not believe they can achieve their weight-related goals. In contrast to the DR group, the total achievability scores of unrestrained participants overall (i.e., both diffuse-avoidant and nondiffuse-avoidant) are positively related to the perceived achievability of their relationship goals, $r = 0.63$, $p < 0.0005$, as opposed to being related to the achievability of their WFH goals.

Not surprisingly, the average total achievability of restrained participants' goals was also positively related to their state and trait self-esteem, $r_s = 0.65$ and $0.44$, respectively, $p < 0.05$, and negatively to negative affect, $r = -0.60$, $p < 0.05$. For some reason, however, these correlations were not significant for unrestrained groups.

**Identity Style Inventory (ISI)**

Since this is the first study to apply the ISI to restrained eating, it was deemed appropriate to investigate the relationship of all of its subscales to restraint. Moreover, the main hypotheses of this study rest upon the notion that restrained individuals are less committed in terms of an ideological identity, and that many are avoiding the crisis associated with processing identity information in late adolescence, both of which are measured by the ISI. To begin, chi-square analyses were applied to determine whether high and low scores on each subscale (i.e., via a median split) were independent of
restraint status (i.e., restrained versus unrestrained). It was found that significantly fewer restrained participants were committed (n=12) than uncommitted (n=27) whereas unrestrained participants were more likely to be committed (n=31 vs. 15), \(X^2 = 11.32, p=.001\). Similarly, restrained individuals (n=15) were less likely to employ a normative identity style (i.e., where one has committed to certain goals and beliefs based on an unquestioned acceptance of parental ideology) than not (n=24), whereas unrestrained individuals were categorized 2:1 in the opposite direction (more likely to be normative), (ns=32 vs. 14), \(X^2 = 8.62, p=.004\). These results support the prediction that restrained participants are less committed in terms of the ideological components of identity.

The results for diffuse-avoidance and information-oriented processing orientations (identity styles) are somewhat supportive but less impressive and neither quite reach statistical significance (\(X^2 = 2.53\) and 1.76, ps=.11 and .18, respectively). Almost equal numbers of restrained participants could be categorized as high or low information oriented (ns=19 and 20, respectively) as well as high or low diffuse-avoidant (ns=22 and 17, respectively). However, unrestrained individuals were more likely to be high (n=29) than low (n=17) on information-orientation and, accordingly, more likely to be nondiffuse-avoidant (n=28) than diffuse-avoidant (n=18). These results give limited support to the hypotheses by suggesting unrestrained eaters are more relatively more likely to approach identity information in a positive manner as opposed to coping with it through avoidance.

Next, the three identity style subscales and the restraint scale were used as continuous variables and an intercorrelation matrix was produced, which suggested that both commitment and a normative identity style are negatively related to restraint, \(r_s=-.34\) and -.37, respectively, \(ps=.001\). The correlation between restraint and normative identity
style remains significant even after controlling for degree of commitment (i.e., to certain goals, values, and beliefs believed to be central to one's identity), \( r = -0.24, p < 0.05 \). Diffuse-avoidance is also significantly related to restraint, \( r = 0.20, p < 0.05 \) (one-tailed), but this loses significance when accounting for commitment. Berzonsky (personal communications, May, 1999) recommends regressing the three identity styles onto one's dependent measure, and so regression coefficients were computed for the ISI subscales onto restraint scores. The only identity style that significantly predicted restraint was the normative style, \( \beta = -0.36, p = 0.001 \). Using Baron and Kenny's (1990, as described by Holmbeck, 1997) suggestions for testing for mediators, commitment was added to the model. This resulted in a reduction of the \( \beta \) coefficient for the pathway from normative identity style to restraint, \( \beta = -0.26, p < 0.05 \), implying that commitment partially mediates this relationship. This finding, which is consistent with the chi-square analyses, suggests that a lower tendency to use a normative identity style, as well as a lower level of commitment in terms of an ideological identity, are predictive of higher restrained eating scores.

Finally, as the participants for this study were recruited from introductory psychology courses where mass testing is completed at the beginning of the term, their responses on the ISI during the mass testing provided the opportunity for test-retest reliability analyses. The present study, and thus the second assessment of the participants' ISI scores, was completed during the time period of 2 to 4 months following the mass testing. Not only did this provide a longer test-retest analysis than Berzonsky (personal communications, October, 1997) has provided on the ISI-3 (two-week intervals), but it also provides a measure of whether the ISI is sensitive to experimental manipulation because it was completed after the Goals and TV listing tasks. On the
whole, test-retest reliability coefficients were lower here ($r_s = .61$ to $.69$) than with Berzonsky’s from a 2-week interval ($r_s = .84$ to $.89$). When $r_s$ were computed by experimental condition, however, one major difference appeared. The information-oriented subscale test-retest coefficient was significantly lower in the Goals condition ($r = .45$) than in the TV condition ($r = .82$), the latter of which is comparable to the 2-week interval reliability. The remainder of test-retest coefficients were similar across conditions, ranging from $r = .56$ to $r = .71$ for specific subscales and conditions. This suggests that either there is something about the information-oriented subscale that is more susceptible to experimental manipulation than the other three subscales, or that something about the Goals condition affected the responses of participants specifically to the information-oriented items such that they were less consistent with their responses to those items from 4 months earlier. In addition, the converse is also true for participants’ responses to information-oriented items in the TV condition; somehow, responses to these items in the TV condition were most consistent with responses from Time 1 over all other subscales in either condition.

Test-retest coefficients were computed to investigate possible differences in stability of identity style for restrained versus unrestrained participants as well. It seems as though restrained participants were less consistent in their responses across all subscales but the normative ($r_s = .54, .62, .58, .61$, for commitment, and diffuse-avoidance, informational, and normative identity styles, respectively) than were unrestrained participants ($r_s = .76, .63, .79, .48$). Thus, the reliability coefficients might be being pulled down by the restrained subjects’ greater inconsistency, especially in terms of their degree of commitment and use of an information-oriented identity style.
Discussion

The main hypothesis that restrained eaters who employ a diffuse-avoidant identity style would exhibit disinhibited eating after being challenged to list their goals, because of the distress associated with not having many important life goals aside from those associated with dieting and exercise, was not supported. The main reason for this seems to be that the Goals manipulation did not create the expected identity confusion-related distress. Nonetheless, this study provided some important insights into the relationship between identity style and restraint, as well as their combined effect on the association between processing identity information and self-esteem, mood, and eating behavior. Moreover, several findings do seem to be consistent with the “dieting as identity” theory presented in this paper.

Most importantly, it was found that listing fewer career goals was directly related to greater food consumption in diffuse-avoidant restrained participants only. This is strong evidence to support the hypothesis that eating behavior is linked to the processing of identity information in this specific group of individuals. Further, the fact that the proportion of career goals was not related to negative affect in this group suggests that this relationship is not distress-mediated but more directly, identity confusion-mediated. This interpretation is somewhat supported by Schupak-Neuberg and Nemeroff’s (1993) finding that identity confusion was higher in bulimics and binge eaters than in normal controls. Furthermore, identity confusion was associated with a reported “escape from self” during binges.

Overall, however, it seems as though the Goals manipulation was not very effective in producing a reaction in terms of mood or eating behavior. Although it might
have made participants slightly more self-focused than listing television shows, listing personal goals did not have a differentially negative effect on diffuse-avoidant, nor on DR participants in particular, in terms of mood, state self-esteem, or negative self-focus. In fact, the degree of negative self-focusing was lower and trait self-esteem (especially the self and social subscales) was higher in diffuse-avoidant individuals in the Goals condition as compared to the TV condition. As mentioned above, it is uncertain whether this finding reflects preexisting differences but random assignment to conditions suggests that, instead, the act of listing their personal goals had a positive influence on these participants. That is, although the Goals listing task was expected to make salient the identity confusion of DR participants, paradoxically it might have helped diffuse-avoidant participants to realize that they actually do have some goals. In this way, the goals listing experience may have resulted in a sense of direction and/or integration that diffuse-avoidant individuals are not used to recognizing in themselves. Since they were forced to write their goals down on paper, though, and since there were no implications for what they wrote (e.g., verbal comments or pressure from disapproving parents), this may have been a liberating experience which they did not feel as though they needed to escape or avoid. Consequently, we did not see the predicted disinhibition in DR participants as an attempt to escape the pressure to process identity information (which they are not typically comfortable doing).

Future research could examine whether diffuse-avoidant restrained individuals become disinhibited after processing identity information in an environment where there is a much greater perceived pressure to cogently answer the big questions of “who am I?” and “what do I want to do with my life?” Also, the results of the present study do not
preclude the hypotheses from being supported under circumstances where DR participants are made to feel the opposite of "integrated" (i.e., where they are reminded of their lack of direction in terms of occupation, etc.). Indeed, the use of goals as a "challenge" to the participants' identities was chosen because goals comprise one component of the structure of identity (along with values and beliefs). It is possible that defining identity in other ways (i.e., in terms of its functions) would have resulted in a different (and more negative) outcome in terms of self-focus, self-esteem, and eating behavior.

Another finding that suggests the Goals task had an effect opposite to what was expected was that increased food consumption was related to better (rather than worse) mood and self-esteem states in diffuse-avoidant (particularly restrained) participants. Also, eating was positively correlated with the proportion and achievability of self-improvement goals listed by restrained eaters, which in turn were also positively related to state self-esteem. Increased eating, however, has been found mainly to be related to lower mood and lower self-esteem in restrained eaters (see Herman & Polivy, 1988, for a review). Thus, it seems as though the diffuse-avoidant restrained participants in this study were experiencing something different than what can be explained by previous research in terms of eating behavior.

On measures other than eating, the similarities between individuals who reported diffuse-avoidance tendencies and those who reported restrained eating are quite noteworthy. The finding that individuals who employ a diffuse-avoidant identity style were just as concerned about weight, fitness, and health goals as were restrained eaters implies that their avoidance of identity issues might also be perpetuated by a preoccupation with weight-related issues. Of course, this study does not allow us to
disentangle whether the identity style or the heightened concern with weight goals came first. Nonetheless, the likeness of diffuse-avoidance and restraint in terms of higher negative affect as well as lower state and trait self-esteem deserves more attention. For instance, like restraint, diffuse-avoidance was associated with lower appearance self-esteem (state and trait), and this is likely related to the heightened focus on weight-related goals for those with high levels of each. Although previous research has connected both restraint and diffuse-avoidance with heightened negative affect and lower self-esteem (e.g., see Heatherton & Polivy, 1992; Nurmi et al., 1997), the two have not been related to one another nor to personal goals as they were in this study. Indeed, the significant positive correlation between diffuse-avoidance and restraint might have implications in terms of the ego-identity deficits often seen in females with eating disorders (e.g., Bruch, 1973). Further, it is possible that the diffuse-avoidance approach to processing identity information underlies the low self-esteem in late adolescent restrained females, but more research linking identity style and restraint is needed to better understand the relationship between them.

Importantly, the analysis of achievability scores provided support for the notion that restrained eaters place “false hope” in their weight-related goals (J. Polivy, personal communication, September, 1998). That is, Polivy posits that dieters believe that if they can achieve their weight goals then they will become a “new person” and, in concert with the propositions of this study, that dieting provides these women with direction, purpose, and meaning in their life (Polivy, 1999; Polivy & Herman, in press). Essentially, the present study proposed that if a restrained eater is also diffuse-avoidant, then this false hope would be even greater because they lack the sense of direction that comes from
facing identity issues head on. This hypothesis was supported by the finding that the more
diffuse-avoidant restrained participants believe that they can achieve their weight, fitness,
and health goals, the more they believe they can achieve most of their goals. Further, the
achievability of weight-related goals was positively related to their trait self-esteem and,
for restrained eaters overall, to the total number of goals they listed. Likewise, the more
that diffuse-avoidant restrained individuals focused on fitness-related goals in the listing
task, the higher their trait self-esteem, presumably because they feel these goals are
achievable. In contrast, the less achievable that nondiffuse-avoidant participants felt their
weight-related goals were, the higher their perceived achievability of their goals overall.
That is, nondiffuse-avoidant individuals believe they can achieve most of their goals even
if, or maybe despite the fact that, they do not feel they can achieve their weight, fitness,
and health goals. In all, weight-related goals are not as salient to nondiffuse-avoiders and
to unrestrained eaters, in terms of number, importance for self-esteem, and for generating
“false hope,” as they are for diffuse-avoidant restrained eaters.

The results from analysis of the Identity Style Inventory also yielded supporting
evidence for the hypothesized relationship between dieting and identity proposed in this
paper. Restrained eaters were less committed in terms of their occupational, religious, and
political goals, values, and beliefs, and are also less likely to process identity information in
such a way that they unquestioningly adopted their parents’ ideology (used a normative
identity style) to construct their identity. On the other hand, unrestrained eaters were
more likely to be information-oriented, which has been linked to mental well-being and the
most positive outcomes (see Berzonsky, 1994; Nurmi et al., 1997), and were also less
likely to be diffuse-avoidant when they approach identity information.
The link between normative identity style and restraint is somewhat perplexing. The fact that this relationship is partially mediated by commitment suggests that having already formed an ideological identity, or having goals that define oneself and give one's life direction is related to less restrained eating. The direct association between normative identity style and restraint that remains, however, implies also that one is less likely to diet if one feels the decisions about what to believe in and what to do with one's life were already predetermined (i.e., by parents, so that there was never an "identity crisis").

Paradoxically, the developmental literature on precursors to eating disorders suggests that high parental control and lack of a sense of autonomy in making one's own decisions is related to eating disordered behavior (e.g., Bruch, 1973; Minuchin, Rosman, & Baker, 1975; Strauss & Ryan, 1996). It is important to emphasize, though, that since these results are cross-sectional, they only imply that current use of a normative identity style is predictive of current restrained eating status. Further, as was illustrated in this study and is emphasized by several researchers in the field (M. Berzonsky, personal communications, May 1999; see also Waterman & Archer, 1990), movement to other identity statuses and styles is highly likely across the college years and to some extent beyond. Thus, it is possible that in future years those women who had unconditionally accepted their parents' ideology will start to question its appropriateness for their own identity. When this questioning occurs, two routes are possible: they will move to using an information-oriented identity style, or they will decide that they do not have the resources needed to make such decisions and they will become diffuse-avoidant for some time. In the latter case, and as is supported by this study, they could then become susceptible to developing a preoccupation with weight-related goals and take up dieting as part of their method for...
avoiding dealing with identity issues. In addition, the findings of the present study suggest that it is the diffuse-avoidant restrained eaters who are most vulnerable to eating more after having been reminded of their lack of career-related goals. Of course, future research is needed to confirm whether diffuse-avoidance is a risk factor for dieting (and maybe eating problems) and/or that employing a normative style or commitment to an identity are protective factors. It would also be interesting to delineate whether it is simply the commitment to a certain ideology, including occupation, that is helpful, or whether it is also necessary that this identity be autonomously chosen. Research suggests that the latter is true (see Ryan, Deci, & Grabnick, 1995; Strauss & Ryan, 1993).

Finally, since this study is the first to examine the stability of identity style after a four month lapse and in an experimental setting, this issue deserves some discussion. That the reliability of identity style was low for almost every subscale in both conditions, is evidence that this cognitive processing orientation is not fixed over the first year of university. However, the results suggest that at least some of this inconsistency might be a reflection of whether one is restrained eater or not. Indeed, Schupak-Neuberg and Nemerooff (1993) found that restrained eaters who display symptoms of bulimia or binge eating were less consistent with their self-descriptions than were unrestrained controls.

More importantly, though, the fact that the test-retest coefficients for the information-oriented style differed by condition suggests this subscale was differentially affected by the experimental manipulation. Reports about employing an information-orientated identity style were less consistent with mass testing reports after listing one's personal goals than after listing television shows. Moreover, in the latter (control) condition, reports of an informational style were the most highly consistent with mass
testing reports (.81). Why only the information-oriented style was affected in this way is unexplainable without further research; nevertheless, the finding is suggestive concerning the susceptibility of identity style to manipulation.

Given this insight, and the knowledge that by late adolescence everyone has the capacity to employ each of the identity styles (Berzonsky, 1989), some interesting research questions could develop from this study. For instance, if the experimental manipulation was such that the use of a diffuse-avoidant identity style was made to seem most appropriate or useful in one group of participants, and least appropriate or useful in another, one could measure the effects of using that style to process identity information on subsequent behavior (e.g., eating). That is, perhaps it is only when a diffuse-avoidant identity style is engaged to the extent of diminishing any tendencies to use the other styles that the effect of contemplating one's goals brings the expected avoidance through disinhibited eating.

Indeed, one of the major limitations of this study is that a median split of the diffuse-avoidant subscale was used instead of having predetermined groups of participants who were among the highest in terms of diffuse-avoidance z-scores while lower in terms of normative and informational scores, or the converse. This would have no doubt led to more clear-cut differences in behavior following the manipulation. Unfortunately, due to cell numbers and subject pool restraints, many of the participants who were in the diffuse-avoidant group did not necessarily score lower on the informational and normative subscales. In addition, the fact that the University of Toronto Mississauga campus consists of only 20% Caucasian students might have made it difficult to get participants employing the full range of identity styles. As research has demonstrated that ethnic
groups other than Whites are more often foreclosed in identity status (Markstrom-Adams & Adams, 1995; Streitmatter, 1988), this translates into most of the present study's participants using predominately a normative identity style. Race and ethnicity should definitely be taken into account in future research also because eating problems are known to be less prevalent in nonwhite populations (APA, 1994).

Another obvious limitation of the study is that most of the significant results are correlational in nature. As aforementioned, systematically altering identity style (which has yet to be done) and/or creating a stronger manipulation of challenging the identities of restrained eaters (i.e., making them more aware of their relative lack of career or other major life goals) could yield interesting cause-effect results, given the present findings. Indeed, more research is needed before concluding whether the eating behavior of restrained eaters is reflective of an underlying identity disturbance and whether periods of overeating in dieters are caused by the use of a diffuse-avoidant identity style in situations that require introspection. Certainly, the use of a particular identity style could instead be a consequence of dieting or eating problems. Research on whether identity styles are susceptible to demand characteristics and experimental manipulation is an essential next step to understanding if we can even study the effect of processing identity information on eating in the laboratory setting.

In sum, several findings in this study can be seen to support the theory that the identities of restrained eaters are caught up in dieting goals and that this is related to avoidance of other identity issues, which together might result in greater "false hope" and other risk factors for problem eating. Notably, the unique findings for the diffuse-avoidant restrained group attests to the importance of adding the identity style dimension to the
restrained/unrestrained eater distinction. Further, the use of goals, both as a dependent variable and as a predictor of mood, self-esteem, and eating, yielded some important findings that can be turned into specific hypotheses for future research. Mainly though, this study provided a starting point for research on the link between identity and eating behavior, and on the effects of manipulating identity in the laboratory.
References


Table 1.

Means (and standard deviations) of experimental measures and their subscales.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Diffuse-avoidance Identity Style</th>
<th>Restraint</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Nondiffuse-avoidance</td>
<td>Diffuse-avoidance</td>
</tr>
<tr>
<td>Affect - Anxiety</td>
<td>35.8 (7.1)*</td>
<td>39.1 (8.5)b***</td>
</tr>
<tr>
<td>Affect - Depression</td>
<td>33.7 (8.0)</td>
<td>35.7 (8.8)</td>
</tr>
<tr>
<td>Affect - Hostility</td>
<td>30.6 (4.7)*</td>
<td>33.4 (6.6)b***</td>
</tr>
<tr>
<td>Affect - Total</td>
<td>100 (16.9)</td>
<td>108.2 (21.7)</td>
</tr>
<tr>
<td>State SE - Appearance</td>
<td>20.5 (4.3)*</td>
<td>17.6 (4.5)b***</td>
</tr>
<tr>
<td>State SE - Performance</td>
<td>26.8 (4.5)*</td>
<td>23.9 (5.0)b***</td>
</tr>
<tr>
<td>State SE - Social</td>
<td>26.5 (4.9)*</td>
<td>23.6 (4.4)b***</td>
</tr>
<tr>
<td>State SE - Total</td>
<td>73.8 (11.5)*</td>
<td>65 (11.3)b***</td>
</tr>
<tr>
<td>Trait SE - Appearance</td>
<td>19.4 (4.8)*</td>
<td>16.8 (5.2)b***</td>
</tr>
<tr>
<td>Trait SE - General</td>
<td>26.1 (5.4)*</td>
<td>22.8 (4.6)b***</td>
</tr>
<tr>
<td>Trait SE - Other</td>
<td>18.8 (4.3)</td>
<td>17.3 (4.1)</td>
</tr>
<tr>
<td>Trait SE - Self</td>
<td>14.8 (3.8)</td>
<td>13.3 (4.5)</td>
</tr>
<tr>
<td>Trait SE - Social</td>
<td>15.8 (4.5)</td>
<td>14.3 (4.4)</td>
</tr>
<tr>
<td>Trait SE - Total</td>
<td>94.9 (18.6)*</td>
<td>84.5 (17.8)b***</td>
</tr>
<tr>
<td>Perfectionism</td>
<td>9.0 (4.4)</td>
<td>7.5 (4.9)</td>
</tr>
</tbody>
</table>

Note. * is significantly different from b and ** is significantly different from d; State SE = State Self-esteem; Trait SE = Trait Self-esteem; Affect = Affect Rating Scale; *p<.05, **p<.01, ***p<.0005
Table 2.

**Coding scheme for Goals listed in experimental condition**

<table>
<thead>
<tr>
<th>Weight</th>
<th>To do with a set weight or body issues (i.e., “I want to be comfortable with my body”)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fitness</td>
<td>Exercise or body toning goals</td>
</tr>
<tr>
<td>Career</td>
<td>Either school-related or goals relating to acquiring jobs (in general or specific types)</td>
</tr>
<tr>
<td>Relationships</td>
<td>Regarding marriage, boyfriend issues, kids, friendships, parent relationships</td>
</tr>
<tr>
<td>Affect</td>
<td>Achieving happiness or improvement of mood that is unrelated to another specific category (e.g., career, relationships, etc.)</td>
</tr>
<tr>
<td>Leisure/Recreation</td>
<td>Travelling or doing things just for fun and relaxation (excludes “learning” something)</td>
</tr>
<tr>
<td>Skills</td>
<td>Learning how to, for example, ski, play piano, speak another language, etc.</td>
</tr>
<tr>
<td>Influence others</td>
<td>E.g., volunteer work, being a role model/inspiration to others, or helping out friends or parents that are in a needy state</td>
</tr>
<tr>
<td>Self-improvement</td>
<td>To become a better person in some way, including personality changes, study habits, etc.</td>
</tr>
<tr>
<td>Creative Self-Impression</td>
<td>Wanting to do something expressive that does not include “learning” how to do it (e.g., write poems, create art, etc.)</td>
</tr>
<tr>
<td>Things*</td>
<td>Acquire things such as house, car, clothes</td>
</tr>
<tr>
<td>Money*</td>
<td>Acquire more money, money management, pay off debts, etc.</td>
</tr>
<tr>
<td>Extras*</td>
<td>Idiosyncratic wished that are either vague (e.g., “To be rich and famous”) or specific (e.g., fix my car)</td>
</tr>
</tbody>
</table>

* Comprise “Filler” category