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The Effect of Gender in Improving Body Image and Self Esteem

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ABSTRACT

There is considerable agreement that physical activity is associated with improvements in self-esteem and body image perception, however it would seem that these effects are not the same for both genders. This study examines the differences between the sexes on the affect of activity on self-esteem and body image. Self-esteem was measured using the 10-item Rosenberg Self-Esteem Scale; body image was assessed by the 23-item Body Cathexis Scale. These questionnaires were given to individuals belonging to three different groups: physical exercise (n=20), computer course (n=20) and no intervention control (n=20). They were administered on two occasions, at the start of the activity and after six weeks. It was found that in males but not in females, Body image perception of individuals in the physical exercise group showed a significant improvement after 6 weeks as measured by the Body Cathexis Scale. Again, for males only, the self-esteem of individuals on the computer course significantly improved as measured by the Rosenberg Self-Esteem Scale.

Introduction

The relationship between self-esteem and physical activity has been well researched. In 1989, the U.S. Preventive Services Task Force of the U.S. Office of Disease Prevention and Health Promotion concluded that regular exercise could improve self-esteem. People who place great importance on their physical appearance and fitness, and who are not satisfied with these areas commonly show the biggest improvements in self-esteem. Even if there is no actual improvement in fitness, an individual's self-esteem may improve just from receiving positive comments about their physique from others.

Similarly, the mere expectation of an increase in fitness, or the person's belief they are doing something positive for themselves can improve self-esteem. A sense of achievement rather than actual achievement is the important element (Jackson et al. 1999). Also cross-sectional studies comparing exercisers and non-exercisers in the general population indicate a positive relationship between physical activity and self-esteem. Marsh et al. (1995) compared multiple dimensions of self-concept for elite athletes to those for a group of non-athletes. It was discovered that both male and female athletes had significantly higher levels of self-esteem than male and female non-athletes ($p<.01$). In an investigation of exercise intervention programs on self-esteem in college women, Trujillo (1983) found self-esteem increased significantly after one semester of weight training or running, while a non-activity group exhibited a loss in self-esteem. Guinn et al. (1997) also found a significant positive relationship between self-esteem and exercise involvement in female adolescents, and Alfermann and Stoll (2000) found a 6-month exercise program increased self-esteem significantly in middle-aged adults. Walters and Martin (2000) did not, however, find aerobic exercise was linked to increases in self-esteem in a 13-week intervention period involving children. Sorensen et al. (1998) investigated the effect of a one-year aerobic exercise intervention program on mental health and self-esteem among people with elevated risk factors for cardiovascular disease. Mental health was measured by the General Health Questionnaire (GHQ), which included the subscale of self-esteem. It was found exercise had a significant positive effect on the change in total scores on the GHQ ($p<.05$), and also had a significant positive effect on scores of the self-esteem subscale of the GHQ ($p<.01$). Additionally, high compliance with the exercise programme (70 %>) resulted in a significantly greater improvement in the scores on the GHQ ($p<.05$) and the self-esteem subscale ($p<.01$), than those who had a participation rate of less than 50 %. Leith (1994) addressed the issue of program duration. He divided studies which lasted 8 weeks or less, 9-12 weeks and more than 12 weeks. His conclusion was that there was evidence that whilst some studies in all durations reported a positive effect those of a longer duration seemed most likely to produce improved self esteem.

Baldwin and Courneya (1997) examined the relationship between exercise participation and self-esteem in women who had been treated for breast cancer. The RSE was used to measure self-esteem and the Godin Leisure Time Exercise Questionnaire measured exercise participation. This included questions about the frequency of mild, moderate and strenuous exercise in a typical week. Physical acceptance was measured by the Body Image Visual Analogue Scale (BIVAS) and physical competence was assessed by the Physical Self-Efficacy Scale (PSES). Significant correlations were found between exercise participation, physical competence, physical acceptance and global self-esteem ($p<.001$), except physical acceptance was not significantly correlated with exercise participation. Path analysis demonstrated that physical competence mediated the effect of exercise participation on global self-esteem.

Perceptions of the physical body are part of self-concept, and they form an integral part of overall self-worth. The evaluation of one's size, weight, or other aspects of the body that determine the manner in which the body is viewed are the essential components of the physical aspect of body image. The recent heightened concern in this area has

arisen as a result of the 'epidemic' of eating disorders (Thompson, 1990). Body image is especially relevant to sport and exercise psychology work on eating disorders and related issues with female athletes. Exercise may be associated with body dissatisfaction, and athletes particularly face tremendous pressure to maintain an ideal body. This pressure may be partly responsible for sustaining the cyclical repetitious nature of eating disorders. The female athlete triad, which includes disordered eating, amenorrhoea and osteoporosis, is the physical manifestation of a pathological adherence to exercise, and is often linked with an inappropriate diet (Scully et al. 1998).

Body image assessment techniques were initially produced to help psychologists understand body image disturbances. Measurement procedures have mainly focused on two aspects of body image: a perceptual component and a subjective component. The perceptual component is also known as size perception accuracy, and is measured by subjects matching the width of the distance between two points to their own estimation of their body size or a particular body site. It has also been measured using schematic figures of different body sizes, where individuals are asked to choose the body size they think reflects their own. The subjective component refers to the degree of satisfaction or dissatisfaction felt about the body's appearance and function. This has been measured by comparing actual and ideal body sizes. Many questionnaire measures, such as Secord and Jourard's (1953) Body Cathexis Scale also assess subjective representations of physical appearance, whereby respondents rate the degree of satisfaction they feel about various body parts (Thompson, 1990).

Although research into body image initially focused on eating-disordered populations, it has now progressed to the general population. A normative discontentment with body image has been discovered, with a large proportion of females dieting and admitting to their weight affecting how they perceive themselves (Davis, 1997). In a study of 148 fitness instructors, Nardini (1998) found 64% perceived an ideal body as one that was thinner than their current body. Despite having a lower than average body fat, the instructors were as dissatisfied with their bodies as age-matched norms. Jourard and Secord (1955) found women's ideal dimensions were smaller than actual body measurements with the exception of bust size. Standards of bodily perfection are imposed on people through the media, communicating messages about how the body should ideally look (Willis and Campbell, 1992). The extent to which the body matches the cultural ideal clearly has a huge role to play in determining the degree of body satisfaction that is experienced, although research is unclear about how this affects the way men perceive their bodies (Davis, 1997).

In both athletes and non-athletes, men have been found to have significantly higher self-esteem ($p.<.01$) and physical appearance self-concept ($p.<.01$) than women (Marsh et al. 1995). Marsh (1998) found that group effect (elite/non-elite athletes) was substantially larger than gender effect for total physical self-concept and most scales on the PSDQ, with the exception of appearance, body fat and global physical scales. For these scales the gender effect (favouring males) was substantially larger than the group effect. Loland (1998,1999) discovered inactive and active women were more concerned with appearance and weight and were less satisfied with weight and most parts of their bodies

than their male counterparts. Davis and Katzman (1998) found Asian females reported significantly more body dissatisfaction than Asian males, while males wished they were larger. Gender patterns mirror those reported in Caucasian samples with respect to body image. However, Secord and Jourard (1953) did not find any significant differences between means of scores on the Body Cathexis Scale for the two sexes, although women did cathect their bodies more highly than men indicating a poorer perception of body image. In an exploratory study of motives for exercising and body image satisfaction, it was discovered women who experienced the most body dissatisfaction exercised for appearance and weight control. Women also exercised for appearance related these reasons more than men (Smith et al. 1998).

The current study was performed to examine some of these relationships. It was expected that women would have poorer self-esteem and body image than men, that body image would improve as a consequence of physical activity (this would have a affect on self esteem), that self esteem might improve as a consequence of participating in an academic course intervention (but this would not effect body image) and there would be differences between the genders in scores on both of these indexes. It was also predicted that in both genders self-esteem and body image would improve when compared to a control (no intervention) group. The researchers were given the opportunity to track participants over a 6 week period and thought given the work of Leith (1994) (Op.Cit) it would be interesting to see if this was sufficient time to produce an effect.

Method

Design

Over a period of 6 weeks the two intervention factors were participation in physical activity and undertaking a computer course. The participants were assigned to one of three mutually exclusive groups of 20 who either took part in physical activity, computing or no intervention. Measurements of self-esteem and body image were taken from subjects in each group pre- and again post-interventions.

Psychological measurements

Self-esteem was measured using the 10-item Rosenberg Self-Esteem Scale (RSE), (Rosenberg, 1989). This is a self-administered questionnaire measuring subjective perceptions of self-esteem, or perceived self-worth on a Likert-type scale of 1 to 4 in the direction of negative self-esteem, yielding a summed score of 10 - 40. Half the items are expressions of positive self-esteem and half are negative. The higher the score, the more negative the self-esteem. Low scores indicate high self-esteem. The RSE is the most widely used measure of global self-esteem within health psychology. It is a reliable, valid measure and has shown an internal consistency of .87 (Baldwin and Courneya, 1997).

Body image was assessed by the 23-item Body Cathexis Scale (Secord and Jourard, 1953). This is also a self-report questionnaire measuring the individual’s attitude towards their body. Body Cathexis refers to the degree of feeling of satisfaction or dissatisfaction

with various parts of the body. Response to each item is along a five-point Likert-type scale in the direction of dissatisfaction with a 'not important to me' option receiving a score of 0 if selected. This will result in a summed score of 0 - 115. The higher the score, the more dissatisfaction with the body is indicated, the lower the score, the greater the satisfaction with the appearance of one's body. The split-half reliability of the body cathexis scale has been found to be satisfactory at .81 (Secord and Jourard, 1953).

Participants and procedures

Of the original pool of participants Group 1 (7 males and 13 females, mean age 24.5) participated regularly each week in fitness training, and engaged in the activity of aerobics or weight training. For most of them this was a new experience. This was either a twice a week low impact aerobics course or light weights high reps weight training. Group 2 (8 males and 12 females, mean age 25.1) attended a weekly course for learning basic computing skills. They had little or no prior experience with computers and the course was for absolute beginners covering word processing, emails and use of the internet. Group 3 (8 males and 12 females, mean age 24.3) were sedentary and acted as a control group and did not participate in any kind of fitness training or other 'extra curricular' activity. The exercise group were recruited from a local fitness centre. The Computing skills course group were recruited from a local college of education. The sedentary group were recruited from a variety of sources by word of mouth. All subjects in the three groups were working adults. There was about an 80% adherence rate but only complete sets of data were used.

Body image and self-esteem questionnaires were distributed to all subjects on two occasions. On the first occasion subjects in neither group 1 or 2 had begun their respective fitness training or computer course. On the second occasion the questionnaires were administered when the subjects were six weeks into their activity.

Results

Table 1. Mean scores and standard deviations for self esteem and body image in the physical activity, computer course and control groups.

Group		Self esteem before intervention	Self esteem after intervention	Body image before intervention	Body image after intervention
1 physical activity	*Mean*	20.8	20.1	65.6	62.3
	Sd	1.7	1.6	11.9	14.1
2 computer course	*Mean*	21.4	19.9	63.6	64.2
	Sd	3.4	2.6	11.6	11.0
3 control	*Mean*	21.6	21.4	64.2	61.6
	Sd	2.5	3.2	11.1	13.1

Statistical Analysis

Part 1 both genders. All data sets were complete. A one-way ANOVA demonstrated no significant differences pre-intervention between the groups on either body image or self-esteem. Univariate ANCOVAs demonstrated significant differences between the three groups post intervention in Self Esteem ($F = 3.287$, $p < .05$, df2, with pre-self esteem as a covariant) and Body Image ($F = 3.185$ $p < .05$, df2 with pre-body image as a covariant).

Within subjects t-Tests were performed as part of planned comparison of improvement of body image post intervention in the three groups. This was evident in the physical activity group ($t = 3.145$, $p < .01$) but there was no significant improvement in either of the other two groups. Within subjects t-Tests were performed as part of planned comparison of improvement of self esteem post intervention in the three groups. This was evident in the computer group ($t = 3.134$, $p < .01$) but there was no significant improvement in either of the other two groups. There were no statistically significant correlations between self-esteem and body image at either pre or post the intervention for each of the three groups and this finding is considered in the discussion.

Part 2 males and females analysed separately. This was to enable the detection of differences between and associations within gender groups in self-esteem and body image.

Insert table 2

One-way ANOVAs did not reveal any statistically significant differences in pre-intervention self-esteem or body image between the three groups in the males or the females. Univariate ANCOVA's demonstrated significant differences in Self Esteem between the three groups post-intervention for men ($F = 4.766$, $p < .05$, df2, with pre-self esteem as a covariant) but not women, and Body Image for men ($F = 4.188$, $p < .05$, df2, with pre-body image as a covariant) but not women.

Females Within subjects t-Tests were performed as part of planned comparison of improvement of self esteem and body image post intervention in the three groups. These t-Tests did not reveal any statistically significant pre or post intervention differences between self-esteem or body image in females in any of the three groups.

Males Within subjects t-Tests were performed as part of planned comparison of improvement of self esteem and body image post intervention in the three groups. These t-Tests revealed an improvement in body image in males after the intervention $t = 6.0$, $p < .01$ in the physical activity group, and also an increase in self-esteem in males post the intervention $t = 2.820$, $p < .05$ in the computer group. There were no other statistically significant differences between self-esteem/body image in males after the intervention.

Pearsons correlations did not reveal any statistically significant associations between self-esteem and body image in males before or after the intervention in any of the three groups. Again this inding is considered in the discussion.

Part 3 males and females compared. **Self esteem** Between subjects t-Tests revealed no

significant differences in self-esteem scores between males and females in any of the groups neither before or after the intervention.

Body Image Between subjects t-Tests revealed statistically significant differences in body image scores between males and females at the outset of the intervention (physical activity group, $t = -3.784$, $p < .01$; the computer group, $t = -3.394$, $p < .01$. the control group, $t = 281$, $p < .05$. Males had significantly higher body image scores than females in all three groups at the outset of the intervention.

Between subjects t-Tests revealed statistically significant differences in body image scores between males and females after the intervention in the physical activity group ($t = -4.706$, $p < .001$). the computer group, $t = -3.090$, $p < .01$. but not the control group. Males had significantly higher body image scores than females in the physical activity and computer groups but not in the control group, after the intervention.

Discussion

The findings of the present study show that body image improved in those male subjects that took part in the physical activity intervention and that self-esteem improved in those males who took part in the computing course intervention. There were no differences after the intervention in any of the conditions for females. Males had significantly higher body image both before and after the interventions than females.

That body image changed in the activity group but not in the computer course group supports one of our original hypotheses and is consistent with research supporting this relationship and would be the common outcome of participating in exercise (Davis, 1997; Lowland, 1998, 1999; Guinn et al,1997). It would of course be somewhat surprising if participating in a computer course improved body image.

The finding that self-esteem changed in the computer course condition does not support our hypothesis that physical activity improves self-esteem. However it does support the notion that self esteem can be improved by participating in a worthwhile activity and is consistent with research supporting this relationship for example Baldwin and Courneya (1997).

The fact that self-esteem and body image only increased significantly in males and not in females is an interesting finding. Previous research has found gender differences in self-esteem favouring males (Marsh et al. 1995) but there may well be some good reasons why body image in females in the physical activity and self esteem in the computer group did not increase post intervention. There were statistically significant differences in body image scores between males and females (favouring males) in all groups at the outset of the intervention. This was also true after the intervention, except in the control group where body image was still higher in males but not significantly. These findings are consistent with those of previous research, which has found men have significantly “better” body image than women (Marsh et al. 1995; Marsh, 1998; Lowland, 1998,1999; Davis and Katzman, 1998). It may be that for the women that the intervention was not sufficient to produce the effect i.e. that any changes were not seen as enough of an “improvement” to warrant a change in self esteem or body image. The cult of thinness and

femininity as communicated by the media may be responsible for this gender difference in body image perception. While women have a tendency to focus on their body as an aesthetic statement, men have traditionally been more likely to attend to the dynamic aspects of their bodies, such as coordination, strength and speed (Scully et al. 1998). As suggested by Secord and Jourard (1953), women are more likely than men to develop anxiety concerning their bodies because of the social importance of the female body, which is consistent with their finding that women cathect their bodies more highly than men.

It is important to take in to account the reasons why people exercise, as this may go some way in explaining why physical activity did not have a positive affect on women's body image in the present investigation. As discovered by Smith et al. (1998), women were more likely to exercise in the pursuit of bodily attractiveness than men, and women who experienced the most body dissatisfaction were even more likely to exercise for appearance and weight control. Body dissatisfaction is correlated with social physique anxiety, and this anxiety may intensify in exercise settings such as in aerobics and keep-fit classes. In these situations there is a greater emphasis on the female form, which in turn may reinforce the cult of thinness and femininity (Scully et al. 1998). Cultural and social factors emphasise unrealistic body shapes and according to Gill (2000) thinness is joined by fitness within the body shape ideal. It may be that though exercise enhances a woman's perceived body image, her idealised body image begins to shift toward a thinner standard, and her ensuing dissatisfaction remains the same regardless of objective improvement (Davis, 1997).

No significant correlations between self-esteem and body image were found in any of the groups before or after the intervention, suggesting there is no relationship between the two measures. These results contrast with the findings of Secord and Jourard (1953) and Guinn et al. (1997), who did discover inter-correlations between the two measures in men and women. It is conceivable that this variation in results is partly explained by the use of different measurements. For example, Secord and Jourard used a self-cathexis scale to measure self-concept. This consisted of items representing specific conceptual aspects of the self, such as artistic talents, happiness and general knowledge, as opposed to a global measure, which does not measure the specific components of self-concept. If the present study had measured separate sub-domains of self-esteem (such as social and emotional aspects), it may have been found that some aspects - more so than others, were rated to the same degree as the body.

In conclusion the present study gives support for the notion that participation in a worthwhile activity can improve body image and self-esteem. In this study body image improved as a consequence of aerobic exercise, whilst self-esteem improved following a computer course but both of these effects were seen only in men. This generates the interesting question of if one were to design an intervention bring about a positive change in self esteem and body image whether the nature of it (for example duration, intensity, style) should be different depending on the gender of the target group.

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