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Group polarization and social norms on normative body weight misperception and eating disordered symptomology

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Group Polarization and Social Norms on Normative Body Weight Misperception and Eating Disordered Symptomology

BY

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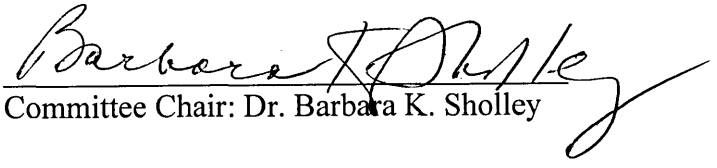
I certify that I have read this thesis and find that, in scope and quality, it satisfies the requirements for the Master of Arts degree.



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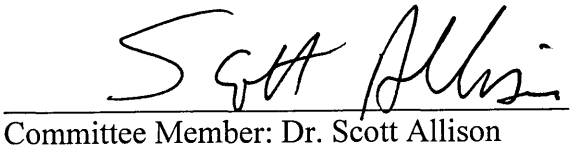

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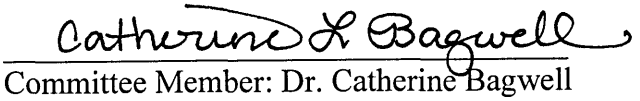

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Running head: GROUP POLARIZATION AND SOCIAL NORMS

Group Polarization and Social Norms on Normative Body Weight Misperception and Eating Disordered Symptomology

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Abstract

Group polarization, social norms, and misperceptions of normative body weight were evaluated in sorority and non-sorority (comparison) undergraduate women at the University of Richmond. The participants completed the Eating Disorder Inventory-2, the Weight Locus of Control Scale, the Rosenburg Self-esteem Scale, the Multidimensional Body- Self Relations Questionnaire, and several self-report questions. Sorority and comparison participants significantly misperceived normative body weight. One sorority differed significantly from the other groups on misperception of normative body weight and the Eating Disorder Inventory-2. The comparison group had significantly lower scores than the three sororities on the Self-Esteem Scale. The four instruments did not significantly predict normative body weight misperception. Because the misperception of ideal body weight is so pervasive, a social norms campaign advertising normative body weight could be very successful.

Group Polarization and Social Norms on Normative Body Weight Misperception and Eating Disordered Symptomology

College-age women accept an extremely thin "ideal" body type as a social cultural norm (Schulken, Pinciaro, Sawyer, Jensen, & Hoban, 1997). Standards of beauty are based on unrealistic and unobtainable body weights. Failure to achieve this goal may lead women to be dissatisfied with their bodies. Perception of this thin body type is dangerous because acceptance of such an ideal can contribute to higher incidences of anorexia nervosa and other eating disorders. College campuses provide important contexts within which behaviors and attitudes related to weight are influenced by the acceptance of this thin ideal.

> Addressing the needs of students who are weight preoccupied and body dissatisfied in a culture that is obsessed with weight and body image is, at a minimum, exceedingly difficult. Doing so in the volatile atmosphere of young adult development, emerging sexuality, and behavioral experimentation in a college raises the stakes exponentially. This is not just a major health problem for individual students—it is one of the most important community health issues on campus and in our society" (Keeling, 1998, p 195).

The present study addressed one potential source of maintenance of these pervasive and pernicious eating disorders: social norms. Social norms have been shown to be especially powerful among members of sororities. Explanations for this social norming effect include group polarization, group cohesiveness, misperceptions of normative body weight, and adoption of the misperceived norms by sorority members. Specifically, this study examined the influence of social norming and group polarization on eating attitudes and behavior, body image, and the desire to obtain an unrealistic "ideal thinness". The following questions concerning social norms and the perpetuation

of unrealistic perceptions of thinness were addressed. What are the perceived and actual norms pertaining to weight and eating behavior for sorority college women? Do sorority women perceive normative weight to be thinner than it actually is? Does group polarization, the tendency for members of a group to exaggerate the norm, contribute to the desire to obtain this thin ideal? Does the cohesiveness of a sorority lead to stronger uniformity and thus conformity to this norm? The role and development of social norms concerning eating problems and their importance to friendship ties, the nature of transfer of behavior from friend to friend, and how social pressures are applied among friends are important issues this study assessed.

Research has clearly demonstrated that individuals perceive their world as their reference group does. They adopt peer group attitudes, and act in accordance with peer expectations and behaviors (Perkins, 1997). Individuals are influenced by social comparison processes as well as friendship affiliation needs (Festinger, 1954). Other factors that cause individuals to perceive the world as a group include the formation and acquisition of group norms and pressures to conform to a peer group's norms (Perkins, 1997). On college campuses, women in sororities are part of a reference group that has an extremely thin defined norm for body weight (Crandall, 1988). Sororities also are extremely cohesive. Groups that are cohesive have stronger uniformity. Cohesiveness is a "we" feeling: the extent to which members of a group are bound together by attraction for one another (Myers, 1993). Thus, cohesiveness contributes to the uniformity of group members for the acceptance of the misperceived norm. Group membership is an important factor in the perpetuation of social norms that can be explained through the process of social identification.

Social Identification

According to Turner (1982) social identification is a 3-step process, which can account for group polarization and exaggeration of group norms. The first step in identification is social categorization, which occurs when both the self and others are perceived or recognized as members of distinct social groups. The perception of these small groups triggers both the second and the third steps in the social identification process. After categorization occurs, representative attributes, behaviors, and norms that distinguish one group from others are established. Cohesive groups move to the second step of being perceived by others as stereotypically extreme. Empirical evidence shows that groups see themselves as more homogenous, more like a prototypical member, and more extreme than they actually are (Mackie, 1986). Thus, perceived norms by group members often become more extreme than actual norms. The third step is self-stereotyping. In this step the perceived characteristics of the in-group are attributed to the self, thus extreme "perceived" norms are adopted as one's own.

Social identification theory also includes several motivational components which elucidate the behavioral and emotional consequences of in-group identification (Gilbert, Fiske, & Lindzey, 1998). Rabbie and Horwitz (1988) described interdependence between group members as the most important characteristic of a social group. Perceived interdependence is a result of group members experiencing a "common fate". The feeling of common fate, or shared interests, must be present in order for group norms, group identification, and common social identities to emanate (Rabbie & Horwitz, 1988). This theory suggests that social identity emerges from self-interest in which each individual's outcomes are connected to the group outcome. Another important

motivational component is the relationship between social identity and self-esteem. Empirical evidence suggests that individuals profit from their groups' successes even when they have not contributed to the accomplishment, which suggests that individuals are motivated to identify with a group in order to enhance themselves. By identifying with a high status group, members are able to maintain or improve their self-esteem. Brewer's optimal distinctiveness theory (1991) suggests that individuals have a simultaneous motivation to be a part of a group (inclusion), and at the same time need to distinguish themselves from others (differentiation). Groups, like sororities, that are extremely exclusive satisfy both social motives concurrently. This theory suggests that having a distinctive social identity is more rewarding than a personal identity in terms of self-categorization. Overall, the three motivating factors discussed suggest that sorority members will have similar behaviors and attitudes as other members of their sorority as a result of in-group identification.

Group Polarization

The adoption or conformity to this exaggerated group norm causes attitude polarization (Mackie, 1986). Group polarization is defined as group produced amplification of members' preexisting tendencies. Empirical evidence suggests that the effect of discussion on the extremity of beliefs depends on social identification processes. Changes in attitudes often depend on the degree to which the people identify themselves as a part of the discussants' in-group. If a person is not categorized as part of the in-group, she is more likely to adopt a moderate attitude on the topic. If the person categorizes herself as a part of the in-group she is more likely to adopt an extreme attitude on the topic (Gilbert et al., 1998).

Group members tend to compare themselves to and seek approval from other group members (Gilbert et al., 1998). After they are exposed to beliefs that are more extreme than their own, they will shift their own opinion toward the more extreme view (Gilbert et al., 1998). Gilbert et al. (1998) also found that group polarization can occur simply by knowing other members' views even without exposure to endorsing arguments.

Researchers generally define the group norm as the typical position of all members, and describe polarization as movement beyond the typical norm. Thus, if sorority members as a group believe that the thin ideal is the norm, then the members acceptance for the norm will be exaggerated. Turner (1991) argued that the group norms may be more extreme than the average norm, and polarization is the movement toward that group norm. Turner based this conformity view on self-categorization theory. He reasoned that polarization occurs when individuals associate with a particular group and adopt the prototypical and more extreme position of the group members. So the sororities may polarize the thin norm and adopt a more extreme position.

Social Comparison Theory

Social Comparison Theory (Festinger, 1954) helps to explain why groups conform to the norm. Social comparisons are a meaningful source for information that is relevant to the self; they contribute to the development of self-esteem and affect. Research shows that self-esteem and affect can be diminished or enhanced by comparing oneself to others on valued attitudes, attributes, or abilities (Gilbert et al., 1998). People search for others to compare themselves against not only for self-evaluation, but also in order to improve their abilities or embellish their self-esteem. People tend to compare

themselves against members of their in-group because their in-group is more readily available to them through proximity. By comparing themselves to similar others they are likely to avoid a negative self-evaluation against an advantaged other (Gilbert et al., 1998).

Another important factor in social comparison processes is the degree of control one feels they have over the attribute under evaluation. Gilbert et al. (1998) suggests that perceived control is moderated by the degree to which one believes the attribute under evaluation is stable, and by the individual's ability to change the attribute under evaluation (locus of control). The degree of control one feels they have over a particular attribute influences the way they attach meaning to it's significance. Attributes that are believed to be under one's control and thus changeable and attainable stimulate self-efficacy and performance. Attributes believed to be out of the control of the individual will contribute to feeling of hopelessness and impair performance.

Festinger (1954) summarized five major explanations for social comparison. First, the social process arises when the evaluation of opinions or abilities is not feasible by testing directly in the environment. For example, a college woman may have a general idea about what she thinks is normal body weight. She is surrounded by ambiguous media images, peers, and other outside sources while she attempts to learn where she fits. Second, under these circumstances people evaluate their opinions and abilities by comparison with others. This comparison leads to uniformity. People stop comparing themselves with others who are extremely divergent. A member of a sorority is part of a very cohesive group with which she can compare herself and her opinions. Because the normative opinion concerning body weight for sorority women is that a thin body type is

the most desirable (Schulken et al., 1997), then members are likely to conform to that norm. Members who deviate from this norm will not be used in the comparison process and are possibly rejected by the group. Finally, factors such as importance, relevance, and attraction to a group, which affect the strength of the original motivation, will also affect the pressure toward uniformity.

Festinger also described another goal of social comparison: the unidirectional drive upwards. People do not simply wish to evaluate themselves, they also want to improve themselves. Comparison with others who are better than oneself is called upper comparison. People tend to compare themselves more with persons slightly better than they are at some dimension rather than someone who is slightly worse, even though both are similar (Suls & Wills, 1991). Members of a sorority are likely to compare themselves with someone who is thin or holds the strong ideals concerning the desire to be thin. Research on modeling suggests that people are more successful when exposed to models who are successful at performing a desired behavior (Bandura, 1986). If the misperceived norm is an exaggerated thinness, and the members of the group who have obtained this norm are considered ideal, then other members will be more likely to make upward comparisons and attempt to obtain this unrealistic ideal. A person is also likely to compare herself to someone who is similar on multiple dimensions (surrounding dimensions) such as age, race, gender, and personality. So comparison to similar others will result in a stronger conformity than to others who are only similar in the desired dimension (Wood & Taylor, 1991). Sorority members are typically of the same race and age group. Sub-groups within the sorority are often established based on similar interests and personality characteristics. Thus, friendship groups are established because of

similarities in personality, demographics, and opinions. If members of a friendship group are similar on the aforementioned characteristics, and the normative opinion of a specific group is the desire to obtain an unrealistic ideal thinness, the likelihood of members conforming to that norm is increased.

Within a college community, different subgroups of "similar others" appear to be at greater risk of developing problematic eating behavior. The sorority population is especially vulnerable to developing these problems. Schulken et al. (1997) found that sorority women in particular may have a greater fear of becoming fat, are more dissatisfied with their bodies, and are more weight preoccupied and concerned with dieting than are non-sorority college women. The findings also suggested that body size perceptions were distorted among both underweight and overweight women; thinner was the ideal profile for the majority of sorority women. Disordered eating and body dissatisfaction may also be prevalent in social groups if the shared values underscore a thin ideal.

Social Norms

Social norms are standards that are understood by individuals in a group and serve to guide social behavior. Social norms do not need to be stated explicitly, and they can include basic societal expectations for behavior, in-group expectations, personal expectations, or standard's based on observations of other's behavior (Gilbert et al., 1998). Norms are accepted by a social group because they are valued and reinforced by that group. Opp (1982) proposed that most norms evolve from behavior that is rewarded directly or indirectly from others in the social group. The strength of a norm depends on communication within the group, cohesiveness of the group, and the salience of the norm.

After norms are established and costs for deviation from the norm are defined, social norms are internalized by members of the social group (Gilbert et al., 1998). Social norms are most influential when conditions are uncertain, when the source is similar to the individual, or when the individual wants to establish a relationship with the source (Gilbert et al., 1998).

Crandall (1988) suggested that when eating, dieting, and losing weight are important to members of a social group, norms regarding such behaviors will be proscribed. If members of the group deviate from this norm they risk being rejected. Crandall surveyed two college sororities. He evaluated group norms and social pressure related to binge eating. Crandall suggested that binge eating may be acquired through modeling, and like other behaviors, binge eating may also be susceptible to social control. Meilman, von Hippel, and Gaylor (1991) reported that 72.2 % of non-freshmen in their sample who purged after eating were members of the Greek System. Schulken et al. (1997) showed that thinness is ideal among these sorority women; 62 % selected underweight silhouettes as representing the size that women should be, and 81 % choose underweight silhouettes as the size they want to be.

> The sorority milieu is a likely breeding ground for eating disorders: it is a powerful setting for translating cultural influence into direct social influence. This extreme social importance of body size and shape for this population most likely serves to increase the risk of beginning dieting and hence binge eating. It is likely that in other social groups where physical attractiveness and body shape are not weighted so heavily, the sorts of findings reported here would be greatly attenuated or even nonexistent (Squire, 1983, as cited in Crandall, 1988, p. 596).

If the thin ideal is standard in western culture, sorority women who fail to achieve this ideal may pursue other methods deemed acceptable by their sorority sisters (e.g. dieting, purging, and over-exercising).

Social norms research in relation to college students has primarily revolved around alcohol consumption. Like eating problems, drinking is a major health risk to students on college campuses. A recent and exciting method used to examine norming behavior for drinking was initiated by Wesley Perkins. Perkins (1997) found that students believe that other college students drink a lot more than they actually do. As a result, students adhere to these extreme misperceived norms by drinking more themselves. He used the information gathered on college drinking norms and developed a method called Social Norms Marketing. He proposed that if students were aware of the actual drinking norms, they would modify their drinking to that level, rather than trying to drink as much as the perceived norm for drinking. Perkins found that drinking decreased significantly on campuses where social norms marketing strategies were implemented.

The research on perceived norms is applicable to several health-related issues, including eating disorder risk factors. It is possible that women college students believe that others accept extreme thinness as the actual norm. Students exaggerate norms and are likely to adopt the misperceived norms. For example, if a women college student is a size ten (and this is the actual norm for college women), but she perceives that the majority of other students are a size six, then she will try to achieve a size six. This misperception can lead to the desire to obtain an unrealistic and misperceived norm. "We (women) are constantly shown images of very sick, anorexic women and that is what we

are struggling for; the average woman is 5'5, 145 pounds; the average model is 5'11, 110 pounds; 95% of us don't match up and we never will" (Davies, in Milne, 1998). As a result, the majority of women are trying to obtain a body type that is unrealistic and unhealthy.

The desire to obtain an unrealistic "ideal" thinness is an accepted cultural norm. The actual normative weight for women is much heavier than this ideal. While non-sorority women may misperceive the norm as well, it was hypothesized that cohesiveness and group polarization common in sororities would serve to increase the misperception of thinness, and thus lead to an even more extreme standard for body weight. Sorority members would accept this extreme misperception, and use it as a standard to compare themselves against. Other members of the sorority would hold similar views, and in turn the group's perception of the norm would become even more extreme. Thus, members desire and attempt to obtain an extremely unrealistic weight. Friendship groups within the sorority also would conform to the norm accepted by that specific group. It was hypothesized that sorority women would misperceive the actual norm for thinness more than non-sorority women, and would thus be more likely to adopt the exaggerated norm as their own. It was also hypothesized that close friends would have similar misperceptions and behaviors related to the desire to be thin. Finally it was hypothesized that sub-groups within the sorority that identify with the values and ideals of the sorority as a whole would exaggerate the norm more than sub-groups that do not highly identify with the sorority.

Methods

Participants

The participants included undergraduate sorority members at the University of Richmond and female, undergraduate students in the Introduction to Psychological Sciences class who are not sorority members. Three sororities participated in this study: sorority A (N = 43, a 38% response rate), sorority B (N = 35, a 29% response rate), and sorority C (N = 40, a 45% response rate). Of the 118 sorority participants, 23 were pledges. The remaining participants were not members of a sorority (N = 23). Sororities were offered a $ 100.00 incentive if 80% of the members participated in the study. Comparison participants received one research credit toward their Introduction to Psychological Sciences class.

Materials

The questionnaire packet for all participants included the Eating Disorder Inventory-2, the Weight Locus of Control Scale (Appendix C), the Rosenburg Self-esteem Scale (Appendix D), the Multidimensional Body- Self Relations Questionnaire, self-report questions (Appendix A for sororities and Appendix B for non-sororities), and a pre-addressed envelope. Each of these instruments' reliability and validity information can be found in Table 1. The Eating Disorder Inventory-2 (EDI-2), the Weight Locus of Control Scale (WLOC), and the Multidimensional Body- Self Relations Questionnaire (MBSRQ) all are widely used self-report measures of behaviors indicative of disordered eating and distorted body-image. The surveys provided information on the actual behavior and attitudes of the participants, as well as the perceived behaviors and attitudes of others. The Rosenburg Self-Esteem Scale (SES) provided information about the self-

esteem of the participants because it is a possible covariate of group polarization. All participants answered seven questions. The first three questions were self-report questions (What is your weight and height?(Q1) What do you think is the average weight is for a University of Richmond student your height and age (Q2)? What do you think the ideal weight is for a University of Richmond student your height and age? (Q3)). The next three questions were based on a Likert scale between 1 (not much) and 10 (very much). How much do you want to be the weight you mentioned in question 2? How much do you want to weigh the amount you wrote in question 3? How much do you think UR women want to weigh the amount you wrote in question 3? Participants who are members of a sorority also received a blank sheet of paper on which they listed their ten best friends in the sorority, and they answered three additional questions including the degree to which they identify with their sorority (Likert scale), whether or not they live with other members of their sorority and how many, and finally how long have they been a member of the sorority.

Procedure

A questionnaire was given at the beginning of the spring 2001 semester. The researcher announced the experiment orally to the Introduction to Psychological Sciences class and in the chapter meeting of each sorority. Respondents who chose to participate received a packet including a cover letter explaining the overall justification for research. The packet included a pre-addressed envelope that participants sent through the campus mail to ensure anonymity. All participants were asked to fill out the questionnaire, which included the Eating Disorder Inventory-2, the Weight Locus of Control Scale, the

Rosenburg Self-Esteem Scale, the Multidimensional Body- Self Relations Questionnaire, and self-report questions.

The participants from the Introduction to Psychological Sciences class were non-sorority women, and they did not complete the social ties component of the questionnaire. Their inclusion in this study provided a baseline for eating behaviors and attitudes for University of Richmond Students.

Sorority members received the entire packet including the social ties component at a chapter meeting. The social ties component of the experiment asked respondents to list their ten best friends within the sorority. This distinguished subgroups or cliques within the sorority. Each sorority received a code sheet with a specific number for each sorority member to ensure anonymity. They were then asked to list their 10 best friends within the sorority using the corresponding codes. A web site address was provided to completely debrief the participants. The debriefing included the purpose of the research, the results of the study, and links to available resources for those who think they might have an eating disorder. Any questions or concerns may be emailed to the researcher from the web site.

Results

Sorority A, sorority B, sorority C and the non-sorority (comparison) group were compared on the Eating Disorders Inventory-2 (EDI-2), the Weight Locus of Control Scale (WLOC), the Self-Esteem Scale (SES), and the Multidimensional Body- Self Relations Questionnaire (MBSRQ) using a Multivariate Analysis of Variance research design. As predicted, there was a significant difference among the groups on the four aforementioned scales, $\underline{F}$ (3,136) = 2.13, $\underline{p}$ = .015. The groups were significantly

different on both the EDI-2 ($F(3,136) = 2.69$, $p = .049$) and the SES ($F(3, 136) = 5.36$, $p = .002$). Using a Student-Newman- Keuls post-hoc test, a significant difference was found between sorority B and sorority C on the EDI-2. There was a significant difference between the comparison group and all three sororities on the SES. Means and standard deviations for each group on each measure can be found in Table 2. All three sororities were compared to the comparison group; sororities (A,B, and C) were significantly different from the comparison group, $F(1, 139) = 4.37$, $p = .002$. The univariate tests showed sororities differed significantly from the comparison group on the SES measure, $F(1, 139) = 13.51$, $p = .000$, with sororities having higher self-esteem (see Table 2).

An Analysis of Variance test showed that there was a significant difference between groups on actual BMI (aBMI) scores. Each participant's Body Mass Index (BMI) was calculated based on their weight and height. Participants actual BMI ranged from 17 to 32. A healthy range for the BMI is 19 to 24.9. A score below 19 is considered underweight, and a score above 24.9 is considered overweight. Sorority C weighed significantly more than sororities A and B and the comparison group, $F(3, 136) = 7.12$, $p = .000$. Perceived Body Mass Index (pBMI) was calculated based on what each participant thought the average University of Richmond student their height weighed. Misperception of normative body weight was calculated by subtracting perceived BMI from actual BMI. There were no significant differences between sororities A, B and C, and the comparison group on perceived normative body weight, $F(3, 136) = 1.656$, $p = .180$. Yet, a significant difference was found when comparing actual and perceived body weights (misperception), $F(1, 136) = 36.61$, $p = .000$ and when comparing the groups on misperception, $F(3, 136) = 5.10$, $p = .002$. A Student-Newman- Keuls post-hoc test

showed that sorority C significantly differed from sorority A, Sorority B, and the comparison group. There were no significant differences between the sororities (A, B and C) and the comparison group, $F(1, 138) = 2.04$, $p = .155$. Means of misperception for each group can be found in Table 3.

A Multiple Regression produced that the four instruments (EDI-2, WLOC, SES, and MBSRQ) were not significant predictors of body weight misperception, $R^2 = .011$, $F(4, 135) = .358$, $p = .8380$.

In order to find friendship sub-groups within each sorority, a cluster analysis was used. Each sorority was divided into four friendship clusters. Each cluster within the sorority was then compared against the other clusters in the sorority on the four instruments (EDI-2, WLOC, SES, and MBSRQ). A Multivariate Analysis of Variance showed that the four friendship groups in sorority A were significantly different from one another, $F(3,39) = 2.09$, $p = .023$. When Univariate tests were calculated on the four instruments there were no significant findings (EDI-2 ($F(3,39) = 1.414$, $p = .253$), WLOC ($F(3,39) = 1.644$, $p = .195$), SES ($F(3,39) = .215$, $p = .885$), and MBSRQ ($F(3,39) = 1.310$, $p = .283$). A Roy-Bargman's Step-Down F-Test found that the MBSRQ was the most significant contributor to the significant finding on the MANOVA even though the univariate test for the MBSRQ was not significant. Misperception of normative body weight did not differ among the cluster groups in sorority A, $F(3, 39) = 1.17$, $p = .335$. A Multivariate Analysis of Variance test found that the four friendship groups in sorority B were not significantly different from one another, $F(3,30) = 1.198$, $p = .297$. Misperception of normative body weight did not differ among the cluster groups in sorority B, $F(3, 30) = 1.38$, $p = .269$. The Multivariate Analysis of Variance also found

that the four friendship groups in sorority C were not significantly different from one another, $F(3,35) = .224$, $p = .997$. Misperception of normative body weight did not differ among the cluster groups in sorority C, $F(3, 35) = 1.04$, $p = .388$.

Sorority members rated how much they identify with their sorority on a one to ten scale with lower scores representing higher identification. Members above the mean score for all groups ($M = 3.5$) were classified as not identifying with their sorority, and members with scores below the mean were classified as highly identified with their sorority. Members of sororities that highly identified with their sorority had significantly less misperceptions of normative body weight than those who did not highly identify with their sorority, $F(1,116) = 5.95$, $p = .016$. Means for each group can be found in Table 4. Pledges had significantly more misperceptions of normative body weight than members of sororities, $F(1,116) = 4.48$, $p = .036$. Means for each group can be found in Table 5. Descriptive Statistics for each sorority can be found in Table 6.

Discussion

As hypothesized, differences were found between the sorority members and the non-sorority students. Interestingly, the sorority members had higher self-esteem than the comparison group who were predominantly first year students from the Introduction to Psychological Sciences course. This finding is similar to previous research by Cox (2000) which suggested that freshmen students may have lower self-esteem as a result of all of the life changes experienced during the first year of college. Examples of the life changes include leaving home, taking difficult college courses, and living among strangers. Another possible influence on the comparison group's SES scores could have been the stress being experienced that day. The students received the survey the same

day as the midterm exam for that class. If the participants filled out the survey right after class their stress from that test might have influenced their responses. Sorority members self-esteem may have been influenced by social identification with their sorority and thus reflect the self-esteem of the sorority rather than their individual self-esteem (Gilbert et al., 1998). Finally, receiving the test in the setting of a large cohesive group of friends might have inflated the sorority members self-esteem simply because they felt accepted and included in a social group. Sororities B and C differed from one another on eating disorder symptomology. The comparison group had a similar score to the members of sorority C on the EDI-2, but because of a small N, the comparison group was not significantly different from the other groups.

As hypothesized all participants misperceived normative body weight. Significantly different, with a greater misperception, was Sorority C. This finding, though, could well be a result of how misperception was calculated. Perceived normative body weight was subtracted from actual body weight to determine misperception; Sorority C had a higher body weight creating a larger difference in misperception. This difference between Sorority C and the other groups has other ramifications. These students also showed more disordered eating symptomology. If an individual in sorority C compares herself against others in her sorority who have extreme misperceptions of normative body weight and exhibit disordered eating symptomology, she is likely to internalize these norms because the sorority is her reference group. Because the members' actual body weight in this sorority also deviate more from the perceived normative body weight, they might experience feelings of hopelessness as a result of an upper comparison that is beyond their grasp. While sorority C did not differ from any

groups on the WLOC scale, the members may not be able to obtain this perceived norm which could lead the members to engage in disordered eating. This result is supported by research by Gilbert et al. (1998) which suggests that an attribute that is believed to be out of one's control may lead to feelings of hopelessness.

The Multiple Regression Analysis found that the instruments (EDI-2, WLOC, SES, and MBSRQ) were not predictive of body weight misperception. The primary purpose of the four instruments was to evaluate behaviors and attitudes of the participants. The instruments used were not meant to evaluate normative body weight. Again, the lack of variability for the perceived BMI would contribute to this non-significant result.

Cluster analyses were performed to form the friendship groups within each sorority. It was thought that attitudes within a small, highly cohesive sub-group would develop a social norm and therefore magnify beliefs and behavior concerning eating disorders. Only sorority A demonstrated these subgroups, but no consistent differences among the measures were shown to have a unifying social norm. Yet, the subgroups within sorority C had almost no variability (See Table 7). Sorority C appears to be extremely cohesive because the sub-groups also have similar attitudes and behaviors. According to Myers (1993) cohesive groups have stronger uniformity. When this information is considered with the previous finding that sorority C differs from the other groups on eating disorder symptomology and normative body weight misperception, this could be a glimpse into the mystery of cohesion and social norms.

Examination of Sorority C's apparent high cohesion in light of higher EDI-2 scores could respond to the very strong pressure to be thin at the University of Richmond.

Another possible reason these members might have had higher scores on the EDI-2 is that desire for a thin body type is not only normal but probably essential at the University of Richmond. Within a cohesive group such as sorority C, that image is still negative because it is not accepted by a powerful majority. Reference groups serve as a powerful source of identity. If that identity is out of step with the powerful majority attitude, such as being heavier than average, then members of the reference group might be especially sensitive to their difference. To apply this hypothesis to the data, the cohesive sorority C was also the one that differed from the weight norm, and members were more elevated in their EDI-2 scores. Sorority C weighed more than members of other sororities yet had a similar ideal for women. Could it be that while they are members of a cohesive and similar group, their reality does not match the powerful campus norms causing them to have an even greater misperception of body weight and eating disorder symptomology? This question could be addressed with further investigation.

The campus where this study was conducted has often been criticized for it's homogeneity. Not only do women students dress similarly, but they are generally upper middle class, attractive, and conforming. Being a small university, there seems to be considerable pressure to be and look a similar way: thin. This norm could be so powerful for the group as a whole that these sororities, acting as subgroups, have little influence. Sixty-one percent of undergraduate women pledge sororities at the University of Richmond so the majority of women are in sororities. Thus being in a sorority is the norm. If the participants consider the University of Richmond their reference group, then according to Perkins (1997), they will adopt peer group attitudes, expectations, and behaviors.

Actual perceived normative body weights were still in the healthy weight range according to the BMI calculations (see Table 3). While there was a significant statistical difference between aBMI and pBMI, students did not report clinically underweight norms. However, this result is clinically relevant when considering the misperception in terms of pounds. Because the BMI is calculated to create an index, each BMI score represents a weight range of five pounds. Thus a difference between an aBMI score of 22 and a pBMI score of 20 is a ten pound misperception in body weight.

One conclusion that can be drawn from this study is that sororities may be a positive influence on unhealthy eating and weight behaviors and attitudes. Members of sororities had healthier perceptions of body weight than pledges, those who identified with their sororities had healthier perceptions than those who did not highly identify with their sororities, and all sororities had higher self-esteem than non-sorority participants. Perhaps group identification and cohesion provided the members with healthy attitudes and beliefs because of positive social comparisons. This result supports research by Gilbert et al. (1998) which suggested that affect and self-esteem can be enhanced by comparing oneself to others on valued attributes, attitudes, and abilities. Sorority members compared themselves against others in their in-group so they were likely to avoid a negative self-evaluation that could have occurred if they had compared themselves against someone outside of their group that was advantaged (Gilbert et al., 1998). Brewer's optimal distinctiveness theory (1991) suggests that having a distinctive social identity is more rewarding than person identity. Since the sorority participants are members of an exclusive groups, they are simultaneously fulfilling the motivations of

inclusion and differentiation. Non-sorority members, according to Brewer's definition, do not have a distinctive social identity.

The most consequential finding of this study is that both sorority and non-sorority college women have a significant misperception of normative body weight. The majority of participants believed that others weigh less than they weigh. Correcting normative weight misperceptions could be a possible method used to decrease unhealthy weight and eating related behaviors among all college women. In the future, a population that is more diverse might better elucidate the group processes that could affect eating attitudes and behaviors among sorority women. On the contrary, the University of Richmond population could serve as an ideal target for a social norms campaign in order to change the misperceptions of normative body weight.

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Appendix A

Self-Report Questions for Sorority

1. What is your number on the code sheet? _____
2. Do you live with other members of your sorority? How many? _____
3. What is your weight and height? _____ _____
4. What do you think the average weight is for a University of Richmond student your height?
5. What would you consider an ideal body weight for you?

The following questions are based on a 10 point Likert scale.

1 2 3 4 5 6 7 8 9 10
Strongly desire Neutral Do not desire

1. How much do you think women at the University of Richmond your height would want to weigh the average body weight you wrote above?_____
2. How much would you want to obtain the average weight you wrote above?_____
3. How much do you think women at the University of Richmond your height would want to weigh the ideal body weight you wrote above?_____
4. How much would you want to obtain the ideal weight you wrote above?_____
5. How much do you identify with members of your sorority? _____
6. How long have you been in your sorority?_____
7. List your ten best friends within the sorority using their associated number code. (List in order from closest (1) to least close of the ten (10)).
   1.
   2.
   3.
   4.
   5.
   6.
   7.
   8.
   9.
   10.

Appendix B

Self-Report Questions for Comparison Group

1. What is your number on the code sheet? _____
2. What is your weight and height? _____ _____
3. What do you think the average weight is for a University of Richmond student your height?
4. What would you consider an ideal body weight for you?

The following questions are based on a 10 point Likert scale.

1	2	3	4	5	6	7	8	9	10
Strongly desire					Neutral				Do not desire

1. How much do you think women at the University of Richmond your height would want to weigh the average body weight you wrote above?_____
2. How much would you want to obtain the average weight you wrote above?_____
3. How much do you think women at the University of Richmond your height would want to weigh the ideal body weight you wrote above?_____
4. How much would you want to obtain the ideal weight you wrote above?_____

Appendix C

Weight Locus of Control Scale

1 (strongly disagree) 2 3 4 5 6 (strongly agree)

1. Whether I gain, lose, or maintain my weight is entirely up to me.___
2. Being the right weight is largely a matter of good fortune.___
3. No matter what I intend to do, if I gain or lose weight, or stay the same in the near future, it is just going to happen. ___
4. If I eat properly and get enough exercise and rest, I can control my weight in the way I desire.___

Appendix D

Rosenburg Self-Esteem Scale

1. Disagree Strongly
2. Disagree
3. Neutral
4. Agree
5. Agree Strongly

1. I feel that I have a number of good qualities. __
2. All in all, I am inclined to feel that I am a failure. __
3. I feel that I am a person of worth, at least on an equal basis with others.__
4. I am able to do things as well as most other people.__
5. I feel that I do not have much to be proud of.__
6. I take a positive attitude about myself.__
7. On the whole, I am satisfied with myself.__
8. I wish I could have more respect for myself.__
9. I certainly feel useless at times.__
10. At times I think I am no good at all.__

Table 1

Reliability and Validity

Instrument	Validity	Reliability	Population tested
EDI-2	Cronbach's alpha = .80	Internal Consistency = .86 Test-retest = .67	Tested on eating disorder patients and non-patient female college students
MBSRQ	Cronbach's alpha = .75	Internal consistencies = .96 Test-retest: .86	Adolescent and college-aged students
WLOC	Convergent with Rotter's Scale, r = .32, $p < .001$	Internal consistency = .58 and .56 Test-retest = .67	College students
Rosenburg SES	Validity = .65	Cronbach's alpha = .88	Diverse populations (high school, college, and adult populations)

Table 2

Means for Sororities A, B, C and Comparison on Instruments

	EDI-2	WLOC	SES	MBSRQ
Sorority A	M = 2.68 SD = .48	M = 2.66 SD = .83	M = 1.77 SD = .55	M = 2.72 SD = .42
Sorority B	M = 2.51* SD = .55	M = 2.51 SD = .75	M = 1.70 SD = .54	M = 2.63 SD = .43
Sorority C	M = 2.82* SD = .57	M = 2.79 SD = .74	M = 1.92 SD = .60	M = 2.82 SD = .38
Comparison	M = 2.83 SD = .50	M = 2.87 SD =1.04	M = 2.30*** SD = .76	M = 2.85 SD = .37

Note. * signifies that the significant difference is between the two means marked ($p < .05$)

*** signifies that the significant difference is between that group and each of the other groups ($p < .05$).

Table 3

Means for Sororities and Comparison on Misperception of Normative Body Weight

	Actual Body Mass Index (aBMI)	Perceived Body Mass Index (pBMI)	Misperception of Body Weight (aBMI-pBMI)
Sorority A	M = 21.79	M = 20.72	M = 1.07
Sorority B	M = 21.18	M = 20.71	M = .47
Sorority C	M = 23.58***	M = 21.00	M = 2.58***
Comparison	M = 21.00	M = 20.30	M = 1.04

Note. *** signifies that the significant difference is between that group and each of the other groups ($p < .05$).

Table 4

Means of Identification with Sorority on Misperception

Highly Identify	M = 2.97*
Do not identify	M = 3.49*

Note. * signifies that the significant difference is between the two means marked ($p < .05$).

Table 5

Means of Pledges and Members of Sororities on Misperception

Pledges	M = 3.65*
Members	M = 3.08*

Note. * signifies that the significant difference is between the two means marked ($p < .05$).

Table 6

Descriptive Means for Sororities A, B, C

	+Living with other sorority members	++How many?	+++Identify with Sorority	++++Number of years in sorority
Sorority A	M = 2.68	M = 2.66	M = 1.77	M = 2.72
Sorority B	M = 2.51*	M = 2.51	M = 1.70	M = 2.63
Sorority C	M = 2.82*	M = 2.79	M = 1.92	M = 2.82

Note. +Do you live with any of your sorority sisters? (1 = yes, 2 = no)

++How many sorority sisters do you live with? (actual number)

+++How much do you identify with your sorority? (1 (very much) to 10 (not at all)).

++++ How may years have you been in sorority (.5 (pledges) to 3.5 years)

*signifies that the significant difference is between the two means marked ($p < .05$).

Table 7

Means for Sorority C Cluster Groups on Instruments

	EDI-2	WLOC	SES	MBSRQ	Misperception
Cluster 1	M = 2.76	M = 2.61	M = 1.97	M = 2.76	M = 2.29
Cluster 2	M = 2.96	M = 2.67	M = 1.94	M = 2.80	M = 3.00
Cluster 3	M = 2.74	M = 2.81	M = 1.84	M = 2.73	M = 3.63
Cluster 4	M = 2.74	M = 2.67	M = 1.89	M = 2.79	M = 3.00

Note. p = .997