

ABSTRACT

Title of Document: DREAM GROUPS VERSUS
INTERPERSONAL GROUPS: A
COMPARISON OF TWO APPROACHES TO
EATING DISORDER PREVENTION AMONG
SORORITY WOMEN

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Psychology

Maladaptive eating attitudes and behaviors are prevalent among college women, and members of sororities may be at particular risk for developing eating disorders. Recently, group-format prevention programs targeting maladaptive cognitions and unhealthy eating habits among college women have yielded promising results but did not account for the effects of changes in alexithymia or interpersonal dynamics, factors that have been associated with eating disorder etiology. The current study targeted these and other eating disorder risk factors among sorority women, comparing process and outcome of group dream work versus group interpersonal psychotherapy versus control groups. Pre- to post-intervention changes in alexithymia, body dissatisfaction, fear of negative evaluation, and depression and were compared. In addition, development across time of affective referents and image intensity in written responses and group climate were examined. Growth curve analysis was used to compare changes in all variables over time.

Results indicated that the written responses of dream group participants had more intense images in them than either the interpersonal groups or control condition. In addition, at post-test, the image intensity in interpersonal group members' written responses predicted the proportion of affect expressed in them, whereas this was not the case for dream group or control participants. For group climate, members of interpersonal groups perceived higher initial levels of conflict that decreased significantly over time.

DREAM GROUPS VERSUS INTERPERSONAL GROUPS: A COMPARISON OF
TWO APPROACHES TO EATING DISORDER PREVENTION
AMONG SORORITY WOMEN

By

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Dedication

This paper is dedicated in fond remembrance of Ceci Warrick, whose gentle encouragement and determined pursuit of excellence during her brief life have long inspired me and served as a particular impetus for this project.

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Chapter 1

Introduction

Eating disorders are among the most common mental health diagnoses for young women (Kreipe & Birndorf, 2000), and their effects are wide ranging and severe. Indeed, mortality for patients with anorexia nervosa has been estimated to be 0.56% per year, or approximately 12 times the annual death rate due to all causes of death among girls and women between the ages 15 and 24 (Sullivan, 1995). Longer term mortality findings (Nielsen, 2001) for 20- to 40-year follow up showed that for individuals with anorexia nervosa the risk of dying is almost 4 times higher than it is for their healthy peers. In addition to high lethality, anorexia nervosa, bulimia nervosa, and eating disorder not otherwise specified have frequent comorbidity with other mental illnesses, including depression, anxiety, and substance abuse. Eating disorders also have long-term physical consequences, including cerebral changes resulting in cognitive deficits, amenorrhea, cardiovascular problems, gastro-esophageal effects, multiple organ damage, oro-dental problems, and osteoporosis (Zipfel, Löwe, & Herzog, 2005).

Eating disorders are difficult to diagnose in their early stages; sufferers often are secretive about their maladaptive thinking and unhealthy eating habits because of the shame attached to them. In addition, women who restrict, purge, or over-exercise may receive positive feedback for the resulting weight loss, thus reinforcing the unhealthy behaviors. Because individuals with eating disorders tend to hide their symptoms and deny the disorder, the resulting physical damage may be the first time they seek treatment, and research (Agras et al., 2004; Strober, 2005) has shown not only that eating disorders are difficult to treat successfully but also that they become increasingly resistant

to treatment the longer an individual has the illness.

Clearly, then, there is a need to develop effective prevention strategies, and in order to develop such programs we need to focus on the risk factors associated with disordered eating. Several eating disorder prevention programs have arisen in the last several years with promising results. These programs have focused on cognitive dissonance, healthy eating, and yoga (e.g., Becker, Smith, & Ciao, 2006; Becker, Bull, Schaumberg, Cauble, & Franco, 2008; Mitchell, Mazzeo, Rausch, & Cooke, 2007; Stice, Marti, Spoor, Presnell, & Shaw, 2008) to address several different risk factors, including body dissatisfaction, alexithymia, and depression.

Body dissatisfaction has been identified as the single strongest personal factor predicting eating disorders among women (Bradford, & Petrie, 2008; Cooley, Valdez, Toray, & Tee, 2007; Tylka & Subich, 2004). It also has been associated with other risk factors, including social anxiety. Research (Becker et al., 2006, 2008; Mitchell et al., 2007; Stice et al., 2008) has shown that cognitive-dissonance based prevention strategies effectively decrease body image dissatisfaction.

Alexithymia also has been shown to be a significant predictor of eating disorder risk status (e.g., Leon, Fulkerson, Perry, & Early-Zadd, 1995) and has been associated with body dissatisfaction and disordered eating (Carano et al, 2006; Cochrane, et al, 1993; Sexton et al., 1998) in subclinical as well as symptomatic samples (Schmidt, et al., 1993; Troop et al., 1995; Laquatra & Clopton, 1994; Taylor et al, 1996). One factor of alexithymia—difficulty distinguishing emotion from bodily sensation—has been a very strong predictor of eating disorder symptoms in several studies (Bydlowski et al., 2005; Speranza, Loas, Wallier, & Corcos, 2007; Taylor, Parker, Bagby, & Bourke, 1996).

Mitchell et al. (2007) found that cognitive-dissonance based prevention resulted in decreased alexithymia.

Although depression alone does not predict later disordered eating, there is a high rate of comorbidity with eating disorders (Santos, Richards, & Bleckley, 2007). In addition, research has shown that increase in depression is related to increased disordered eating symptoms (Dobmeyer & Stein, 2003; Cooley, Toray, Valdez, & Tee, 2007), and that depression mediates the association between childhood abuse and neglect and later development of EDs (Mazzeo & Espelage, 2003). Mitchell et al. (2007) and Stice et al. (2008) found that cognitive-dissonance based prevention did not result in lower depression scores.

One risk factor that has not been addressed in the above-mentioned prevention efforts is social anxiety, which is considered a risk factor for the development of disordered eating (Godart, Flament, Perdereau, & Jeammet, 2002; McLean, Miller, & Hope, 2007). One component of social anxiety, fear of negative evaluation, has been linked to eating attitudes and behaviors among college women (Gilbert & Meyer, 2003, 2005a, 2005b). It has been suggested that fear of negative body evaluation leads to social anxiety (Bulik, Beidel, Duchmann, Theodore, & Kaye, 1991), but other evidence (McLean et al., 2007) indicates that fear of negative evaluation causes individuals to suppress emotional expression, which may lead to maladaptive coping strategies such as eating pathology.

Vulnerability to social contagion may also contribute to the development of disordered eating, and sorority women may be particularly at risk. Although findings have been mixed, studies (Basow, Foran, & Bookwala, 2007; Crandall, 1988) have

shown that sororities tend to attract women who are at risk for developing EDs and that living in a sorority house may increase the likelihood of engaging in disordered eating. In addition, a study by Zalta and Keel (2006) indicated that college women who lived with selected peers (as in a sorority) demonstrated patterns of socialization of bulimic behaviors and lower self-esteem. It may be that fear of negative evaluation for failing to conform to group standards of appearance is heightened by the condition of living and eating (or not eating) together.

With regard to the effectiveness of eating disorder prevention programs, a meta-analysis by Stice (2004) showed that more effective programs were targeted (i.e., had the goal of modifying risk factors in at-risk but nonclinical) rather than universal (i.e., focused on strengthening protective factors in nonclinical individuals) were interactive rather than didactic, and were conducted over multiple sessions rather than in a single presentation. Despite the finding that interactive prevention programs had a stronger effect and that many of the above programs were in a group format, researchers have not considered the likely considerable effects that interpersonal dynamics had on outcomes (Becker et al. 2006, 2008; Stice et al., 2008). Results of treatment studies, however, have shown that group climate, especially level of engagement, has been associated with decreased ED symptoms (Nevonen & Broberg, 2005; Tasca, Balfour, Ritchie, & Bissada, 2006; Tasca, 2006, 2007). In addition, type of group intervention (interpersonal versus CBT) appears to be associated to climate and outcome (Tasca, et al., 2006, 2007), but how the development of group climate affects outcome is still unclear. It has been argued that group cohesion and self-understanding are key components of group therapy that

lead to healing and growth. What has not been shown is what processes contribute to increased levels in both of these components.

In non-eating-disordered samples, interpersonal group therapy has been associated with reduction in alexithymia (Beresnevaite, 2000). Perhaps working interpersonally helps clients to identify, articulate, and more fully experience their emotions. In addition, imaginal work, including dream work, has been recommended as a strategy for addressing diminished imaginal capacity in alexithymic individuals (Cartwright, 1993; Taylor, Bagby, & Parker, 1997). It may be that individuals high in alexithymia may have more difficulty with the exploratory and interpretive work needed to identify and express emotions when they work with dreams. Case studies have shown that group dream work provides a safe, healing environment for clients so that they can bear difficult emotions and productively reflect group tensions around issues of trust, support, and universality (Friedman, 2000). Thus, it appears possible that both interpersonal psychotherapy groups and dream groups could help prevent eating disorders by addressing alexithymia.

The purposes of the current study, then, were to compare two approaches to eating disorder prevention (group dream work and interpersonal psychotherapy group work) by investigating how interpersonal functioning and expression of affect during these interventions related to changes in four outcome variables that are considered major eating disorder risk factors, namely, alexithymia, body dissatisfaction, fear of negative evaluation, and depression.

Chapter 2

Review of the Literature

The review of the literature begins with a section examining several major risk factors for eating disorders (EDs) and how these predictors fit into recent proposed models of ED etiology. This section will review a meta-analysis, studies modeling multivariate risk factors, and studies on the single risk factors of sorority membership, body dissatisfaction, depression, fear of negative evaluation, and alexithymia. The next section reviews studies on ED prevention programs as they pertain to the pertinent risk factors. Following that is an examination of the literature on group therapy climate, process, and outcome; interpersonal group therapy; and group therapy focused on dreams. The final section examines research on dream work in therapy, specifically, studies conducted using the Hill cognitive-experiential model are reviewed.

Eating Disorder Risk Factors

Meta-Analysis

Extensive research on the etiology of eating disorders has broadened the knowledge base sufficiently to enable meta-analyses of the numerous risk factors. In their meta-analytic review, Stice (2002) examined prospective and experimental studies; they included prospective studies only if they tested whether risk and maintenance factors predicted later increases or decreases in ED symptoms. In addition, he focused on risk factors investigated in two or more prospective or experimental studies. Stice found that initial body dissatisfaction is a risk factor for negative affect, with a small mean effect size ($r = .14$). Initial body dissatisfaction also was related to increase in eating pathology, with a small mean effect size ($r = 0.13$). In addition, initial negative affect was a risk

factor for increase in eating pathology ($r = 0.09$), and experimentally manipulated negative affect was a risk factor for increased in body dissatisfaction ($r = 0.22$).

Several statistical limitations of the research were noted, including not establishing initial levels of outcome variables and not using techniques powerful enough to model change (e.g., growth curve analysis). Stice also cited theoretical limitations, including the modest effect sizes of established risk factors, and suggested identifying new risk factors such as hypersensitivity to negative interpersonal interactions. In terms of implications, it was suggested that prevention programs should address mutable risk factors such as body dissatisfaction and negative affect and work to increase protective factors such as social support. In addition, it was suggested that since prevention programs appear to most benefit those with initial elevations in risk factors, that prevention programs should use risk factors to target high-risk groups for selective prevention efforts. Finally, in terms of future research directions, Stice (2002) suggested increased use of prospective and experimental designs that use validated measures.

Studies Modeling Multivariate Risk Factors

Given the number of identifiable risk factors and calls to develop a more comprehensive and nuanced understanding of risk factors' relationship to pathology, a number of multivariate models of ED etiology have been investigated. Mazzeo and Espelage (2003) used structural equation modeling to investigate the mediating role of alexithymia and depression between abuse and ED pathology among college women. Participants were 820 college women recruited from psychology courses and from sororities. The authors specifically recruited sorority members based on results of prior studies (Crandall, 1988; Schulken, Pinciaro, Sawyer, Jensen, & Hoban, 1997) indicating

the prevalence of disordered eating behaviors among sorority women. The authors found that alexithymia and depression mediated the association between childhood abuse and neglect and disordered eating. The authors concluded that the mediational role of alexithymia may mean that the women who had difficulty identifying and articulating their emotions were more likely to engage in disordered eating behaviors possibly as a coping strategy for being unable to express themselves verbally. The authors characterized this as a “turning outside” (focusing on appearances) as a means of avoiding “turning inside” (focusing on emotions, p. 96). They suggested these findings have implications for prevention and treatment programs, specifically, that attention should be given to emotion skills training in order to help at-risk and symptomatic women learn to identify and articulate their emotional experiences in order to prevent them from “turning outside.”

Mazzeo and Espelage (2003) also found that depression mediated the association between childhood abuse and neglect and development of disordered eating. The authors suggested that at-risk and symptomatic women may benefit from interventions that focus on developing adaptive coping strategies for dealing with depression. They concluded that occurrence of abuse or neglect is not directly associated with disordered eating behaviors, but that abuse and neglect may lead to subsequent manifestation of alexithymia and depression, which in turn are related to the severity of ED symptoms. Their findings suggest that a holistic approach to assessing risk factors and symptoms is important both clinically and in future research. This study added to the knowledge base by elucidating the mediational role of depression and alexithymia (both long considered risk factors) in the development of EDs, which prior research had not tested

simultaneously. There were several limitations, however, including the fact that family cohesion and family abuse were assessed retrospectively, and internal consistency reliability for some measures was low.

Tylka and Subich (2004) used structural equation modeling to investigate a model of disordered eating that included personal, sociocultural, and relational risk factors. Their rationale for the study was that no ED model with all three of these domains had yet been proposed despite prior research indicating that factors from all of these domains were associated with eating pathology. The authors tested two different versions of their model in order to see whether the measure used to assess ED symptoms affected model fit. For this study the authors targeted the risk factors of external pressure for thinness (sociocultural); family and friend social support (relational); and internalized pressure for thinness, negative affect, body dissatisfaction, and poor interoception (individual) based on their established association with ED symptoms. Data was collected from 463 college women who were either psychology students ($n = 364$) or sorority members ($n = 99$); no demographic differences were found between the two groups.

In the domain of personal factors, the authors found that negative affect and body dissatisfaction together accounted for about two-thirds of the variance in poor interoception (difficulty distinguishing physical sensations such as hunger and satiety from emotion) in both models. Although the contributions of relational variables were not as pronounced as the personal variables, perceived social support from friends significantly accounted for unique variance in ED symptoms. The authors concluded that sociocultural and personal factors might be stronger predictors of disordered eating than relational factors; however, their model also indicated that, together, relational and

personal factors fully mediated the effects of societal pressure for thinness on ED symptoms. In this model, then, relational factors are not directly related to ED symptoms but they are related to ED risk factors, specifically, both friend and family social support are significantly negatively related to negative affect, which in turn is strongly positively related to poor interoceptive awareness. The finding that relational factors are associated with ED risk factors indicates that relationships may play a key role in ED prevention.

Tylka and Subich's (2004) models both expanded on and supported prior ED research by considering three different domains theorized to contribute to ED symptoms. They further elucidated the relationship between negative affect, body dissatisfaction, and support from friend and disordered eating. In terms of implications, the authors suggested multidimensional approaches focusing on decreasing body image dissatisfaction, improving interoception, and increasing social support as a starting point for prevention programs. The limitations of the study include data collection at only one time point and the fact that data from sorority women were not analyzed separately from that of non-sorority women. Given that several studies (Crandall, 1989; Schulken, Pinciario, Sawyer, Jensen, & Hoban, 1997; Basow, Foran, & Bookwala, 2007) have shown that sorority membership is associated with higher levels of disordered eating, separate analyses would have been useful. In Tylka and Subich's (2004) findings, sorority data may well have been different for the variables of support from friends, body dissatisfaction, and ED symptoms.

Cooley, Toray, Valdez, and Tee (2007) investigated risk factors for maladaptive eating in 339 college women in a longitudinal study. Body dissatisfaction, depression, reassurance seeking, impulsivity, perfectionism, stress and eating pathology were

assessed during freshman orientation week, and eating pathology was assessed again at the end of sophomore year. The authors found that eating pathology increased slightly but not significantly over time. All correlations between eating symptoms and risk factors were significant, but the hierarchical regression analysis indicated that only depression and reassurance seeking (change in $R^2 = 0.077$) and negative events (change in $R^2 = 0.036$) contributed significantly to change in eating symptoms. Contrary to expectations, body dissatisfaction did not contribute significantly to increase in symptoms. The authors suggested the developmental level may have contributed to the results given that body dissatisfaction did not contribute significantly to increase in eating pathology but was correlated with eating pathology at Time 1; perhaps this factor had already played its greatest role during an earlier developmental stage. By contrast, since negative affect and reassurance seeking did contribute to increased symptoms these risk factors may be particularly potent during the first two years of college.

In their discussion of the findings, Cooley et al. (2007) speculated that low expectations of and insecurity in interpersonal relationships resulted in hyperactivation of reassurance-seeking behavior, thus exacerbating interpersonal difficulties, which, among college women, may lead to new or increased eating symptoms. The authors also suggested that increased eating symptoms might be a coping strategy for dealing with unpleasant emotions. The longitudinal design enabled greater understanding of how the risk factors of depression and reassurance seeking contribute to development of ED symptoms specifically among college women.

Working from conflicting findings of previous research on the relationship among ED risk factors, Bradford and Petrie (2008) used structural equation modeling to compare

different models of the etiology of disordered eating. They gathered data from 236 female college freshman during their first semester and then again 6 months later. The authors cross-lagged the different variables (e.g., tested whether internalization of the thin ideal at Time 1 predicted body dissatisfaction at Time 2, or, conversely, whether body dissatisfaction at Time 1 predicted internalization at Time 2, after controlling for each of these variables' own changes over time). Depression at Time 1 was positively correlated with body dissatisfaction at Time 2, and dissatisfaction at Time 1 was positively correlated with depression at Time 2. Once the researchers controlled for temporal stability of the variables, however, neither Time 1 measure predicted the other measure at Time 2. Analysis of contemporaneous effects at Time 2 showed that body dissatisfaction was associated with depression, but depression was not associated with dissatisfaction. The authors stated that this unidirectional relationship indicates that women who are concerned about body image also experience depressive affect related to their dissatisfaction.

Regarding the relationship between depression and disordered eating behavior, results indicated a bidirectional relationship between the two factors for contemporaneous and cross-time correlations. These results are consistent with prior research showing that negative affect predicted disordered eating (Stice & Agras, 1998; Johnson, Cohen, Kasen, & Brook, 2002) and that ED symptoms predicted increased depression (Stice, Burton, & Shaw, 2004). Disordered eating may arise as a strategy for coping with unpleasant moods specifically as the mood relates to body dissatisfaction.

Bradford and Petrie's (2008) findings contributed to the literature by showing that the relationship between the risk factors of body dissatisfaction and depression as

contributors to ED etiology is complex. Drawbacks, however, included reliance on a single item to measure depression. Also, the depression measure asked for mood state over the previous 2 weeks, whereas the body dissatisfaction measure assessed a more trait-like construct (asking women how they felt about specific body parts). Because body dissatisfaction was a more stable construct over the course of the 6-month time lag than was the more state-dependent depression construct, the relationship between the two may not have been accurately reflected. The authors suggested that a briefer time span of 1 or 2 months between the two measures might be a better method for assessing how the two constructs relate to one another. Finally, the authors did not include a construct of social anxiety or interpersonal functioning in their model, which for freshmen making the adjustment to college life is likely to have a major impact (whether negative or positive) on their ability to cope with unpleasant feelings.

Overall, findings of the above meta-analysis and subsequent studies indicate that body dissatisfaction, negative affect (in particular, depression), social anxiety, and poor interoceptive awareness are all risk factors for EDs. In addition, some factors, including depression and body dissatisfaction, mediate the relationship of others to ED pathology and have thus contributed to a multidimensional conceptualization of ED etiology. The models, however, included only one alexithymic factor, poor interoception, which is problematic given that other studies (De Berardis et al., 2007; Speranza, Loas, Wallier, & Corcos, 2007) have indicated that difficulty identifying and expressing emotion, diminished imaginative capacity, and externally oriented cognitive style were associated with eating pathology and other ED risk factors. Finally, although global social anxiety was included in the models, specific components of social anxiety (e.g., fear of negative

evaluation) were not examined, which might have provided a more nuanced understanding for sorority women.

Studies of Single Risk Factors

Sorority membership. The prevalence of disordered eating among college women has been a growing concern, and sorority women may be especially at risk because of their marked propensity for attention to appearance and internalization of the thin ideal (Basow, Foran, & Bookwalla, 2007). The empirical research, however, has been inconclusive. Crandall's (1988) study of social contagion of binge eating in sororities found that in one sorority where binge eating was the accepted norm, members who deviated from that norm by not bingeing decreased in popularity. In another sorority in the same study, results showed that increased binge eating was associated with increased popularity. These results suggested there was strong social pressure among sorority members to engage in disordered eating behavior.

By contrast, Alexander (2002) found that sorority members did not differ significantly from members of dance groups or athletic teams on psychological dimensions associated with eating disorders, although a limitation was that 59% of activity group members were also sorority members. Hoerr, Bokram, Lugo, Bivins, and Keast (2002) found that compared to students living in residence halls or taking upper level courses, members of sororities had the highest risk of developing an eating disorder. But of the 14 social sororities surveyed, members of one house had a much higher level of disordered eating, which suggested that contagion of ED pathology may be dependent upon group dynamics as well as personal factors.

Cashel, Cunningham, Landeros, Cokley, and Muhammad (2003) found that Caucasian non-sorority women, Caucasian sorority members, and Latina sorority members had the highest scores on scales assessing awareness of sociocultural pressure for thinness and internalization of the thin ideal among a sample of 405 college men and women. Allison and Park (2004) assessed 102 college women and found that women who joined sororities were similar to those who did not join on baseline measures but that sorority women maintained the intensity of their negative eating attitudes and behaviors during college, whereas nonmembers did not. The culture within the sororities may have helped to maintain unhealthy eating attitudes and behaviors in such a way that members were not able to develop healthier alternatives.

Basow, Foran, and Bookwala (2007) investigated the effect of social pressure to conform to the thin ideal on disordered eating among college women. Participants were 99 non-first-year sorority women; 80 non-first-year non-sorority women; and 86 first-year women not yet eligible to join a sorority. Sorority members had higher levels of objectified body consciousness, disordered eating attitudes, and perceived social pressure than nonmembers. In addition, first-year women with high levels of these risk factors were more likely to want to join a sorority. Hence, preoccupation with one's body, feeling a sense of social pressure, and unhealthy attitudes toward food and eating may lead women to join sororities.

Social pressure may be related to contagion of ED-related attitudes and behaviors is a particular concern for sorority women (Basow et al., 2007; Hoerr et al., 2002). Research results (Stice, 1998) have indicated that spread of unhealthy body image and eating behaviors relates to modeling and social reinforcement of these factors among

peers. More recent studies (Becker et al., 2006; Mitchell et al., 2007; Stice et al., 2007; Stice et al., 2006) found that in nonclinical samples ED prevention programs using cognitive dissonance or healthy weight interventions with group modeling and feedback produced significant reductions in nonspecific risk factors, including body dissatisfaction, negative affect, and alexithymia. Perhaps the spread of healthy thoughts in a group setting also depends on social support for the thoughts among the group members.

Finally, for a consultation project for the Office of Fraternity and Sorority Life at UMD, Welsh and Spangler (2007) assessed the eating attitudes and behaviors of sorority women. Overall, the women endorsed frequent dieting behaviors, eating diet foods, and feeling terrified of being overweight. They did not endorse items indicating frequent unhealthy eating behaviors, but they did indicate occasionally engaging in behaviors such as vomiting after eating and thinking about calories when exercising. Seventy percent of respondents felt that more than 10% of their chapter members struggled with these issues. More specifically, 32% said that 10 to 25% of members struggled with body image, 22% felt that at least 26 to 50% did, and 11% felt that 50 to 75% had body image concerns. Four percent believed felt that 75% or more of their membership or more struggled with either body image or unhealthy eating behaviors. Clearly, most sorority women perceived that some of their members struggled with eating issues.

These studies suggest that sorority women may be at particular risk for disordered eating. Attention to appearance, social pressure to conform to appearance and eating behavior norms within the sorority, and fear of negative evaluation may play a role in generating social contagion among members. It may be that sorority culture contributes

to spread of shared values and to difficulty in containing or reversing the spread of unhealthy attitudes and behaviors.

Alexithymia. First defined by Sifneos (1973), alexithymia is characterized by a difficulty identifying and describing feelings to others; difficulty differentiating between emotion and physical sensation; impoverished imaginative capacity; and an externally oriented, concrete cognitive style. The strong association between alexithymia and disordered eating has been well established (Bydlowski, Corcos, Jeammet, Paterniti, Berthoz, Laurier, Chambry, & Consoli, 2005; Gilboa-Schechtman, Avnon, Zubery, Jeczmiem; 2006; Sim & Zeeman, 2004) and is reflected in the substantial degree of overlap of constructs on the Toronto Alexithymia Scale-20 (TAS-20; Bagby, Parker, & Taylor, 1994) and the Eating Disorder Inventory-3 (Garner, 2004; Cumella, 2006), specifically in terms of interoceptive, affective, and interpersonal deficits.

Alexithymia has also been associated with other ED risk factors, including depression and anxiety. For example, Cochrane, Brewerton, Wilson, and Hodges (1993) examined the relationship of alexithymia to affective symptoms among 114 diagnosed female ED clients. ANOVA results showed no significant differences in alexithymia among the different types of ED patients. Scores of a non-paired *t*-test were significantly higher for the total patient group than for previously reported (Taylor, Ryan, & Bagby, 1985) nonclinical female college students. In addition, alexithymia scores were significantly positively correlated with depression ($r = .50$) and anxiety ($r = .29$).

Speranza et al. (2007) investigated the prognostic value of alexithymic characteristics over the course of 3 years in individuals with EDs. They followed 102 diagnosed ED patients, measuring alexithymia, depression, and severity of ED

symptoms. Results of hierarchical regression analyses indicated that, independent of depression or severity of ED, the Difficulty Identifying Feelings (DIF) subscale of the Toronto Alexithymia Scale was a significant predictor of a negative treatment outcome, accounting for 17% of the variance. The authors suggested that these results mean that difficulty identifying feelings may diminish clients' ability to deal with distress, resulting in an "emotional overflow" (p. 369). This overflow is further complicated by the clients' difficulty distinguishing emotion from bodily sensation, causing them to turn to restrictive or bulimic behaviors as a way to temporarily manage their discomfort. The authors concluded that difficulty identifying feelings can be a negative factor in long-term ED outcomes and recommended that treatment not only monitor emotional identification but also help clients develop strategies to identify and express their emotions.

Relatedly, De Berardis et al., (2007) found that alexithymic individuals reported more body dissatisfaction and were at higher risk for developing EDs. The authors assessed a nonclinical sample of 254 college women for alexithymia, body dissatisfaction, depression, interaction anxiousness, and eating attitudes and behaviors. Results indicated that 10% of participants scored 61 or higher on the TAS-20, and were thus categorized as alexithymic. Results of analysis of covariance (controlling for body mass index and depression) showed large effect sizes for differences between alexithymic and nonalexithymic individuals on body dissatisfaction ($d = .82$), eating attitudes and behaviors ($d = .81$), and interaction anxiousness ($d = .80$). Block-wise linear regression analysis showed that difficulty identifying feelings ($\beta = .33$) and difficulty describing feelings ($\beta = .17$) uniquely significantly predicted unhealthy eating attitudes and

behaviors. The authors also found that the externally oriented thinking component of alexithymia was trait-like and did not change with mood, whereas other components (difficulty identifying feelings and difficulty describing feelings to others) were more mood dependent, thus bringing into question whether prevention or treatment could successfully address this ED risk factor. Overall, these results suggest that the role of alexithymia in ED development may be indirect, affecting other risk factors such as depression and body dissatisfaction. Furthermore, since results showed that body mass index was not related to ED symptoms, the authors suggested that psychological variables associated with alexithymia may be stronger ED risk factors than body size.

Overall, these studies show that alexithymia is associated with disordered eating attitudes and behaviors in both clinical and nonclinical samples. In addition, difficulty identifying and describing feelings are associated with depression and body dissatisfaction. However, the effects of treatments specifically targeting alexithymia have not been investigated.

Body dissatisfaction. As indicated in the multifactor studies reviewed earlier (Tylka & Subich, 2004; Bradford & Petrie, 2008), body dissatisfaction is widely considered a major risk factor for disordered eating. Theoretical and empirical literature posits that an individual's dissatisfaction with body shape originates from societal pressure from the media, family, and peers to be thin. The unrealistic and often unattainable body types portrayed in the media create feelings of inadequacy and dissatisfaction with one's own shape; dissatisfaction then contributes to disordered eating behaviors.

Stice and Shaw's (2002) narrative review of prospective and experimental studies

found several key risk factors for body dissatisfaction, including high perceived pressure to be thin, exposure to thin body types in the media, and internalization of the thin ideal. Consequences of body dissatisfaction included an increase in bulimia and in dieting, which then predicted onset and increase of bulimic symptoms and onset of both threshold and subthreshold disordered eating. In addition, the relationship between body dissatisfaction and ED behaviors was partially mediated by negative affect, such that initial body dissatisfaction predicted onset of depression and increased negative affect and that negative affect predicted increase and onset of bulimic symptoms. The significant relation between initial body dissatisfaction and later increases in bulimic symptoms became nonsignificant when change in negative affect was controlled, suggesting that body dissatisfaction's relationship to ED behaviors is mediated by negative affect. Experimental studies showed that successfully reducing body dissatisfaction resulted in decreased negative affect, but results from two studies indicated that initial body dissatisfaction was associated with persistence of eating pathology. Stice and Shaw's review provided evidence that certain sociocultural and personal factors were related to body dissatisfaction, but they did not review literature on relational factors (e.g., perceived social support or family dysfunction) that might be associated with body dissatisfaction.

In terms of implications for prevention programs, Stice and Shaw (2002) suggested that interventions targeting one or two factors would likely be more effective than a general approach. Specifically, they recommended cognitive dissonance-based programming, citing its effectiveness in reducing internalization of the thin ideal and body dissatisfaction. These programs typically feature group-based interventions in

which participants write counterattitudinal essays, do role plays against internalization of the thin ideal, and provide feedback to other group members. Although there is evidence of cognitive dissonance-based programs' effectiveness, studies of these approaches have not examined the relationship of negative affect with body dissatisfaction and disordered eating.

Bohne, Keuthen, Wilhelm, Deckersback, and Jenike (2002) investigated the prevalence of symptoms of body dysmorphic disorder among 101 American and 133 German college students. Body dysmorphic disorder is characterized by excessive concern with slight or imagined defects in appearance, which results in distress or impairment that cannot be accounted for by another mental disorder. Greater prevalence of body concerns was found among Americans (nearly three-fourths endorsed concerns about appearance, one-third reported preoccupation, and approximately 4% met DSM-IV criteria for body dysmorphic disorder). Higher depression was found among American students with than without body dysmorphic disorder. In addition, body esteem was negatively related to depressive symptoms ($r = -.35$) and anxiety ($r = -0.20$). Thus, cultural factors appeared to have a role in the severity of body image concerns, and body dissatisfaction appeared to relate to depression. The study was limited by small sample size of those endorsing concern (American $n = 75$) and preoccupation (American $n = 29$) with body image and by lack of SES and ethnicity data as well as psychometric data on some measures.

Tylka (2004) investigated variables thought to be theoretically relevant to body dissatisfaction to determine whether they moderated the relationship between body dissatisfaction and disordered eating behaviors in college women. The rationale was that

although body dissatisfaction is considered a very strong predictor of disordered eating among women, most women who report body dissatisfaction do not report disordered eating. The moderator variables were poor impulse regulation and social insecurity in Study 1 ($n = 304$); body surveillance, appearance control beliefs, neuroticism, family member with an eating disorder, and friend with an eating disorder in Study 2 ($n = 373$). Results only partially supported the hypothesized moderating effects. Body surveillance, neuroticism, and having a family member with an eating disorder intensified the relation between body dissatisfaction and disordered eating. Having a friend with an eating disorder minimally strengthened the relation, but social insecurity and appearance control beliefs were not moderators. Results of the two studies helped to expand the understanding of the association between body dissatisfaction and disordered eating. Although body dissatisfaction is a strong predictor of disordered eating, clearly not all women who are dissatisfied with their bodies develop EDs. These findings have implications for prevention programs; although prevention programs obviously cannot change whether one has a friend or family member with an ED, how one relates to eating-disordered individuals can be addressed. The study had several limitations, including the use of a single measure in Study 1 to assess all of the moderator variables.

In summary, results of the empirical literature indicate that risk factors for body dissatisfaction include pressure to be thin and internalization of an unattainable thin ideal. In addition, concerns about body image are positively related to depression and anxiety. High levels of body dissatisfaction predicted dieting and bulimic behaviors, and the relation between body dissatisfaction and eating pathology was partially mediated by depression. American culture also appears to play a role in high levels of concern with

body image. However, these studies did not investigate alexithymia and fear of negative evaluation as mediators of the relationship between body dissatisfaction and EDs. Nor did they investigate whether body dissatisfaction is affected by interpersonal group dynamics.

Social anxiety/Fear of negative evaluation. A range of anxiety disorders has been related to eating pathology both as predictors of later ED and as occurring simultaneously with disordered eating symptoms (Pallister & Waller, 2007). Social anxiety, in particular, has been associated with eating pathology (Bulik et al., 1991; Godart et al., 2002); however, the nature of social anxiety's relationship to ED pathology and to other risk factors is still unclear.

Gilbert and Meyer (2003) investigated the relationship between social anxiety and social comparison with bulimic and food restrictive attitudes in a sample of 80 female college students. The authors did not target a clinical sample because they wanted a wide range of eating attitudes and behaviors. Variables included fear of negative evaluation, depression, drive for thinness, body dissatisfaction, and bulimia. Results showed that fear of negative evaluation had a significant positive relationship with body dissatisfaction ($r = .41$), depression ($r = .50$), and bulimia ($r = .27$). Multiple regression analysis indicated that fear of negative evaluation ($\beta = .26$) and depression ($\beta = .29$) both had significant unique predictive effect on drive for thinness; however, only depression uniquely predicted body dissatisfaction ($\beta = .26$) and bulimia ($\beta = .26$). Thus, after controlling for depression, fear of negative evaluation still predicted drive for thinness, suggesting that fear of negative evaluation is associated with anorexia (associated with drive for thinness) but not bulimia. One limitation of the study was the use of one-time measurements,

which precluded examination of how change over time in fear of negative evaluation might have affected later eating attitudes and behaviors.

In a replication and extension of their 2003 study, Gilbert and Meyer (2005) investigated the relationship between fear of negative evaluation and eating attitudes while controlling for depression and anxiety. In addition, the authors investigated the predictive power of initial fear of negative evaluation on later development of unhealthy eating attitudes, again while controlling for depression and anxiety. Participants were 143 first-year college women. Measures were completed in the first week of freshman year and then again during the 33rd week of the same academic year. Results indicated that, as in the earlier study, fear of negative evaluation was significantly positively related to drive for thinness ($r = .22$) but not to body dissatisfaction or bulimia, which was consistent with the earlier study. Multiple regression analysis of the longitudinal data showed that Week 1 scores on fear of negative evaluation and depression significantly predicted change in bulimia scores, such that individuals with greater fear of negative evaluation and depression were more likely to develop bulimic symptoms. Thus, fear of negative evaluation is associated with restrictive attitudes (drive for thinness) cross-sectionally, and it is associated longitudinally with change over time in bulimic attitudes and behaviors. The authors suggested that individuals who are unable to cope with elevated fear of negative evaluation may develop restrictive attitudes and behaviors to gain status among their peers and may turn to bulimic pathology over the course of time. Such a sequence would be consistent with clinical observations that individuals with anorexia often develop bulimic pathology. Perhaps if individuals with high fear of negative evaluation and restrictive eating attitudes are unable to develop healthy ways

cope with their fear, they turn from one unhealthy means of gaining status among their peers to another.

Striegel-Moore, Silberstein, and Rodin (1993) suggested that preoccupation with body image and dieting among women with disordered eating symptoms may be a strategy for lessening interpersonal anxiety by projecting a positive self-presentation via attractive physical appearance. This preoccupation with appearance may be a way of avoiding negative evaluation or rejection. For example, McClintock and Evans (2001) investigated the underlying psychopathology of both ED and social phobia behaviors using structural equation modeling to determine whether fear of negative evaluation and social support directly or indirectly affected disordered eating, social phobia, and body dissatisfaction among 252 female college students. Results showed that fear of negative evaluation had a positive influence on disordered eating behaviors and social phobias, but these relationships were partially mediated by low self-acceptance. In addition, fear of negative evaluation and poor social support had an indirect effect on body esteem that was partially mediated by low self-acceptance. The authors concluded that fear of being negatively evaluated or rejected by others is a risk factor for eating disorders.

McLean, Miller, and Hope (2007) investigated the relationship among suppression of emotional expression, social interaction anxiety, and disordered eating in a nonclinical sample of 160 college women. Participants completed measures of expressive suppression, social interaction anxiety, eating pathology, depression, and positive and negative affect. Results indicated that eating pathology had positive correlations with depression ($r = .44$), negative affect ($r = .30$), social interaction anxiety ($r = .20$), and suppression of emotional expression ($r = .19$). Regression results indicated that

suppression of expression fully mediated the social anxiety and disordered eating relationship. In addition, after controlling for depression and negative affect, social interaction anxiety continued to predict suppression of emotional expression ($\beta = 0.11$), but it no longer significantly predicted eating pathology. Thus, social interaction anxiety had a significant unique effect on suppression of expression, but this effect was not independent of depression and negative affect. They speculated that the relationship of social anxiety to suppressed emotional expression provides support for the displacement hypothesis that women with social anxiety suppress expression of negative emotions and displace them onto their bodies, which increases body image concerns and eating pathology. Limitations of the study included that participants were not screened for other mental disorders and thus undetected comorbidity may have affected results, they collect data at only one time, and they self-report to assess risk factors. The authors suggested that future research should include longitudinal and experimental designs that include other measures of emotion identification and regulation.

Overall, findings of the studies in this section indicated that fear of negative evaluation (one component of social anxiety) is positively related to eating pathology as well as to depression, body dissatisfaction, and anxiety (all ED risk factors). In addition, initial fear of negative evaluation significantly predicted change over time in eating pathology. Although most of the studies were limited by one-time point designs, they nevertheless provide sufficient evidence to justify further examination of the role of fear of negative evaluation as a risk factor for eating disorders. Evidence that suppression of expression mediates social interaction anxiety and eating pathology also provides justification for studying the nature of social anxiety.

Depression. In a narrative review of the literature, Polivy and Herman (2002) found that although negative affect alone was not likely to lead to disorder eating behavior, it was a commonly cited antecedent for both bulimia and anorexia, especially for subclinical eating problems. They speculated that symptomatic individuals may use disordered eating as a means of regulating negative affect, but that such relief is short-lived. The authors pointed out that co-morbidity of eating and mood disorders is a common occurrence, but that it is unclear whether the mood disturbance or eating disorder is primary.

Dobmeyer and Stein (2003), in a four-year prospective study, examined whether changes in depression related to increased severity in eating pathology among 80 undergraduate women. Results indicated that depression measured at Time 1 did not predict severity of disordered eating four years later. Changes in depression over time, however, did predict increase in bulimic symptoms and global eating disorders symptoms, but not anorexic symptoms. Hierarchical regression results indicated that changes in depressed mood were significantly associated with subsequent assessment of bulimic severity (change in $R^2 = .06$). Results also indicated that the explained variance in global symptoms increased 5% by inclusion of changes of depressed mood. The impact of increase in depression as a risk factor thus differed depending on type of eating pathology, which suggests that although there is some overlap in risk factors for anorexia and bulimia, the risk factors for the two pathologies may not be identical.

Santos, Richards, and Bleckley (2007) investigated the comorbidity of depression and eating disorders among 241 female and male high school students. In addition to identifying the prevalence of depression and disordered eating among adolescents, they

also investigated whether social support, self-esteem, and body dissatisfaction predicted both depression and ED symptoms. They found that 40% of participants scored in the range of possible significant depressive symptoms on the CES-D; using a more stringent cutoff score, 23% had depressive symptoms; female students had significantly higher scores of depression than did male students. In addition, depressive symptoms and eating attitudes were strongly correlated ($r = 0.53$). For female participants, body dissatisfaction, low self-esteem, and low social support were significantly related to depression and disordered eating. Results of hierarchical regression analysis showed that, after statistically controlling for effects of self-esteem, body dissatisfaction, and social support, eating attitudes accounted for a significant amount of variance in depressive symptoms in high school girls ($\beta = .281, p = .001$).

In summary, depression was a risk factor for disordered eating, but its association with ED etiology varied by pathology. In addition, in female participants, depression was strongly related to unhealthy eating attitudes, body dissatisfaction, and low social support, which provides support for a multidimensional etiology of eating disorders that includes depression as both risk factor for and comorbid condition with EDs. The above studies were limited in that they did not assess the influence of social anxiety and alexithymia on depression and EDs.

Eating Disorder Prevention

Meta-Analyses of Prevention Programs

The prevalence of disordered eating attitudes and behaviors among college women has generated a number of prevention and early treatment programs with a variety of approaches, including cognitive dissonance, media advocacy, computerized

psychoeducation, healthy eating, and yoga. In a 2004 meta-analysis, Stice and Shaw (2004) examined several factors that moderated the effects of eating disorder prevention programs. The authors identified 51 studies that met their inclusion criteria: controlled trials testing for intervention effects of prevention programs on eating pathology and risk factors found to predict eating pathology. They calculated effect sizes (r) for outcomes that assessed disordered eating behavior and risk factors for eating pathology (thin-ideal internalization, body dissatisfaction, dieting, negative affect, and body mass). Results indicated that selective programs that screened participants for risk factors had a mean r of .23 for decreases in body dissatisfaction, whereas universal programs that delivered interventions to all participants and did not mention the objective of the intervention had lower effects (mean $r = .08$).

In addition, interactive programs were more effective than purely didactic ones in terms of changes in body dissatisfaction ($r = .15$ vs $.08$) and decreases in negative affect ($r = .16$ vs $.03$). Further, for body dissatisfaction, interventions that had psychoeducational content had significantly smaller effects ($r = 0.09$) than did programs without this content ($r = 0.21$), and similarly, for negative affect, psychoeducational programs had significantly smaller effects ($r = 0.07$) than did programs with no psychoeducational content ($r = 0.22$). Finally, for body dissatisfaction results showed that effect sizes for interventions that lasted several sessions was significantly greater ($r = 0.14$) than were effect sizes for one session (mean $r = -0.03$).

Overall, Stice and Shaw (2004) concluded that larger effect sizes were found for selected rather than universal programs, for multiple session programs, for programs offered to women only, and for older participants. Finally, the authors stated that

evidence indicated larger effects for programs that were not presented to participants as intended for eating disorder prevention.

Based on the results of a meta-analysis of risk factors for EDs, Stice (2002) suggested that prevention programs should focus on reducing changeable ED risk factors (e.g., body dissatisfaction and negative affect), increasing protective factors such as social support and self-esteem, and simultaneously targeting multiple risk and potentiating factors and increasing protective factors. Finally, the author recommended focusing on more general factors, such as increasing social support, that predict multiple outcomes, such as decreased depression and substance abuse in addition to ED pathology because such interventions should produce greater overall improvements in mental health.

A meta-analysis by Fingeret, Warren, and Cepeda-Benito (2006) examined types of ED prevention intervention (psychoeducational; enhanced psychoeducational/CBT psychoeducational; and purely interactive/non-psychoeducational) and targeted population (indicated, i.e., minimal signs of ED; selective, i.e., risk is higher than average; and universal, i.e., community sample not at risk) associated with intervention effectiveness. In addition, they investigated whether prevention programs that present psychoeducational material on EDs produce iatrogenic effects. Forty-six studies met inclusion criteria (interventions had as a goal either decreasing of ED risk or increasing protective factors). Analyses showed effect sizes for general eating pathology were $d = .17$ at posttest and $d = .13$ at follow-up. Effect sizes for body dissatisfaction were $d = .13$ at posttest and $d = .07$ at follow-up. Results for the targeted population showed that for body dissatisfaction there was a pattern of higher effect size for the indicated groups compared with the selective and universal groups both at posttest ($d = .30, .11, \text{ and } .08$,

respectively) and follow-up ($d = .20$ for indicated and $d = .03$ for non-indicated). There were no significant differences for type of intervention. Finally, no harmful effects were found whether or not descriptive ED information was included in the interventions.

These results indicate that although prevention programs have large effects on expanding and improving knowledge about eating disorders, they have only small effects on reducing disordered eating attitudes and behaviors. Fingeret et al. (2006) also found that in studies whose participants were at higher risk of developing an eating disorder, prevention programs were more beneficial. There were no significant effects for any of the intervention strategies.

Overall, the results of the two meta-analyses provide strong evidence for the effectiveness of prevention programs that target at-risk individuals. In addition, there is some evidence that prevention programs were not harmful whether or not information about EDs was provided. It appears that psychoeducation was not as beneficial as were interactive strategies. An important factor in many of these programs seemed to be the group interaction, but group cohesion or interpersonal functioning was not investigated in any of the studies.

Individual Prevention Programs

Since the publication of the meta-analyses reviewed in the previous section, several additional studies have been completed on ED prevention programs. Becker et al. (2006, 2008) compared cognitive dissonance with media advocacy as prevention techniques among sorority women. In both conditions, participants met in groups for two 2-hour sessions; they began with a group exercise in which members identified and analyzed the thin ideal and viewed a brief (7-minute) video highlighting media

manipulation of body images. In the cognitive dissonance condition, group members wrote essays on the personal costs of internalizing the thin ideal and then discussed these costs as a group. They then completed a counterattitudinal mirror exercise as homework and discussed the exercise at the following day's session. They also broke into subgroups for role-play exercises. In the media advocacy condition, the remainder of the first session comprised viewing and discussing a video on the portrayal of women in advertisements. In the second session, members discussed the unattainability of the thin ideal, viewed video testimonials of women who no longer pursued the thin ideal, and learned about the long-term damage caused by disordered eating.

The authors (Becker et al., 2006) assessed restraint, eating pathology, body dissatisfaction, and thin-ideal internalization among 90 sorority members who met in 12 groups. High-risk and low-risk individuals were included in all groups. Results indicated that the cognitive dissonance intervention resulted in small effect sizes for decreased restraint ($d = .31$), eating symptoms ($d = .44$), and body dissatisfaction ($d = .36$) at 8-month follow-up. The media advocacy had a comparatively ineffective intervention for restraint ($d = .01$), eating symptoms ($d = .31$), and body dissatisfaction ($d = .24$). In the replication study, (Becker et al., 2008), 188 sorority members who met in 12 groups were assessed on restraint, eating pathology, body dissatisfaction, and thin-ideal internalization. Results indicated that cognitive dissonance and media advocacy interventions were effective among high risk participants, but only the cognitive dissonance condition was effective with lower risk participants. Specifically, for the cognitive dissonance intervention there were small effect sizes for decreased restraint ($d = .28$), eating symptoms ($d = .37$), and body dissatisfaction ($d = .33$) at 8-month follow-up. The media

advocacy was a comparatively ineffective intervention for restraint ($d = .18$), eating symptoms ($d = .40$), and body dissatisfaction ($d = .16$). These findings provide further support for the effectiveness of the cognitive dissonance strategy. The interventions were presented in mixed-risk groups, which is more naturalistic than inclusion of high-risk people only. One limitation of the study was that group climate was not assessed despite the likelihood that interpersonal dynamics influenced outcome.

In a series of studies that investigated the long-term effects of a cognitive dissonance intervention, Stice et al. (2006, 2007, 2008) randomly assigned 481 adolescent girls to one of four conditions: cognitive dissonance, healthy eating, expressive writing (active control), and assessment only. The two experimental conditions involved participation in 3 weekly hour-long group sessions. The dissonance condition was similar to that used by Becker et al. (2006, 2008), except that there was one additional session and sessions were weekly rather than on two consecutive days. The healthy weight condition also involved 3 weekly hour-long group sessions, but content was focused on health education and promotion of healthy eating habits and discussion among group members of difficulties they might encounter in trying to develop and maintain healthy eating behaviors. In the expressive writing condition, participants wrote about emotionally significant issues during 3 individual 45-minute weekly sessions; they were told that body dissatisfaction was related to emotional issues and that expressive writing was a way to deal with those issues. Assessment-only participants were referred for treatment if they met ED diagnostic criteria.

Results showed that at 3-year (Stice et al., 2008) follow-up, the cognitive dissonance intervention, compared with assessment only controls, produced significantly

greater decreases in body dissatisfaction ($d = .43$), negative affect ($d = .17$), and psychosocial impairment ($d = .19$). The healthy weight intervention also showed significantly greater decreases than assessment-only controls on body dissatisfaction ($d = .28$) and negative affect ($d = .16$). The authors highlighted the fact that the dissonance and healthy eating conditions both produced long-term effects despite their very different content; they suggested that another factor contributing to change was self-presentation. The impact of interaction among group members was not addressed.

In Mitchell, Mazzeo, Rausch, and Cooke (2007), 93 undergraduate college women with body dissatisfaction but low rates of disordered eating were randomly assigned to dissonance groups (similar to Stice et al., 2006, 2007, 2008, and Becker et al., 2006, 2008), yoga groups, or control groups. The dissonance intervention was an adaptation of the Stice et al. (2006, 2007, 2008) cognitive dissonance prevention model. Because the authors believed that more sessions over a longer period would result in more lasting changes, participants in both the Stice and yoga interventions participants attended six 45-minute group sessions..

Results of regression analyses showed no significant differences at post-intervention between yoga and control groups. Participants in dissonance groups had significantly lower scores at post-intervention than the control groups on disordered eating body dissatisfaction ($\beta = -.21$), alexithymia ($\beta = -.23$), and anxiety ($\beta = -.20$). No significant changes were found for the yoga groups. The addition of the alexithymia measure was an improvement over previous intervention studies; but the significant difference in changes in alexithymia might have been due to group interaction rather than

to cognitive dissonance, especially since the yoga group members likely did not interact to the same extent as the dissonance groups.

Overall, these individual studies provide further evidence of the effectiveness of cognitive dissonance prevention programs compared with prevention approaches such as media advocacy. Specific risk factors such as body dissatisfaction and negative affect also appear to be decreased by cognitive dissonance approaches. It is clear, however, from multivariate modeling of ED etiology that investigation of programs that address other risk factors is warranted, as is examination of the effects of group climate on ED risk factors.

Group Therapy

Climate, Process, and Outcome

Group therapy is an effective treatment for many mental health issues (Burlingame, MacKenzie, & Strauss, 2004). Meta-analyses have shown group therapy to be more efficacious than wait-list controls on pre- to post-treatment improvement (Burlingame, Fuhrman, & Mosier, 2003) and as effective as individual therapy (McRoberts, Burlingame & Hoag, 1998). Holmes and Kivlighan (2000) suggested that groups give members a therapeutic environment in which they can form many different relationships and that group participants learn not only from their own therapy but also from observing and participating in the therapy of others.

One proposed mechanism of change in interpersonal functioning during group therapy is group climate and, more specifically, group cohesiveness (Kivlighan, Coleman, & Anderson, 2000). Group theorists have suggested that group climate development (similar to therapy outcome) occurs in stages (Yalom, 1995, 2005;

MacKenzie, 1994). In a study investigating the relationship of group climate development to therapeutic gains, Kivlighan and Lilly (1997) assessed pre- and post-intervention target complaints and perceived group climate using the three-factor (engaged, avoiding, conflict) Group Climate Questionnaire-Short Form for 52 graduate and undergraduate participants in 14 groups. Results indicated that levels of group cohesion (measured by the engaged subscale) at midtreatment and the pattern of cohesion development over time significantly predicted change in target problem. Results of a *t* test indicated that change in target problem and midtreatment perceived engagement were significantly related. Further, *t* test results indicated that a high-low-high (quadratic) pattern of engagement over time accounted for significantly more variance in change in target problem than did the one-time, midtreatment measure of engaged climate.

In addition, change in target problem and perceived avoiding at midtreatment were significantly related, with lower avoiding scores related to decrease in target problem. Change in target problem and a high-low-high-low (cubic) pattern of avoiding were significantly related. Unlike the engaged dimension, however, there was no significant difference in the variance accounted for by change in target problem for the high-low-high-low pattern of avoiding and variance accounted for by change in target problem and midtreatment avoiding. Finally, there were no significant results for midtreatment level of conflict and change in target problem; however, *t*-test results indicated that change in target problem and a low-high-low (quadratic) pattern of conflict were significantly related.

Thus, it was possible to detect significant changes in target problem by examining midtreatment levels of engagement, avoidance, and conflict. However, the pattern of

development over time for engagement and conflict is a stronger predictor than one-time, midtreatment levels. These results support theories of stages of group development (e.g., Yalom & Leszcz, 2005) that may be reflected in members' interactions. The study's findings highlighted the importance of investigating dynamic rather than static processes of group climate development as it relates to therapeutic gain.

One limitation of the study the authors discussed was that group members were students fulfilling a course requirement and results were thus not representative of what might occur among members of a group with risk factors for a particular pathology. The student groups' composition may have resulted in less dramatic pre- to post- or midtreatment changes in target problems. In addition the students' familiarity with group theories and expectations about the process may have resulted in greater cohesion and less avoidance among group members.

A number of studies have investigated process and outcome of group therapy on outcomes with ED therapy groups. Castonguay, Pincus, Agras, and Hines (1998) investigated the relationship between client emotional experience of group therapy and group climate. The authors assessed 65 clients in 6 groups for positive and negative emotional experiences and perceived engagement, avoidance, and conflict during different phases of a manualized 12-week cognitive-behavioral therapy for binge eating disorder (BED). Results of repeated measures ANOVAs indicated significant changes across early, middle, and late phases of therapy for negative affect, such that clients experienced significantly higher negative affect during the middle stages. There were also significant changes across phases for avoidance, such that clients perceived higher

avoidance during the middle stages. Levels of engagement and of positive affect increased steadily across all stages.

In addition, Castonguay et al. (1998) distinguished clients who responded to the therapy from those who did not by comparing emotional experience and perceived engagement at different phases. Discriminant function analyses enabled the researchers to correctly classify 70% of participants in the first phase of treatment and 73% in the middle phase as having responded to the treatment or not based on positive and negative affect and perceived engagement, such that clients who experienced positive feelings and lack of negative feelings and perceived group members as engaged and therefore supportive more often improved. As suggested by the authors, it may be that experiencing negative emotional climates at some point in therapy may be an integral part of interpersonal learning. Discriminant function analysis for responders versus nonresponders in the last stage was not significant. Castonguay et al. (1998) also found that group climate development was related to therapy outcome. They concluded that engagement developed in a steady, linear fashion. One potential limitation was the use of repeated measures ANOVAs rather than hierarchical linear modeling to examine variance of data nested within groups. The assumption when using ANOVA that residual error is independent across individuals was certainly violated because interpersonal interaction among group members directly affected outcome measures.

The studies reviewed in this section found that level and development pattern of engagement and avoidance were associated with treatment outcome. In addition, the Castonguay et al. (1998) study expanded the knowledge base about climate development in group therapy for women with a diagnosed ED, indicating that climate, especially

engagement and avoidance, are important in group treatment of EDs and may also be important in ED prevention. Finally, the use of growth curve analysis in Kivlighan and Lilly (1997) to analyze group climate development was an improvement over static measures of group climate because it enabled examination of how patterns of development over time relate to therapeutic gain.

Interpersonal Group Therapy

Interpersonally focused group therapy is a way of addressing clients' concerns that they are alone in their problem, given that it enables group members to identify and describe problems as universal. Yalom and Leszcz (2005) theorized that in group therapy, other members are a key source of therapeutic change for participants. This interpersonal source of change may be particularly relevant for women at risk for disordered eating, given research cited in the previous section that social anxiety and fear of negative evaluation are risk factors for EDs (Bulik et al., 1991; Godart et al., 2002; McClintock & Evans, 2001).

Tasca, Balfour, Ritchie, and Bissada (2006) investigated developmental changes in group climate in two types of group therapy for binge-eating disorder (BED). Sixty-five clients with diagnosed BED were randomly assigned to 16 sessions of either group psychodynamic-interpersonal psychotherapy (GPIP; 5 groups) or group cognitive-behavioral therapy condition (GCBT; 5 groups). The authors assessed group climate for every session and number of days binged in the last 7 (outcome). Results of the growth curve analysis indicated a different growth pattern between treatment conditions for perceived engagement. In the GCBT condition, a linear increase in engagement was the best fit; in the GPIP condition, a low-high-low-high (cubic) pattern of engagement fit the

data. Thus, in the interpersonal groups level of engagement did not increase steadily across sessions as it did in the cognitive-behavioral focused groups.

For perceived avoidance, a linear growth pattern was significant for GCBT whereas for GPIIP a linear pattern for avoidance was not significant. The authors pointed out that participants in the GCBT condition perceived significantly higher avoidance at the start of therapy than did those in the GPIIP condition, however, and that the significance of the linear decrease in avoidance was likely due to initial high levels, which, by the end of treatment, decreased to levels comparable to those of GPIIP participants.

For conflict, results indicated a linear pattern of decrease in between-session conflict scores. No significant difference was found between conditions. Although the best fit for conflict for both conditions was a decreasing linear slope, the overall mean for conflict was significantly higher for GPIIP than for GCBT.

Tasca et al. (2006) concluded that the pattern of development for the engaged dimension of climate was different for the two conditions and reflected the different approaches to therapy. The GCBT had low member engagement, which reflected the high degree of leader input in the early stages. There was increasing engagement as members became more active in later sessions. By contrast, the GPIIP approach had variable engagement, which reflected an approach more focused on interpersonal growth. This focus was characterized by leaders encouraging participants to engage early in treatment, which was followed by challenge of maladaptive relational patterns and consequent leveling off of engagement (rupture), followed by reinforcement of interpersonal changes and subsequent increased engagement (repair).

Different patterns of avoidance in the two approaches was due to higher initial avoidance in GCBT than in GPIIP groups, which the authors suggest were due to GPIIP therapists establishing in early sessions their expectations of reflection, disclosure, and being in the moment, which resulted in lower levels of perceived avoidance. For the conflict dimension, the authors concluded that the overall higher mean for GPIIP participants may have been due to the confrontational nature of interventions in that condition and that the unexpected linear decrease in conflict in GPIIP groups may have been due to excessive early focus on rapport building.

Group climate thus appears to be an important factor in how change occurs for clients in group therapy. By using growth curve analysis, Tasca et al. (2006) demonstrated that group climate develops over time differently for interpersonal group therapy than it does for group cognitive behavioral therapy and that these patterns are related to outcome for women with BED. The study did not, however, investigate the relationship of group condition to underlying psychological factors related to disordered eating. As suggested by the authors, it would be beneficial to expand this research to eating disorders other than BED.

Dream Work in Group and Individual Therapy

Therapists have understood the unique value of using dreams in therapy since the days of Freud (1900/1966). Dream work can be a nonthreatening means of accessing and bringing to awareness previously unconscious sources of distress and stimulating imaginative exploration and expression, and thus it is particularly well suited to addressing alexithymia. In fact, working with dreams has been suggested as a method for helping alexithymic clients improve diminished imaginative capacity (Cartwright, 1993;

Taylor et al., 1997).

With regard to use of dreams in a group modality, Yalom (2005) suggested that working with dreams in a group therapy setting can help to “accelerate group therapeutic work” (p. 450). In particular, dreams about the group or about the dreamer’s feelings toward group members can help the dreamer to raise and group members to explore previously unconscious material about the group. Case examples indicate that dream work in group therapy is an effective treatment mode. Arons (1978) showed that first-reported dreams in group therapy reflect the client’s basic conflict as well as reflect group tensions around issues of trust, support, universality, and other issues. Friedman (2000) described an interpersonal approach to group dream work, arguing that the group served as a container to help dreamers tolerate the difficult emotions in the dream and to continue exploring them.

Although Hill and colleagues have conducted a considerable amount of research (see review in Hill & Spangler, 2007) on her cognitive-experiential dream model (Hill, 2004b), most of the studies have been of individual therapy. Only one study has investigated group dream work. In that study, Falk and Hill (1995) compared 22 recently separated or divorced women who received eight 2-hour dream group sessions (in how many groups?) with 12 women in a wait-list control condition. In the dream group condition, one dream was worked on in each session and group members worked through each of the stages of the model (exploration, insight, action) by offering the dreamer their own projections onto the dream. Results indicated small effects for pre- to post-treatment changes in depression ($ES = -0.45$) and impact of events ($ES = -0.26$). Although no significant differences in depression or anxiety were detected, the authors suggested that

because the participants were functioning fairly well at the start of treatment there was little room for improvement. Added to this was the limitation of small sample size, which severely limited power to detect significant differences. In addition, the authors did not control for group effects.

Although it has not been investigated in a group setting, client involvement (analogous to engagement in a group setting) in sessions using the Hill dream model has been investigated, Hill et al. (2006) investigated process and outcome in single, 90-minute individual sessions with 157 volunteer clients. The authors used a composite measure of process that included client involvement in the session and therapist competence with and adherence to the Hill model's three-stage (exploration, insight, and action) protocol. Process measures were from three perspectives: client, therapist, and judge. Session outcome was a composite measure assessing client perceptions of the therapeutic relationship and of session quality and self-reported gains from dream interpretation. Results of hierarchical regression analysis of the outcomes of dream sessions from the clients' perspective indicated that the processes of the three stages influenced outcome in an additive way, that is if the process of the exploration stage was perceived positively, then the processes of the insight and action stages were also perceived positively. Specifically, client-rated process accounted for 26% of the total variance in the exploration stage, 33% in the insight stage, and 35% in the action stage, thus indicating that clients' perception of their own involvement and their therapists' competence increasingly predicted over the course of the session their perception of the quality of therapeutic relationship, the session, and their gains from interpreting their dreams. The limitations of this study included use of volunteer clients in single sessions

with no follow-up, so it could not be determined whether benefits were lasting. In addition, the setting was not naturalistic because sessions were stopped at the end of each stage to complete measures, and this interruption may have affected a number of variables, including client involvement in the session and the therapeutic relationship.

Finally, nontherapy community dream groups have emerged in recent years as a means for individuals to meet for the purpose of sharing and interpreting dreams (Hillman, 1990). Among dream groups' earliest proponents was Ullman (1987, 1996), who suggested that dream exploration should not be reserved only for therapeutic work, and that teaching individuals to work with their dreams in a safe, supportive, nonclinical setting was a way to gain understanding of unconscious and interpersonal processes. Research has not generally been conducted on these groups, although one study (Dombeck, 1988) investigated how group setting, membership, roles, tasks, and values related to dream content. The author found that although the groups differed substantially in setting and demographics of group members, there was similarity in the themes of dreams told that appeared to reflect the groups' stage of development.

Although only a few studies have been conducted with groups for dream work, it appears that group work might be a promising approach. More work is clearly needed.

Overall Summary

Overall, then, previous studies have indicated that sorority membership, body dissatisfaction, depression, fear of negative evaluation, and alexithymia are risk factors for disordered eating (Basow et al., 2007; Stice, 2002; Tylka & Subich, 2004; Mazzeo & Espelage, 2003). Prevention studies have indicated that body dissatisfaction, depression, and anxiety are affected differentially by type of prevention approach, with interactive

interventions and those that target at-risk groups having the greatest effect (Stice & Shaw, 2004; Fingeret et al., 2006; Becker et al., 2006; Mitchell, et al., 2007). No prevention study has investigated the relationship of type of approach to alexithymia; however, despite findings in previous studies that alexithymia is related to the ED risk factors of depression, anxiety, and body dissatisfaction (Cochrane et al., 1993; Speranza et al., 2007; De Berardis et al., 2007). In addition, studies have shown that group climate is related to therapeutic gains in both nonclinical (Kivlighan & Lilly, 1997) and diagnosed ED (Tasca et al., 2006) samples. Despite these findings regarding the importance of group climate to process and outcome, no prevention study has examined group climate's relationship to prevention approach or outcome for eating disorders.

Chapter 3

Statement of the Problem

The prevalence of eating disorders has gained increasing notoriety on college campuses in recent years, and sorority women have been a particular focus of concern as being at risk for disordered eating (Basow et al., 2007; Crandall, 1988). Recent efforts at multidimensional modeling (Mazzeo & Espelage, 2002; Tylka & Subich, 2003; 2004) of eating disorder symptomatology have indicated that personal factors including body dissatisfaction, depression, fear of negative evaluation, and alexithymia are precursors of eating disorder behaviors. Specifically, Tylka and Subich's (2004) model showed negative affect predicting body dissatisfaction and poor interoceptive awareness (a component of alexithymia), which then predicted development of eating disorder symptoms.

Recent prevention trials (Stice & Shaw, 2004; Fingeret et al., 2006) targeting college women have included psychoeducational/didactic, cognitive-behavioral, interactive, and cognitive-dissonance programs. Arguably the most effective approach has been cognitive dissonance-based programming (Becker et al., 2006, 2008; Stice et al., 2003, 2004, 2006, 2008), which has shown statistically significant effects on decreasing body dissatisfaction, negative affect (including depression), and social anxiety. To date, however, despite its demonstrated relationship to development of eating disorders and to other ED risk factors, alexithymia has not been targeted by any prevention program.

Taylor, Bagby, and Parker (1997) suggested modifying typical psychotherapy to focus on helping alexithymic individuals to "recognize, differentiate, label, and manage their own feelings (p. 250). In addition, they suggested making an effort to help clients

engage in imaginal work and fantasy, specifically suggesting working with dreams as a means for accessing feelings. To date, no empirical research has been conducted examining the efficacy of group dream work in ameliorating the symptoms and effects of alexithymia as they relate to other risk factors for eating disorders. A comparison of the Hill cognitive-experiential model of dream work with an interpersonal psychotherapy group approach could help to elucidate the relationship of expression and interpersonal relating to alexithymia and to other ED risk factors toward the end of contributing to theory building around eating disorders etiology.

Many of the researched prevention programs (Stice & Shaw, 2004; Fingeret et al., 2006) were group-based interventions that depended on member interaction (e.g., role play and feedback). Despite the likely substantial role that group members' interactions played in these interventions, group climate was not analyzed. Group interventions are an interpersonal source of change that may be particularly relevant for at-risk women, given that social anxiety and fear of negative evaluation are risk factors for EDs (Bulik et al., 1991; Godart et al., 2002; McClintock & Evans, 2001). Indeed, an ED treatment study (Tasca et al., 2006) found differences in group climate development and treatment outcome when comparing psychodynamic-interpersonal and cognitive-behavioral group therapy. It would be beneficial to extend this research to prevention studies by investigating the effectiveness of different group interventions in preventing EDs.

One purpose of the current study, then, was to investigate how dream groups compared with interpersonal psychotherapy groups in addressing the risk factors of body dissatisfaction, depression, self-esteem, and alexithymia. Another purpose was to examine the relationship between type of intervention (dream versus interpersonal) and

group climate change over time and the relationship between group climate change and insight gains.

Hypotheses

One of the goals of interpersonal psychotherapy groups is for group members to gain a clearer understanding of themselves, especially in their relationship with others. Group theorists and researchers (Kivlighan & Goldfine, 1991; Wilfley et al., 2000; Yalom & Lecscz, 2005) have posited that development of group climate occurs in stages and thus that insight gains and improved interrelational functioning relates to stage of development and may take weeks or months. Research (Hill et al., 2000) on therapy using the Hill model of dream work showed that clients rated session outcome higher, became involved more quickly, and kept fewer secrets than did clients in a non-dream therapy condition. In addition, single sessions using the Hill model resulted in male participants with self-reported restricted emotionality addressing this issue in session and in all participants rating the depth of the dream session higher than clients in regular individual therapy (Rochlen & Hill, 2005). Thus, we expected that group dream work would facilitate greater involvement and refer more to emotion both overall and earlier on in therapy than group therapy not focused on dream work.

Hypothesis 1a. The intensity of the central image (CI) in descriptions written by dream group participants will be higher than the CII in descriptions written by IPT group participants or control participants.

Hypothesis 1b. The intensity of the central image in descriptions written by dream group participants will increase sooner than will descriptions written by IPT group participants or control participants.

Hypothesis 1c. Proportion of affective referents in descriptions written by dream group participants will increase more from pre- to post-intervention than will the proportion of affective referents in descriptions written by participants in IPT groups or control participants.

Hypothesis 1d. Proportion of affective referents in descriptions written by dream group participants will increase sooner than will the proportion of affective referents in descriptions written by IPT group participants or control participants.

Research Questions

Previous research has shown that the personal factors investigated in the current study—body dissatisfaction, fear of negative evaluation, and alexithymia—are risk factors for the development of eating disorders (1999; Mazzeo & Espelage, 2002; Tylka & Subich, 2004). In addition, alexithymia has been shown to relate to depression and body dissatisfaction (De Berardis et al., 2007). Thus, it makes sense to include measures that assess these risk factors. One primary goal of the current study was to assess whether there was a difference in self-reported alexithymia, body dissatisfaction, depression, and fear of negative evaluation among sorority women after 8 sessions of interpersonal group therapy versus 8 sessions of therapy focusing on dream work.

Question 1a. Are there differences pre- to post-intervention in alexithymia among dream group members, IPT group members, and control participants?

Question 1b. Are there differences pre- to post-intervention in body dissatisfaction among dream group members, IPT group members, and control participants?

Question 1c. Are there differences pre- to post-intervention in fear of negative evaluation among dream group members, IPT group members, and control participants?

Question 1d. Are there differences pre- to post-intervention in depression among dream group members, IPT group members, and control participants?

Minimal attention has been given to climate development in eating disorder treatment groups and none to ED prevention groups. Tasca et al. (2006) compared group climate development in cognitive-behavioral groups with psychodynamic interpersonal psychotherapy groups for binge eating disorder and found that growth of engagement in CBT groups was, as expected, linear, whereas PIP groups' engagement was nonlinear and seemed to reflect a pattern in interpersonal/psychodynamic groups. In another study by Tasca et al. (2007), however, group climate in both CBT and PIP groups was linear. Given the seemingly conflicting results on treatment group climate and lack of research on climate in prevention groups, it is important to begin to examine the relationship of group climate on ED prevention.

Question 2a. How do changes over time in perception of group members' engagement relate to group condition?

Question 2b. How do changes over time in perception of group members' avoidance relate to group condition?

Question 2c. How do changes over time in perception of group members' conflict relate to group condition?

Chapter 4

Method

Design

The overall design was a quasi-experimental field study, with two group therapy conditions and two control conditions. In the first group condition, participants in 4 groups worked on dreams for 8 sessions using the Hill cognitive-experiential model of dream work. In the second group condition, participants in 4 groups focused on interpersonal issues for 8 sessions using interpersonal group therapy. One control group completed measures that included a question about dreams. The other control group completed measures that included a question about recent interpersonal events. The four dream groups had from three to seven members each and the interpersonal groups had four or five members each. There were six dream control condition participants and five interpersonal control condition participants.

Participants were assigned to group and control conditions according to their preference for type of group, ability to recall dreams, and availability of other sorority chapter members to form a group and meet regularly.

For the purposes of ethical treatment of human subjects, participants were informed that every effort would be made to assign them to their preferred group, that they could stop participating at any time, and that their group sessions would be audiotaped for clinical supervision purposes.

Each participant completed a battery of instruments (Eating Attitudes Test, Body Shape Questionnaire-Revised-Short, Brief Fear of Negative Evaluation Scale, and Center for Epidemiological Studies-Depression Scale) at pre- and post-treatment and at 6-month

follow-up. In addition, they completed the Toronto Alexithymia Scale and Group Climate Questionnaire and wrote descriptions of troubling dreams or troubling interpersonal events (depending on condition) after sessions 1, 3, 6, 8 and at 6-month follow-up.

Participants

Participants. Participants were 48 sorority women at the University of Maryland, College Park. They were recruited during chapter meetings at their sorority houses. See recruiting materials in Appendices B through E. Selection criteria included active membership in one of the Panhellenic Association sororities (active membership was defined as attendance of chapter meetings). In addition, the women had to be living with other members of their chapter, either in the chapter house or in an off-campus apartment or house. Participants had to be available for participation in group sessions at the same time every week for 8 weeks and had to agree to attend at least 6 of the 8 sessions. Those in dream groups had to be able to recall at least one recent dream. Those in interpersonal groups had to be willing to discuss interpersonal issues. Because the current study was not an investigation of treatment of clinical-level disordered eating, there were no clinical selection or exclusion criteria. The intention was to be inclusive in order to gather data from a sample of participants with a wide range of eating attitudes and behaviors.

Participant demographics. All participants completed a demographic form (Appendix I). Participants in this study ranged in age from 19 to 22 years ($M = 19.83$, $SD = 1.09$). In terms of ethnicity, 89.6% identified themselves as European American, and 64.6% identified as being upper-middle class. The sample is representative of Panhellenic sorority populations in general in terms of ethnicity and SES and of University of Maryland sororities in terms of GPA. The sample is not representative of the overall

University of Maryland student population in ethnicity (57% white).

Participants had a mean grade point average of 3.54 ($SD = .31$, range from 2.97 to 4.0), which was slightly higher than the mean GPA of all sorority women (3.31) and higher than the mean GPA of all women (3.18) at the University of Maryland in the spring of 2008 (OFSL, 2008). Because standard deviations for the sorority and Maryland women were not available, effect sizes could not be calculated. More than half (52%) were sophomores and the most common major was psychology (35%). Twenty-one participants reported their relationship status as unattached, and 11 (22.9%) were in long-term committed relationships. For a more comprehensive picture of the participants' demographic information, see Table 1.

As part of the pre-intervention measures, all participants were asked to estimate their dream recall by responding to two items: "During the last 2 weeks, immediately upon waking up in the morning, how often could you recall dreaming?" The highest recall response was scored as a 7 and the least frequent a 0. The other question asked, "How often do you usually have dreams you remember?" The most frequent remembering of content was scored as a 4 and the least frequent was a 0. Hill et al. (1997) found a high correlation has been found between the two items, $r(360) = .72$, $p < .001$, and summed the two items ($M = 5.68$, $SD = 2.69$). For the current study dream recall was ($M = 5.33$, $SD = 2.57$), which is about the same (effect size $d = .13$) as previous findings ($M = 5.68$, $SD = 2.69$) for undergraduate UMD students (Rochlen, Ligiero, Hill, & Heaton, 1999).

Finally, in order to assess the eating attitudes and behaviors of the sample, participants completed the Eating Attitudes Test-26 prior to the start of group

Table 1.
Demographic Characteristics of Participants

Characteristic	<i>N</i>	Percentage
Race/Ethnicity		
African American/Black	2	4.2%
Middle Eastern/Arab	1	2.1%
White/European American	43	89.6%
Other—Not specified	2	4.2%
Year in College		
First-year	1	2.1%
Sophomore	25	52.1%
Junior	6	12.5%
Senior	16	33.3%
Socioeconomic Status		
Upper-middle class	31	64.6%
Middle class	15	31.3%
Upper class	2	4.2%
Major		
Psychology/ Psychology double major	19	39.6%
Communications/Comm double major	8	16.7%
Business/Finance/Marketing	5	10.4%
Government/Political Science	5	10.4%
Elementary Education	2	4.2%
English	1	2.1%
Family Studies	1	2.1%
Journalism	1	2.1%
Kinesiology	1	2.1%
No response	4	8.4%
Relationship Status		
Unattached	21	43.8%
Long-term/committed	11	22.9%
Newly dating/Casual	6	12.5%
Recent Break-up	6	12.5%
Friend with benefits	1	2.1%
No response	3	6.3%

sessions or completing control measures. Garner et al. (1982) recommended a cut-off score of >20 as indicating disordered eating. For this sample, the mean score was 9.52 ($SD = 8.74$), the median was 6.5, and scores ranged from 1 to 44. Forty-three participants (90%) scored below 20, 4 (8%) scored between 21 and 29, and 1 outlier participant (2%) scored 44. Thus, although the majority of participants scored in the subclinical range on the EAT-26, there was a broad range of eating attitudes and behaviors among the participants, which was one of the goals of not using level of disordered eating or body image as an exclusion criterion.

Group leaders. Group leaders (11 female, 1 male; 8 White, 2 African-American, 1 biracial, and 1 Asian; ages 25–50) were 12 advanced-level doctoral students in counseling psychology, all of whom had either completed or were taking a group practicum. All leaders had some background in the Hill cognitive-experiential model of dream work through pre-practicum course work, reading, workshop presentations, and clinical experience.

Co-leaders were assigned to group condition based on their preference for type of group (dream or interpersonal) and their availability. Nine of the 11 leaders who participated during fall 2008 semester were given their first choice of group type (first choice was given to students who were taking the group practicum during that semester). Six groups were conducted during the fall 2008 semester; 3 IPT groups and 2 dream groups had two co-leaders and 1 dream group had a single leader (the principal investigator who had prior experience with dream groups and with the Hill cognitive-experiential model of dream work). During spring 2009 semester, both the dream group and the IPT group had co-

leaders; co-leaders were assigned to their preferred condition.

Group supervisors. During the fall 2008 semester, Dr. Dennis Kivlighan, a professor of counseling psychology with extensive experience teaching group practicum and conducting research on groups, supervised the IPT group leaders. The principal investigator (who had experience teaching the Hill cognitive-experiential model of dream work, co-leading an eating disorder therapy group, participating in dream groups, and providing clinical supervision for doctoral students), supervised the dream group leaders under the supervision of Dr. Clara E. Hill during both fall 2008 and spring 2009 semesters, as well as supervised the IPT group leaders under the supervision of Dr. Clara E. Hill in spring 2009.

Pre-intervention Measures

Eating attitudes and behaviors. The abbreviated Eating Attitudes Test (EAT-26; Garner et. al., 1982) is a 26-item measure that assesses preoccupation with food, pressure for thinness, and eating behaviors. The 6-point Likert-type scale ranges from 1(never) to 6 (always) in response to items such as “Am terrified about being overweight,” “Vomit after I have eaten,” and “Take longer than others to finish my meals.” The EAT-26 has high internal consistency reliability (.87) and test-retest reliability (.89) in a nonclinical sample (Banasiak et al., 2001). When the measure was given to a nonclinical but at-risk sample of female college athletes, internal consistency for subscales ranged between .70 and .88 (Doninger, Enders, & Burnett, 2005). Convergent validity correlations were significant ($p < .01$) for the following subscales (Doninger, et al., 2005): between the EAT-26 Drive for Thinness factor and the Eating Disorders Inventory-2

(Garner, 1994) Drive for Thinness and Body Dissatisfaction subscales correlations were .88 and .65, respectively; between the EAT-26 Food Preoccupation subscale and EDI-2 Drive for Thinness and Body Dissatisfaction subscales correlations were .60 and .42, respectively; between the EAT-26 Purging Behavior Subscale and the EDI-2 Drive for Thinness and Body Dissatisfaction subscales correlations were .36 and .32, respectively; and between the EAT-26 Dieting Behavior subscale and EDI-2 Drive for Thinness and Body Dissatisfaction subscales correlations were .69 and .49, respectively. For the current study, the internal consistency reliability was high ($\alpha = .87$).

Demographic questionnaire. A demographic questionnaire (Appendix I) asked about age, ethnicity/race, year in college, major, sorority chapter, romantic relationship status, socioeconomic status, frequency of dream recall (how many mornings per week) and frequency of remembering the content of dreams.

Outcome Measures

Alexithymia. The Toronto Alexithymia Scale-20 (TAS-20; Bagby, Parker, & Taylor, 1994; Bagby, Taylor, & Parker, 1994) is a 20-item measure of alexithymia with a 5-point Likert-type scale. The TAS-20 is scored by reversing items 4, 5, 10, 18, and 19 and then summing the responses for the 20 items. Scores can range from 20 to 100, with higher scores indicating higher alexithymia. Confirmatory factor analysis (Bagby, Parker, & Taylor, 1994), of a revised version showed that in the three-factor structure accounted for 31% of the total variance; Factor 1 accounted for approximately 13% of the total variance, Factor 2 accounted for approximately 10% of the total variance, and Factor 3

accounted for approximately 9% of the total variance. Factor 1, difficulty identifying feelings and distinguishing them from bodily sensations of emotion, is measured by such items as “I am often confused about what emotion I am feeling,” and “I am often puzzled by sensations in my body” Factor 2, difficulty describing feelings to other people, is measured by items such as “It is difficult for me to find the right words for my feelings,” and “People tell me to describe my feelings more.” Factor 3, an externally oriented style of thinking, is measured by items such as “I prefer talking to people about their daily activities rather than their feelings,” and “Looking for hidden meanings in movies or plays distracts from their enjoyment.” The TAS-20 was selected to measure alexithymia for the current study because the first two of the factors have been related in previous studies to body image dissatisfaction and disordered eating behaviors. The third factor may also relate to group climate and so will be kept as a subscale for this study. The TAS-20 has been shown to have good internal consistency ($\alpha = .81$) and test-retest reliability ($r = .77; p < .01$) over a 3-week period (Bagby, Parker, & Taylor, 1994). For the current study, internal consistency reliability of the TAS-20 ranged from .83 at pre-test to .91 at post-test.

Body dissatisfaction. The Body Shape Questionnaire-Revised-Short (BSQ-R-10; Mazzeo, 1999) is a 10-item shortened version of the Body Shape Questionnaire (Cooper, Taylor, Cooper & Fairburn, 1987), which was designed to assess preoccupation with body image. The original BSQ has 34 items rated on a 6-point Likert-type scale, with responses ranging from 1 (Never) to 6 (Always). Higher scores indicate greater body image preoccupation. Examples of the items

include “Has thinking about your shape interfered with your ability to concentrate?” and “Have you been particularly self-conscious about your shape when in the company of other people?” Responses range from 1 (*never*) to 6 (*always*). The BSQ-R-10 is scored by summing the responses to the items. Scores can range from 10 to 60, with higher scores indicating higher body image dissatisfaction. Internal consistency reliability for the BSQ short form has been high ($\alpha = .97$; Evans & Dolan, 1993). For the current study, internal consistency reliability was .96 at pre-test and .91 at post-test.

Fear of negative evaluation. The Brief Fear of Negative Evaluation Scale-II (BFNE-II; Carleton, McCreary, Norton, & Asmundson, 2006) is a revised version of the 12-item Brief Fear of Negative Evaluation Scale. The 5-point Likert-type scale ranges from 0 (Not at all characteristic of me) to 4 (Extremely characteristic of me). The BFNE-II is scored by summing the responses to the 12 items. The possible range is 12 to 60, with higher scores indicating greater fear of negative evaluation.

The measure assesses an individual’s fear of being negatively evaluated by others through items such as “I worry about what other people think of me even when I know it doesn’t make a difference” and “When I am talking to someone, I worry about what they may be thinking about me.” Higher scores indicate higher fear of negative evaluation. Carleton et al. (2006) found the internal consistency reliability for the BFNE-II ($\alpha = .95$) to be superior to the BFNE ($\alpha = .87$). Although data were available for the BFNE-II, 4-week test-retest reliability for the BFNE for an undergraduate sample (Leary, 1983) was adequate ($r = .75$). For

the current study, internal consistency reliability for the BFNE-II was .95 at both pre- and post-test.

Depression. The Center for Epidemiological Studies—Depression Mood Scale (CES-D-11; Kohout et al., 1993) is an 11-item self-report scale that assesses depressive symptoms. To score the CES-D-11, two items are reversed scored and the 11 items are summed. Total scores can range from 0 to 22, with higher scores indicating higher depression. The CES-D-11 includes items from the CES-D but is shorter and thus less likely to contribute significantly to participant fatigue, which is especially important in the current study because participants will be completing multiple measures. Responses on the 3-point Likert-type scale range from 0 (Hardly ever or never) to 2 (Much or most of the time), measuring the frequency with which participants have experienced a particular feeling in the past week. Items include statements such as, “I felt everything I did was an effort” and “I felt that people disliked me.” Total scores can range from 0 to 22; higher scores indicate higher levels of depressive symptoms. In a university sample, Santor, Zuroff, Ramsay, Cervantes, & Palacios (1995) found that the CES-D predicted depressive symptoms better than the Beck Depression Inventory. In its short form, the measure has a high internal consistency, with Cronbach alphas of .71 to .87, and strong correlations of 0.88 to 0.93 with the full version (Kohout, Berkman, Evans, & Cornoni-Huntley, 1993). For the current study, internal consistency reliability was .77 at pre-test and .85 at post-test.

Image intensity. Participants wrote descriptions of a problematic interpersonal event or a dream. The form on which participants wrote their

descriptions (Appendices N and O) included instructions that asked the women to briefly describe a recent troubling dream or interpersonal interaction, depending on their group condition. They were instructed to not use any identifying information such as the names of people or places. The form provided approximately two-thirds of a page on which participants could write their descriptions.

The descriptions were coded using the intensity subscale of the Central Image Intensity coding system (CII; Hartmann, 2007), which is a measure of intensity of the central image in a dream. For the current study the CII was used to code the written dream descriptions and was adapted to also code the intensity of the central image in the written descriptions of interpersonal events written by IPT group members. To code using the CII system, judges determine whether there is a central cohesive image in the description and then rate its intensity of a 7-point scale (0, .5, 1.0, 1.5, 2.0, 2.5, 3.0) based on how “powerful, vivid, bizarre, and detailed the image seems” (Hartmann, 2007, p. 173). Interrater reliability in previous studies has ranged from $r = .70$ to $r = .90$ (Hartmann, Rosen, & Grace, 1998; Hartmann, Kunzendorf, Rosen, & Grace, 2001). For the current study interrater reliability was determined by calculating the intraclass correlation in SPSS and applying the Spearman-Brown correction, which yielded interrater reliability coefficients of .96 and .97 for each team for dreams and .96 and .99. for interpersonal event descriptions.

Affective referents. To determine the proportion of affective referents in the written descriptions, judges were asked to determine the number of separate

units (essentially grammatical sentences; Auld & White, 1956) in each description and then how many of the units contained affective referents, or feeling words.

The interrater reliability coefficients for the actual data for unitizing for the teams were 1.0 and 1.0 for both dreams and interpersonal events. Interrater reliability coefficients for identifying affective referents for the teams were .99 and 1.0 for dreams and .99 and .99 for interpersonal events.

Process Measure

Group climate. The Group Climate Questionnaire-Short-Form (GCQ-S; MacKenzie, 1983) is a 12-item, 7-point Likert-type measure of individual group members' perceptions of a therapy group's interpersonal climate. Agreement with items ranges from 0 (Not at all) to 6 (Extremely). The Engaged scale relates to group cohesion, constructive therapeutic work, cognitive understanding, confrontation, and self-disclosure. It includes items such as "The members liked and cared about each other" and "The members felt what was happening was important and there was a sense of participation." The Conflict scale measures anger, distancing, distrust, and tension between group members, and includes items such as "There was friction and anger between the members" and "The members challenged and confronted each other in their efforts to sort things out." The Avoidance scale is intended to reflect ways in which members avoid engaging in a constructive way, including depending on the leader, avoiding issues between members, and vigilance regarding social desirability. It includes these items: "The members avoided looking at important issues going on between themselves," "The members depended on the group leader(s) for direction, and,"

and “The members appeared to do things the way they thought would be acceptable to the group.

Factor analysis (MacKenzie, 1983) of the GCQ-S revealed a three-factor structure (Engaged, Conflict, and Avoiding) describing the environmental conditions of group therapy; however, a multilevel confirmatory factor analysis (Johnson, Pulsipher, Ferrin, Burlingame, Davies, & Gleave, 2006) failed to provide adequate fit of the three-factor structure, especially for between-groups data. Single-level exploratory factor analysis suggested slightly different loadings for some items, but the three subscales were essentially intact. Internal consistency reliability for the subscales ranged from .74 to .94 for Engaged; .40 to .92 for Avoiding, and .75 to .88 for Conflict (Johnson et al., 2006; Kivlighan & Goldfine, 1991).

For the current study, internal consistency reliability for the Engaged subscale ranged from .56 to .65 across the different testing times. Reliability for the Avoiding subscale was also problematic for this sample, with coefficients ranging from .15 to .41. Because reliability for the Engaged and Avoiding subscales could not be established, change over time in engagement and in avoidance were not analyzed. Reliability for the Conflict subscale ranged from .77 to .99, which are deemed acceptable for this study.

Procedures

Recruiting group participants. Recruiting efforts targeted members of the 14 residential sororities at the University of Maryland, College Park, that were members of the Panhellenic Association (PHA). Individual PHA chapter

presidents were contacted by the principal investigator via email to assess each chapter's interest in participating. Initial contact focused on motivating chapter members to participate as a means of partially fulfilling university requirements for fraternities and sororities. Specifically, the university's vision statement regarding fraternity and sorority membership development requires that each chapter develop and submit a personal development program for its members. The chapter's curriculum must include a minimum of four workshops or programs each year that focus on four different areas. One area of focus suggested by the vision statement (OFSL, 2004) is Eating Disorders/Healthy Diet. As an additional incentive to participate, potential participants were told that a scholarship of \$200 would be awarded to the chapter with the best session attendance rate. Finally, participants who were psychology majors could sign up for research credit on the SONA system site; participants in other majors were encouraged to check with professors to determine if they could earn research credit or academic extra credit for participating. All 19 psychology majors who participated registered on the SONA system site and received academic extra credit and 2 participants (1 in family studies and one in communications) were able to earn extra credit.

As a first step, the PI met with the PHA president to determine general interest among sororities and feasibility of running an 8-week program. Based on the PHA president's feedback and recommendations, the PI attended an executive board meeting of PHA sorority presidents and presented information on the proposed group program (see Appendix A), which included information on eating attitudes and behaviors among PHA sorority women at Maryland as well as the

benefits to their chapters and their individual members of participating in the study. The PI gathered contact information from 14 chapters and received invitations from 8 PHA sororities to attend chapter meetings. At those meetings the PI presented information on the program (see Appendix B), answered questions, and asked interested people to provide contact information on a sign-up sheet. Interested members were then contacted via e-mail and asked about availability for interviews/measure completion and group preference.

Assignment of group participants to condition. Based on results of a consultation project (Welsh & Spangler, 2007), which indicated that sororities at the university have in the past held ED workshops in the chapter houses, it seemed fitting to conduct the group sessions in the houses. In addition, consultation with chapter presidents and members made it clear that the sorority members would not be open to participating in an intervention in which they would be in groups with members of other sororities because they would not trust in the confidentiality of such groups given the sensitive topic.

Thus, although lack of random assignment precluded causal inference, for the purposes of this study participants were not randomly assigned for three reasons. First, allowing the women to select their preferred treatment was more naturalistic and thus a closer representation of non-experimental, real-world interventions. Research results have indicated that clients have expressed preferences when given the choice between two approaches to therapy, such as individual or group therapy, cognitive-behavioral or interpersonal psychotherapy, brief or long-term psychotherapy, psychotherapy or pharmacotherapy, (Aita,

McIlvain, Backer, McVea, & Crabtree, 2005; Ertly & McNamara, 2000; Riedel-Heller, Matschinger, & Angermeyer, 2005). In addition, the American Psychological Association (APA) has stated that client treatment preference is an important component of best practice standards (APA, 2006). Results of a meta-analysis on the impact of client preference on treatment outcome (Swift & Callahan, 2009), which summarized the data from 26 studies, indicated a small significant effect indicating that clients who received their preferred treatment had better outcomes.

The second reason for allowing participants to choose their condition was a practical design issue. Specially, one purpose of the study was to design and test group interventions for use with sorority women, and, after consulting with sorority chapter presidents it was determined that sorority members would not be sufficiently candid with members of other chapters to make the interventions even minimally effective. The third reason also was a practical concern; specifically, we could not compel participants to recall their dreams and therefore could not assign participants with poor dream recall to the dream condition who could not recall their dreams, as was the case for many of the participants who stated they preferred the interpersonal condition. Given the importance of client preference in terms of impact on outcome and best practices, and the practical design issues of participant unwillingness to be open with members of other sororities and ability to recall dreams, it was determined that allowing participants to choose their condition was the best design for this study.

As a first step in assigning participants to a condition within their chapter,

sorority members were asked to complete an availability form (Appendix F) on which they rank ordered their preference for dream group, interpersonal group, or control group and indicated days and times during which they were *not* available for a 90-minute group session. Placement was determined by participant preference and availability and number of members in a group, with the goal of 4 to 8 members per group. Most participants were placed in their first choice, and none were placed in their third choice. One sorority had three intervention groups, two had two intervention groups, and one had one intervention group. After schedules of members and co-leaders were coordinated, participants were contacted via email and told the day and time of their initial interview and the start date of their group meeting.

Recruiting participants for control condition. During fall 2008 semester, members of two sororities initially volunteered to be assigned to control conditions, but on follow-up contact they either indicated that they were no longer interested or they were unresponsive. Thus, a different method was used to recruit control participants during spring semester 2009. The current study was entered into the psychology department's SONA system so that participants who were psychology students could earn research credit for participating. The study was announced and a flier (Appendix G) distributed to interested students in four sections of PSYC 433 (an upper level undergraduate course in helping skills). The students had to be a member in a Panhellenic Association sorority. Interested students were told to contact the PI via email.

Students who contacted the PI were sent the details about the study via

email, including the parameters of their participation and number of credits they would earn for participation. They were told they would be asked to complete a battery of measures four times over the course of eight weeks and then again six months after they had completed the fourth set of measures. They were told they would be emailed a Survey Monkey link for each set of measures and that for purposes of confidentiality, they should use the last 5 digits of their student identification number as their code number each time they completed the measures.

Recruiting group leaders. Prior to the start of the semester, the group practicum professor, Dr. Dennis Kivlighan, was contacted with the proposal to have the group practicum students serve as co-leaders for the current study. Professor Kivlighan agreed to the arrangement and to providing group supervision for the IPT co-leaders in fall 2008. Group leaders were then recruited from among the counseling psychology doctoral students taking the group practicum during fall 2008. Additional group co-leaders were recruited from among the advanced doctoral students in counseling psychology who had previously taken the group practicum or had experience co-leading therapy groups. Three doctoral students who co-led groups in the fall agreed to co-lead another group during the spring 2009 semester.

Training group leaders. During the fall 2008 semester all group leaders were given didactic instruction (readings and seminar-style discussion) in conducting interpersonal process groups by Dr. Dennis Kivlighan, an experienced group practicum professor. Six leaders who were group practicum students in fall

2008 were assigned to the IPT-G condition. They were also given background on the interpersonal psychotherapy for group (IPT-G; Wilfley, MacKenzie, Welch, Ayres, & Weissman, 2000) model and were provided with session-by-session outlines (see Table 1) for co-leading groups according to the IPT model.

Two group leaders who were group practicum students in fall 2008, 2 who had previously taken the group seminar, and 1 who had not taken the group practicum but had previous experience co-leading therapy groups were assigned to lead dream groups during the fall 2008 semester. All had previous instruction in the Hill cognitive-experiential model of dream work; in addition they participated in a 2-hour refresher seminar on the Hill model (see Appendix T) in the week prior to the start of their groups. The seminar was conducted by the PI under the supervision of Dr. Clara Hill.

Pre-group interview and measures. Each potential group participant was interviewed by one or both of the group leaders for 10 to 15 minutes either one day before or on the day of the first group session. Initially, interviews were conducted individually to provide participants privacy as they completed their measures; after the first two groups it became apparent that there was sufficient space to allow adequate privacy for completing the measures and the remaining pre-group interviews were conducted simultaneously in a group setting.

The leaders introduced themselves to the participants and told them they were doctoral students in counseling psychology. The leaders confirmed the type of group the participants had been assigned to (either dream or interpersonal) and said that in they would be completing a series of questionnaires. Participants were

also informed that all information would be kept confidential (participants were asked to use the last 5 digits of their student identification number as their code number on all measures). They were informed that no one other than the PI would be able to match their name with their code number and that their completed measures would be kept in a locked file cabinet in a locked office. They were also reminded that all group meetings would be tape recorded for clinical supervision purposes and to check co-leader adherence to the group protocol and that the recordings would be kept in a locked file cabinet in a locked office in the Biology-Psychology building and would be destroyed when the study was complete. Participants then read and signed the informed consent form (Appendix Q). Next, after the co-leaders explained the importance of confidentiality in the groups to building trust and respect among members, co-leaders asked potential participants to sign the confidentiality agreement (Appendix R).

Co-leaders then gave a brief overview of what the members could expect in their group. If it was a dream group, co-leaders gave a brief explanation of the Hill model, telling the participants that each week, one group member would tell a dream and all members would help her to explore and understand the dream by going through the steps of the model. If it was an IPT group, participants were told that they should think about an interpersonal issue they would like to work on and to think about what goals they would like to set for the interpersonal concern. Participants were informed that they would next complete some measures and that they would also complete questionnaires after every meeting. They were also told that about 6 months after the last group meeting, they would be sent a Survey

Monkey link via email where they would go to complete several follow-up measures.

Next, participants were instructed to find a private spot where they could complete the EAT-26, TAS-20, BSQ-R-10, BFNE-R-II, CES-D-11, the demographic questionnaire, and description of a troubling dream or interpersonal event. Participants were asked to double check that they had completed all items and that their code number was on all measures.

Response rate and drop-out. Of the 14 PHA sororities that expressed initial interest, 7 chapter presidents responded to the follow-up email request with an invitation to recruit at their chapter meeting. At those chapter meetings, members of 5 chapters indicated interest. Seventy-three women provided contact information and of those, 67 provided schedules of available times they could meet each week. Of these, 24 indicated that they were no longer interested in participating, were in a chapter in which fewer than 4 members expressed interest, or had schedules that were incompatible with other members of their chapter. Thus, 43 women attended at least the first session. Three women dropped after the first session and 2 joined a group later but failed to complete the pre-intervention measures and so their data was dropped from the study. Thus, the final sample size for group intervention participants was 38, within 4 dream groups and 4 IPT groups. Number of members in each group is shown in Table 2.

For control participants, 13 sorority women initially contacted the PI, 12 completed pre-test measures, and 10 completed all of the measures. The final sample size for control participants was 10, with 5 in the dream control condition

and 5 in the interpersonal control condition.

Group attendance and control participation. Most participants ($n = 38$) who stayed in group adhered to the 6-session minimum required for them to earn individual and chapter credit for participating the program. Two participants attended 4 sessions, and 5 attended 5 sessions. All were included in the data analyses because they all attended the first and last sessions and thus completed the pre- and post-intervention measures. The overall range of sessions attended was thus 4 to 8 ($M = 6.68$, $SD = 1.17$) for the 8-session interventions. Table 2 shows the attendance record for each of the 8 intervention groups.

For control participants, of the 10 sorority women recruited from helping skills courses who completed the pre- and post-test quantitative measures, 2 dream control participants could not recall dreams. Despite the lack of post-test dream descriptions, all 10 control participants were kept in the study.

Confidentiality. In order to safeguard confidentiality, the following steps were taken. First, all group participants were required to sign a confidentiality agreement (Appendix R) stating that they agreed to not discuss group material with anyone who was not a member of their group. In addition, because of the high likelihood of group members seeing each other when not in session, participants agreed that if they discussed group material with another group member while not in session, they would not discuss what other group members said unless that group member was present. Finally, group members agreed to

Table 2
Group Size and Session Attendance

Group	No. of Members	Sess. Attended <i>M</i>	Sess. Attended <i>SD</i>	Sess. Attended Range
Dream 1	3	7.30	.58	7 - 8
Dream 2	5	7.60	.55	7 - 8
Dream 3	7	6.28	1.38	4 - 8
Dream 4	5	6.40	1.52	4 - 8
IPT-G 1	4	7.20	.84	6 - 8
IPT-G 2	4	7.75	.50	7 - 8
IPT-G 3	5	6.0	.71	5 - 7
IPT-G 4	5	5.8	1.09	5 - 7
Dream Control	5	N/A	N/A	N/A
IP Control	5	N/A	N/A	N/A

turn off all electronic devices, including cell phones and audiorecording devices during sessions. Second, all group sessions were conducted in rooms in the chapter houses that could be closed off from the rest of the members and were sufficiently sound-proof so that words spoken at conversational volume could not be understood from outside the closed door of the room. During spring 2008 semester, three sessions for one group were conducted in room 2140 of the Biology-Psychology building during the evening because of scheduling conflicts at the sorority house.

Third, students used the last 5 digits of their university identification number on all measures; the list of names and corresponding code number was kept in a separate location from collected data so that research assistants had no access to the names. Finally, all data collected, including interview data, measures, written reflections, session tapes, and process notes was stored in a file cabinet in a room with a locking door.

Procedures for interpersonal psychotherapy groups. Interpersonal psychotherapy for group (IPT-G; Wilfley et al., 2000) is a brief, time-limited, group treatment modality. It combines aspects of cognitive-behavioral and psychodynamic/interpersonal approaches to group therapy. The format is similar to CBT in that groups share a common problem, there is substantial pre-group preparation, and group members are given homework. IPT-G is similar to psychodynamic/interpersonal in that there is some focus on group process, although IPT-G is much less focused on the “here and now” of group therapy than might be true in a typical psychodynamic/interpersonal group.

The IPT groups were semistructured, in that the co-leaders directed each session with broad goals in mind (see Table 3) such as individual goal setting and building group norms. To work toward these goals, the leaders used specific strategies (e.g., in the first session, co-leaders discussed the group's common issue and the group's structure, and stated there would be specific time allotted for check-in and wrap-up). Members were directed to set interpersonal goals for themselves within the first two sessions and work on them during the remaining sessions. Other than initial goal-setting and terminating, there was no specific agenda for any of the other sessions. Although group members explored and examined interactions within the group, the focus was on improving interpersonal relationships outside of session. Intragroup process was addressed only if it was a manifestation of a group member's target interpersonal problem. Table 3 shows the IPT-G approach adapted for an 8-session model, with goals for each session as the group moved through initial, intermediate, and termination phases. As homework, group members were asked to work on their individual goals outside of session and to discuss attempted changes in session.

One departure from the IPT-G manual (Wilfley et al., 2000) was that it was recognized that group members would socialize with each other outside of sessions. This interaction was unavoidable given that the participants were sorority sisters and lived together and socialized with each other in other contexts. To minimize the effects of extra-group contact and to ensure confidentiality, co-leaders emphasized in the early sessions the importance of confidentiality and asked that group members not discuss the group process outside of sessions.

Table 3
Session-by-Session Outline for IPT Groups

Phase	Session No. & Title	Session Content
Initial	Session 1: Getting started	<i>Goals:</i> Introductions, discuss group focus, educate about group structure and process, begin discussion of interpersonal problem areas, formulate goals
	Session 2: Role of members	<i>Goals:</i> Teach members their active role in group, emphasize feeling states, review and modify target goals
	Session 3: End of initial phase	<i>Goals:</i> Cultivate positive groups norms, deepen connection among members, draw connections between target goals and interpersonal problems
Intermediate	Sessions 4-6: Intermediate	<i>Goals:</i> keep focus on problem areas, maximize self-disclosure, connect to group members, express emotion related to target goals and intragroup relations, make changes outside of group.
Termination	Sessions 7-8: Termination	<i>Goals:</i> recognize termination as possible loss, discuss negative reactions to ending, emphasize members' progress, accept responsibility for continuing to work on target areas, say good-bye.

The EAT-26 was completed prior to the start of the first session and the BSQ-R-10, BFNE-II, and the CES-D-11 were completed prior to the start of the first session (pre-test) and at the end of session 8 (post-test). The TAS-20 was completed and descriptions of troubling interpersonal events were written prior to the start of the first session (pre-test), and at the end of sessions 3 and 6, and 8 (post-test). The timing of the TAS-20 and written reflections were chosen to coincide with the shift from one phase to the next in the IPT group condition and thus with a potential change in alexithymia and affective expression. The GCQ was completed at the end of every session. Co-leaders distributed measures to group members at each session, collected the completed measures, and returned them to the primary researcher. During the fall 2008 semester, co-leaders of one of the IPT groups neglected to distribute and collect measures for their last session. The group members who were present for the meeting were contacted via email and sent a Survey Monkey link where they were asked to go to complete the session 8 measures within 48 hours. All group members complied.

Procedures for dream groups. The first session began with introductions of co-leaders and group members. Co-leaders then gave brief psychoeducation about dreams, including how to improve dream recall, and introduced to the Hill cognitive-experiential model (Hill, 2004b; Table 4). Then group leaders asked for a group member to volunteer to share a dream; the co-leaders then led the group through the stages of the Hill model.

Dream group leaders facilitated 8 sessions, beginning each session by asking for a volunteer (each person was the focus of at least one session) to describe her dream in detail and to say what she (the dreamer) thought the dream meant. In the exploration stage, 4 to 5 key dream images were selected by the member, and the co-leaders guided

Table 4

Session Outline for Hill Three-Stage Model of Dream Work for Groups

Stage	Steps	Purpose/Goals
Exploration	Tell dream	Present tense facilitates re-experiencing feelings/increases comfort level with group Facilitates emotional arousal/ increase comfort level
	Overall feelings	Describe, re-experience, associate, waking life triggers
	DRAW	Restate dream, adding what client has learned/ consolidation of thoughts about dream
	Summarize	
Insight	Initial interpretation	Assess dreamer's level of functioning, respect dreamer's perspective/build meaning
	Insight	Co-construct meaning/added perspectives increases dreamer's learning
	Summarize insights	Dreamer summarizes/consolidates learning and assesses readiness for change
Action	Change the dream	Emphasize dreamer as creator of dream/engage client in change process Client generates ideas for change
	Translate changes to WL	Understands how dream parallels waking life.
	Summarize changes	Consolidation helps movement toward change

the group in a detailed exploration of each image. Each image was explored by having the co-leaders and members ask the dreamer to describe the dream, re-experience it, associate to it, and link it to waking life concerns. Co-leaders and members could help the dreamer by offering their own associations or waking life triggers if the dreamer was stuck. Members were instructed to preface their comments with the phrase, “If this were my dream...” to remind them that their comments were projections and that the dreamer maintained ownership of her dream at all times (Ullman, 1987; Taylor, 1992). At the start of the insight stage, the co-leaders asked the dreamer for an initial interpretation of the dream and then worked with the dreamer to construct insight in terms of the experience of the dream, waking life, inner personality dynamics, or spiritual or existential concerns. In the action stage, co-leaders asked the dreamer how she would change her dream if she could; co-leaders and group members also offered ideas about how they would change the dream if it were their dream. The dreamer was then invited to extend these dream changes to waking life action ideas. At the end of the session, co-leaders asked the dreamer to reflect about the session.

The EAT-26 was completed prior to the start of the first session. The BSQ-R-10, BFNE-II, and the CES-D-11 were completed prior to the start of the first session (pre-test) and at the end of session 8 (post-test). The TAS-20 was completed and descriptions of dreams were written prior to the start of the first session (pre-test), and at the end of sessions 3 and 6, and 8 (post-test). Group leaders distributed measures at the designated sessions, collected them when they were completed, and returned them to the PI.

Supervision and risk management. All sessions were audiotaped, both as a means of checking adherence and of monitoring the groups’ progress and the leaders’

development as therapists. Tapes were checked by the PI for adherence during the first week to ensure the co-leaders understood the procedures for each group intervention. Review of the tapes indicated that all group co-leaders adhered sufficiently to their assigned condition in the first week. Thereafter, co-leaders were questioned about adherence to their assigned models during supervision. Supervision was conducted in a group format, with Dr. Dennis Kivlighan supervising the IPT group leaders on a weekly basis during the group practicum class. He asked each pair of co-leaders about the groups' progress and whether members had presented goals to work on. In addition, co-leaders reflected on the dynamics of their group, with a focus on changes in group cohesion and avoidance among members from one session to the next.

The PI supervised the dream group leaders (Dr. Clara Hill supervising the PI). Co-leaders were asked whether they adhered to the three-stage structure. Group leaders were rarely able to get to the action stage and only sometimes did the insight stage, but all of them used the exploration stage DRAW steps on some or all of the images in the presented dream. Because the exploration stage skills were the focus of the current study, this degree of adherence to the model was acceptable.

Because there was some potential for social contagion given the discussion of body image or eating issues, co-leaders were instructed to report to their supervisor at the beginning of the supervision session whether any of the group members discussed body dissatisfaction or disordered eating behavior such as severe food restriction, vomiting after meals, laxative abuse, excessive exercise, or specific weight. If so, co-leaders were asked whether these behaviors were mentioned in reference to themselves, to others in the group, or to others in the sorority. If body dissatisfaction was mentioned, co-leaders

were asked if the group member expressed severe dissatisfaction with her own or another's body or extreme fear of gaining weight. If disordered eating behaviors were mentioned, the co-leaders were asked if the group member endorsed the behavior(s). If group leaders answered yes to any of these questions, supervisors followed up with questions regarding the group's level of engagement or any other notable change in group climate.

There was only one instance of potentially problematic behavior. In one session in one dream group, one person discussed body image dissatisfaction. Her expressions of dissatisfaction were moderate and she was able to express acceptance of some aspects of her appearance. There was no evidence of contagion among the group members given that the issue was discussed only one more time during the termination session and then only briefly.

Follow-up testing. All participants completed the TAS-20, BSQ-R-10, BFNE-II, CES-D-11, and written reflections 6 months after the last session (for intervention group participants) or 6 months after the last completion of the measures (for control participants). All participants were sent a Survey Monkey link via email and asked to respond within 48 hours. Because only 33 participants (15 dream group participants; 12 interpersonal group participants; and 6 control participants) completed follow-up measures, follow-up data were not included in the main analyses.

Procedures for control participants. Participants in the control conditions were emailed a Survey Monkey link for a battery of measures that included the EAT-26, TAS-20, BSQ-R-10, BFNE-R-II, CES-D-11, demographic questionnaire, and dream or interpersonal event description at week 1 (pre-test) and 8 (post-test) and at 6-month

follow-up. They were emailed a Survey Monkey link for measures that included the TAS-20 and dream or interpersonal event description at weeks 3 and 6. They were asked to complete all forms within 1 week.

Rating of dream and interpersonal event descriptions. Seventy-four (out of an expected 100) dream descriptions and 84 (out of 92 expected) interpersonal event descriptions were coded for intensity of central image and proportion of affective referents. The difference in actual versus expected numbers is due to the fact that not all participants attended all sessions and because one dream group member could not recall any dreams during the study and three others could not recall a dream during one of the 4 reporting times.

Four advanced undergraduate students were trained by the PI to code the written descriptions of dreams and interpersonal events. Coders were trained to use the Central Image Intensity (CII) coding system by first reading an article (Hartmann, 2008) describing the use of the CII. Then, judges read a dream or interpersonal event description and independently indicated on a rating sheet whether or not the description contained a central image and to estimate the intensity of the image on a 7-point scale that ranged from 0 (no CI) by half points to 3. Coders were instructed to consider the power and vividness of the image itself rather than descriptions of feeling. Thus, the image of a friend who had killed herself in waking life and in the dream led the dreamer through a cemetery was rated 2.5 in intensity even though there was no mention of emotion in the written description. By contrast, one participant's written description of seeing her new boyfriend's former girlfriend at a chapter meeting was rated as a 1.0 (despite the participant's use of 5 emotion words) because even though it emotionally

upsetting to the dreamer it was not as intense as the image of a friend who had killed herself leading the dreamer through a cemetery.

The judges practiced rating intensity on 4 dream descriptions taken from two articles featuring dream descriptions (Hill, Spangler, Sim, & Baumann, 2007; Spangler, Hill, Mettus, Guo, & Heymsfield, 2009). If there was disagreement among the raters about the intensity, the image was discussed and rationales were given for coding a given intensity. The raters discussed what content would determine the highest and lowest intensities for dreams and interpersonal events until consensus was reached. For dreams, a nightmare = 3.0 and no central image = 0. For interpersonal events, a physical fight between subject and other = 3.0 and no central image = 0.

Interrater reliability was determined by calculating the intraclass correlation in SPSS using average measure reliability (the mean of the ratings of all raters) and a two-way mixed model in which judges were treated as a fixed effect, that is, not a random sample of all possible judges, and the ratings were treated as a random effect. The ICC was then adjusted for the number of judges as suggested by MacClennan (1993), using the Spearman-Brown correction, which yielded an interrater reliability coefficient that is equivalent to the average correlation between all pairs of raters. The interrater reliability coefficient for the training descriptions was .99 among all 5 judges.

Once training was completed, the judges were assigned to one of two teams of three judges, with the PI a member of both coding teams. Judges were given descriptions written at pre-test, week 3, week 6, and post-intervention. Dates and participant code numbers were removed from the descriptions and the order of presentation was randomized across subjects so that coders did not know which participant wrote the

descriptions, when the reflections were written, or whether the participants were in an experimental or control condition. They were given sets of about 30 descriptions so they had some basis for comparison and coded the descriptions prior to each meeting. Each team coded descriptions of both dreams and interpersonal events. Interrater reliability coefficients for CII rating of dreams for each team were .96 and .97 and for interpersonal event descriptions it was .96 and .99.

Judges also determined the number of separate units (essentially, grammatical sentences; Auld & White, 1956) and number of affective referents in each description. All judges had taken the helpings skills course, in which they were trained to unitize transcribed helping sessions. Judges reviewed instructions for unitizing and a list of affect words (Hill, 2004a). To be counted as an affective referent, a feeling word or phrase had to be applied to the self (e.g., “I was frustrated”), other (e.g., “he was so angry”), or used as a general descriptor (e.g., “the whole thing was so sad”). To code number of units and affective referents, judges read a dream or interpersonal event description and then indicated on the rating sheet the number of units in the description and the number of affective referents to self and other and feeling words used as general descriptors. They then discussed any disagreements until they came to an understanding of the task.

The judges practiced unitizing and determining affective referents on the same four dream descriptions used for CII training (Hill, Spangler, Sim, & Baumann, 2007; Spangler, Hill, Mettus, Guo, & Heymsfield, 2009). The interrater reliability coefficient for unitizing the training descriptions was 1.0 among all 5 judges, indicating no disagreements. For identifying affective referents in the training descriptions, the interrater reliability coefficient among all 5 judges was 1.0, again indicating no

disagreements. The same two teams that coded CIIs also unitized the dream and interpersonal event descriptions and identified affective referents in them. The interrater reliability coefficients for the actual data for unitizing for the teams were 1.0 and 1.0, and for identifying affective referents were .99 and .99.

The proportion of affective referents per description was calculated by dividing the number of affective referents by the number of grammatical units in a description. For example, if there were 10 units and three affective referents, the person was assigned .30.

Chapter 5

Results

Preliminary Analyses

Means and standard deviations. Means and standard deviations for pre- and post-intervention scores of outcome measures are presented in Table 5 for intervention and control conditions. Overall mean alexithymia as measured with the TAS-20 was 40.54 ($SD = 10.14$) at pre-test and 42.56 ($SD = 11.64$) at post-test. The effect size for the entire sample was $d = .19$, indicating no effect size for change in alexithymia from pre- to post-test. However, for the IP groups, the mean pre-test TAS-20 was 40.56 ($SD = 11.00$) and post-test was 44.83 ($SD = 13.63$), indicating a small effect size ($d = .34$) for increase in alexithymia for this condition. Compared with results of a nonclinical sample of 1,065 women ($M = 44.15$, $SD = 11.19$) reported by Parker, Taylor, and Bagby (2003), there was a small effect size ($d = .34$) for the current sample's pre-test scores and no effect size for the post-test scores. The authors' recommended cutoff scores for the TAS-20 are ≥ 61 for high alexithymia and ≤ 51 for nonalexithymic individuals. In the current sample the number of participants who scored ≤ 51 was 41 at pre-test and 37 at post-test. The number of participants who scored ≥ 61 was 7 at pre-test and 4 at post-test. The range for the current sample was 13 to 71, thus some participants were above the cutoff score, but the means and standard deviations indicate a nonclinical sample in all conditions.

Overall mean body dissatisfaction as measured by the BSQ-R-10 was 30.95 ($SD = 10.55$) at pre-test and 29.67 ($SD = 9.21$) at post-test. The effect size was $d = .13$, indicating no effect on body dissatisfaction from pre- to post-test. These pre- and post-

Table 5

Means and Standard Deviations of Pre- and Post-Test Scores of Outcome Measures by Condition

	Dream Group				IPT Group				Control			
	Pre-test		Post-test		Pre-test		Post-test		Pre-test		Post-test	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
TAS-20	40.85	10.63	40.85	12.17	40.56	11.00	44.83	13.63	39.90	8.29	41.50	5.68
BSQ-R-10	32.55	11.10	30.85	10.19	30.61	9.44	28.50	7.68	28.40	11.82	29.40	10.28
BFNE	36.20	11.37	35.45	11.87	33.44	11.19	32.22	8.93	34.80	8.47	33.80	11.81
CES-D-11	3.45	3.39	4.35	3.45	4.50	3.43	4.78	3.99	3.30	2.16	3.10	3.21
CI*	2.03	.74	1.61	.74	1.78	.35	1.42	.73	1.50	.85	1.40	.39
Affect*	.27	.28	.16	.16	.37	.42	.35	.42	.34	.50	.13	.22

Note. $N = 48$. BSQ-R-10 = Body Shape Questionnaire-Revised-Short; CES-D-11 = Center for Epidemiological Studies–Depression Mood Scale; BFNE-II = Brief Fear of Negative Evaluation Scale-II; TAS-20 = Toronto Alexithymia Scale-20; CII = intensity of central image in dream or interpersonal event description; Affect = proportion of affective referents per grammatical unit in dream or interpersonal event description. * $N = 46$ for CII and Affect.

test scores are lower ($d = .18$ and $d = .31$, respectively) than those found in a nonclinical sample of 219 college women ($M = 33.04$, $SD = 12.50$) by Mazzeo (1999). Within the current samples, there was a small effect size for pre-test body dissatisfaction between dream group and control participants ($d = .36$) and between interpersonal group and control participants ($d = .21$). Scores can range from 10 to 60, with higher scores indicating higher body image dissatisfaction. The range for the current sample was 13 to 60.

Overall mean for fear of negative evaluation in this sample as measured by the BFNE-II was 34.88 ($SD = 10.62$) at pre-test and 33.89 ($SD = 10.62$) at post-test. The effect size was $d = -.09$, indicating no change from pre- to post-test. No cutoff scores were available for the BFNE-II. Hamann, Wonderlich-Tierney, and Vander Wal's (2009) results from a nonclinical sample of 119 college women showed a mean of 39.99 ($SD = 9.32$). Comparison with the current sample showed a medium effect size at pre-test ($d = .51$) and post-test ($d = .60$). In addition, within the current sample there was a small effect size for pre-test fear of negative evaluation between dream group and interpersonal group participants ($d = .24$). (The possible range is 12 to 60; the range for the current sample was 15 to 60.

Overall mean pre-intervention CES-D-11 was 3.81 ($SD = 3.18$) and overall mean at post-test was 4.25 ($SD = 3.60$). The effect size was $d = .13$, indicating no effect on depression from pre- to post-test. No cutoff scores or normative data were available for this version of the CES-D; higher scores indicate higher levels of depressive symptoms. There was a small effect size for pre-test depression between interpersonal group and dream group participants ($d = .31$) and between interpersonal group and control

participants ($d = .42$). Total scores can range from 0 to 22; for the current sample the range was 0 to 14.

Overall mean of central image intensity was 1.82 ($SD = .66$) at pre-test and 1.49 ($SD = .67$) at post test. There was a small effect size ($d = -.48$), indicating a slight decrease in CII from pre- to post-test. Hartmann's (2008) sample of 57 important dreams from members of the International Association for the Study of Dreams had a mean CI of 1.19 ($SD = 1.05$). Comparison with the current sample showed a medium effect size at pre-test ($d = .71$) and small effect size at post-test ($d = .60$).

Overall mean of proportion of affect was .32 ($SD = .39$) at pre-test and .23 ($SD = .31$) at post-test. The effect size was $d = -.26$, indicating a small effect size for decrease in proportion of affect from pre- to post-test.

Bivariate correlations. Correlation coefficients among all outcome measures completed at pre-test were computed to determine relatedness and potential multicollinearity (see Table 6). The EAT-26 was positively correlated with body dissatisfaction and with depression, indicating that the women in this sample with higher levels of disordered eating attitudes also had higher body dissatisfaction and higher levels of depression. Alexithymia at pre-test was positively correlated with fear of negative evaluation and depression, indicating that the women who were more alexithymic also had a higher fear of negative evaluation and were more depressed. Body dissatisfaction was positively correlated with fear of negative evaluation, indicating that women with higher body dissatisfaction were also more fearful of negative evaluation and were more depressed. Fear of negative evaluation correlated positively with depression, indicating that the women who were more fearful of negative evaluation were more depressed.

Table 6.

Correlation Matrix for Pre-Intervention and Outcome Measures at Pre-test

	EAT-26	TAS-20	BSQ-R-10	BFNE-II	CES-D-11	CI	Affect	<i>M</i>	<i>SD</i>
EAT-26	—							9.52	8.74
TAS-20	-.030	—						40.54	10.14
BSQ-R-10	.46**	.31	—					30.95	10.55
BFNE-II	.25	.36*	.38**	—				34.88	10.62
CES-D-11	.34*	.32*	.48**	.61**	—			3.81	3.18
CII [†]	-.17	.18	.29	.05	.04	—		1.82	.66
Affect [†]	.08	.22	.19	.01	.03	-.06	—	.32	.39

Note. $N = 48$. EAT-26 = Eating Attitudes Test; TAS-20 = Toronto Alexithymia Scale-20; BSQ-R-10 = Body Shape Questionnaire-Revised-Short; BFNE-II = Brief Fear of Negative Evaluation Scale-II; CES-D-11 = Center for Epidemiological Studies–Depression Mood Scale; CII = intensity of central image in dream or interpersonal event description; Affect = proportion of affective referents per grammatical unit in dream or interpersonal event description.

* $p < .05$. ** $p < .01$ [†] $N = 46$ for CII and Affect.

Power analysis. In growth curve analysis, power is dependent on many factors, including the number of observations taken over time (waves), number of individuals within clusters, number of clusters, intraclass correlation (ICC), reliability (a function of between-person variance), within-person variance, and effect size (Spybrook, Raudenbush, Congdon, & Martinez, 2009).

For the current study, the number of waves varied, depending on the analysis, between 2 and 8, the mean number of individuals within clusters was $n = 4.8$, and the number of clusters was $J = 10$. The ICCs ranged from .06 to .91 (see Table 7). Given the small n and J , it seemed likely that only large effect sizes could be detected. Thus, the power analyses were conducted with a large effect size (.80) and alpha set at .05. Optimal Design 2.0 (Liu, Spybrook, Congdon, Martinez, and Raudenbush, 2009) software was used for the power analyses. Results showed that for an effect size of .80, power ranged from .20 to .43, indicating that for a sample of this size, the analyses performed could not detect even large effect sizes.

In addition, analyses were conducted to determine how many groups would have been required to detect a large (.80) effect size. Optimal Design 2.0 (Liu, Spybrook, Congdon, Martinez, and Raudenbush, 2009) software was used for these analyses as well. The same ICCs (ranging from .06 to .91) were used for these analyses as were used previously. In the Optimal Design program, the power versus total number of clusters analysis for repeated measures for cluster randomized trials with person-level outcomes design were used to conduct these analyses. Alpha was set at .05, power was set at .80, and effect size was set at .80. The number of participants in each cluster, n , was set at 5 because the program allows only whole numbers, thus the mean number of participants in

Table 7.

Intraclass Correlations for all Variables

Variables	Intraclass Correlation
Central Image Intensity	
Dream v Interpersonal Group	.06392
Treatment v Control	.19490
Proportion of Affect	
Dream v Interpersonal Group	.27223
Treatment v Control	.22988
Alexithymia	
Dream v Interpersonal Group	.66139
Treatment v Control	.63336
Body Dissatisfaction	
Dream v Interpersonal Group	.90850
Treatment v Control	.90527
Fear of Negative Evaluation	
Dream v Interpersonal Group	.72263
Treatment v Control	.69156
Depression	
Dream v Interpersonal Group	.33661
Treatment v Control	.33146
Conflict	
Dream v Interpersonal Group	.07935

group (4.8) was rounded up. Intraclass correlations, number of times data was collected, sigma-squared, and tau (tau-pi + tau beta) was entered for each measure. Results showed that between 18 and 50 groups (depending on the variable) would be needed to detect a large effect size.

Analysis of Hypotheses and Research Questions

When analyzing nested data, the use of traditional methods such as ANOVA or multiple regression ignores the hierarchical structure of the data and the potential for nonindependence of cases. Ignoring hierarchies can cause overestimation of sampling variances, exaggerated degrees of freedom, too narrow confidence intervals, and an increase in the likelihood of Type I error (Croninger, 2010). When conducting group intervention research, as in the current study, the probability of dependent observations and the potential for fallacious aggregation or disaggregation of data is increased. For these reasons, growth curve analyses were conducted using HLM 6.06–Student (Raudenbush, Bryk, & Congdon, 2008). HLM has the advantage of allowing for missing data for an individual at different time points and can still estimate a growth curve.

Central Image Intensity and Proportion of Affect over Time

Hypothesis 1a. The central image intensity (CII) in descriptions written by dream group participants will be higher than the CII in descriptions written by IPT group participants or control participants.

Hypothesis 1b. The central image intensity in descriptions written by dream group participants will increase sooner than will descriptions written by IPT group participants or control participants.

Growth curve analysis using HLM was appropriate for testing these hypotheses

because, as discussed by Raudenbush and Bryk (2002), HLM takes into account the hierarchical nature of the data. That is, it allows analysis of how variables measured at one level (e.g., dream versus IP interventions at the group level) relate to variables at another level (e.g., CII change over time within participants).

To determine whether CII and proportion of affect in descriptions of dreams or events changed over the course of treatment, and whether change over time related to group condition, a three-level model was used to partition the variance. Singer and Willett (2003) recommended as a first step fitting the fully unconditional means model because the results help to determine “whether there is systematic variation in your outcome that is worth exploring; and...where that variation resides (within or between people” (p. 92). However, Croninger (2010) pointed out that, for growth curve analyses, beginning with a means-only, fully unconditional model is not meaningful because the focus is on variance in growth. For the current study, because the hypotheses and research questions focused on both growth and means and because the means questions could be addressed with time included as a predictor in the Level-1 model, no unconditional model was run.

Four sets of growth curve analyses were conducted: (1) CII was the dependent variable, Time (session number) was the independent variable at Level 1 (within-participant) and Condition (dream group versus IPT group conditions) was the independent variable at Level 3 (between groups); (2) CII was the dependent variable and Time was the independent variable at Level 1, and Condition (treatment versus control) was the independent variable at Level 3; (3) proportion of affect was the dependent variable and Time and Condition (dream group versus IPT group conditions) were the

independent variables at Levels 1 and 3, respectively; and (4) proportion of affect was the dependent variable and Time and Condition (treatment versus control) served as the independent variables at Levels 1 and 3, respectively. At Level-2 the dependent variables were modeled between participants unconditionally, that is, with no other variables added at this level.

The three-levels of the model were specified as follows. The Level-1 conditional growth model for Participant i at Time t was:

$$Y_{it} = \pi_{0i} + \pi_{1i}(\text{Time}) + e_{0i}$$

where Y_{it} is CII for Participant i at Time t , π_{0i} represents the midpoint level of CII or affect, π_{1i} represents the linear rate of change in CII for Participant i over time, and e_{0i} represents error, i.e., the unique effect associated with Participant i . This level examined the within-person change over time in CII and proportion of affect in written descriptions.

The Level-2 unconditional growth model for CII or affect was:

$$\pi_{0i} = \beta_{00} + r_0$$

$$\pi_{1i} = \beta_{10} + r_1$$

where π_{0i} is Participant i 's midpoint CII or affect, β_{00} represents the overall mean midpoint level of CII or affect for all participants, and r_0 represents error, that is, all participants' variability around the intercept, π_{1i} represents Participant i 's slope (change over time), β_{10} represents the overall mean linear rate of change in CII or affect for all participants, and r_1 represents error, i.e., the variability of all participants around the mean rate of change. This level examined the between-person variance in CII or affect.

The Level-3 conditional growth model for dream versus IP for CII or affect for Group i at Time t in Condition c was:

$$\beta_{00} = \gamma_{000} + \gamma_{001}(\text{Dream v IP}) + \mu_{00}$$

$$\beta_{10} = \gamma_{100} + \gamma_{101}(\text{Dream v IP}) + \mu_{10}$$

For the intercept equation, β_{00} represents the overall mean midpoint level of CII or affect for all participants, γ_{000} represents the overall mean midpoint level of CII or affect for all groups, β_{10} represents the overall mean linear rate of change in CII or affect for all participants, γ_{001} represents the relationship between treatment condition and initial level of CII or affect for all groups, and μ_{00} represents error, i.e., the groups' variability around the initial mean level of CII or affect. For the slope equation, β_{10} represents the overall mean linear rate of change in CII or affect for all participants, γ_{100} represents the overall mean linear rate of change in CII or affect for all groups, γ_{101} represents the relationship between treatment condition and the change over time between groups in level of CII or affect, and μ_{10} represents error, i.e., the groups' variability around the mean rate of change.

The Level-3 conditional growth model for treatment versus control for CII or affect for Group i at Time t in Condition c was:

$$\beta_{0ci} = \gamma_{000} + \gamma_{001}(\text{Dream v Control}) + \gamma_{002}(\text{IP v Control}) + \mu_{00}$$

$$\beta_{1ci} = \gamma_{100} + \gamma_{101}(\text{Dream v Control}) + \gamma_{102}(\text{IP v Control}) + \mu_{10}$$

where two separate terms for comparing the groups in each treatment condition with participants in a control condition, $\gamma_{001}(\text{Dream v Control})$ and $\gamma_{002}(\text{IP v Control})$ replace the $\gamma_{001}(\text{Dream v IP})$ term in the previous Level 3 model. All other terms remain the same. This level examined the between-group variance in either CII or affect.

Coefficients, standard errors, and t ratios for fixed effects and variance and chi-square

values for random effects are presented in Table 8 for Hypotheses 1a and 1b. As shown in Table 8 under fixed effects, for the dream versus IP comparison, a significant t test, $t(6, 28) = -2.76, p < .05$, indicated that mean midpoint CII was lower for participants in interpersonal groups. The comparison of treatment (dream or interpersonal group) versus control also had a significant t test, $t(7, 36) = 2.57, p < .05$, indicating that mean midpoint CII was higher for participants in a dream group. There was no significant difference between mean midpoint CII for IP condition and control condition. There were no significant differences in fixed effects among within-person change over time slopes for dream versus IP or for treatment versus control. These results suggest that overall the descriptions written by participants in dream groups had higher CII than those written by participants in IP groups and in the control condition but that there were no significant differences in change in CII over time for any of the conditions.

Random effect results show that Level-3 variance estimation between the slopes for dream versus IP on CII was $\tau = .09$, with $\chi^2(6, N = 28) = 40.20 (p < .001)$. The Level-3 variance estimation between the slopes for treatment versus control on CII was $\tau = .09$, with $\chi^2(7, N = 36) = 40.20 (p < .001)$. These findings indicate that the variances of the slopes of CII on condition were significantly different among groups.

The variance in slope attributable to between-group variation was calculated, as recommended by Garson (2009), as follows:

$$\tau_{\beta} / (\sigma^2 + \tau_{\pi} + \tau_{\beta})$$

Tau_{beta}, the between-group variance for the CII slope (u_{10}), was .11819, tau_{pi}, the within-group variance slope (r_1) was .00063, and sigma-squared, the within-person variance slope (e) was .29700. Thus, for the dream versus IP analysis, the ICC was .284.

Table 8

Growth Curve Analysis of Central Image Intensity in Written Descriptions of Troubling Dreams or Interpersonal Events by Condition

Variable	Coefficient	SE	<i>t</i> ratio	Variance	<i>df</i>	χ^2	<i>p</i>
Fixed effect							
Dream v IP, γ_{001} on Mean CI, π_{00}	-.03	.12	-2.76*		6		.03
Dream v Control, γ_{001} on Mean CI, π_{00}	.45	.17	2.57*		7		.04
IP v Control, γ_{002} on Mean CI, π_{00}	.10	.17	.601		7		.57
Dream v IP, γ_{101} on slope, π_1	-.03	.27	-.12		6		.91
Dream v Control, γ_{101} on slope, π_1	-.04	.30	-.12		7		.91
IP v Control, γ_{102} on slope, π_1	-.06	.30	-.20		7		.85
Random effect (variance components)							
Dream v IP, Mean CII between participants, r_0				.02	28	36.27	.14
Dream v IP, CII Slope between participants, r_1				.00	28	21.62	>.50
Treat v Control, Mean CII between participants, r_0				.07	36	64.07**	.00
Treat v Control, CII Slope between participants, r_1				.00	36	27.17	>.50

Table 8 (continued)

Variable	Variance	<i>df</i>	χ^2	<i>p</i>
Dream v IP, CII slope between groups, u_{10}	.12	6	40.20**	.00
Treatment v Control, Mean CII between groups, u_0	.00	7	10.83	.15
Treatment v Control, CII slope between groups, u_{10}	.09	7	40.20**	.00

Note: N = 36 for Dream v IP, N = 46 for Treat v Control. Mean CII = overall mean midpoint level of Central Image Intensity; Dream v IP = Dream group versus interpersonal group; Treat v Control = Dream group and IP group versus control condition.

* $p < .05$; ** $p < .001$

In other words, being in a dream group versus an IP group accounted for 28.4% of the total variance in CII change over time. For the treatment versus control analysis, τ_{beta} for the CII slope was .08865, τ_{pi} was .00117, and sigma-squared was .29642. Thus, for the treatment versus control analysis, the ICC was .229, meaning that being in a treatment group versus a control group accounted for 23% of the total variance in CII change over time.

The proportion of variance due to group effects for the initial means was also calculated. τ_{beta} for dream versus IP group intercept was .00608, τ_{pi} was .02070, and sigma-squared was .29700. Thus, for dream groups versus IP groups, the proportion of variance between groups was 23% of the overall variance in CII intercept. In other words, for dream group versus IP group, between-group variance accounted for 32% of the overall variance in the total variance in mean midpoint CII. For treatment versus control for CII intercept, τ_{beta} was .00604, τ_{pi} was .07322, and sigma-squared was .29642. Thus, for the treatment versus control condition, the between-group variance accounted for 38% of the total variance in initial mean CII.

Hypothesis 1c. Proportion of affective referents in descriptions written by dream group participants will increase more from pre- to post-intervention than will the proportion of affective referents in descriptions written by participants in IPT groups or control participants.

Hypothesis 1d. Proportion of affective referents in descriptions written by dream group participants will increase sooner than will the proportion of affective referents in descriptions written by IPT group participants or control participants.

Coefficients, standard errors, and t ratios for fixed effects and variance and chi-

square values for random effects are presented in Table 9 for Hypotheses 1c and 1d. For fixed effects for the dream versus IP comparison, the t test for the intercept term corresponding to affect indicated no significant differences in within-person midpoint means in affect for dream group versus IP ($p > .05$), dream group versus control condition ($p > .50$), or for IP group versus control condition ($p > .05$). There were no significant differences in within-person affect slopes for dream versus IP ($p > .50$) or for dream versus control ($p > .50$), or for IP versus control ($p > .05$). These results indicate there were no differences in the mean midpoint proportion of affect across condition and there were no changes over time.

Results in the random effect section of Table 9 show that the Level-1 and Level-2 variance components were not significant. The Level-3 variance estimation between the slopes for dream versus IP on affect showed a nonsignificant trend, with $\tau = .00$, with $\chi^2 (6, N = 28) = 11.67$ ($p = .07$). The Level-3 variance estimation between the slopes for treatment versus control on affect was $\tau = .0$, with $\chi^2 (7, N = 36) = 15.13$ ($p < .05$). The degree of between-group variance for treatment versus control condition was calculated. Tau_{beta} was .00491, tau_{pi} was .00330, and sigma-squared was .07756. Thus, for the treatment versus control condition, the between-group variance accounted for 6% of the total variance in change in proportion of affect over time.

The degree of between-group variance for the affect intercepts was also calculated. For dream groups versus IP groups, tau_{beta} was .00011, tau_{pi} was .02648, and sigma-squared was .07068. Thus, for the dream group versus IP group the between-group variance accounted for less than 1% of the total variance in mean initial proportion of affect. For treatment versus control, tau_{beta} was .00043, tau_{pi} was .02328, and sigma-

Table 9

Growth Curve Analysis of Proportion of Affect in Written Descriptions of Troubling Dreams or Interpersonal Events by Condition

Variable	Coefficient	SE	<i>t</i> ratio	Variance	<i>df</i>	χ^2	<i>p</i>
Fixed effect							
Dream v IP, γ_{001} on Mean Affect, β_{00}	.12	.07	1.68		6		.14
Dream v Control, γ_{001} on Mean Affect, β_{00}	-.03	.09	-.38		7		.72
IP v Control, γ_{002} on Mean Affect, β_{00}	.09	.08	1.04		7		.34
Dream v IP, γ_{101} on Affect slope, π_1	.04	.07	.49		6		.64
Dream v Control, γ_{101} on Affect slope, π_1	.06	.10	.58		7		.58
IP v Control, γ_{102} on Affect slope, π_1	.09	.10	.95		7		.38
Random effect (variance components)							
Dream v IP, Mean Affect between participants, r_0				.03	28	68.23**	.00
Dream v IP, Affect slope between participants, r_{01}				.00	28	20.26	>.50
Treat v Control, Mean Affect between participants, r_0				.02	36	69.27**	.00
Treat v Control, Affect slope between participants, r_1				.00	36	37.56	.40

Table 9 (continued)

Variable	Variance	<i>df</i>	χ^2	<i>p</i>
Dream v IP slope on Mean Affect between groups, u_{10}	.00	6	11.67	.07
Treat v Control Mean Affect between groups, u_{00}	.00	7	7.84	.35
Treat v Control Affect slope between groups, u_{01}	.00	7	15.13**	.03

Note: $N = 36$ for Dream v IP, $N = 46$ for Treat v Control. Dream v IP = Dream group versus interpersonal group; Mean Affect = overall mean midpoint level of Affect; Treat v Control = Dream group and IP group versus control condition.

* $p < .05$

squared was .07756. Thus, for the treatment versus control condition, between-group variance accounted for less than 1% of the total variance in mean initial affect.

Change in Alexithymia, Body Dissatisfaction, Fear of Negative Evaluation, and Depression

To determine whether change in alexithymia, body dissatisfaction, fear of negative evaluation, and depression over time related to condition, eight sets growth curve analyses were conducted: four in which each of the outcome variables was the dependent variable and Time (session number) and Condition (dream group versus IPT group conditions) were the independent variables and four in which each outcome variables was the dependent variable and Time and Condition (treatment versus control) served as the independent variables. The same three-level model used to test Hypotheses 1a through 1d was used, with the outcome variables each replacing central image intensity or proportion of affect as the dependent variables.

Question 1a. Are there differences pre- to post-intervention in alexithymia among dream group members, IPT group members, and control participants?

Coefficients, standard errors, and *t* ratios for fixed effects and variance and chi-square values for random effects are presented in Table 10 for Question 1a. For fixed effects for the dream versus IP comparison, the *t* test for the mean initial level of alexithymia indicated no significant differences among any of the conditions. There were no significant differences in alexithymia change over time for dream versus IP, for dream versus control, or for IP versus control. For random effects, the Level-1, Level-2, and Level-3 variance components for alexithymia were not significant, which suggests no differences in variances either within or between groups for alexithymia for all

Table 10

Growth Curve Analysis of Difference in Alexithymia in Dream Group, IPT Group, and Control Condition

Variable	Coefficient	SE	<i>t</i> ratio	Variance	<i>df</i>	χ^2	<i>p</i>
Fixed effect							
Dream v IP, γ_{001} on Mean Alex, π_{00}	-.30	3.43	-.09		6		.94
Dream v Control, γ_{001} on Mean Alex, π_{00}	-.49	4.00	-.12		7		.91
IP v Control, γ_{002} on Mean Alex, π_{00}	-.78	4.07	-.19		7		.85
Dream v IP, γ_{101} on Alex slope, π_1	1.74	2.87	.61		6		.57
Dream v Control, γ_{101} on Alex slope, π_1	2.27	3.47	.66		7		.53
IP v Control, γ_{102} on Alex slope, π_1	4.06	3.51	1.56		7		.27
Random effect							
Dream v IP, Alex slope w/in, r_1				1.55	29	32.93	.28
Treat v Control, Alex slope w/in, r_1				1.08	36	38.66	.35
Dream v IP, Alex slope between, u_{10}				.01	6	3.09	>.50
Treatment v Control, Alex slope between, u_{10}				.13	7	6.03	>.50

Note. $N = 36$ for Dream v IP, $N = 46$ for Treat v Control. Alex = alexithymia.

conditions. Because none of the findings for alexithymia were significant, proportion of variance between groups was not calculated.

Question 1b. Are there differences pre- to post-intervention in body dissatisfaction among dream group members, IPT group members, and control participants?

Coefficients, standard errors, and t ratios for fixed effects and variance and chi-square values for random effects are presented in Table 11 for Question 1b. For fixed effects, for the dream versus IP analysis, the t test for the intercept term corresponding to body dissatisfaction indicated no significant differences in mean initial body dissatisfaction for dream group versus IP, dream group versus control condition, or for IP group versus control condition. There were no significant differences in change over time for dream versus IP, for dream versus control, or for IP versus control. Results in the random effect section of Table 11 show that the Level-1, Level-2, and Level-3 variance components for body dissatisfaction were not significant, which suggests no significant differences in group variances for body dissatisfaction. Because none of the findings for body dissatisfaction were significant, proportion of variance due to group effects was not calculated.

Question 1c. Are there differences pre- to post-intervention in fear of negative evaluation among dream group members, IPT group members, and control participants?

Coefficients, standard errors, and t ratios for fixed effects and variance and chi-square values for random effects are presented in Table 12 for Question 1c. For fixed effects, for the dream versus IP comparison, the t test for mean initial fear of negative evaluation indicated no significant differences in within-person means for dream group

Table 11

Growth Curve Analysis of Difference in Body Dissatisfaction in Dream Group, IPT Group, and Control Condition

Variable	Coefficient	SE	<i>t</i> ratio	Variance	<i>df</i>	χ^2	<i>p</i>
Fixed effect							
Dream v IP, γ_{001} on Mean Body Dis, π_{00}	-.78	3.27	-.24		6		.82
Dream v Control, γ_{001} on Mean Body Dis, π_{00}	5.51	3.99	1.38		7		.21
IP v Control, γ_{002} on Mean Body Dis, π_{00}	4.72	4.06	1.16		7		.28
Dream v IP, γ_{101} on Body Dis slope, π_1	-.24	1.48	-.16		6		.88
Dream v Control, γ_{101} on Body Dis slope, π_1	-2.98	1.83	-1.63		7		.15
IP v Control, γ_{102} on Body Dis slope, π_1	-3.22	1.86	-1.74		7		.13
Random effect							
Dream v IP, Body Dis slope w/in, r_1				1.87	29	31.43	.36
Treat v Control, Body Dis slope w/in, r_1				.00	36	41.68	.24
Dream v IP, Body Dis slope between, u_{10}				.00	6	5.63	>.50
Treat v Control, Body Dis slope between, u_{10}				.13	7	6.03	>.50

Note: $N = 36$ for Dream v IP, $N = 46$ for Treat v Control. Body Dis = body dissatisfaction.

Table 12

Growth Curve Analysis of Difference in Fear of Negative Evaluation in Dream Group, IPT Group, and Control Condition

Variable	Coefficient	SE	<i>t</i> ratio	Variance	<i>df</i>	χ^2	<i>p</i>
Fixed effect							
Dream v IP, γ_{001} on Mean Fear, π_{00}	-2.65	3.82	-.69		6		.51
Dream v Control, γ_{001} on Mean Fear, π_{00}	.25	4.29	.05		7		.95
IP v Control, γ_{002} on Mean Fear, π_{00}	-2.46	4.36	-.57		7		.59
Dream v IP, γ_{101} on Fear slope, π_1	-.26	2.83	-.09		6		.93
Dream v Control, γ_{101} on Fear slope, π_1	.25	3.39	.07		7		.94
IP v Control, γ_{102} on Fear slope, π_1	-.02	3.42	.01		7		.99
Random effect							
Dream v IP, Fear slope w/in, r_1				3.46	29	33.78	.25
Treat v Control, Fear slope w/in, r_1				.45	36	39.72	.31
Dream v IP, Fear slope between, u_{10}				2.80	6	6.60	.36
Treatment v Control, Fear slope between, u_{10}				1.14	7	7.23	.41

Note: $N = 36$ for Dream v IP, $N = 46$ for Treat v Control. Fear = fear of negative evaluation.

versus IP, for dream group versus control condition, or for IP group versus control condition. There were no significant differences in change over time in fear of negative evaluation for dream versus IP, for dream versus control, or for IP versus control. Results in the random effect section of Table 12 show that the Level-1, Level-2, and Level-3 variance components for fear of negative evaluation were not significant, which suggests no significant differences in group variances. Because none of the findings for fear of negative evaluation were significant, proportion of variance between groups was not calculated.

Question 1d. Are there differences pre- to post-intervention in depression among dream group members, IPT group members, and control participants?

Coefficients, standard errors, and *t* ratios for fixed effects and variance and chi-square values for random effects are presented in Table 13 for Question 1d. For fixed effects, for the dream versus IP comparison, the *t* test for the intercept term corresponding to depression indicated no significant differences in mean initial depression for dream group versus IP, for dream group versus control condition, or for IP group versus control condition. There were no significant differences in within-person change over time in depression for dream versus IP, for dream versus control, or for IP versus control. Results in the random effect section of Table 13 show that the Level-1, Level-2, and Level-3 variance components for depression were not significant, which suggests no significant differences in group variances. Because none of the findings for depression were significant, proportion of variance between groups was not calculated.

Change in Group Climate over Time

Table 13

Growth Curve Analysis of Difference in Depression in Dream Group, IPT Group, and Control Condition

Variable	Coefficient	SE	<i>t</i> ratio	Variance	<i>df</i>	χ^2	<i>p</i>
Fixed effect							
Dream v IP, γ_{001} on Mean Depr, π_{00}	1.05	1.18	.89		6		.41
Dream v Control, γ_{001} on Mean Depr, π_{00}	.16	.132	.12		7		.91
IP v Control, γ_{002} on Mean Depr, π_{00}	1.2	1.34	.90		7		.40
Dream v IP, γ_{101} on Depr slope, π_1	-.67	1.29	-.52		6		.62
Dream v Control, γ_{101} on Depr slope, π_1	1.21	1.51	.80		7		.45
IP v Control, γ_{102} on Depr slope, π_1	.52	1.52	.34		7		.74
Random effect							
Dream v IP, Depr slope w/in, r_1				1.21	29	35.98	.17
Treat v Control, Depr slope w/in, r_1				.91	36	44.36	.16
Dream v IP, Depr slope between, u_{10}				.17	6	2.27	>.50
Treatment v Control, Depr slope between, u_{10}				.09	7	2.70	>.50

Note: $N = 36$ for Dream v IP, $N = 46$ for Treat v Control. Depr = depression.

Question 2a. How do changes in perceptions of engagement relate to group condition?

Question 2b. How do changes in perceptions of avoidance relate to group condition?

As stated in chapter 4, internal consistency reliability for the Engaged subscale of the Group Climate Questionnaire ranged from .56 to .65. Reliability for the Avoidance subscale of the GCQ ranged from .15 to .41. Because reliability could not be established for these two scales, analyses of their change over time were not conducted.

To determine whether perceived conflict changed over the course of the sessions and whether change over time related to condition, a three-level growth curve analysis was conducted. The same three-level model used to test Hypotheses 1a through 1d and Questions 1 a through 1d was used, with conflict serving as the dependent variable. Only the dream groups and interpersonal groups were compared because control participants did not complete the GCQ.

Question 2c. How do changes in perceptions of conflict relate to group condition?

Coefficients, standard errors, and t ratios for fixed effects and variance and chi-square values for random effects are presented in Table 14. For fixed effects, a significant t test for the intercept term corresponding to conflict, $t(6, 247) = 2.60, p < .05$, indicated that within-person mean midpoint conflict was related to participation in an interpersonal group. A significant t test for the slope corresponding to conflict, $t(6, 247) = -3.48, p < .001$, suggesting that within-person change in perceived conflict was related to group condition, specifically, that individuals who participated in interpersonal group perceived a significant decrease in conflict among group members over time.

Table 14

Growth Curve Analysis of Change over Time of Participants' Perceptions of Conflict among Group Members as Related to Group Condition

Variable	Coefficient	SE	<i>t</i> ratio	Variance	<i>df</i>	χ^2	<i>p</i>
Fixed effect							
Dream v IP, γ_{001} on Mean Conflict, π_{00}	.26	.10	2.60		6		.04
Dream v IP, γ_{101} on Conflict slope, π_1	-.08	.02	-3.48		6		.001
Random effect							
Mean Conflict with/Mean Conflict between, u_{00}				.00	6	8.61	.20

Note: $N = 36$. Conflict = participant's perceived conflict among group members; Dream v IP = Dream group versus interpersonal group.

* $p < .05$; ** $p < .001$

To determine if there was a significant cross-level interaction of condition (Level 3) x time (Level 1), an online statistical computing server (Preacher, Curran, & Bauer, 2006) was used. For this set of calculations, time was set as the focal predictor and condition was set as the moderator. First, the values for the focal predictor were entered, and then the values for the moderator (dummy coded 0 for dream group and 1 for IP group) were entered into the program. Then the Level-3 intercept, the slope for condition, for time, and condition x time were entered. Alpha was set at .05, and Level-1 and Level-3 degrees of freedom were entered. Next, the asymptotic variances for γ_{000} , γ_{100} , γ_{001} , γ_{101} and the covariances for γ_{000} and γ_{001} , γ_{100} and γ_{000} and γ_{100} , and, γ_{001} , γ_{001} and γ_{001} were entered, and the calculations were run. Results showed that the simple slope at time 1 was significant, $t = 4.23$, $p = 0$, the simple slope at time 2 was significant, $t = 2.60$, $p = .01$. At time 3 the simple intercept was significant, $t = 2.419$, $p = .05$. Thus, the IP groups started with a significantly higher level of perceived conflict among group members than did the dream groups, and the change over time in the level of conflict among IP group members was also significant. The cross-level interaction of condition and time is shown in graphic form in Figure 1.

Additional Analyses

A correlation matrix of outcome measures at post-test (see Table 15) revealed that the bivariate correlation between central image intensity (CII) and proportion of affect for all participants was significant ($r = .30$), which represents a significant change ($p < .05$) from the pre-test correlation of $-.06$. To determine if the correlation between CII and proportion of affect was significantly different among dream group, IPT group, and control participants, the CII-affect correlations for each condition were calculated.

Figure 1. Time x Condition Interaction for Group Conflict

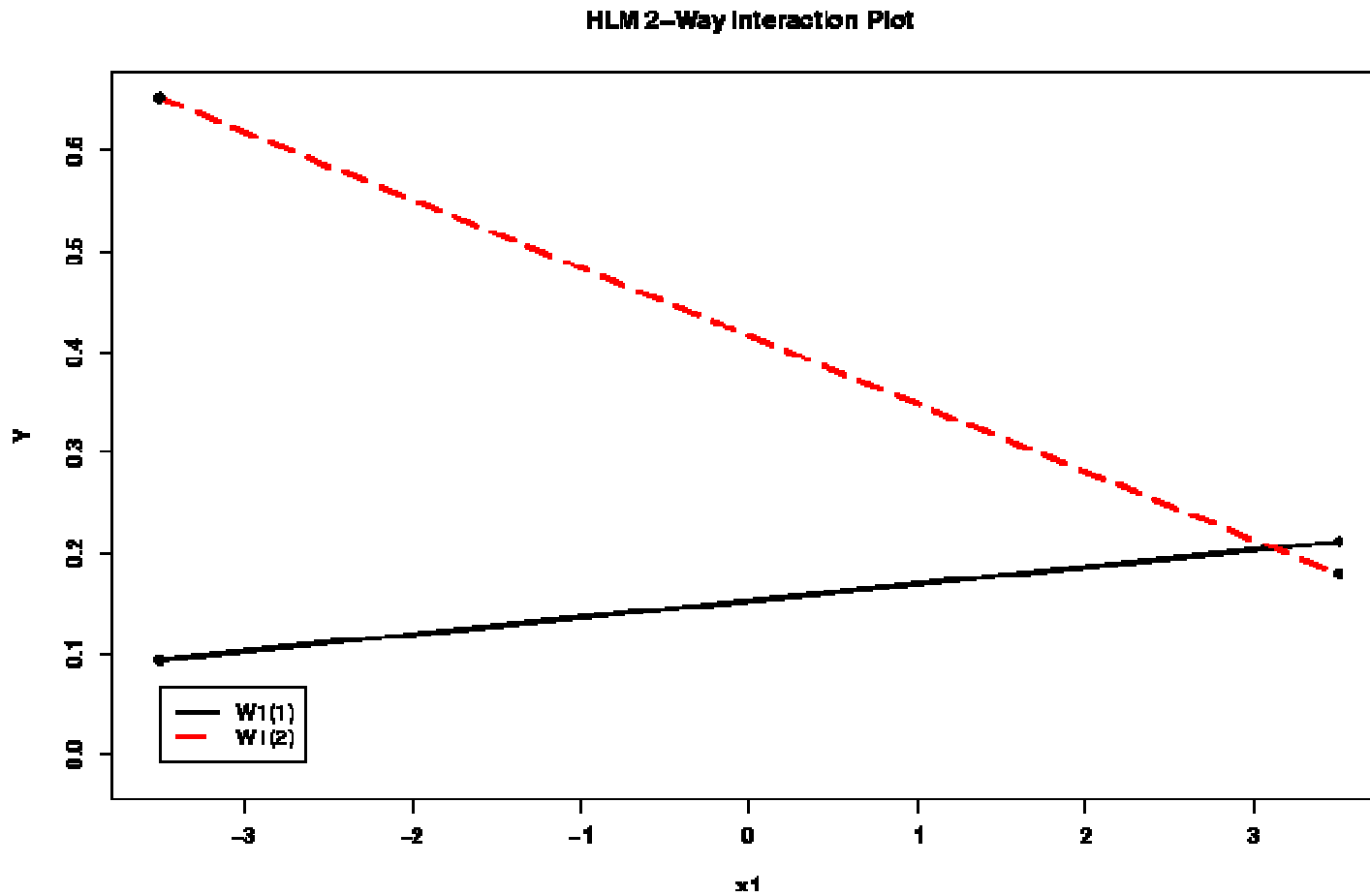


Figure 1. Graph of interaction of time and group condition on participants' perceived conflict among group members. Key to abbreviations: Y = Conflict, x1 = Time, W1 = Dream group, W2 = Interpersonal group.

Table 15

Correlation Matrix for Outcome Measures at Post-test

	TAS-20	BSQ-R-10	BFNE-II	CES-D-11	CI	Affect	<i>M</i>	<i>SD</i>
TAS-20	—						42.56	11.64
BSQ-R-10	.18	—					29.67	9.21
BFNE-II	.37**	.51**	—				33.89	10.62
CES-D-11	.13	.44**	.40*	—			4.25	3.60
CII [†]	-.20	-.01	-.04	.09	—		1.49	.67
Affect [†]	.18	.15	.03	.11	.30*	—	.23	.31

Note. $N = 48$. TAS-20 = Toronto Alexithymia Scale-20; BSQ-R-10 = Body Shape Questionnaire-Revised-Short; BFNE-II = Brief Fear of Negative Evaluation Scale-II; CES-D-11 = Center for Epidemiological Studies–Depression Mood Scale; CII = intensity of central image in dream or interpersonal event description; Affect = proportion of affective referents per grammatical unit in dream or interpersonal event description.

* $p < .05$. ** $p < .01$.

[†] $N = 46$ for CII and Affect

significant differences among conditions for central image intensity predicting the proportion of affect used in dream and interpersonal event descriptions at post-test. For this analysis, the first step was to create an unconditional model in which there were no predictor variables. The unconditional model provided estimates of the partitioning of variability between participants at Level 1 and between groups at Level-2 against which the estimates for the conditional models were compared. The Level-1 unconditional model was:

$$Y_{ij} = \beta_{0j} + r_{ij}$$

where Y_{ij} is proportion of affect at post-test for Participant i in group j , β_{0j} represents the average proportion of affect at post-test in group j , and r_{ij} represents error, i.e., the unique effect associated with Participant i in group j . The Level-2 conditional model was:

$$\beta_{0j} = \gamma_{00} + \mu_{0j}$$

where γ_{00} is average proportion of affect in all groups at post-test and μ_{0j} represents error, i.e., the unique effect of group j on proportion of affect.

Coefficients, standard errors, and t ratios for fixed effects and variance and chi-square values for random effects are presented in Table 16. As shown in Table 16 under fixed effects, there was a significant t test, $t(9) = 2.71, p < .05$, which indicates that the intercept, or mean score, of proportion of affect at post-test was .25 and that this score is significantly different from 0. The random effect result was $\tau = .02$, with $\chi^2(9, N = 46) = 18.12 (p < .05)$. From these findings it can be inferred that there is a statistically significant amount of variability between groups. The significant variability was examined to determine if it could be further partitioned by testing conditional models. To do this, predictor variables were added at Level 1 (Central Image Intensity) and Level 2

Table 16

Two-Level Unconditional Model of Proportion of Affect at Post-test

Variable	Coefficient	SE	<i>t</i> ratio	Variance	<i>df</i>	χ^2	<i>p</i>
Fixed effect							
Intercept (Mean affect across all groups)	.25	.06	4.12*		9		.003
Random effect							
Group , u_{10}				.02	9	18.13*	.030

Note: $N = 36$

* $p < .05$

(Condition). The Level-1 conditional model was:

$$Y_{ij} = \beta_{0j} + \beta_{1j}(\text{CII}) + r_{ij}$$

where Y_{ij} is proportion of affect at post-test for Participant i in group j , β_{0j} represents the average proportion of affect at post-test in group j , β_{1j} represents the average effect CII had on affect at post-test in group j , and r_{ij} represents error, i.e., the unique effect associated with Participant i in group j . This level examined the effect of CII on proportion of affect in written descriptions at post-test between participants. The Level-2 conditional model was:

$$\beta_{0j} = \gamma_{00} + \gamma_{01}(\text{Dream v IP, Dream v Control, or IP v Control}) + \mu_{0j}$$

$$\beta_{1j} = \gamma_{10} + \gamma_{11}(\text{Dream v IP, Dream v Control, or IP v Control}) + \mu_{1j}$$

where γ_{00} is average proportion of affect in all groups at post-test, γ_{00} represents the average proportion of affect difference between conditions, and μ_{0j} represents error, i.e., the unique effect of group j on proportion of affect. For the slope equation, γ_{10} represents the average CII effect on affect for all groups, γ_{11} represents the difference in CII effects on affect between treatment condition, and μ_{10} represents error, i.e., the unique effect of group j on the average CII effect on proportion of affect. Level 1 and Level 2 independent variables were grand mean centered because the purpose of the analysis is to determine between group variability rather than within group variability.

Coefficients, standard errors, and t ratios for fixed effects and variance and chi-square values for random effects are presented in Table 17. As shown in Table 17 under fixed effects, for the dream versus IP comparison, a significant t test, $t(6) = -2.71, p < .05$, indicated that the intercept of proportion of affect on CII was lower for participants in dream groups than for those in interpersonal groups. The comparison of slopes indicating

Table 17

Multilevel Modeling Equation Predicting Proportion of Affect in Descriptions of Troubling Dreams or Interpersonal Events Written at Post-test by Participants in Dream Group, IPT Group, and Control Condition

Variable	Coefficient	SE	<i>t</i> ratio	Variance	<i>df</i>	χ^2	<i>p</i>
Fixed effect							
Dream v IP, γ_{001} on Affect-CII intercept, π_{00}	-.25	.09	-2.71*		7		.04
Dream v Control, γ_{001} on Affect-CII intercept, π_{00}	.02	.08	.20		7		.85
IP v Control, γ_{002} on Affect-CII intercept, π_{00}	.23	.12	1.93		7		.12
Dream v IP, γ_{101} on Affect-CII slope, π_1	-.32	.12	-2.63*		7		.04
Dream v Control, γ_{101} on Affect-CII slope, π_1	.11	.13	.87		7		.44
IP v Control, γ_{102} on Affect-CII slope, π_1	.20	.20	1.02		7		.37
Random effect							
Affect-CII intercept between, u_{10}				.00	7	6.79	>.50
Affect-CII slope between, u_{10}				.00	7	5.69	>.50

Note: $N = 36$ for Dream v IP, $N = 28$ for Dream v Control and for IP v Control.

the effect of CII on proportion of affect used in descriptions also indicated a significant difference between dream groups and interpersonal groups, $t(6) = -2.63, p < .05$. There were no significant differences in intercepts between the dream groups and control condition or between slopes for IP group versus control or dream group versus control. These results suggest that the intensity of central images in the post-test descriptions written by participants predicted the proportion of affect in those descriptions. In other words, the higher the intensity of the central image, the more emotion words used and the lower the intensity of the CII, the fewer emotion words used to describe them.

Although there is no R^2 statistic for HLM, several authors (Kreft & de Leeuw, 1998; Singer & Willett, 2003) have suggested methods for calculating a pseudo- R^2 . One equation used for obtaining within- and between-unit variance explained is:

$$\text{Pseudo-}R^2 = (\text{unconditional variance} - \text{conditional variance}) / \text{unconditional variance}$$

The equation can be used to calculate within-group variance explained as a measure of how well the independent variables in the model explain the outcome variable. It can also be used to determine the amount of between-group variance that is accounted for by the predictors in the Level-2 model. For the Dream versus IP model, central image intensity accounted for approximately 7% of the variance in proportion of affect and dream condition accounted for approximately 99% of the variance between groups.

Overall the results indicate that at post-test for IP group participants, the greater the intensity of the central image in the interpersonal event description, the more expressions of affect were used in those descriptions. For participants in dream groups and in the control condition, however, expression of affect was not related to the intensity of the central image in descriptions of troubling dreams or interpersonal events.

Chapter 6

Discussion

The current study was a quasi-experimental field design that compared two group interventions with two control conditions in their relationships to eating disorder risk factors, including alexithymia, body image dissatisfaction, fear of negative evaluation, and depression. In addition, expression of affect and intensity of central image in written descriptions of troubling dreams or interpersonal events were compared for all conditions. Finally, development of group climate in the two types of group intervention was compared.

In the following discussion, I first provide a summary of the overall results to give the reader an overview of what I found. Overall, the results supported the hypothesis that the dream descriptions written by dream group members would have more intense images than the waking life events in descriptions written by interpersonal group members. However, the hypothesis that the intensity would increase more over time for dream group members than for interpersonal group members was not supported, nor were hypotheses that dream descriptions would have more expressions of affect over time. In addition, the findings for the ED risk factor variables, specifically, alexithymia, body dissatisfaction, fear of negative evaluation, and depression, indicated no significant changes over time for any condition. Finally, with regard to group climate, poor reliability on two of the GCQ subscales (Engaged and Avoiding) precluded further analysis. Results for the Conflict subscale indicated that interpersonal group members started with significantly higher levels of perceived conflict among their group members than did dream groups, and the IP groups' level of conflict decreased significantly over

the 8 sessions.

In the following sections, I discuss the findings for the individual hypotheses. I begin with a discussion of the findings regarding the central intensity and proportion of affect expressed in written descriptions of the participants' dreams or interpersonal events. Next, the findings on risk factors for eating disorders are discussed: alexithymia, body dissatisfaction, fear of negative evaluation, and depression. Then the results for the groups' perceived level of conflict are discussed. Finally, limitations of the current study, directions for future research, and implications for eating disorder prevention programming are presented.

Central Image Intensity and Proportion of Affect

Hypothesis 1a. The intensity of the central image (CI) in descriptions written by dream group participants will be higher than CII in descriptions written by IPT group participants or control participants.

Hypothesis 1b. The intensity of the central image in descriptions written by dream group participants will increase sooner than will descriptions written by IPT group participants or control participants.

Results confirmed the first hypothesis that the central images in descriptions of troubling dreams written by dream group members were more intense than the central images in descriptions of troubling events or dreams written by participants in interpersonal groups or the control condition. As defined by Hartmann (2008), “a contextualizing image or Central Image is a striking, arresting, or compelling image — not simply a story — but an image which stands out by virtue of being especially powerful, vivid, bizarre, or detailed” (p. 48). In the current study, results showed that

dream descriptions written by dream group participants had a higher mean intensity than did the interpersonal event descriptions written by interpersonal group members or event or dream descriptions written by control participants and that image intensity did not change for any condition over time. This finding makes sense because of the often intense or bizarre imagery that is singularly characteristic of the dreaming state. It follows that dream images would be rated as higher in intensity than images in troubling interpersonal events, which, even if disturbing or emotionally upsetting, nevertheless have a more quotidian quality than do images in dreams. It would be a very unusual or traumatic event that could match the intensity of the images in a typical nightmare. In the current study 4 individuals described nightmares at various time points, and these dream descriptions were given the highest intensity rating (3.0), whereas none of the interpersonal event descriptions had CI intensity levels that were rated a 3.0. Many of the dreams had fearsome, irrational, or bizarre components that contributed to higher intensity ratings.

The following descriptions of a dream and an interpersonal event were chosen to illustrate typical content of both types of descriptions and how central image was rated. These descriptions were chosen because they were rated a 1.5 for central image intensity (mid-range). The following dream description depicts slightly bizarre components but does not contain nightmare features:

Last night I had a dream that I was in a bedroom and there was an enormous spider crawling all over my bed and a wooden post next to it. I was desperately trying to kill it, but couldn't find it. Finally I smashed it really hard while it was on a red sweatshirt wrapped around the post. All of a sudden, I realized the

sweatshirt was actually my sister wrapped around the pole, and I had hurt her by killing the spider on her.

By contrast, the troubling interpersonal events that were typically described were about uncomfortable, awkward, or annoying interactions, but rarely were they bizarre or traumatic. Like the dream description above, the following event description is also an example of midrange central image intensity. Although it had a negative interpersonal theme, the images are not extraordinary and it illustrates the difference in image intensity between dreams and waking life events:

My roommate had a problem with me going to a social because I am inactive and do not pay dues, and she felt that is was rude of me to go when I am not contributing to the sorority financially... [S]he told me that other people might be uncomfortable with me going to the social, even though it was her that had a problem with it. She went behind my back and told the social chair how unfair it was and that people who go to socials without paying shouldn't be allowed. My other friend overheard her complain and when I confronted her, she lied about it. Two weeks later, she brought one of her guy friends from a different school to one of our sorority's socials and I called her out on it, and we have not been on good terms since.

The finding in the current study that images in dream descriptions have a higher intensity rating than images in waking life descriptions is consistent with a previous study by Hartmann, Kunzendorf, Rosen, and Grace (2001), which examined the difference in intensity in dreaming versus daydreaming images. They found that dreams of college students had more images overall and more intense central images than did their recent

daydreams. They further found that “standout” dreams had higher intensity central images than did standout daydreams. Although not a precise parallel to the current study design—daydreams are not equivalent to troubling interpersonal interactions—Hartmann et al.’s findings illustrate the point that images produced during a waking state are less intense than those produced while dreaming. Thus, the idea that dreams provide more intense imagery to work on than do waking life events was supported.

In addition, the higher intensity level of the dream images may have been due to self selection. Participants were allowed to choose their condition, and those who chose to participate in the dream groups were able to recall recent dreams. Previous studies have shown that high dream recall is correlated with thin intrapsychic boundaries (Hartmann, Elkin, & Garg, 1991; Levin et al., 1998-1999; Schredl, Kleinferchner, & Gell, 1996). Hartmann (2007) described the concept of intrapsychic boundaries as follows:

A person with very thick boundaries is one who keeps things in separate compartments . . . He does not let his emotions interfere with his thoughts. She thinks in black and white, feels men are totally different from women . . .

Someone with very thin boundaries is the opposite: he may experience in-between states; she cannot imagine a thought without emotion, thinks in shades of grey, sees masculine as well as feminine in herself, see similarities between groups, and so on. (p. 183)

Hartmann et al., (1991) found that thinness of boundaries correlated with dream vividness and detail. Thus, it may be the case that participants who self-selected for the dream condition had thinner intrapsychic boundaries, as evidenced in their high dream recall,

and that their thin boundaries were reflected in the intensity of their written dream images.

For the current study, it was expected that as participants gained skill in working with dreams over time, that their increased facility would be reflected in more detailed written descriptions of dream images, which would result in higher intensity ratings over time. It was surprising, then, that results did not confirm the hypothesis that intensity of the central image in descriptions written by dream group participants would increase sooner than it would in descriptions written by interpersonal group participants or control participants. Not only did the dream group participants' central imagery not change faster than others, it did not change at all over the course of the 8 sessions. Nor was there any change in central image intensity in interpersonal group or control participants' descriptions. Thus, regardless of condition, the central image in participants' descriptions of troubling dreams or interpersonal events did not change over time.

The lack of change in intensity may be due to treatment design, specifically that the treatment conditions were not specifically designed to change central image intensity but rather to work on describing imagery and expressing feelings. No effort was made to incubate especially intense dreams or to ask about waking life traumas, which are interventions more likely to cause participants to present more intense material. In addition, the lack of change in central image intensity may be due to the relatively fixed structure of the women's social network and regularity and commonality in their schedules. This regularity may have been reflected in the written descriptions of both interpersonal events and dreams. With regard to the appearance of waking life material in dreams, the continuity hypothesis postulates that the content of dreams reflects waking

life events and psychological states (Domhoff, 2001) and has been widely supported by research findings that dream content reflects waking life material, including core conflictual relationship themes (Popp al., 1998; Popp, Luborsky, & Crits-Christoph, 1998), work and leisure (Schredl, 2000; Schredl, Funkhouser, & Arn, 2006; Schredl & Hoffman, 2003), psychological distress (Pesant & Zadra, 2006), and social networks (Schweickert, 2007). The consistency in the lives of the participants may have been reflected in the unchanged intensity of the central images of their written descriptions.

It was surprising, however, that the stress of academic demands over the course of the semester was not reflected in a change in central image intensity in any of the conditions. Academic stress during exam time has been related to increased anxiety and depression (Ogeden & Mitandabari, 1997). In the current study, all groups were conducted in the latter half of the semester and all had their last session in the last week of classes or during finals week, which is a highly stressful time for most students. It would be expected that increased stress would relate to increased intensity of emotion. Several studies have shown that waking life stress has an effect on dream recall and content. Duke and Davidson (2002) found that anxiety and negative affect were significantly higher during the week prior to exams and that students reported dreams on significantly more nights during that week than during the week after exams. With regard to dream content, a study of stockbrokers (Kroth, Thompson, Jackson, Pascali, & Ferreira, 2002) during a stressful period revealed correlations between stress levels and negative dream content, which included nightmares. In another study, Zadra (1996) found that stress was related to recurrent dreaming with negative content. It is somewhat puzzling, then, that increased anxiety during finals was not reflected in dream or

interpersonal event descriptions.

One possible explanation for the unchanged CII is that the participants did not experience final exam week as an extraordinary stressor. It may have been the case that final exam week caused additional stress but that the participants were capable enough students (mean GPA was 3.54) that they were able to prepare for and take their exams without experiencing extreme effects. In addition, because there was just one first-year student in the sample, overall the participants may have been well enough adjusted to the rigor of college-level academic work that final exam week did not induce exceptionally intense psychological states.

Hypothesis 1c. Proportion of affective referents in descriptions written by dream group participants will increase more from pre- to post-intervention than will the proportion of affective referents in descriptions written by participants in IPT groups or control participants.

Hypothesis 1d. Proportion of affective referents in descriptions written by dream group participants will increase sooner than will the proportion of affective referents in descriptions written by IPT group participants or control participants.

Results did not support these hypotheses; all conditions used the same proportion of emotion words in their written descriptions and emotional expression did not increase over time. Thus, the dream group intervention did not facilitate greater expression of affect than did the interpersonal groups or the control. Given the higher intensity of central images in dream descriptions and the focused training provided by the Hill cognitive-experiential model in describing images and emotions in dreams, it was expected that participants in the dream groups would become more accustomed to

exploring the often puzzling images in their dreams and become more comfortable with re-experiencing and describing the emotions associated with the dreams. Curci and Rimé (2008) found that the more intensely emotional and the more disruptive to the participants' psychological state a dream was, the more likely participants were to tell someone about the dream not only to share the experience with others but also to find some meaning in the dream; a similar phenomenon was anticipated in the current study. In the current study it was expected that participants' increasing facility with describing images and expressing emotion would be reflected in their written dream descriptions, particularly as they were given the prompt to describe a troubling dream. However, there was no increase in expression of affect.

Outcomes for ED Risk Factors

Question 1a. Are there differences pre- to post-intervention in alexithymia among dream group members, IPT group members, and control participants?

The results indicated there were no differences in alexithymia means or change over time among the treatment groups or control participants. Although alexithymia is viewed as a relatively stable characteristic, previous studies (Honkalampi, Koivumaa-Honkanen, Tanskanen, Hintikka, Lehtonen, & Viinamäki, 2001) have indicated that level of alexithymia is state-dependent and appears to be particularly related to depression symptoms. Results from another study (Beresnevaite, 2000) showed that group psychotherapy focused on helping clients identify and communicate feelings and on enhancing imaginal activity through written descriptions of dreams helped to significantly decrease alexithymia in cardiac patients and that changes were maintained at two-year follow-up. Thus, it was expected that as other symptoms among the current

sample decreased and as dream group participants gained skill and confidence in describing dream imagery and in expressing emotion and as interpersonal group members became less fearful of negative evaluation when discussing interpersonal issues within their groups, one or both treatment conditions might decrease levels of alexithymia. These results did not, however, emerge.

Despite the nonsignificant findings for differences in alexithymia among the treatment and control groups, it was interesting to find a small effect size for increased levels of alexithymia from pre- to post-test for participants in the interpersonal groups, indicating that IP group participants reported that they were experiencing more externally oriented thinking and greater difficulty identifying and describing their feelings. Although this result seems counterintuitive, as pointed out by Nemiah (1977) many individuals may not be aware they have difficulty identifying emotions because they use affective referents such “annoyed” or “sad” and thus believe they are able to identify and name their emotions. But when pressed to describe what it feels like to be sad or annoyed, then their difficulty with identifying and articulating feeling becomes clear. For the current study it may have been that the more interpersonally focused group interventions brought IP participants’ difficulty with self-expression more into their awareness than it was at pre-test.

Question 1b. Are there differences pre- to post-intervention in body dissatisfaction among dream group members, IPT group members, and control participants?

Results indicated there were no significant differences in initial levels of body dissatisfaction or any changes over time among the treatment groups or control

participants. However, there were small effect sizes indicating that dream group and interpersonal group participants had higher levels of body dissatisfaction than control participants. It should also be noted that the overall mean pre- and post-test levels of body dissatisfaction among the current sample were lower than those found in a nonclinical sample of 219 college women (Mazzeo, 1999), indicating that the women in the current study may not have been a representative sample of sorority women or of college women in general. These results are surprising given that two studies (Basow et al., 2007; Cashel et al., 2003) found that sorority women had elevated levels of body dissatisfaction than non-sorority women. In the current study, women with higher levels of body dissatisfaction may not have volunteered for the current study for several reasons. It may have been that their body dissatisfaction was too well reinforced by both the larger culture and by appearance expectations within their sororities for them to consider it troublesome or distressing. In addition, women with disordered eating behaviors as well as body dissatisfaction may have felt too much shame to bring their issues to a group intervention, particularly an intervention with other sorority members. Thus, the sorority members who did volunteer for the study may have had lower levels of distress.

Social desirability may also have been a factor in how the women in the current study reported body dissatisfaction. The women who did participate may have been particularly subject to social desirability in their responses because the interventions were within chapters. They may have wanted to present themselves and their chapters as not dissatisfied with their bodies, especially given the negative media attention on sorority culture related to appearance at Cornell College (Burrell, 2010), where one sorority's seven-page guide on how to dress during the various rounds of "rush" week parties was

released on the web and was roundly criticized for its excessive attention to appearance and derisive tone. Another incident occurred in 2007 when DePauw University officials expelled a sorority after it placed active, dues-paying members on its inactive list based on the members' appearance and ethnicity (Dillon, 2007).

Question 1c. Are there differences pre- to post-intervention in fear of negative evaluation among dream group members, IPT group members, and control participants?

Results indicated no significant differences in initial levels of fear of negative evaluation nor in changes over time among the treatment groups or control participants. However, there were small effect sizes indicating that dream group participants were higher on initial fear of negative evaluation than interpersonal group participants. Overall, the participants' fear of negative evaluation at both pre-test and post-test were lower than what Hamann, Wonderlich-Tierney, and Vander Wal (2009) reported for a nonclinical sample of 119 college women, or for what Basow et al. (2007) reported for a sample of sorority women. Thus, the lower fear of negative evaluation among the current sample is further evidence that they likely were not representative of nonclinical college women or of sorority women. Perhaps the women who had more fear of negative evaluation chose not to participate specifically because of their fear of being evaluated negatively by their sorority sisters during group sessions, particularly if they were expected to disclose interpersonal problems.

Question 1d. Are there differences pre- to post-intervention in depression among dream group members, IPT group members, and control participants?

Results indicated no significant differences in initial levels of depression or in changes over time among the treatment groups or control participants. However, there

were small effect sizes indicating higher levels of depression for interpersonal group participants than for dream group or control participants.

The fact that the sorority women in this study did not significantly improve on any of the outcome scales may be due to the low mean levels of distress on all of the outcome variables among the women. At pre-test, the means for alexithymia and depression were below cutoff scores and the mean pre-test and fear of negative evaluation was below that found in a nonclinical sample of college women (Hamann, et al., 2009). Given the low level of pathology and high level of functioning of the sample, it may be the lack of change reflects a basement effect; the measures were designed to detect levels of distress that apparently were not present in the current sample. It could also be a self-selection problem, in that women with disordered eating behaviors, body image issues, fear of negative evaluation, or depression were less likely to participate in an intervention with the same group of people with which they socialize.

Finally, the lack of change over time for body dissatisfaction, fear of negative evaluation, and depression may have been due to social desirability in the participants' responses. Although no measure of social desirability was given, it may be that the participants' proximity to one another while completing post-session measures, combined with greater familiarity with psychological concepts, treatments, and pathologies among the large percentage of psychology majors, caused enough discomfort among the participants to have influenced their responses.

Group Climate Questions

Question 2a. How do changes over time in perception of group members' engagement relate to group condition?

Question 2b. How do changes over time in perception of group members' avoidance relate to group condition?

These two research questions could not be answered because of inadequate reliability on the Engaged and Avoiding subscales of the Group Climate Questionnaire. Inadequate reliability has also been found for the three-item Avoiding subscale in other studies (Hurley & Brooks, 1987, 1988; Johnson et al., 2005; Johnson et al., 2006). Only one item on the subscale has obvious face validity regarding avoiding behaviors, "The members avoided looking at important issues going on between themselves," and it may have been that this item was interpreted very differently from other items on the subscale, which contributed to low reliability.

The five-item Engaged subscale also had questionable reliability on the current study. Item 8 was particularly problematic; however, when item 8 was excluded, alphas increased to acceptable levels. The item asks participants how much "The members challenged and confronted each other in their efforts to sort things out," which could be interpreted more as an assessment of conflict rather than of engagement. Indeed, results of Johnson et al.'s (2006) factor analysis of the GCQ indicated that the item required loading onto both the Conflict and Engaged subscales in order to provide a good fit for a three-factor model of the GCQ. If participants in the current study interpreted the item as asking about conflict among group members but others did not, the discrepancy may have contributed to low reliability on the engaged subscale.

Question 2c. How do changes over time in perception of group members' conflict relate to group condition?

In contrast to the inadequate reliability on the Engaged and Avoiding subscales, internal consistency reliability for the four-item Conflict subscale was adequate, which is consistent with previous studies (Johnson et al., 2005; Johnson et al., 2006). All items on the subscale are face-valid inquiries about levels of tension and conflict in the group.

Results for the Conflict subscale indicated that participants in interpersonal groups perceived higher levels of conflict among members at the start of the sessions and that this level decreased over the course of the 8 sessions. By contrast, the dream group participants' initial level of perceived conflict was low and did not change over the course of the 8 weeks. It seems likely that a combination of factors affected group climate, including difference in interventions, the fact that group members already knew each other at the start of the sessions, and self-selection for condition, accounted for the level of conflict.

With regard to difference in intervention, previous research supports the idea that different group interventions have different patterns of climate development. Tasca et al. (2006) investigated the development of group climate over time in group psychodynamic-interpersonal psychotherapy (GPIP) and group cognitive-behavioral therapy (GCBT) and concluded that the patterns for engagement, avoidance, and conflict were different for the two conditions and reflected the different approaches to therapy. The researchers found that overall, perceived conflict decreased in a linear fashion over the course of 16 weeks for both the GCBT and GPIP, whereas only the interpersonal process group in the current study decreased in conflict. Although not a direct parallel (neither group modality in the current study was CBT), the focus of the dream groups and the interpersonal groups were different; one was a very structured approach to describing

intrapsychic material (dreams) and re-experiencing emotions in them whereas the other was a more loosely structured approach to working on interpersonal problems in waking life. Perhaps the process component that is present in interpersonal groups is essential for change in perceived conflict to occur.

The findings regarding changes in group conflict may differ from previous studies for other reasons, as well. The duration of groups in the Tasca et al. (2006) and Kivlighan and Lilly (1997) studies ranged from 14 sessions to 26 sessions. Groups in the current study met for only 8 sessions. It has been theorized that group dynamics are at the heart of change in group therapy and that change occurs in distinct phases (MacKenzie, 1994; Yalom & Leszcz, 2005). As Tuckman (1965; 1975) conceptualized group development, in order for its members to grow and learn to solve interpersonal problems, a group must pass through a series of five stages marked by particular interpersonal functioning (forming, storming, norming, performing, and adjourning). Thus, despite the fact that group members in the current study already knew each other, which may have potentially foreshortened the “norming” stage, the relative brevity of the interventions may have precluded a change process similar to those found in previous studies.

The group conflict results in the current study might also relate to the unusual composition of groups. Psychotherapy groups typically are composed of members who have no social connection outside of group. In fact, at the start of a new group, many leaders ensure that group members do not know each other and establish as a group norm that members not contact each other outside of group. The concern is that such extra-group contact could adversely affect the dynamics of the group while it is in session. If group members socialize with one another, they form particular bonds that may appear in

group as unexplained alliances that could derail the group's progress. For the current study, the groups were composed of women who were members of the same social group, and it seems likely that their relationships outside the group had an impact on their interaction while in session. Specifically, given that members were already acquainted, the process of "norming" may have been abbreviated such that members moved directly into "storming," and the truncated development of climate may have been more prevalent in the interpersonal groups because dream groups were more structured and dependent upon the leaders, whereas interpersonal group members had more direct interpersonal processes with other group members.

Additional Analyses

One interesting change with regard to expression of affect occurred for participants in interpersonal groups. It was striking that at pre-test, there was no correlation between intensity of the image and expression of affect. For all conditions, emotional intensity was implied in evocative images but it was not overtly expressed, thus the lack of correlation at the start of the intervention. At post-test, for the dream groups and the control participants, there continued to be no relationship between intensity of image and expression of affect. For the interpersonal group participants at post-test, however, the correlation between central image intensity and proportion of affect was significant.

Although multilevel modeling of the effect of central image intensity on proportion of affect was not significantly different among conditions, the change in correlation suggest an intriguing result, namely, that even if interpersonal group members' image intensity did not increase in a linear fashion over time, their overt

expressions of affect were more matched to level of image intensity by post-test than were dream group members or control participants. To illustrate, the following is an event description written by an interpersonal group participant at pre-test:

While at work, a woman came to the desk and asked for a book. She did not have the correct information and I could not find the book. I asked the woman to give me the exact title and she pulled out her notebook. I told her that she could use the computer herself and she gave me an attitude while pulling out the paper. It turned out she had given me the wrong title. I found the book and she never thanked me. It bothered me that she was so rude when I was helping her in a situation that I did not have to.

The description relates what can be inferred as a moderately annoying interaction with an ungrateful customer. This description contained just 1 affective referent, the word *bothered*, and had 11 grammatical units. Thus, despite describing moderately intense image (1.5 rating), the proportion of affect expressed was just .09. The same participant produced the following event description at post-test:

We fill out superlatives for [our pledge class] every year where we note certain people for awards such as “Best Smile.” This happened today and someone wrote in a category on a page called “Most Annoying” and wrote my name next to it. The ballots are anonymous but I found out who wrote it and she claimed to be joking. I could tell she was lying and it really upset me that she would dislike me so much. It made me realize that I deeply care about how others perceive me, and I wish it didn’t matter to me that much.

This description, also rated a 1.5 in intensity, relates a hurtful interaction with a sorority

sister and contains 5 affective referents (*annoying, upset, dislike, care, and wish*) within 9 grammatical units, for a proportion of affect of .56. This proportion of affect is much more closely aligned with the level of intensity of the described event than was her pre-test event description.

By comparison, the following troubling dream was described by a participant in a dream group at pre-test:

I was walking down a long corridor that turned a sharp left at the end. When I got to the corner I was next to a room where my ex-boyfriend and some of his friends were talking. I was excited to see them but wasn't sure if they wanted me to come in. My ex said calmly that he wished we could be friends, but I said, "You know I'm not ready for that yet."

The dream image described a scene with a moderately evocative image with no surreal or irrational components, and it was rated a 1.5 in intensity. It contains 2 affective referents, *excited* and *wished*, within 5 grammatical units for a proportion of affect of .40. The same participant produced the following dream description at post-test:

I recently had a dream where I was swimming in the water off of a pier with other people. I suddenly realized that there were creatures under the water and that we had to get out. The figures looked like these big gray creatures that reminded me of the dead people under the water in the third Pirates of the Caribbean, which I watched not long before having this dream. We got out of the water and we were in the backyard of a sloping property up to a huge house. There was a sense of panic because we knew that these creatures were coming to attack us. I remember running into the house and being aware of the fact that I had several siblings that I

had to inform that we were about to go to war with these creatures. I ran around the house and up the stairwell calling the names of my siblings (though they are not the names of my siblings in real life). However, I realized that the creatures were inside the house and had somehow taken the form of some of my siblings so I couldn't tell who were my family and who were the enemy. I finally was able to gather everyone (there were like 10 of us) in the corner of the stairway and warn them about what was going on and to make sure that they were really the enemy because they were taking the form of our appearance but did not recognize our names when called to them. We all dispersed and began fighting off the creatures. I remember going outside on the patio and I had gotten two long-ridged knives and slid them under my clothing along the outside of my thighs so I could pull them out quickly if necessary. The leader of the enemy group was a motherly-looking woman and I began to battle her out on the upper deck of the patio looking over the backyard and lake. I had an empty beer bottle in my hand that I remember smashing over her head and then shoving the glass piece into her neck. Although I saw no blood, I remember looking at the woman and knowing that I had defeated her. I walked back into the house and wasn't sure if the blond haired blue eyed people I saw remaining were my family or creatures looking like my family but as I called out to them I realized we had won and that the enemy was gone.

This dream is filled with intense, fantastic images and although not technically a nightmare (the dream did not cause the dreamer to wake in terror), it was given the highest possible intensity rating of 3.0. Although this description was written at post-test,

a point at which it might be expected that dream group participants had acquired the skill of both describing images and articulating emotion evoked by those images, this description contains 19 grammatical units but just 1 affective referent, the word *panic*, which means the proportion of affect was .05. Thus, despite the Hill model's focus on developing both descriptive skills and facilitating emotional re-experiencing, participants in dream groups did not show the gains in matching their expression of emotion with image intensity that interpersonal group participants showed.

Given the small sample size, the results do not prove that the interpersonal group sessions caused the increase in image-emotion match. It is nevertheless intriguing that no such change occurred for the dream group or control participants, which suggests that modality may have been the difference. Indeed, the interpersonal and dream group approaches were very different. The dream group intervention provided very detailed guidance in learning to describe, re-experience, and interpret dreams. By comparison with the IPT group approach, however, the Hill model is highly structured and the approach used for the current study of focusing on one person's dream in each group session limited the amount of interpersonal processing that occurred during sessions. Other dream group members were involved in the dreamer's work in session and collaborated with her on descriptions, emotional expression, and associations, but the focus was on the dreamer and the dream. In the interpersonal groups, participants were focused on resolving interpersonal issues and on using the group as a "testing ground" for new relationship behaviors. It may have been that the interpersonal feedback provided them with the tools they needed to begin to better match their expression of emotion with the intensity of the events they discussed.

Strengths and Limitations

A major strength of this study was the use of hierarchical linear modeling for growth curve analyses to detect change over time at multiple levels: change within individuals, differences between individuals, and differences between groups. The use of traditional methods such as ANOVA or multiple regression would have violated the assumption of independence of observations because they would not have accounted for the hierarchical structure of the data. Because this was an investigation of change over time in group interventions, the probability of dependent observations was increased and, indeed, expected. In order to model variance at the different levels it was necessary to conduct growth curve analyses using HLM 6.06–Student (Raudenbush, Bryk, & Congdon, 2008).

Another strength of the study was that for three of the variables (central image intensity, proportion of affect, and group conflict), measures were taken at multiple sessions over time. Multiple waves have several advantages, including increased power to detect change at Level 1, the ability to model the process of change as other than linear, and the ability to distinguish between real change and measurement error (Singer & Willett, 2003).

The investigation included a control condition, albeit not randomly assigned, which provided data against which results of the two experimental conditions could be compared. Finally, a mixed method approach in assessing one component of alexithymia was used, such that in addition to participants' self-report of alexithymic symptoms, their ability to identify and express emotion was also assessed through judge-rated proportion of affect in the participants' written descriptions of troubling dreams or interpersonal

events.

The study had a number of limitations, including the possibility of selection bias. Although the participants were representative of PHA sorority women in terms of ethnicity and SES—most were white and upper-middle class—they were not representative of sorority women in general in that the most common major was psychology, undoubtedly because psychology majors were able to earn academic extra credit for participating in the study. The likelihood of psychology majors having greater knowledge of psychological instruments, group dynamics, eating pathologies, and treatment approaches may have been a factor in their behavior in group or responses on the measures.

In addition, the current sample did not appear to be representative of sorority women in general in terms of eating attitudes and behaviors. Basow et al. (2007) found that sorority women scored significantly higher than non-sorority women on diagnostic measures of eating disorders, and Cashell et al. (2003) found that a sample of both sorority and non-sorority women scored above the cutoff scores for eating pathology. In the current sample, however, the majority of women scored in the subclinical range on the EAT-26. It may be that the women in this sample were not representative because of self-selection. Women with dysfunctional eating attitudes and behaviors may have felt shame or feared discovery and thus did not volunteer for a study investigating approaches to eating disorder prevention. It may also be that social desirability was a factor in the responses among the women who did choose to participate, especially given that these women were participating in an intervention group with women with whom they lived and socialized. Previous studies (Basow et al., 2007; Cashell et al., 2003) have shown

that sorority women reported significantly higher levels of social pressure to conform to sorority norms for socializing and appearance, and these factors may have influenced participants' responses. Another major limitation of the current study was small sample size. When designing a study for HLM analysis, it is important to maximize the number of units at the highest level of analysis, which for the current study was the group level. Generally speaking, a large number of groups is recommended, with the minimum recommended number ranging from 30 (Bickel, 2007; Luke, 2004) to 90 (Kreft, 1996). Hox (2002) recommended 50 groups with 5 cases per group, and for sufficient power to test for random effects and cross-level interactions, more groups (100 to 200) with more cases per group (10) are necessary. The current study obviously fell well short of that number.

Another major limitation of the study was lack of random assignment. Although randomized controlled trials (RCTs) are considered the gold standard for determining treatment efficacy, we chose to assign participants to their preferred treatment. Allowing participants to select their preferred treatment was more naturalistic and adhered to APA best practices (APA, 2006). In addition, sorority presidents indicated that their members would not be as open to sharing interpersonal information with members of other chapters. In addition, we could not compel participants to recall dreams and thus had to assign those with good dream recall to the dream condition. As stated previously, however, lack of randomization; RCTs are widely regarded as the optimal approach for providing evidence for the efficacy of treatment approaches because randomization and control allow the researcher to infer causation and to generalize findings to the larger population.

In the current study, the effects of non-random assignment can clearly be noted, for example, in the differences on pre-test body dissatisfaction and fear of negative evaluation. There were small effect sizes indicating higher levels on both of these measures for dream group members. Fear of negative evaluation, in particular, might have influenced those with lower fear of negative evaluation might have been more attracted to the interpersonal groups, which may have affected group climate results. Although the non-random assignment was more naturalistic, it limited the ability to draw statistical conclusions because equivalence among participants and co-leaders across conditions could not be assumed. It also limited external reliability because of the high degree of self selection among participants, for example, the results for dream groups could only be generalized to sorority women with high dream recall.

Another limitation was is that there was no measure of social desirability in the study, and, given the sample and the population from which it was drawn, this was a major oversight. As discussed previously, sorority women tend to feel social pressure much more than do non-sorority women, and they are more likely to conform to group norms of expected attitudes, behaviors, and appearance. Thus, it would have been useful to include among the measures an assessment of social desirability, such as the Marlowe-Crowne Social Desirability Scale (MCSDS; Crowne & Marlowe, 1960). The MCSDS would have provided information on the degree of acquiescence for each participant, and thus statistical adjustments could have been to control for the effects of social desirability.

A final limitation is that because the study focused on risk factors for eating disorders, the best measures for assessing the unique outcomes of dream work and

interpersonal groups were not used. In dream work, it has been noted (see Hill & Spangler, 2007) that the best outcomes are those specifically related to dream work (e.g., gains in insight and action ideas and reductions in target complaints) rather than generic mental health outcomes (e.g., depression). Likewise, interpersonal functioning, rather than fear of negative evaluation, might have been a more appropriate outcome variable. Indeed, the overall purpose of the study was to investigate prevention, and the interventions were focused on building healthy skills. Thus, perhaps some of the outcome variables should have been increased insight as well as expression of affect or improved interpersonal understanding and functioning rather than being as focused on decreases in pathology as were the outcome measure that were used (alexithymia, body dissatisfaction, fear of negative evaluation, and depression). As pointed out by Volsky, Magoon, Norman, and Hoyt (1965), sound outcome research is dependent upon use of appropriate evaluation instruments.

Future Research

This study has a number of implications for future research. Given the basement effects that appeared in the current study, it might be worthwhile to replicate the current study with a sample of women that was more at risk. Previous research has shown the effectiveness of group work (Shina et al., 2005; Tasca et al., 2006) in reducing disordered eating attitudes and behaviors among women with ED diagnoses and of dream and other imaginal work (Beresnevaite, 2000) in decreasing alexithymia. Thus, for future studies, it would be beneficial to target women experiencing higher levels of distress. Such efforts might include using Office of Fraternity and Sorority Life regulations in targeting sororities who are required because of specific infractions to include all chapter members

in a personal development program focused on ED prevention. This would ensure a broader range of levels of distress. In addition, the current study could be expanded to other at-risk populations, such as male and female college athletes, dancers, and cheerleaders and it could investigate other predictors, such as personality and attachment style.

One of the most intriguing findings in the current study was that the post-test “match” of image intensity and affect occurred only in interpersonal group participants’ descriptions. If the current study were to be repeated in order to further investigate the relationship of the intensity-affect match, it might be beneficial to ask more targeted questions for the written responses. Specifically, asking dream group members to describe their dreams according to the DRAW steps in exploration stage of the Hill model might provide more direct encouragement for participants to apply the skills of describing images and emotions evoked by those images that they learn during sessions in describing their dreams. A similar prompt could be used for interpersonal group participants, asking them to describe a recent troubling interpersonal event as it relates to the goals they set for themselves and how they have addressed those issues in group sessions. In addition, insight gains might be investigated to determine how they relate to expression of affect.

In the current study, members of interpersonal groups began with an elevated level of conflict, which decreased significantly over the course of treatment. It would be interesting to compare group dynamics as well as outcomes on alexithymia, CII, and affect for prevention groups conducted within sorority chapters with groups of women who are not already affiliated. Rather than written reflections, data for analyzing image

intensity, proportion of affect, and insight could be derived from members' verbal check-in statements made at the start or end of each group session. It would also be important to include a measure of social desirability to determine whether that factor has an impact on group climate or on outcome variables.

Implications for Eating Disorder Prevention Programming

In their chapter on preventing eating disorders through integrating best practices, Mintz, Hamilton, Bledman, and Franko (2008) state that ameliorating risk factors for eating disorders is a key component of ED prevention, including targeting body dissatisfaction and other unhealthy habits that do not rise to the level of diagnosable disorder. They make this recommendation not only because these risk factors have been shown to predict future eating disorder diagnoses, but also because these factors cause significant distress in and of themselves. Thus, despite the fact that the interventions tested in the current study did not show significant effects on the ED risk factors of alexithymia, body dissatisfaction, fear of negative evaluation, and depression, these targeted factors and the fact that they were applied to sample taken from an at-risk population (sorority women) nevertheless are consistent with Mintz et al.'s recommendations. In addition, using interventions that increase participants' ability to describe events and emotions evoked by them or that help to decrease levels of fear of negative evaluation through interpersonally processing seem appropriate to targeting these risk factors. However, in the current study, it may have been the case that in-person, within-chapter interventions were not the best fit. Mintz et al. highlight the effectiveness of computer interventions (Franko, Mintz, Villapiano, Green, Mainelli, Folenbee, et al., 2005; Low, Charanasomboon, Lesser, Reinhalter, Martin, Jones, et al., 2006; Zabinski et

al., 2003). For sorority women, then, the impact of social desirability and self-selection might be minimized if the interventions in the current study were adapted to an online, moderated forum.

In addition, one component that has not been previously studied is the relationship between image intensity and expression of affect. Given the results of the current study, future interventions might give particular attention to exploring intense images to evoke expression of emotions. Results of a 3-year prospective study (Speranza et al., 2007) found that participants who had greater difficulty identifying their feelings were more likely to develop eating disorders. The researchers suggested that clinicians give close attention to ED patients' ability to identify and express emotion and recommended developing specific strategies to help clients identify and express their emotions. These treatment recommendations can be applied to group prevention strategies as well, and might include exercises that ask clients to increase their awareness of emotional distress when the level of conflict increases among group members. In addition, given the results of the current study indicating the high intensity of images in dreams compared with those in waking life events, dream groups could give particular attention to very intense dream images by having each member give specific associations to the image and describing emotions evoked by the association.

Appendix A

PHA President's Forum Handout

Addressing Risk Factors for Eating Disorders in Sorority Women Patricia Spangler, M.A.

Summary of Spring 2007 Assessment Results (from PHA and UGC chapters)

- By council, 75% of participants from PHA sororities felt that members of their chapter struggled with body image or unhealthy eating, whereas only 36% of UGC members did.
- 57% of PHA members reported participating in programming related to body image and eating, whereas only 32% of UGC members reported participating.
- Overall, 83% of sorority members indicated that they would be open to programming focused on body image and eating behavior, with 85% of the PHA members receptive to this programming and 91% of UGC members receptive to it.
- Most respondents were aware of programming that addresses eating and body image, with almost half citing presentations by the Mental Health Center or SEEDs volunteers.
- A strong majority of respondents were receptive to new programming, with suggestions for focusing on healthy eating and exercise; speakers, information sessions, or workshops; presentations by a nutritionist; or other types of novel programming.
- Overall, self-reported unhealthy eating behaviors were not frequent, but occasional. In addition, the women indicated that they often engaged in dieting behaviors and eating diet foods and were afraid of being overweight.
- Respondents indicated an internalization of the thin ideal, meaning that they “buy into” the thin ideal as an ideal way for their own body to look, which has been shown to predict eating disorders in college aged women.
- PHA sororities showed slightly higher scores on pressure to be thin and internalization of the thin ideal than did UGC members. PHA members living in their chapter house felt stronger pressure for thinness than those not living in the house.
- PHA members also felt more supported by their sisters than did UGC members. It may be that living together contributes to the spread of positive attitudes as well as negative ones. This finding may have particular implications for future programming, with the goal of utilizing the “residential effect” to engender more positive attitudes to body image and eating behaviors.

The Program

- 8-week intervention program using one of two different group approaches that are designed to address factors that research has shown are predictors of eating disorders: body dissatisfaction, difficult interpersonal functioning, and negative emotions.

- Because this intervention is preventive, participants will be screened and anyone with a previous or current eating disorder would be referred for individual counseling.
- Groups will be made up of each chapter's incoming residents and group meetings would be held in the chapter house. Groups will be co-led by advanced doctoral students in counseling psychology who will be taking a group practicum in fall 2008.
- The content, processes, and all data taken from the sessions will be completely confidential. Groups will be tape recorded for supervision purposes.
- Recruiting for study participants will begin in Fall 2008.
- Benefits to the chapter include a facilitating new chapter residents' adjustment to living in the sorority house and promotion of healthy interpersonal communication skills, which we expect to have a lasting effect toward preventing unhealthy eating behaviors. In addition, partial fulfillment of OFSL Membership Development Standard 4 (Personal Development Program).

Appendix B

Script for Chapter Group Meetings for Sorority Eating Disorder Prevention/Personal Growth Groups Fall 2008

Student Investigator: Hello, I'm Patricia Spangler, a doctoral student in counseling psychology here at Maryland. As some of you may know, we conducted a survey in the spring of 2007 that showed that many PHA sorority members felt the need for new types of eating disorder prevention programming. As an outgrowth of that survey, we're doing a study on how to create better eating disorder prevention and healthy living programs for sororities. We are offering your chapter members the opportunity to participate in group sessions that are intended to reduce some of the risk factors that can lead to eating disorders by working on understanding of personal issues and on interpersonal growth.

Not only would you be helping us to develop better prevention and personal growth programs for sororities, there will also be several direct benefits for you and your chapter. You would have the opportunity to interact with your sorority sisters in a new way. You'd be getting a group experience that is completely free of charge. This would also fulfill part of the Office of Fraternity and Sorority Life Vision Requirements for your chapter for the year. And, finally, the Panhellenic Association has graciously agreed to provide a \$200 scholarship to the chapter with the best record of attendance at the meetings.

So, just a few details about the groups themselves. They will be made up of 7-8 members of your chapter and two co-leaders who will be advanced doctoral students in counseling psychology. If there are enough members in your chapter who are interested (more than 8) we will form two groups for your chapter. We'd make two groups because in order to learn and practice the skills we're focusing on in a group, it works best if the groups have no more than 8 members.

The group meetings will be held in a private room in your chapter house. You would attend a meeting once a week for 8 weeks on a day and time that works best for everyone in the group. The meetings would be about 90 minutes long. Everything you talk about within group will be completely confidential (unless you talk about abuse or an intent to harm yourself or someone else). We will be audiotaping the meetings because as part of the doctoral training process, your co-leaders must be supervised by a licensed psychologist, and a typical way to provide that supervision is by having the supervisor listen to tapes to be sure the group members are doing okay and that the leaders are doing what they're supposed to do. However, in order to protect the confidentiality of the group, no one other than the co-leaders, clinical supervisor, and the researchers will have access to the tapes.

Because this is a research study on how to create better prevention programs, we'll be collecting some information about you and about your group. After each meeting, your leaders will ask you to complete at least one brief form as part of the study, and after

three of the meetings, they'll have you complete several forms. Also, at four points during the 8 weeks, we'll ask you to write a brief description and interpretation of either a recent interpersonal event that was troubling or a dream that was troubling. All information you put on the forms and in these written reflections will be completely confidential. We will create a code number for you based on the last 5 digits of your SID and ask that you use this code number on all forms that you complete. We would also delete any identifying information from your written reflections.

Do you have any questions about the study or the groups?

If you're interested in participating, the first step would be to complete several questionnaires for the study. Once you have completed these forms, we assign your chapter group to one of three types of groups: one type of group will focus on interpersonal relationship skills, one will be focused on working with dreams, and one group will be what we call a wait-list. If you're in the wait-list group, you would still complete all of the same forms during the 8 weeks that the other groups complete, but your group will not actually have meetings until the spring 2009 semester.

I've given you a lot of information at this point. Do you have any questions about the groups, the meetings, the research, or any point that I've mentioned.

Great, so what I'd like to do in this meeting is to gather the names and contact information of chapter members who would like to participate. We'll be contacting you within one week to begin the process of assigning you a type of group and having you fill out questionnaires.

I'll pass around a sign-up sheet and, as that's going around, I'm happy to answer any more questions.

Appendix C

PHA Chapter Meeting Handout

Chapter Group Meetings for Eating Disorder Prevention

- As part of a study on how to create better eating disorder prevention programs for sororities, we are offering your chapter the opportunity for new residents to participate in group sessions that will focus on some of known risk factors for eating disorders.
- Group participants will include only members of your chapter.
- Your group's co-leaders will be advanced doctoral students in counseling psychology at the University of Maryland.
- Everything your group discusses will be completely confidential.
- After some of the meetings, your leaders will ask you to complete a few brief forms as part of the study. All information you put on the forms will be completely confidential.
- There will be 8 weekly sessions about 75-90 minutes long that will be held when it is convenient for all group members.
- Group sessions will be held at your chapter house.

Benefits to you:

- The opportunity to interact with your sorority sisters in a new way
- Group counseling that is completely free of charge
- Chapter fulfillment of part of the Office of Fraternity and Sorority Life Vision Requirements for the year
- Chapter eligibility for \$200 scholarship provided by the Panhellenic Association

Appendix D

**Group Member Sign-up
Presentation/Recruiting for
Personal Development/Eating Disorder Prevention Groups**

Name	Sorority	Email

Appendix E

Chapter Meeting Follow-up E-mail

Hi, (sorority member's name),

Thanks so much for your interest in participating in the personal development program I presented to your chapter last Monday night. It would be great to get things started as quickly as we can, so I'm attaching a document that asks your preference for type of group and about your availability to meet. On the schedule grid, if you would fill in the times when you are absolutely NOT available, it would be great. It usually is just more efficient when trying to coordinate so many schedules to ask when people can't meet. Please complete the form and email it back to me asap. Then, I'll assign you to a group, and your co-leaders should be in touch with you in a few days to confirm a day and time for your initial meeting.

Looking forward to working with your chapter!

Thanks again,

Pat Spangler

Appendix F

Personal Development Program Group Member Availability

Name: _____

Sorority: _____

Email: _____

Phone: _____

Please rank order your preference of group type (1 = most preferred, 3 = least preferred):

_____ Interpersonal group

_____ Dream group

_____ Control group

On the schedule below please mark the times when you are absolutely *not* available to meet for 90-min.

	Monday	Tuesday	Wednesday	Thursday	Friday
9am					
10am					
11am					
12pm					
1pm					
2pm					
3pm					
4pm					
5pm					
6pm					
7pm					
8pm					

UMD Sorority Members!

Interested in participating in psych research & earning extra credit?

- An ongoing study focusing on developing personal development/eating disorder prevention groups for sorority women is now recruiting research participants for control groups.
- Participation involves completing online measures 5 times.
- This study is IRB approved but not available on SONA systems.
- For more details, please contact Pat Spangler at:

pspangler@psyc.umd.edu

Appendix H

Eating Attitudes Test (EAT-26)

Age: _____ Height _____ Current Weight _____

Highest Weight (excluding pregnancy) _____ Lowest adult weight _____

Do you participate in athletics at any of the following levels:

Intramural _____ Intercollegiate _____ Recreational _____

Please Circle a Response for Each of the Following Statements:

Question	Always	Usually	Often	Sometimes	Rarely	Never
1. Am terrified about being overweight	3	2	1	0	0	0
2. Avoid eating when I am hungry.	3	2	1	0	0	0
3. Find myself preoccupied with food.	3	2	1	0	0	0
4. Have gone on eating binges where I feel I may not be able to stop.	3	2	1	0	0	0
5. Cut my food into small pieces.	3	2	1	0	0	0
6. Aware of the calorie content of foods I eat.	3	2	1	0	0	0
7. Particularly avoid food with a high carbohydrate content (bread, rice, potatoes, etc.)	3	2	1	0	0	0
8. Feel that others would prefer if I ate more.	3	2	1	0	0	0
9. Vomit after I have eaten.	3	2	1	0	0	0
10. Feel extremely guilty after eating	3	2	1	0	0	0
11. Am preoccupied with a desire to be thinner.	3	2	1	0	0	0
12. Think about burning up calories when I exercise.	3	2	1	0	0	0

13. Other people think I'm too thin.	3	2	1	0	0	0
14. Am preoccupied with the thought of having fat on my body.	3	2	1	0	0	0
15. Take longer than others to eat my meals.	3	2	1	0	0	0
16. Avoid foods with sugar in them.	3	2	1	0	0	0
17. Eat diet foods.	3	2	1	0	0	0
18. Feel that food controls my life.	3	2	1	0	0	0
19. Display self-control around food.	3	2	1	0	0	0
20. Feel that other pressure me to eat.	3	2	1	0	0	0
21. Give too much time and thought to food.	3	2	1	0	0	0
22. Feel uncomfortable after eating sweets.	3	2	1	0	0	0
23. Engage in dieting behavior.	3	2	1	0	0	0
24. Like my stomach to be empty.	3	2	1	0	0	0
25. Have the impulse to vomit after meals.	3	2	1	0	0	0
26. Enjoy trying new rich foods.	0	0	0	1	2	3

Appendix I
Demographic Form

Education: Are you a

Freshman____ Sophomore _____ Junior _____ Senior _____ Grad student _____

Current GPA: _____ Major: _____

Ethnicity/Race:

African American____ Asian American _____ European American _____

Latina _____ American Indian _____ Other (please specify) _____

International student (specify country) _____

Family Socioeconomic Status:

Lower income___ Middle Income____ Upper-middle Income____ Upper Income _____

Relationship Status:

Single _____ Newly or casually seeing someone _____ Friend with benefits _____

Long-term committed _____ Recent break-up _____

Sorority chapter: _____

During the past 2 weeks, immediately upon waking in the morning, how often could you recall dreaming?

___ Every morning ___ Just about every morning ___ Most mornings

___ About every other morning ___ About 2 mornings a week

___ About 1 morning a week ___ Once during the 2 weeks

___ Not once

How often do you usually have dreams you remember?

___ About every night ___ 2-3 times a week ___ Once a week

___ 1-2 times a month ___ Less than once a month

Appendix J

Body Shape Questionnaire-Revised-Short

Please read each question and circle the appropriate number to the right. Please answer all the questions.

Over the past **few weeks:**

	Never					
		Rarely				
			Sometimes			
				Often		
					Very often	
						Always
1. Have you been so worried about your shape that you have been feeling you ought to diet?	1	2	3	4	5	6
2. Have you noticed the shape of other women and felt that your own shape compared unfavorably?	1	2	3	4	5	6
3. Has being naked, such as when taking a bath made you feel fat?	1	2	3	4	5	6
4. Has eating sweets, cakes, or high calorie food made you feel fat?	1	2	3	4	5	6
5. Have you felt excessively large and rounded?	1	2	3	4	5	6
6. Have you felt ashamed of your body?	1	2	3	4	5	6
7. Has seeing your reflection (e.g., in a mirror or a shop window) made you feel bad about your shape?	1	2	3	4	5	6
8. Have you been particularly self-conscious about your shape when in the company of other people?	1	2	3	4	5	6
9. Have you found yourself brooding about your shape?	1	2	3	4	5	6
10. Has seeing thin women made you feel bad about your own shape?	1	2	3	4	5	6

Appendix K

Center for Epidemiological Studies Depression Mood Scale (CES-D-11)

Directions: Using the scale below, indicate the number which best describes how often you felt or behaved this way – DURING THE PAST WEEK.

Hardly ever or never	Some of the time	Much or most of the time
0	1	2

1. I did not feel like eating; my appetite was poor.
2. I felt depressed.
3. I felt everything I did was an effort.
4. My sleep was restless.
5. I was happy.
6. Please leave this question blank.
7. I felt lonely.
8. People were unfriendly.
9. I enjoyed life.
10. I felt sad.
11. I felt that people disliked me.
12. I could not get “going”.

Appendix L

Brief Fear of Negative Evaluation Scale-II (Leary, 1983; Carleton et al., 2006)

Read each of the following statements carefully and indicate how characteristic it is of you according to the following scale:

- 1 = Not at all characteristic of me
- 2 = Slightly characteristic of me
- 3 = Moderately characteristic of me
- 4 = Very characteristic of me
- 5 = Extremely characteristic of me

- _____ 1. I worry about what other people will think of me even when I know it doesn't make any difference.
- _____ 2. It bothers me when people form an unfavorable impression of me.
- _____ 3. I am frequently afraid of other people noticing my shortcomings.
- _____ 4. I worry about what kind of impression I make on people.
- _____ 5. I am afraid others will not approve of me.
- _____ 6. I am afraid that people will find fault with me.
- _____ 7. I am concerned about other people's opinions of me.
- _____ 8. When I am talking to someone, I worry about what they may be thinking about me.
- _____ 9. I am usually worried about what kind of impression I make.
- _____ 10. If I know someone is judging me, it tends to bother me.
- _____ 11. Sometimes I think I am too concerned with what other people think of me.
- _____ 12. I often worry that I will say or do the wrong things.

Appendix M
Toronto Alexithymia Scale-20

Sex: M / F

Age:

Date:

ID#:

TAS – 20

Using the scale provided as a guide, indicate how much you agree or disagree with each of the following statements by circling the corresponding number. Give only one answer for each statement.

Circle 1 if you STRONGLY DISAGREE

Circle 2 if you MODERATELY DISAGREE

Circle 3 if you NEITHER DISAGREE NOR AGREE

Circle 4 if you MODERATELY AGREE

Circle 5 if you STRONGLY AGREE

	Strongly Disagree	Moderately Disagree	Neither Disagree nor Agree	Moderately Agree	Strongly Agree
1. I am often confused about what emotion I am feeling.	1	2	3	4	5
2. It is difficult for me to find the right words for my feelings.	1	2	3	4	5
3. I have physical sensations that even doctors don't understand.	1	2	3	4	5
4. I am able to describe my feelings easily.	1	2	3	4	5
5. I prefer to analyze problems rather than just describe them.	1	2	3	4	5
6. When I am upset, I don't know if I am sad, frightened, or angry.	1	2	3	4	5
7. I am often puzzled by sensations in my body.	1	2	3	4	5
8. I prefer to just let things happen rather than to understand why they turned out that way.	1	2	3	4	5
9. I have feelings that I can't quite identify.	1	2	3	4	5
10. Being in touch with emotions is essential.	1	2	3	4	5

© (Taylor, Bagby & Parker, 1992)

Page 1

Date:

ID #:

TAS – 20

	Strongly Disagree	Moderately Disagree	Neither Disagree Nor Agree	Moderately Agree	Strongly Agree
11. I find it hard to describe how I feel about people.	1	2	3	4	5
12. People tell me to describe my feelings more.	1	2	3	4	5
13. I don't know what's going on inside me.	1	2	3	4	5
14. I often don't know why I am angry.	1	2	3	4	5
15. I prefer talking to people about their daily activities rather than their feelings.	1	2	3	4	5
16. I prefer to watch "light" entertainment shows rather than psychological dramas	1	2	3	4	5
17. It is difficult for me to reveal my My innermost feelings, even to close friends.	1	2	3	4	5
18. I can feel close to someone, even in moments of silence.	1	2	3	4	5
19. I find examination of my feelings useful in solving personal problems.	1	2	3	4	5
20. Looking for hidden meanings in movies or plays distracts from their enjoyment.	1	2	3	4	5

Appendix N
Description of Dream

Please briefly describe a recent troubling dream. If you cannot recall a recent dream (past 6 mo) you may write about any dream that was troubling to you. Please do not use any identifying information such as the names of people or places. When writing about a person please use first initials. When writing about a place, you may say "City X," or "in our chapter house."

Appendix O

Description of Interpersonal Event

Please briefly describe a recent troubling interpersonal interaction. Please do not use any identifying information such as the names of people or places. When writing about a person please use first initials only. When writing about a place, you may say "City X," or "in our chapter house."

Appendix P

Group Climate Questionnaire

Name: _____

Date: _____

GROUP QUESTIONNAIRE

- Read each statement carefully and as you answer the questions think of the group as a whole.
- For each statement fill in the box under the MOST APPROPRIATE heading that best describes the group during the four sessions.
- Please mark only ONE box for each statement.

	Not at all (0)	A Little Bit (1)	Somewhat (2)	Moderately (3)	Quite a bit (4)	A Great Deal (5)	Extremely (6)
1. The members liked and cared about each other.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. The members tried to understand why they do the things they do, tried to reason it out....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. The members avoided looking at important issues going on between themselves.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. The members felt what was happening was important and there was a sense of participation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. The members depended upon the group leader(s) for direction.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. There was friction and anger between the members.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. The members were distant and withdrawn from each other.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. The members challenged and confronted each other in their efforts to sort things out....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. The members appeared to do things the way they thought would be acceptable to the group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. The members rejected and distrusted each other.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. The members revealed sensitive personal information or feelings.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. The members appeared tense and anxious.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Appendix Q

CONSENT FORM—Group Member

Project Title	Dream Work versus Interpersonal Psychotherapy: Comparison of Two Group Approaches to Eating Disorder Prevention among Sorority Women
Why is this research being done?	This research is being conducted by Dr. Clara E. Hill and Patricia Spangler at the University of Maryland, College Park. We are inviting you to participate in this research project because you are a member of a Panhellenic Association sorority at the University of Maryland. The purpose of this research project is to investigate two group approaches to addressing risk factors for eating disorders, adjusting to sorority life (if you are a new member), facilitating personal growth, and promoting healthy lifestyle. We are seeking this information to better understand how these approaches might affect specific psychological factors.
What will I be asked to do?	<p>--First, you will meet individually with a group co-leader, who will tell you what to expect in your group and what is expected of you, depending on whether your group has been randomly assigned to a group that discusses interpersonal issues or one that discusses dreams. You might be assigned to a wait-list, which means that your group will not meet until spring 2009 semester. You will complete several questionnaires, including a demographic questionnaire, which asks questions such as your year, major, and ethnicity. Another questionnaire is the Eating Attitudes Test-26, which asks how much you agree with statements such as, “Am terrified about being overweight.” You will also complete the Body Shape Questionnaire-Revised-10, which has questions such as, “Has thinking about your shape interfered with your ability to concentrate?” You will complete the Center for Epidemiological Studies-Depression Scale-11, which asks how frequently you felt a certain way in the last week, such as “I felt everything I did was an effort.” You will complete the Brief Fear of Negative Evaluation-II, which asks how characteristic are such as statements, “When I am talking to someone, I worry about what they may be thinking about me.” You will complete the Toronto Alexithymia Scale-20, which asks how much you agree with statements such as “I prefer talking to people about their daily activities rather than their feelings.” You will write a brief description and interpretation of a recent troubling interpersonal event or dream. This meeting will be in a private space in your sorority house or the Biology-Psychology Building. It will take about 30 minutes.</p> <p>--You will participate in 8 weekly meetings with other members of your sorority. Meetings will be held in a private room in your sorority house or in the Biology-Psychology building if no room is available in your house. The meetings will be 90 minutes long. You will discuss either interpersonal issues or recent dreams. In the 3rd, 6th, and last meetings, you will complete the Toronto Alexithymia Scale-20 and give a brief written description and interpretation of a recent dream or interpersonal event. Even if you are in a wait-list group, you will still complete these measures, but you will complete them on Survey Monkey, which is a secure, confidential website for collecting research data. After every meeting, you will complete the Group Climate Questionnaire-Revised, which asks you how much you agree with statements like, “The members felt what was happening was important and there was a sense of participation.”</p>

	<p>--Approximately 4 months after your last group meeting, you will be emailed a reminder to complete several follow-up measures on Survey Monkey, including the Eating Attitudes Test-26, Body Shape Questionnaire-Revised, Center for Epidemiological Studies-Depression-11, Brief Fear of Negative Evaluation-II, Toronto Alexithymia Scale-20, and a brief description and interpretation of a recent troubling interpersonal event or dream.</p> <p>--Your total time commitment for the group will be approximately 15 hours, including your initial interview, your 8 weekly sessions, time spent writing reflections, and completing measures at follow-up.</p>
<p>What about confidentiality?</p>	<p>We will do our best to keep your personal information confidential. Because of the group format of this study, there is some risk that someone in your group may break confidentiality of the group meetings and share personal and sensitive information with people outside your group. To help protect your confidentiality and that of other members of your group, you and everyone in your group will be asked to sign an agreement to keep confidential anything discussed during your group meetings. In addition, you will be assigned a code number and your name will not appear on any of the forms. We will use an identification key to link your data to your identity; only the primary researcher will have access to the identification key. Group meetings will be audiotaped for clinical supervision purposes and to ensure the co-leaders are following the correct steps for your type of group. All data will be kept in locked storage facilities. Only personnel authorized by the project director will have access to questionnaires, tapes, or any other data. All computer files will be password protected. If we write a report or article about this research project, your identity will be protected to the maximum extent possible. Ethical guidelines proposed by the American Psychological Association will be followed in handling all data. Names will not be used in any reports or publications. Audio-recordings will be destroyed after dissertation defense. Other data will be destroyed after the study is published as a journal article. In accordance with legal requirements and professional standards, we will disclose to appropriate individuals and/or authorities information that comes to our attention concerning child abuse or neglect or intent to harm yourself or others. Please check one of the statements below. If you do not agree to be audiotaped, you will not be able to participate in the group meetings.</p> <p>___ I agree to be audiotaped during my participation in this study.</p> <p>___ I do not agree to be audiotaped during my participation in this study.</p>
<p>What are the risks of this research?</p>	<p>There may be some risks from participating in this research study. You could be asked in group meetings to think about things that are embarrassing or uncomfortable, and you could become aware of things about yourself of which you had been previously unaware. There is also some risk of feeling worse about yourself or your relationships. If your group leaders or their supervisor see signs that you are developing severe psychological problems, you will be referred to the University counseling center or mental health center.</p>
<p>What are the benefits of this research?</p>	<p>This research is not designed to help you personally, but the results may help the investigator learn more about how group processes and dream work affect certain psychological risk factors for eating disorders. We hope that, in the future, other people might benefit from this study through improved understanding of risk factors for eating disorders. Possible benefits to you of the group meetings include improved self-understanding, self-expression, and interpersonal relationships.</p>

Incentives	<p>--Incentives to participate in this study include fulfillment of Office of Fraternity and Sorority Life Vision Statement requirements for completion of a personal development program.</p> <p>--Another incentive is a \$200 scholarship awarded to the sorority with the highest percentage of members participating in the study.</p>	
Do I have to be in this research? May I stop participating at any time?	<p>Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify. If the supervisors monitoring your group determine that the meetings are harming you in any way, they may terminate your participation in the meetings without regard to your consent. In such a case, we will endeavor to help you find other mental health treatment.</p>	
Is any medical treatment available if I am injured?	<p>The University of Maryland does not provide any medical, hospitalization or other insurance for participants in this research study, nor will the University of Maryland provide any medical treatment or compensation for any injury sustained as a result of participation in this research study, except as required by law.</p>	
What if I have questions?	<p>If at any time you have questions for a professor or would like to see a professor please let your co-leaders know.</p> <p>This research is being conducted by Dr. Clara E. Hill and Patricia Spangler at the University of Maryland, College Park. If you have any questions about the research study itself, please contact Patricia Spangler, Dept of Psychology, University of Maryland, College Park, MD 20742, pspangler@psyc.umd.edu</p> <p>If you have questions about your rights as a research subject or wish to report a research-related injury, please contact: Institutional Review Board Office, University of Maryland, College Park, Maryland, 20742; (e-mail) irb@deans.umd.edu; (telephone) 301-405-0678</p> <p>This research has been reviewed according to the University of Maryland, College Park IRB procedures for research involving human subjects.</p>	
Statement of Age of Subject and Consent	<p>Your signature indicates that:</p> <ul style="list-style-type: none"> you are at least 18 years of age; the research has been explained to you; your questions have been fully answered; you agree to be audiotaped; and you freely and voluntarily choose to participate in this research project. 	
Signature and Date	NAME OF SUBJECT	
	SIGNATURE OF SUBJECT	
	DATE	

Appendix R

Personal Development/Eating Disorder Prevention Group

Confidentiality Agreement

In signing this form, I agree that I will take great care to maintain the confidentiality of our group. I understand that what is said in our group is essential to building trust and respect among members. I agree that I will not discuss group material with anyone who is not a member of my group. In addition, if I and another member of my group discuss the group outside of session, I agree that I will not discuss what other group members have said unless that group member is present. In addition, if I am present in a setting outside the group and other members of my group are present and discussing group material, I consent that these group members may discuss what I have said during group meetings. Finally, during meetings, I agree to turn off all electronic devices, including cell phones, audiorecording devices, or cameras on cell phones.

Print name _____ Signature _____

Date _____ ID Code # _____

Appendix S

**Personal Development Program
Co-leader Availability**

Co-leader name: _____ Email: _____

Phone nos. _____

On the schedule below please mark the times when you are absolutely *not* available to meet for 90-min.

	Monday	Tuesday	Wednesday	Thursday	Friday
9am					
10am					
11am					
12pm					
1pm					
2pm					
3pm					
4pm					
5pm					
6pm					
7pm					
8pm					

Appendix T

Outline of Two-Hour Refresher Seminar on The Hill Cognitive-Experiential Model of Dream Work

9:00-9:30 am	Review of the Hill model of dream work
9:30-10:30	Practice dream work with the Hill model in group prac One person tells a dream, other group members take turns leading dreamer through each step of Hill model
10:30-11:00	Q & A, Clarifications, Discussion

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