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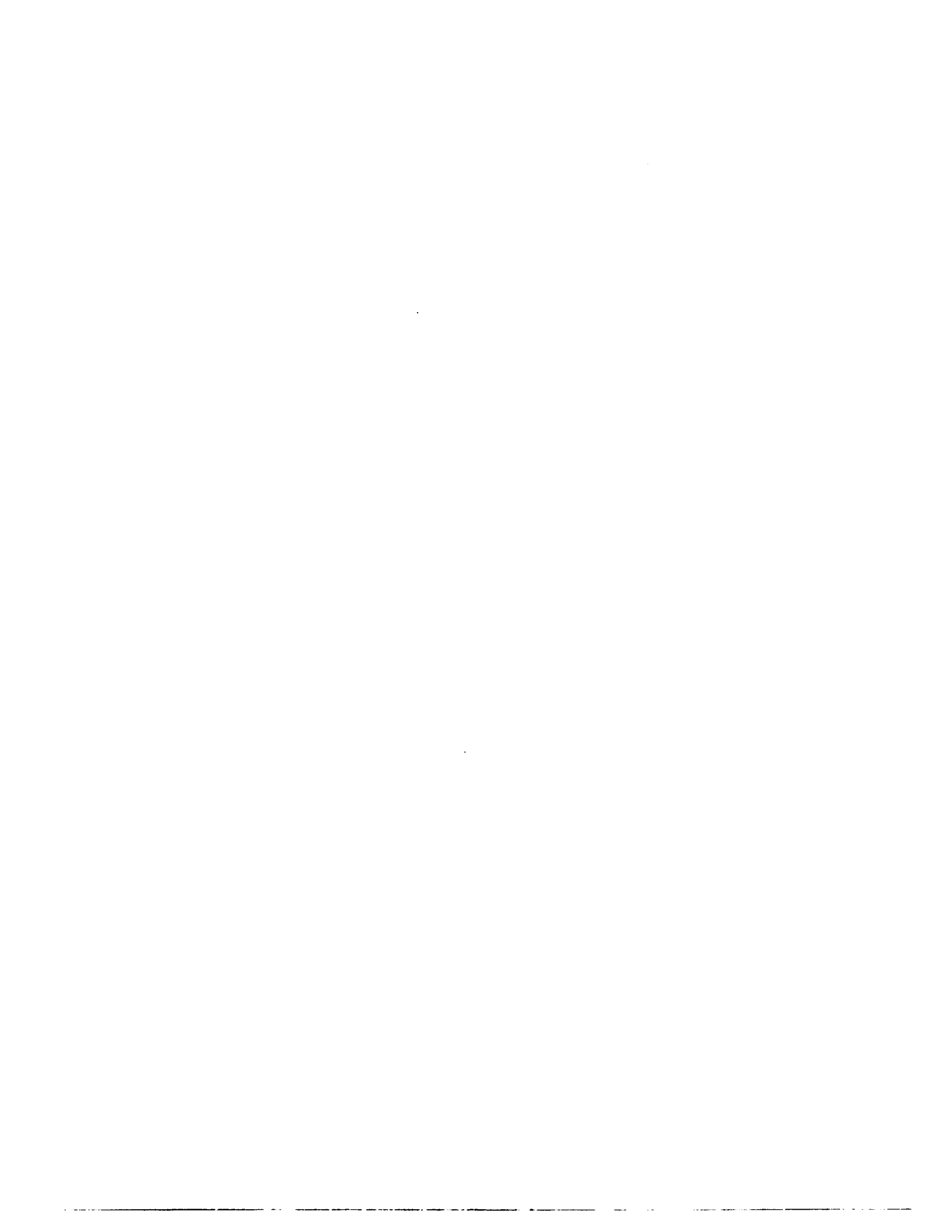
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CULTURAL EXPECTATIONS OF THINNESS IN WOMEN:

AN UPDATE

by

Claire V. Wiseman

submitted to the

Faculty of the College of Arts and Sciences

of The American University

in Partial Fulfillment of

The Requirements for the Degree of

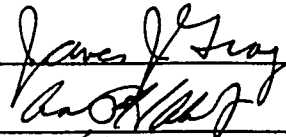
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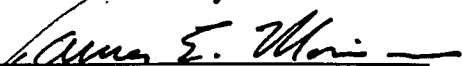
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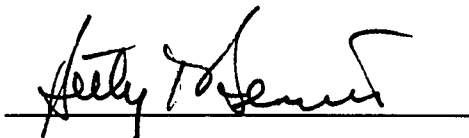
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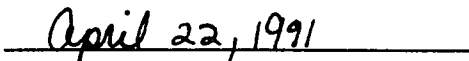








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CULTURAL EXPECTATIONS OF THINNESS IN WOMEN:

AN UPDATE

BY

Claire V. Wiseman

ABSTRACT

An investigation of society's changing expectations of women's body image was performed. Body measurements of Playboy Magazine Centerfolds and Miss America Contestants for 1979-1988 indicated body weight 13%-19% below expected weight for women. Miss America contestants showed a significant decrease in expected weight between 1979 and 1988. Comparisons were made with an earlier study which had demonstrated that body measurements of both groups had decreased during the period 1959-1978. Diet-for-weight-loss and exercise articles in six women's magazines were tabulated for 1959-1988. A significant increase in both diet articles and exercise articles occurred during this period. These findings suggest that the overvaluation of thinness continues and thinness is now sought through both dieting and exercise.

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CHAPTER I

INTRODUCTION

What a society considers to be beautiful varies across time and culture. At different points in history, people, especially women, have tried to change their body to conform to the specific era's image of beauty (Ehrenreich & English, 1978). The concept of beauty seems to be culture specific over time, as is evident in the wide variety of body types considered beautiful by those from different cultures. It appears that people have been able to alter their physical look depending on the popular style of the time and culture. Numerous examples of body altering behavior exist throughout history. In Asia, small or bound feet were popular for almost one thousand years for women, especially those planning on marriage (Rudofsky, 1972). In contrast to their Far Eastern counterparts, the women of Europe and America felt that the use of corsets improved their look by improving their posture (Rudofsky, 1972). The purpose of the corset was to restrain the waist of the wearer thus emphasizing the buttock area, already enlarged by a bustle. The featuring of the fat in the buttocks, termed steatopygia, was popular in the 1800's (Rudofsky, 1972). Rudofsky (1972) discovered that some primitive cultures have at times considered obesity a positive quality. This ideal was

stressed to the point where brides-to-be were sent to special houses where they were fattened up. It seems clear from these examples that women were willing to go to extraordinary means to "improve" their appearance according to the ideals of the society.

It seems that individual groups and cultures establish their own set of ideals or standards. Although we may not be able to answer the question of how these trends develop, it has been established that people in a society look to its standards for their personal concept of "ideal" beauty (Banner, 1983). One possible way in which to trace the trends in a culture or society is to examine various forms of the media, ranging from art or portraits in the pre-camera age to commercial advertisements and photographs in the present (Lakoff & Scherr, 1984).

Utilizing media as a measure, we see a transition of the female body image when we examine art over time. The Renaissance and Baroque periods give us depictions of plump or full-figured women in most forms of art including religious paintings. As time went on the style of clothes and the paintings indicated that plumpness was no longer in style and a slimmer female was more desirable, evident in the straight, slim almost androgynous woman of the 1920's (Agras & Kirkley, 1986).

The Drive for Thinness

As we approach the 21st century, females are depicted as slim and trim in the fashion magazines and the media. Research confirms this hypothesis and demonstrates that even twenty years ago women in our

society felt compelled to change their body image, especially in the direction of thinness (Dwyer, Feldman & Mayer, 1967). In 1966 Heunemann, Shapiro, Hampton and Mitchell found that 70% of women in high school wanted to lose weight primarily because they were all dissatisfied with their body image. In 1984 these findings were reconfirmed in a study by Dornbusch et al., demonstrating again that the majority of sexually mature women desired thinness. Therefore the current trend appears to be toward a drive for thinness.

There exist numerous possible explanations for the new drive for thinness, ranging from supply of food to the changing role of women in society. The current drive for thinness sharply contrasts with other periods of time when being heavy was stylish. It may be hypothesized that during those times there existed a drive for "obesity". Over time the trend toward greater thinness appears to be related to the supply of food. When food was scarce, being heavy demonstrated wealth and prosperity and thus became in vogue (Lakoff & Scherr, 1984). Perhaps when there was a more plentiful food supply, being fat would not demonstrate wealth and it might have been replaced by the thin ideal.

The desire to be thin may be more than just a response to the food supply; it may be a response to the new role played by women in our dramatic change in the United States, especially since 1960. Some evidence for this change may be seen in the increase in the number of women in the work force, from 35% to 50%, since 1960 (LaFeber,

Polenberg, & Woloch, 1986). LaFeber et al. (1986) claim that "women's roles were in a state of flux" in the last twenty years. For instance there was a 400% increase in the number of unwed mothers during the 1970's. One possible explanation for the drive for thinness among working women lies in the fact that women are leaving the home to become part of the work force. They might believe that in order to be accepted by the predominantly male working world they must attempt to achieve the "ideal" look. As more women move into the work force the competition among women might increase as they all try to achieve an "ideal". As more people attained the "ideal", the ideal level of thinness might become the norm, thus when a new "ideal" level of thinness was established it would be even lower than the original level.

Yet another explanation is that women might believe that they must exert their femininity in order to be recognized as women in the "man's world". In 1980, Guy Rankin and Nurvell found that a feminine image was paired with thinness, and so it is possible that women maintain an ectomorphic image in order to be perceived as feminine and therefore accepted in society. Numerous possible explanations exist for the current drive for thinness, however, the true causative factor most likely lies in a combination of these.

Comparing Self to Others

Women in our society and in many before ours have compared themselves to a set of standards or "ideals" in the hope of achieving that

look. Festinger's Social Comparison Theory (Festinger, 1954) offers an explanation for such behavior. This theory states that people in general tend to evaluate their own opinions and abilities by comparing them to others'. The concept of looking toward other people for comparison is supported by Bandura's explanation of modeling (Bandura, Ross & Ross 1961). His theory provides yet another possible way in which people might learn about a norm or average behavior, stating that people in general learn behaviors by observing other people. They will then copy the actions of the other people.

In the phenomenon being examined in this study, people try to emulate the body image of others. Bandura et al. (1961) state that these models may appear at home or in one's subculture and especially in the media. In applying these concepts to the world of beauty and body image we see that it would be natural, according to Festinger and Bandura, to compare one's own look to that of others and then try to recreate the look of the desirable model.

The need to compare oneself to others affects more than appearance; it may be internalized and result in alteration of self-image. Freedman (1984) claimed that self-esteem for girls is associated with appearance much more than for boys. This phenomenon seems to develop at a young age, as young girls claim that their acceptance and recognition by others result in positive feelings about themselves (Freedman, 1984).

In fact during the adolescent years the need to be like the group may become exaggerated. Elkind (1978) claimed that adolescent thought patterns include the "imagery audience", or simply the belief that one is being watched and criticized in his/her behavior. According to Dornbusch et al. (1984) young women desire thinness more than men do, whereas men desire more bulk. We may conclude that negative feelings are experienced by these same girls if they are not accepted by others or if they do not achieve the "ideal", in this case by being thin enough. Calden, Lundy, and Schlafer (1959) found that personal satisfaction decreased with an increase in the deviation of body size from the given norm. It would follow that personal satisfaction would increase when body size was in line with norms.

The ramifications of not attaining the current standards for body image transcend the self-concept of social and sexual attractiveness. Women who do not have stylish body shapes may in fact be discriminated against in this society. For instance obese women have been more discriminated against in terms of college admissions than obese men (Canning & Mayer, 1966). These stereotypes spread beyond the college campus as the concept of ideal weight invades even the working world, as physical attractiveness has a positive association with career choice in women (Lanier & Byrne, 1981). Lanier and Byrne (1981) found that women who held traditionally male positions were generally perceived as better looking physically, by high school students. The students, in three

different groups, rated the same slides of women. Each group rated a different characteristic; attractiveness, job title, and courses taken. The women who were judged as having a male position were actually considered to be more in line with the current norms for attractiveness.

The people most affected by these societal norms seem to be in the higher socio-economic group as the drive for thinness does not seem to cut equally across socio-economic levels. Banner (1983) and Agras (1987) found that women in our society, especially those in the high socio-economic group, are more likely to follow the fashion and beauty trends than those with less money. These women may have the time and money to change their bodies to fit the "ideal". Many of the current methods of weight loss include expensive treatments, gimmicks and diets, all of which only those in the higher socio-economic level would be able to afford. Some of the wealthier women may even be described as being pre-occupied with weight (Dornbush et al., 1984). Most likely some less wealthy individuals may be described as overly concerned with weight also.

Messages from the Media

As both an index to society's norms as well as a trend setter, the media may be "instrumental" in formulating the current trends in body image and beauty. Body image seems to be influenced tremendously by the media representations (Freedman, 1984). The various forms of the media capitalize on current trends. For example fashion magazines use

the association of beauty and clothes to increase sales (Lakoff & Scherr, 1984). The media is inescapable and may be seen everywhere, from the billboards lining the highways to the privacy of one's own home via television. Women may choose any one of several forms of media to determine the current trends in beauty or to find the ever present "ideal", as well as ways in which to achieve this body shape. But whichever form of the media they choose, they will find the same message.

Women receive many more messages to be slim and in shape from magazines than men do. Specifically, Silverstein, Perdue, Peterson and Kelly (1986) found that women's magazines contained 63 times the number of diet advertisements found in men's magazines. The ratio of figure-enhancing products was 12:1 in women's and men's magazines. The ratio of food ads was 73:3 for "meat and fish" , 153:1 for "starches" and 359:1 for "sweets and snacks" in women's vs. men's magazines. If women look in women's magazines they will be hit with a barrage of contradictory messages. The message in summary is: "cook delicious food, look at the possible foods available but don't eat too much, if you do then diet, and at all times stay in shape". In terms of the video media, studies have shown that television depicts an "ideal" amount of thinness, so much so that women appear to have a "template" for their appearance (Striegel-Moore, Silberstein, & Rodin 1986). This results in women viewing someone else's figure and determining that since this appears to be the desired look, as depicted by the media, they must somehow achieve

that look regardless of their natural physique.

The television industry, combined with numerous other changes in society, such as increases in the standard of living, and a change in the political ideology of the country, has most likely contributed to the increased emphasis on thinness. A more vivid message is created by the television industry by portraying living action characters that may serve as more salient models for our society. Although women do realize that the models on television and in magazines are heavily made-up and spend a lot of time trying to look good, they still are viewed to a certain extent as realistic representations of women (Lakoff & Scherr, 1984). This obsession with models representing reality emphasizes the strength of the camera.

Over the years the media has gone so far as to glamourize some of the eating disorders, through articles in magazines. Playgirl ran the article "The Golden Girl Disease" in June 1975, once again placing emphasis on the look achieved only through sickness as an ideal (Garfinkel & Garner, 1982).

Consequences of Body Altering

Women in our society receive a confusing yet powerful message from the media and society; they must alter their body shape to conform and be accepted. Historically the phenomenon of conformity has caused women to go to extremes to alter their bodies and as a result has placed women at risk for pathologies if their particular bodies were not suited for the "ideal" shape. Attaining the ideal may have resulted in permanent

physical damage for women in the past and may continue to do so in the future. The foot binding of the Asian women resulted in permanent damage to the foot, at times resulting in decreased walking ability (Freedman, 1984). The corset, popular among women in the 1800's, led to the manifestation of numerous physiological problems with the internal organs, sometimes causing miscarriages (Rudofsky, 1972). Some tribes in Africa and the ancient Egyptians molded the shape of people's skulls using various mechanical contraptions with the belief that the shape of the skull determined the future of the person (Rudofsky, 1972). Historically people were willing to compromise their health to look right. The present day look, thinness, has brought with it the physiological problems associated with decreased eating for example eating disorders, such as anorexia nervosa and bulimia nervosa.

Excessive concern with thinness may lead to eating disorders. These disorders were first described in the late 1600's and have recently become more prevalent, to what has been described as "almost epidemic proportions among women in Western societies" (Waltos, 1986; Brisman & Siegal, 1984). Striegel-Moore et al. (1986) demonstrated that the onset of Anorexia Nervosa in particular is related to the socio-cultural pressure on women to be thin and successful. Women have been shown to be in the high risk group for eating disorders, as they internalize the socio-cultural values or ideals for thinness (Striegel-Moore et al., 1986). However, it should be noted that if men do internalize the cultural ideals they may

acquire the symptoms of eating disorders in the same way that women do. Research has shown that there exists a strong socio-behavioral influence on young women's self-image and consequently their attitude toward weight (Agras & Kirkley, 1986).

In her book The Golden Cage, Bruch (1978) interprets the increase of anorexia as a "sociocultural-epidemic", suggesting that the ideal body presented by the media may in fact affect the "vulnerable adolescents" who may see weight control as a sign of self-control and therefore a way of promoting future success and beauty. Some women may adopt vomiting as a method of weight control, in response to pressure from cultural influences of ideal weight (Chiodo & Latimer, 1983). This vomiting may lead to the development of bulimia.

Quantifying the Cultural Influence

With the reported rise in incidence of eating disorders, attempts have been made to quantify the origins of the disease. The true reason for the perceived rise in the incidence of eating disorders in the recent past has not yet been determined, though numerous possibilities exist. Negative socio-cultural pressure has been examined as one of the causative factors. Some examples of possible contributing elements are the rise in the amount of "junk food" available, as well as diet foods, combined with the increase in weight loss clinics, and in general the fast-paced lifestyle of Americans.

Although these somewhat obvious changes in our society are difficult to quantify, quantitative studies have been performed on one of the most easily quantified influence on society, the advertising media. A study of English fashion models over the years 1967-1987 demonstrated that the desired body shape was becoming more tubular, with bust and hips decreasing while height and waist increased (Morris, Cooper & Cooper, 1989). Utilizing photographs in Ladies Home Journal and Vogue magazines Silverstein, Perdue, Peterson and Kelly (1986) showed that the bust to waist ratio has decreased significantly over the last twenty years, almost reaching the low of the mid-1920's. Thus the women being portrayed in the magazines are sending a thin and tubular message to the readers, who are predominantly women.

In their research into the causation and development of eating disorders, Garner, Garfinkel, Schwartz and Thompson (1980) compared the "ideal" image of the female body as presented in the media, to the average body size for women. They demonstrated that over a twenty year period of time (1959-1978) there was a significant shift in the ideal. Using the Society of Actuaries "Build and Blood Pressure Studies" data as a standard for that time period, Garner et al. (1980) also examined the Playboy centerfolds, as one "ideal" image of women in terms of appearance. Although the magazine has predominantly male readership the centerfold provides a source of "competition" for the average female in terms of attention from the male population. Garner and Garfinkel saw these

centerfolds as an "indirect index of contemporary norms" for the physical attributes of women. They found that during the time period 1959-1978, there was a decrease in the average weights (controlling for height and age) of Playboy centerfolds. They also found that bust size decreased, waist size increased and hip size decreased for the centerfolds. This particular measure of the "ideal" woman as more "angular" in appearance was also demonstrated by Morris et al. (1989) among English fashion models.

Garner et al. (1980) saw Miss America as another "ideal" symbol for the American woman as she is chosen from among fifty state winners on the basis of looks and talent, providing a very visible source of comparison for American women. The Miss America Pageant contestants over the years 1959-1978 declined in weight for age and height, demonstrating, as did the Playboy centerfolds, that the "ideal" female was becoming thinner.

Garner et al. (1980) also investigated the occurrence of weight loss or diet articles in relation to the increasing thinness of the "ideal" woman. The media provided a way in which to lose weight, by running diet articles in popular magazines. Between 1959-1979 there was an increase in the number of "diet for weight loss" articles in six leading women's magazines (Harpers Bazaar, Vogue, Ladies Home Journal, Good Housekeeping, Woman's Day, McCalls). Garner and Garfinkel showed that in the twenty years between 1959 and 1978 American women were faced with increasingly thin and angular role models, while their average

weight was actually increasing. They also demonstrated that new and different dieting methods were introduced and printed with increasing frequency in women's magazines.

Thus Garner et al. (1980) confirmed suspicions that some forms of the media presented unrealistic pictures of the "ideal woman" by demonstrating that the actual weights increased over the same time period that the "ideal" weights were falling. This unreal image may affect the self-image of millions of viewers and contribute to the rise in the incidence of eating disorders. The question remains; Is this a continuing trend? Are there new trends?

The current study was designed to investigate whether the trend calculated for 1959-1978 was continuing, leveling out or declining. Have the women represented by the media become thinner and more angular? If they have what are the implications for society? Women today may become victims of the role models represented by the media and become sickly copies of these models. With the high incidence of eating disorders these questions must be answered in an attempt to arrest this epidemic. In order to understand the problem, the origin of the problem must be sought out. The media may provide one answer.

This study also investigated the possibility of a replacement for dieting, an alternative method of weight control, namely exercise, and the quantity of press given this new topic in the same six women's magazines. The use of new methods in an effort to control the body image may lead

to new problems for women. The DSM-III-R has recently expanded the definition of purging to include the compulsive use of exercise to control weight gain after a binge. Thus a new form of Bulimia Nervosa has appeared. These trends will be examined in an attempt to quantify the image of the "ideal" woman that the media present to society.

CHAPTER II

METHOD

Measure of Thinness

Body measurements for Playboy centerfolds and Miss America Pageant contestants were obtained for 1979-1988. The age, height, bust size, hip size, waist size and weight were obtained in years, inches and pounds respectively, for the Playboy Magazine centerfolds and the Centerfolds of the Year for the years 1979-1988. The author obtained these data through observation of the profile of the centerfold page in each of the issues. These data were based upon self-report from the playmates and there was no way to check for accuracy. In addition four of the playmates were dropped out of the data pool because either their height, weight or age measurements were unavailable, making it impossible to obtain their expected weight from the Actuarial data. One playmate's measurements were not available and were therefore not included in the averages. Averages were based upon the number of available data points for a given year.

Utilizing similar methods, the age, height, bust size, hip size, waist size, and weight were obtained in years, inches and pounds respectively, for the Miss America Pageant contestants and winners between 1979-1988. Unfortunately bust, waist, and hip measurements were only available for

1979-1985. These data were obtained through contact with the Miss America Pageant headquarters and use of the published program from each of the pageants over the last ten years.

In order to determine a standard or average weight, the Society of Actuaries Build and Blood Pressure Study, 1979, was used. This study consisted of the measurement of over 500,000 women and 1 million men in an attempt to determine a national average for health statistics. The sample consisted of life insurance policy holders nationwide. The Society of Actuaries data was compared with the American Cancer Society Averages and the two were shown to be "in relatively close agreement" (Society of Actuaries, 1979). Averages in weight were determined according to height and age, ranging from four feet six inches to six feet three inches in inch intervals, and eight age groups (15-16, 17-19, 20-24, 25-29, 30-39, 40-49, 50-59, 60-69 years).

For the Playboy data and the Miss America data Percent of Expected Weight was calculated for each centerfold and each contestant by dividing their actual weight by the average weight, as determined by the Society of Actuaries tables, for their height and age group, and multiplying by 100. These percentages were then averaged over each year.

Tabulation of Articles

A tabulation of the number of diet-for-weight-loss, exercise, and diet/exercise articles was determined for 1959-1988. These articles were

tabulated in Harpers Bazaar, Vogue, Ladies Home Journal, Good Housekeeping, Woman's Day, McCalls for each month during 1959-1988. These magazines were utilized predominantly in order to accurately replicate the Garner et al.(1980) methodology. Good Housekeeping, McCalls, Ladies Home Journal, Vogue, and Woman's Day, were in the top ten most read women's magazines Harpers Bazaar, placing number twelve, according to the Simmons Market Research Bureau in 1987. Therefore these magazines represent the widely read and popular women's magazines. Advertisements were disregarded. Exercise articles were defined as articles concerning exercise and fitness methods or tips. Diet articles were defined as only articles promoting dieting specifically for the purpose of weight loss in women or people in general. Those articles promoting dieting in men or children were disregarded. Diet/exercise articles were defined as articles that focussed on both dieting-for-weight-loss and exercise in a combined weight loss/maintenance program. To control for experimenter error the number of diet, exercise, and diet/exercise articles were determined by another experimenter, for four different magazines out of the six in the study. This reliability check consisted of examining one full year of each of the four magazines, either 1981 or 1982. Reliability between the author and the other experimenter were checked using Pearson's Correlation Coefficient, demonstrating a high correlation between tabulation of the total number of articles in each magazine ($r=0.999$, $p=.0001$). A Chi-Square analysis of

the type of article recorder was performed also indicating a high level of association between the raters' judgements ($X^2=47$, $p<.01$). The total number of articles in a given magazine were tabulated from the table of contents; those regularly listed articles such as "horoscope" (specific criteria used for each magazine are listed in Appendix 1) were not counted.

The number of diet, exercise, and diet/exercise articles was determined for each year of the thirty year period, 1959-1988. First, the total number of diet, exercise, and diet/exercise articles were tabulated for each year for each magazine. Next, the total number of diet, exercise, and diet/exercise articles for each year was determined by summing the totals for individual magazines for each year. The total number of diet articles, exercise articles, diet/exercise articles were each divided by the total number of articles for that year and that value was multiplied by 100 to produce the variable, Percent of Total Articles, for each type of article for each year, 1959-1988.

CHAPTER III

RESULTS

Measure of Thinness

An examination of the changing shape of women's bodies was performed by attempting to quantify the amount of thinness in the two groups of women selected for this study, Miss America contestants and Playboy centerfolds. The concept of thinness may be studied in three ways; through direct comparison to other people of similar age using National averages and height or through a pure ratio of weight to height not taking age into consideration, or through measurement of actual body parts. All three forms were used here. The comparison of the women to their peers was performed using national tables provided by the Society of Actuaries. The percent of expected weight therefore represents the comparison to the general female population for that age and height.

In order to determine if there existed any change between 1979-1988 in the body size of these women compared to their peers, the relationship between years and percent of expected weight for both groups was investigated. Using Pearson's Correlation Coefficient, a significant decrease in percent of expected weight of Miss America contestants was found between 1979-1988, $r = -0.77$, $p = .0082$, (see Figure 1). It should be

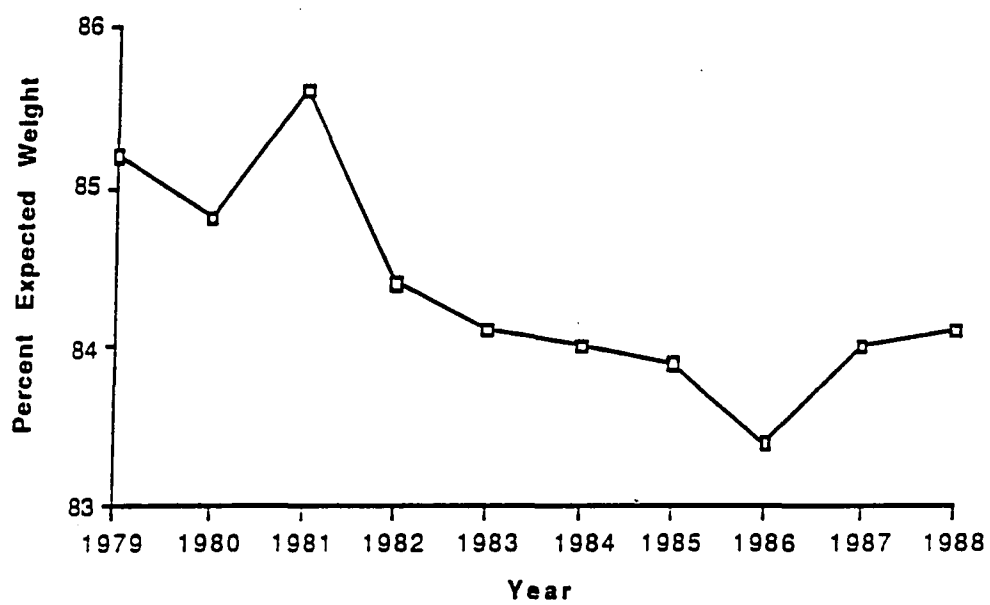


Figure 1. Average percent of expected weight of Miss America contestants, 1979-1988.

noted that this trend seems to have levelled off in the past several years. A similar analysis of the Playboy centerfolds revealed no significant change.

In order to more fully investigate the change in body shape for Playboy Centerfolds and Miss America contestants, the second method of measuring thinness, the pure ratio, was utilized. The specific ratio that was used was the cube root of weight divided by height ($\text{weight}^{1/3}/\text{height}$), for each contestant. Because the data were curvilinear the Log_{10} was taken of each ratio. There was a significant decrease among Miss America contestants but not among Playboy Centerfolds, in the Log of this ratio over the ten year period ($r=-.13$, $p=.0028$). Further analysis revealed that there was also a slight negative correlation between age and Log_{10} of the ratio for Miss America contestants ($r=-.096$, $p=.03$). There was an indication that the higher age groups were actually thinner according to the ratio. The older women had a lower ratio, thus a smaller geometric shape, as was indicated by the above correlation. This thinness in the higher age groups does not appear in the Society of Actuaries table, women in the 25-29 age group are between one to two pounds heavier than women of the same height in the 20-24 age group, indicating that according to this table women gain weight as they become older.

The final way in which to measure thinness would be to examine body measurements, such as bust, waist and hip size. This analysis only allows for the study of single body parts and therefore only provides part

of the whole picture. Using the Pearson Correlation Coefficient all participants' measurements for both groups were analyzed: Only one measurement changed significantly. Miss America Contestants showed a significant ($r=-.87, p=.01$) decrease in hip size 1979-1985 (see Figure 2). Thus the Miss America contestants were becoming more slim, at least in the hip area.

Further analysis of the two groups showed a significant increase in age among both Playboy centerfolds ($r=0.64, p=0.049$) and Miss America contestants ($r=0.87, p=0.001$). Due to the increasing number of older women in the Miss America Pageant and the significantly decreasing percent expected weight with an increase in age, there was a possibility that age could have affected the percent of expected weight trend over time. The possibility of this effect was investigated, using a hierarchical regression analysis, or the Analysis of Partial Variance. In this analysis age was entered first as the covariate, thus the first regression used age to predict percent of expected weight. It was noted that age did have an effect $F(1,503)=18.18, p=.0001$ and that the older women were thinner. Year was then entered to determine whether year predicted percent of expected weight when controlling for age. It was shown in the second regression that year had an effect even when controlling for age, $F(1,502)=13.16, p=.0001$. This procedure indicated that the effects of years were not solely attributable to age changes among contestants.

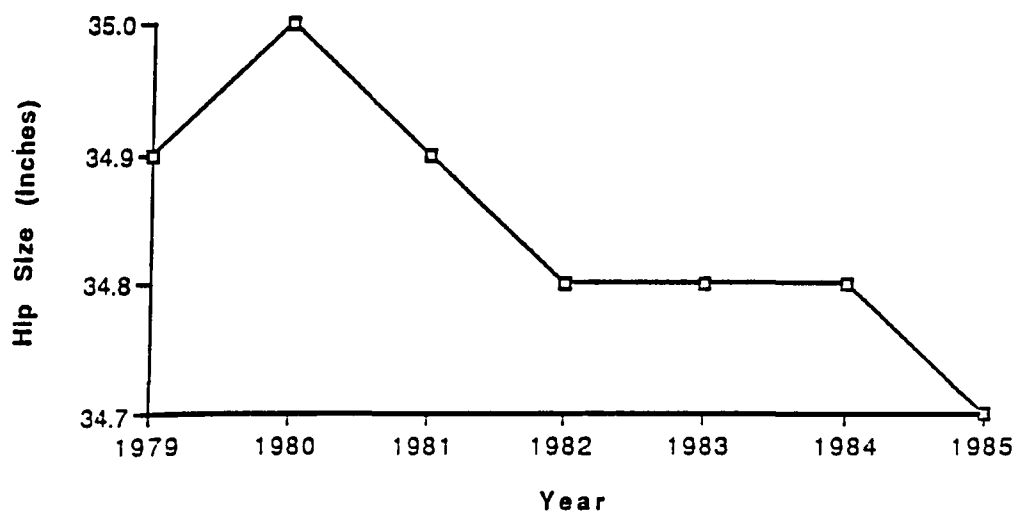


Figure 2. Average hip size for Miss America contestants, 1979-1988.

Despite differences in the trend for thinness compared to the average, the two groups, Miss America contestants and Playboy centerfolds had a very slight positive correlation of percent expected weight ($r=0.56$, $p=0.09$). In order to determine if these two trends were actually distinct, an analysis of covariance was performed using years as the covariate. The results indicated that the two trends were in different locations, $F(2,17)=6.74$, $p=.03$, despite their parallel slopes.

In an attempt to determine if the trends found in this study were similar to those found by Garner et al. (1980) for the same groups from 1959 to 1978, a comparison was made. It should be noted that the exact data from the Garner et al. (1980) study were unavailable except through observation of the graph in their article, thus the data may have been somewhat inaccurate. An analysis of covariance was performed on four groups, the Garner et al. (1980) Miss America Contestants and Playboy Centerfolds percent of expected weights and the percent of expected weights for Playboy and Miss America found in this study, using years as the covariate. This analysis demonstrated that the slopes in the last ten years were not significantly different from those in the interval 1959-1979. However, the analysis of covariance revealed a highly significant difference among the four groups, $F(4,55)=39.95$, $p=.0001$. To examine which groups differed, SAS' LSMEANS option was used. Only four comparisons were of interest, and Bonferroni's correction was applied by multiplying p-values by four. The comparisons with corrected p-values are: Garner et

al. (1980) Miss America versus Playboy ($p < .001$), Garner et al. (1980) Miss America versus the current study's Miss America ($p = .088$), and the current study's Miss America versus the current Playboy ($p = .076$) and the Garner et al. Playboy versus the current Playboy ($p = .268$). Using this conservative procedure, only the first comparison is significant, but sample differences (see Figure 3) are in the following direction: current Miss America and Playboy data are lower than the Garner et al. data, the current Playboy data are lower than the current Miss America data, and the Garner et al. Playboy data are higher than their Miss America Data.

In an attempt to determine if those women chosen as the "best" from among these two groups each year were thinner than the remaining members of the group a comparison was performed. Specifically, percent of expected weight was used as the variable to determine if there was a difference between the winner of the Miss America Pageant and the rest of the contestants and between the Playboy Centerfold of the Year and the other centerfolds that year. To compare the percent of expected weight for winners of the Miss America Pageant with the other contestants and for the Playboy Centerfolds of the Year with the other centerfolds, a paired t-test was performed. No significant difference in percent of expected weight was found between the winners of the Miss America Pageant, $t(9) = 1.4$ n.s. and between the nonwinning contestants or the Playboy centerfold of the year and the other centerfolds, $t(9) = 0.3$ n.s.. To insure that the lack of significant differences was due to the

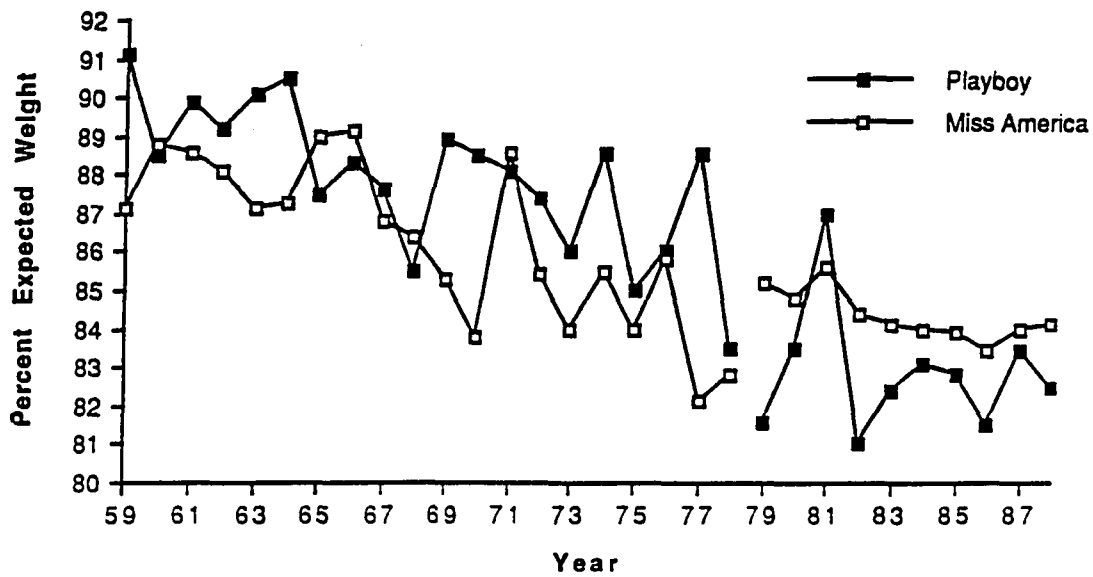


Figure 3. Average percent of expected weight of Playboy centerfolds and Miss America Contestants, 1959-1978 (Garner et al., 1980) and 1979-1988.

measurements of the women, a sign test was also used as a method of comparison of winners vs. nonwinners combining both groups. No significant difference was found.

Over the ten year period 69% of the Playboy centerfolds and 60% of Miss America contestants had weights 15% or more below the expected weight for their age and height category, as determined by the Society of Actuaries table. According to the DSM-III-R, maintaining body weight of 15% below expected is one of the major criterion for Anorexia Nervosa.

Magazine Articles

The study of cultural influence on women was further conducted by determining the association between diet, exercise and diet/exercise articles (as percent of total number of articles) and years. First, several interesting trends are evident from visual observation of the graph of the magazine articles (see Figure 4). The diet/exercise articles have only recently increased in number. The percent of diet/exercise articles held below 0.23% until 1975 and then increased dramatically over the next 13 years to 0.80% in 1988. The number of exercise articles began at a slightly higher level than diet/exercise articles, 0.24%, and rose almost steadily until 1987. The number of exercise articles exceeded the number of diet articles in 1971, 1975, 1979-1981, and 1983-1988. Therefore since 1983 there have been more exercise articles than diet articles in the magazines examined. The number of diet articles in 1959 exceeds both of

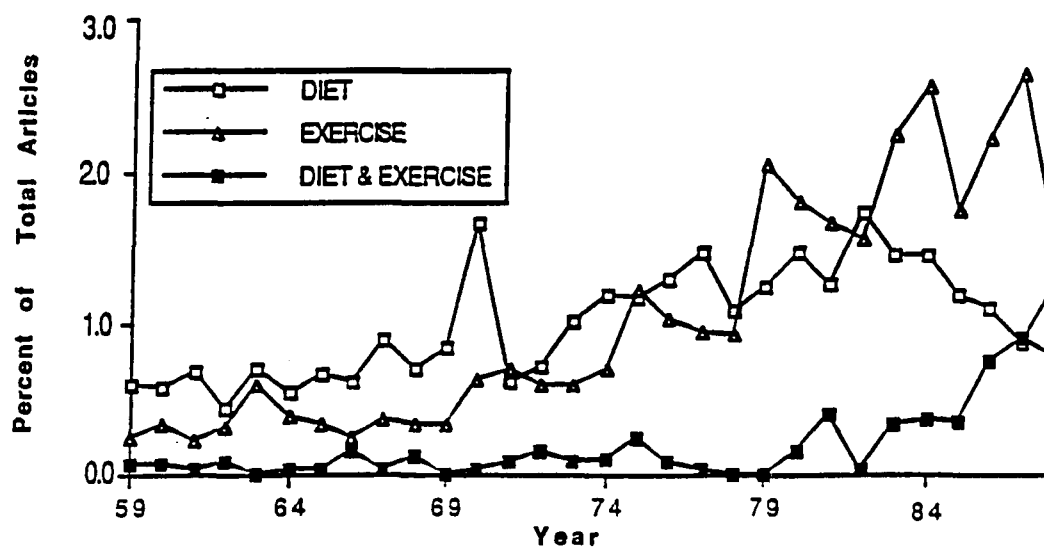


Figure 4. Number of articles as a percent of total articles in six women's magazines.

the other measures with a percent of total articles of 0.58%. The number of diet articles appears to be steady until 1970 when there was a surge up to 1.65% of total. From 1971 to 1981 there appears to be a somewhat steady increase in the number of diet articles only to drop off between 1982-1987. The graphs of diet articles and exercise articles cross in 1979, reverse in 1982 only to cross again the following year. It is important to note that these percentages represent a small proportion of the total number of articles presented in these magazines, thus these trends are relative to this small percentage.

A more rigorous examination of the changing trends in number of articles was performed using Pearson's Correlation Coefficient test. Significant positive correlations with years 1959-1988, were found for the percentage of diet articles ($r=0.78$, $p=0.0001$), exercise articles ($r=0.88$, $p=0.0001$) and diet/exercise articles ($r=0.68$, $p=0.0001$) as a percent of total articles. The level of diet articles appears to drop off in 1981 and be surpassed by the number of exercise articles (see Figure 4). A regression of the percent of total number of diet and exercise articles showed the two lines to have significantly different slopes, $F(1,56)=27.86$, $p<.001$. In order to create a more linear relationship among the different points, the Log_{10} was determined for all points. The regression of the Logarithm of the number of diet and exercise articles yielded two lines with significantly different slopes, $F(1,56)=42.29$, $p<.0001$.

CHAPTER IV

DISCUSSION

These results somewhat support the hypothesis found in the Garner et al. (1980) study, that the cultural ideal for women's body size has become thinner. In this study the decrease in body size was clear among Miss America contestants and nonexistent for Playboy Centerfolds. The increase in thinness in Miss America contestants was demonstrated by the decrease in percent expected weight, pure geometric ratio and hip size. It is important to note that the trend found by Garner et al. (1980) did not reverse itself, it simply levelled off, indicating that this index of women's "ideal" body image has stabilized at 13%-19% below expected weight. It is possible that the Playboy centerfolds had previously attained a low level of percent expected weight, at which they remained for the last ten years. The Miss America contestants' percent of expected weight decreased until they almost equalled the Playboy centerfolds and have been at that level for the past several years. Although the two trends were shown to be different by the ANCOVA they do appear to be moving toward a similarly extreme level of thinness.

Explanations of the Trend for Thinness

The trend for thinness may be levelling off, in that the absolute "ideal", if seen as the best member of the aforementioned groups, is not any thinner than the rest of the group. It was shown that the winner of the Miss America Pageant and the Playboy Centerfold of the Year did not show a significantly lower percent of expected weight, when compared to the nonwinning contestants or centerfolds, contrary to the trend between 1959-1978 in which it was shown that winners and centerfolds of the year were significantly thinner than the other contestants/ centerfolds.

A possible explanation for the current trend in ideal women's body appearance would be that a decrease in percent of expected weight now would be almost impossible. It may be described in terms of a floor effect. Body weights below 15% of expected are defined by the DSM-III-R as one of the criterion for Anorexia Nervosa. Thus a majority of these "ideals" of our society may be classified as having one of the major symptoms of an eating disorder. The statement this makes about our society is significant, namely that we desire the look of the person who has an eating disorder. Although a causal relationship may not be drawn directly from this data, it is possible that the expectation of women's bodies to be as thin as eating disorder patients may lead to the onset of eating disorders themselves. This may offer some insight into the recent almost "epidemic rise" in the incidence of eating disorders (Waltos, 1986; Brisman & Siegal, 1984).

Magazine Articles

The survey of magazine articles indicates an overall increase in emphasis on weight reduction. The quantitative measure indicates a rise in the proportion of diet, exercise and diet/exercise articles. All of the analyses show that this rise in number of articles has occurred. However, it seems from looking at the graph of diet and exercise articles that the number of exercise articles, in the last eight years, has surpassed the number of diet articles. This may indicate the beginning of a new trend, exercise and fitness for weight loss in place of dieting. The idea of combining diet and exercise in one weight loss program has gained popularity in the last thirty years. This may be even more of a new trend as it seems to be doubly effective, cutting calories and burning calories while achieving tone. This new method of weight control might indicate a healthier way to maintain body image, but it may also indicate another form of pathology in some people. In the newly revised edition of the DSM-III the use of excessive exercise is listed as a method of purging oneself following a binge episode. Thus the new emphasis on exercise may simply provide an even more indiscernible method of purging thus perhaps allowing more people to suffer from bulimia nervosa and yet go undiagnosed.

It is important to recognize that the media may be responding to the desires of the society rather than creating them. At first the media may have reflected the desires of the society and then society may have

begun to emphasize what the media presented each time increasing the level of the ideal until an extreme had been attained. In other words the media may not be a causative factor in the epidemic of eating disorders, rather, they may be responding to it in order to increase sales.

It appears that the trend for weight loss has bottomed-out. The trend really physically cannot decrease much more as the levels of thinness are already within the bounds of Anorexia nervosa and to become thinner would be potentially life threatening.

Limitations of the Data

Although this study provided some interesting results the data must be viewed with some caution. The study only examined a select group of women who self-reported their physiological measurements. Though there was consistency across the subjects' self-reports, it is possible that some or all of them exaggerated their measurements.

Another limitation of the study lies in the examination of the articles in the women's magazines. These magazines may differ in popularity and so their actual influence on the population may be varied. These magazines may also have different images that they wish to portray, thus differing from one and other in the type of article they would print. One important point to note is that the percentages found in this study were low compared to total number of articles, thus the magazines are not truly bombarding the reader with diet and exercise methods rather, they are simply mentioning them.

Future Research

The measures of thinness used in this study were only a sample of the possible measures. Some of the other possible measures include other types of magazines such as high fashion, home and garden, and specialty magazines. Other media include television, films, billboards, radio and other more subtle forms.

In light of the findings of this study, there exist numerous possibilities for future research. Commercial advertisements seen on the television have never been examined quantitatively in terms of diet messages and body size of models in commercials. As television seems to be a popular means of entertainment in our society, it would prove an interesting subject to study. A study of the television media would indicate the type of person who is modelling the product, what the product is trying to do for the population and how the model and the product are portrayed. All of these variables would provide information as to the signals and models given to society by the media. Specifically a study that examined the commercials during specific hours of the day would prove interesting. For example it would be interesting to discover whether during stereotypical female viewing times (afternoon soap-operas) there is a higher percentage of diet oriented advertisements. This is one possibility among many for future investigations.

APPENDIX 1

Criterion for counting total number of articles:

MAGAZINE

ITEMS NOT COUNTED

Good Housekeeping Departments, Shopping by mail, Poetry,

Schools and Colleges

Harpers Bazaar Best beauty bets, Regular features, Horoscopes,

School directory, Beauty bazaar, Shopping

Ladies Home Editors journal, Recipe index, Poems, Readers

Journal write us

McCalls Shoppinginfo, Equipment

Vogue Regular features, Departments, In every issue

Woman's Day Merchandise info, Shopping info, Coming next month, If a list occurs under a heading for example: decorating then a list of rooms in a house = one article & Diet + recipes (for diet) = one article

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