

Predictors of Change in Body Image in Female Participants of an Outdoor Education Program

Kate Hovey

State University of New York at Cortland

Jody Foland

Indian River SD

John T. Foley

Mike Kniffin

JoEllen Bailey

State University of New York at Cortland

Abstract

Body image is an ever changing phenomenon that has a profound effect on women's quality of life. Research related to body image is expansive, but few researchers have focused on how outdoor education may influence body image. This study examines predictors of change in body image of female participants of an outdoor education program. Twenty-eight females were surveyed using the Multidimensional Body–Self Relations Questionnaire before and after participation in an outdoor education program to determine change in body image. A multiple regression was used to determine if body valuation was a predictor of change in body image during an outdoor education program. A positive change in body image was associated with lower scores in body valuation prior to intervention. The results indicate that outdoor education programs may have a positive effect on how females perceive their body image when a negative body image exists prior to intervention.

KEYWORDS: body image; outdoor education; female participants

Body image is a person's self-attitude and self-perceptions about the body, usually related to physical appearance (Cash & Deagle, 1997; Cash & Pruzinsky, 1990), and is considered unique to all individuals (Phillips, 1998). Body image is also known as a multidimensional theory that includes a concept of boundaries, a mental picture of the body, a valuation of the body, and attitudes toward the body. Someone with a positive body image has positive thoughts about their body, has high value for their body, and positive attitudes toward their body (Cash, 1994; Slade, 1994; Witkin, 1965).

Body image satisfaction has become an extremely significant part of culture in the United States, especially for females, because females are typically considered to have a more negative self-image or self-perception than are males (Feingold & Mazzella, 1998; Muth & Cash, 1997; Sinclair, 2006). Many women are not satisfied with some aspect of their body weight or body shape (Grogan, 2007), but the extent to which women are satisfied with their body is directly related to how closely they perceive their match with society's ideals (Barlow & Durrand, 1995). Females receive strong, consistent messages regarding the need to have the "ideal" body, but many of the messages they receive depict images that are not possible to attain. Studies have substantiated that social comparison of body composition relates directly to body dissatisfaction (Cash & Pruzinsky, 2004). Body dissatisfaction has been linked to diminished self-image, reduced self-worth, and impaired social effectiveness and has been identified as a contributing factor in suicide (Eaton, Lowry, Brener, Galuska, & Crosby, 2005; Grogan, 2007; Phillips, 1991). It has also been found that body dissatisfaction increases as children age and overall body dissatisfaction may peak in adolescence (Littleton & Ollendick, 2003).

Priest and Gass (1997) identified that outdoor education programs aim to alter the way people sense, observe, and think. The outdoor education program provides an environment for participants to challenge themselves physically, mentally, and emotionally and fosters a social bonding experience that may not be possible to achieve in a traditional classroom setting. Positive social experiences have been found to correlate to body image satisfaction (Etcoff, 1999).

Research related to the relationship between adventure programming and body image in females is limited, but several reports have confirmed a positive relationship between participation in outdoor education and body image. Adventure experiences have a positive effect on women by increasing their awareness of the effectiveness of the body. While women begin to develop value for their bodies' capabilities, appreciation of the body increases, which may result in an increase in self-perception of physical attractiveness (Mitten & Woodruff, 2010). In other research, women who participated in an outdoor recreation program and described their body image negatively when starting the program reported more positive body image upon program completion (Parsons, 2010). It has also been found that women who participate in outdoor programs often have increased self-esteem, discover a sense of empowerment, and experience the positive effects of outdoor exercise that are typically part of outdoor education programs (Ewert, 1983; Hendee & Brown, 1987; McDermott, 2004). Women who regularly participate in outdoor adventures may experience an increase in positive body image (D'Amore & Mitten, 2014; West-Smith, 1997).

Mitten (1992) originally reported similar findings to the research cited above, but in subsequent research, this author then identified that some outdoor education experiences increase physical and psychological stress and may be harmful to the emotional well-being of female participants (Mitten, 1994).

Because body image affects women positively and negatively, it is important to identify influences that may have a significant effect on body image (Teixeira et al., 2006). To arrive at a holistic approach to health and well-being, it is necessary to find techniques that will act as resiliency factors against poor body image and/or significantly affect those who currently have diminished body image. Identifying factors that influence body image can help practitioners create interventions that may improve women's mental and physical health and lead to better quality of life for women.

The initial goal of this study was to examine body image among female participants of an outdoor education program and examine the influence, positive or negative, that this course has on body image. The study specifically examined predictors of change in body image of female participants of an outdoor education program.

Method

Participants

The 28 participants (aged 20–24) in this study were physical education teacher education candidates participating in a required summer theory-based coeducational outdoor education course developed as a requirement for the completion of a physical education undergraduate degree. Participation in the study was voluntary, and all participants consented to participation before data were collected. Preintervention data were collected on Day 1 of the experience shortly after participants arrived at camp. Postintervention data were collected on the last full day of camp, Day 12, after the backcountry camping trip, and verbal and written reflections were completed. All participants were students at a mid-size, public comprehensive university in the Northeast.

During Week 1, participants were given the opportunity to experience and gain skills and knowledge related to a variety of outdoor activities that are typical to backcountry camping (canoeing, hiking, backpacking, camp setup, and orienteering), to provide input related to the type of trip they would like to engage in during Week 2. Options provided included a mostly canoeing trip, a combination of canoeing and hiking, and a mostly hiking trip. Participants were placed into mixed-gender groups no larger than nine individuals and one group leader. The role of the group leader was to facilitate the planning and execution, but then adopt a “hands-off” leadership style and allow the participants to make their own decisions during the backcountry experience. During and after the backcountry camping experience, there was a focus on reflection, and participants were asked to reflect on what they were doing, to learn from the experience. Participants were asked to engage in several verbal reflective sessions during Week 2 and a final written reflective experience after the trip was completed.

Instrument

Body image comprises two components: perception and attitude. Body perception refers to size estimation, and attitudes related to the body include body-related affects and cognitions (Cash, 1989). With these constructs, body image and valuation were measured using the Multidimensional Body–Self Relations Questionnaire (MBSRQ; Cash, 2000) to determine body image and valuation of female participants before participation in a 2-week residential outdoor education program and after the 2-week intervention.

The 69-question version of the MBSRQ, which includes 10 subscales, was used to assess appearance-related as well as fitness/health-related body image. The instrument produces two character measurements, an evaluation and an orientation, in the areas of appearance, health, and fitness, plus an orientation character measurement for illness. Seven character measurements are used to obtain a combined score for body image (Cash, 2000). The MBSRQ is a multidimensional assessment that has been used extensively in body image research on people 15 years and older (Cash, 2000). It has well-established levels of validity and reliability as an assessment of body image and is widely accepted as an instrument for measuring this phenomenon (Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999).

The MBSRQ produces three additional subscale results using the Body Areas Satisfaction Scale, also known as BASS; Overweight Preoccupation Subscale (OPS); and the Self-Classified Weight Scale (SCWS; Cash, 2000). The first subscale, BASS, is used to determine self-satisfaction with specific areas of a person's body. High scorers in this area show contentment with most areas

of the body, and low scores represent unhappiness with size or appearance of several body areas (Cash, 2000). The second subscale, OPS, is used to assess the constructs of weight anxiety, dieting, and eating restraint. High scorers show a concern for gaining weight and conscious action to control weight. Low scorers have little concern about gaining weight and put forth little effort to control weight (Cash, 2000). The final subscale, SCWS, refers to how one perceives her or his own weight (Cash, 2000). These three subscales indicate the extent to which participants value their body, or body valuation.

Analysis

Body image was calculated using the sum score of seven categories of the MBSRQ, which included an evaluation and an orientation in the areas of appearance, fitness, and health as well as an orientation focused on illness. Additional multi-item subscales, which include BASS, OPS, and SCWS, were analyzed independently.

When the data for body image were analyzed, many factors were considered. The categories evaluated included Appearance Evaluation, Appearance Orientation, Fitness Evaluation, Fitness Orientation, Health Evaluation, Health Orientation, and Illness Orientation. The scoring range in each category was on a scale of 1 to 5. An increase in values showed a higher score in each area. A combined score of all seven categories was used to develop an overall score for body image.

To determine the effect that initial body valuation had on change in body image, a multiple regression was employed. The outcome variable was the change in score as calculated by subtracting the postintervention score from the preintervention score for the MBSRQ. The three predictor variables were the additional MBSRQ subscales (BASS, OPS, and SCWS) administered during the initial measure of body image, which indicated each participant's level of body valuation. Preintervention body image score was included in the model to control for its effect on the amount of change. Data were analyzed in STATA V.10 for Windows.

Results

Although the results were not significant for the seven individual subscales used in combination to develop an overall score for body image, they were included to facilitate the discussion of specific factors that may contribute to an increase in body image in participants who entered the program with low body valuation. Results for the seven subscales reporting Appearance Evaluation, Appearance Orientation, Fitness Evaluation, Fitness Orientation, Health Evaluation, Health Orientation, and Illness Orientation have been included.

Appearance Evaluation refers to feelings of physical attractiveness or unattractiveness. Higher scores indicate more satisfaction with personal appearance, and lower scores indicate dissatisfaction with physical appearance (Cash, 2000). In the area of Appearance Evaluation, the pretest mean was 3.33 and the posttest mean was 3.44. The overall score for this area improved 0.11 from pretest to posttest. Individually, 18 participants improved their score, seven participants' scores went down, and three participants' scores remained the same.

The importance that a person places on physical appearance is referred to as Appearance Orientation. Higher scorers pay close attention to personal appearance and engage in extensive grooming habits, and low scorers are indifferent about their appearance and do not put forth much time in an effort to achieve excellence (Cash, 2000). In the category of Appearance Orientation, the pretest mean was 3.18 and posttest mean was 3.25, showing an overall improvement of 0.07. In this area, 19 participants improved their scores, six participants' scores went down, and three participants' scores remained the same.

Fitness Evaluation refers to the feelings of being physically fit. High scorers in this area feel that they are in shape and physically competent, and low scorers feel they are not in shape and feel unfit (Cash, 2000). The pretest mean in this area was 4.37 and the posttest mean was 4.33,

showing a decrease of 0.04 from pretest to posttest. For this section, eight participants improved their score, nine participants' scores went down, and 11 participants' scores stayed constant.

The extent of effort that a person puts forth to become physically fit is referred to as Fitness Orientation. Higher scores in this area mean that a person values fitness and is involved in activities to enhance personal fitness, and lower scores indicate a person places less value on fitness and participation in few to no activities to improve fitness (Cash, 2000). The mean pretest score for Fitness Orientation was 4.37, with a decrease of 0.04 on the posttest scores to a mean of 4.33. Eleven participants improved their scores, 14 participants had lower scores, and three participants' scores remained the same.

Health Evaluation refers to the feeling of personal health. High scorers feel they are in good health, and low scorers feel unhealthy and susceptible to illness (Cash, 2000). For this subscale, the pretest mean was 3.92 and improved 0.07 points to a posttest mean of 3.99. In the area of Health Evaluation, 13 participants improved scores, seven participants lowered scores, and eight participants' scores stayed the same.

The amount of effort put into staying healthy is called Health Orientation. In this area, high scorers focus on healthy lifestyle behaviors, and low scorers are apathetic about their health (Cash, 2000). The pretest mean was 3.87 and the posttest mean was 3.84, showing a decrease of 0.03 points. Eleven participants improved scores in this area, 14 participants' scores went down, and three participants' scores stayed the same.

The final category involved in the overall score of body image is Illness Orientation. Illness Orientation is the extent of reactivity of a person to illness. High scorers in this area are aware of symptoms of personal illness and are apt to seek out medical attention, and low scorers are not very alert or reactive to physical symptoms of illness (Cash, 2000). The pretest mean was 3.12 and improved 0.08 points to a posttest mean of 3.20. For Illness Orientation, 12 participants improved their scores, five participants' scores decreased, and 11 participants' scores remained the same.

When the subscales were examined, the subscales reporting Appearance Evaluation and Appearance Orientation had the most individual participant increases. These subscales had 18 participants and 19 participants increase their pretest to posttest scores, respectively. The most individual participant decreases occurred in the subscale categories of Fitness Orientation and Health Orientation. In the subscales reporting Fitness Orientation and in the subscale reporting Health Orientation, pretest to posttest scores decreased for 14 students.

A combination of all seven categories was used to give an overall score for body image. For this measure, the mean pretest Body Image score was 25.84. The mean posttest Body Image score was 26.07. This was an overall increase of 0.23 points. Individually, 19 participants' scores improved, nine participants' scores went down, and none of the participants' scores remained the same.

To explore the effect that initial body valuation had on change in body image during an outdoor education program, a multilinear regression was employed. The results (Table 1) show that participants who had lower scores in body valuation at the beginning of the program had a robust trend toward a significant increase in body image ($p = .055$), while controlling for BASS, OPS, SCWS, and pretest body image score.

Table 1*Multilinear Regression Analysis for the Outdoor Education Program (N = 28)*

Change in Body Image	B	SE_B	95% CI
Overweight Preoccupation	-.521	.347	-1.240, .198
Body Areas Satisfaction	-1.211	.574	-2.398, -.024*
Self-Classified Weight	-.945	.524	-2.028, .139
Pretest Score	-.191	.095	-.387, .005

Note. $R^2 = .33$.

* $p < .05$.

Discussion and Conclusion

The goal of this study was to identify predictors of change in body image after participation in an outdoor education program. To determine these predictors, the researchers gave 28 participants who attended an outdoor education program pre- and posttests designed to measure body image and body valuation. Relationships between change in body image and body valuation were examined.

Body image is not a static concept, but it is a phenomenon that is always changing and is sensitive to changes in mood, environment, and physical experience. This concept is often manipulated by social and cultural influences (Cash, 2000). The outdoor education program provided a unique social and physical experience for the participants. The physical effort it took to be able to live and travel in the backcountry during Week 2 of the outdoor education experience was most likely very different than many of the participants' everyday lives. The unique experience of the outdoor education program may have contributed to the change that was observed in body image among participants with low body valuation, during the 2-week experience. The data suggest that measures of body valuation may be able to predict if women will experience a positive change in body image after participation in an outdoor education program.

The concept of body image is not usually based on fact (actual body appearance as judged by others), but rather is controlled by self-esteem of individuals. Because body image is easily influenced by internal and external factors, there is a need to identify significant influences on critical aspects of body image (Teixeira et al., 2006). Although this research is limited in scope, it suggests that participation in an outdoor education program may have a positive influence on body image of those with low body valuation. Identifying protective factors that influence body satisfaction is a step toward identifying a solution to improve women's mental and physical health. The results of this study support the hypothesis that body valuation can be a predictor of change in body image of participants in an outdoor education program.

A focus of an outdoor education program can be the examination of the concept of "self" in a different environment. The physical demands of the course on the participants may have helped the women learn about the capabilities of their bodies and that the concept of beauty is not solely based on physical appearance. Although the results of the change from pretest to posttest scores for the individual subscales were not significant, the results of individual increases in different subscale categories may provide additional support for the positive effect of participation in an outdoor education program. The subscales with the most individual participant increases were Appearance Evaluation (18 participants showed an increase) and Appearance Orientation (19 participants showed an increase). Mitten and Woodruff (2010) reported that while a woman participates in an outdoor education program, she may begin to realize that her body has strength, that she is competent, and that it is important to have a positive perception of her body. Again, although the changes in results for individual subscales were not significant,

the individual consideration may begin to explain the significant changes in body image found for participants with low body valuation.

When decreases from pretest to posttest scores were examined for individual participants, the most decreases were found in the subscale categories of Fitness Orientation (14 participants showed a decrease) and Health Orientation (14 participants showed a decrease). Mitten (1994) reported that outdoor experiences increase the physical and psychological stress and may be harmful to the emotional well-being of female participants. Again, further research would be required to report definitive results in this area.

Although the results related to the seven subscales and the increases and decreases in individual scores were not directly related to the initial goal of this research, the increases in the appearance subscales seem to support the positive effect the focus on the capabilities of the body may have on body image, and the decreases found in the fitness and health subscales seem to support the negative effect the physical and psychological stress of outdoor experiences may have on women and how they view their bodies. Implications for future research include a more focused examination and analysis of the results of the individual subscales.

Another potential positive experience during the outdoor education course was the participants' opportunity to learn about how they interact socially with those around them. Positive social experiences have been found to correlate to body image satisfaction (Ettcoff, 1999). Cash and Pruzinsky (2004) stated, ". . . Body image and social functioning are intertwined – conceptually, empirically, and experientially" (p. 283). The potential for growth during positive social interactions that participants had the opportunity to experience during the outdoor education program may have contributed to the positive change in body image that the participants with low body valuation experienced.

The positive effect that the outdoor education program had on body image of participants with low initial scores related to body valuation may justify the existence of such programs to be used as a prevention of or treatment for low body image. Although the outdoor education program used in this study may not be representative of all outdoor education programs, this study supports prior research (Ewert, 1983; Hendee & Brown, 1987; McDermott, 2004; Mitten & Woodruff, 2010; West-Smith, 1997) reporting the positive effects of outdoor education programs on body image. Results also support Parsons (2010), who claimed that her participants described a negative body image when beginning the program and subsequently reported a more positive body image when the program was complete. These results may provide initial insight into the positive influence that such programs have on female participants with low body valuation.

The results of this study cannot be generalized as indicative of results from other programs and/or participants. This study highlights the need for additional research to study and detail forces that may determine and influence body image in women, in addition to a replication of this study with a larger participant pool. Specifically, further examination of the design of the outdoor education program may reveal more insights into the results.

References

- Barlow, D. H., & Durand, V. M. (1995). *Abnormal psychology: An integrative approach*. New York, NY: Brooks/Cole.
- Cash, T. F. (1989). Body-image affect: Gestalt versus summing the parts. *Perceptual and Motor Skills*, 69, 17–18. <https://doi.org/10.2466/pms.1989.69.1.17>
- Cash, T. F. (1994). Body-image attitudes: Evaluation, investment, and affect. *Perceptual and Motor Skills*, 78, 1168–1170. <https://doi.org/10.2466/pms.1994.78.3c.1168>
- Cash, T. F. (2000). *MBSRQ users' manual*. Norfolk, VA: Old Dominion University.

- Cash, T. F., & Deagle, E. A. (1997). The nature and extent of body-image disturbances in anorexia nervosa and bulimia nervosa: A meta-analysis. *International Journal of Eating Disorders*, 22, 107–126. [https://doi.org/10.1002/\(SICI\)1098-108X\(199709\)22:2<107::AID-EAT1>3.0.CO;2-J](https://doi.org/10.1002/(SICI)1098-108X(199709)22:2<107::AID-EAT1>3.0.CO;2-J)
- Cash, T. F., & Pruzinsky, T. (Eds.). (1990). *Body images: Development, deviance, and change*. New York, NY: Guilford.
- Cash, T. F., & Pruzinsky, T. (Eds.). (2004). *Body image: A handbook of theory, research, and clinical practice*. New York, NY: Guilford.
- D'Amore, C., & Mitten, D. (2014). Relationship between outdoor experience and body image in female college students. In *Abstracts from the Coalition for Education in the Outdoors Twelfth Biannual Research Symposium* (pp. 38–40). Retrieved from <http://www2.cortland.edu/dotAsset/d447c0c5-0bb4-4f4c-a1e7-47a7c4247043.pdf>
- Eaton, D. K., Lowry, R., Brener, N. D., Galuska, D. A., & Crosby, A. E. (2005). Associations of body mass index and perceived weight with suicide ideation and suicide attempts among US high school students. *Archives of Pediatric and Adolescent Medicine*, 159, 513–519. <https://doi.org/10.1001/archpedi.159.6.513>
- Etcoff, N. (1999). *Survival of the prettiest: The science of beauty*. New York, NY: Doubleday.
- Ewert, A. (1983). *Outdoor adventure and self-concept: A research analysis*. Eugene: University of Oregon Center of Leisure Studies.
- Feingold, A., & Mazzella, R. (1998). Gender differences in body image are increasing. *Psychological Science*, 9(1), 190–195. <https://doi.org/10.1111/1467-9280.00036>
- Grogan, S. (2007). *Body image: Understanding body dissatisfaction in men, women, and children*. New York, NY: Routledge.
- Hendee, J. C., & Brown, M. H. (1987). How wilderness experience programs work for personal growth, therapy, and education: An explanatory model. In J. C. Hendee (Ed.), *The highest use of wilderness: Using wilderness experience programs to develop human potential* (pp. 5–21). Moscow, ID: Wilderness Research Center, University of Idaho.
- Littleton, H., & Ollendick, T. (2003). Negative body image and disordered eating behavior in children and adolescents: What places youth at risk and how can these problems be prevented? *Clinical Child and Family Psychology Review*, 6(1), 51–66. <https://doi.org/10.1023/A:1022266017046>
- McDermott, L. (2004). Exploring intersections of physicality and female-only canoeing experiences. *Leisure Studies*, 23, 283–301. <https://doi.org/10.1080/0261436042000253039>
- Mitten, D. (1992). Empowering girls and women in the outdoors. *Journal of Physical Education, Recreation, and Dance*, 63(1), 56–60. <https://doi.org/10.1080/07303084.1992.10604117>
- Mitten, D. (1994). Ethical considerations in adventure therapy: A feminist critique. In E. Cole, E. Erdman, & E. D. Rothblum (Eds.), *Wilderness therapy for women: The power of adventure* (pp. 55–84). New York, NY: Hawthorne. https://doi.org/10.1300/j015v15n03_06
- Mitten, D., & Woodruff, S. (2010). The impact of short-term adventure experiences on body image perceptions of women over 40. *Journal of Experiential Education*, 32, 322–326.
- Muth, J. L., & Cash, T. F. (1997). Body image attitudes: What difference does gender make? *Journal of Applied Social Psychology*, 27, 1438–1452. <https://doi.org/10.1111/j.1559-1816.1997.tb01607.x>
- Parsons, L.A. (2010). *Adventures in body satisfaction: The effect of adventure recreation on female's body image*. Retrieved from <http://www.alpengirlcamp.com/blog/adventure-recreations-effect-body-image>
- Phillips, K. A. (1991). Body dysmorphic disorder: The distress of imagined ugliness. *American Journal of Psychiatry*, 148, 1138–1149. <https://doi.org/10.1176/ajp.148.9.1138>

- Phillips, K. A. (1998). *The broken mirror: Understanding and treating body dysmorphic disorder*. New York, NY: Oxford University Press.
- Priest, S., & Gass, M. (1997). *Effective leadership in adventure programming*. Champaign, IL: Human Kinetics.
- Sinclair, S. L. (2006). Object lessons: A theoretical and empirical study of objectified body consciousness in women. *Journal of Mental Health Counseling, 28*, 48–68. <https://doi.org/10.17744/mehc.28.1.ey0r0wve2hbc2gjf>
- Slade, P. D. (1994). What is body image? *Behavior Research and Therapy, 32*, 497–502. [https://doi.org/10.1016/0005-7967\(94\)90136-8](https://doi.org/10.1016/0005-7967(94)90136-8)
- Teixeira, P. J., Going, S. B., Houtkooper, L. B., Cussler, E. C., Metcalfe, L. L., & Blew, R. M. (2006). Exercise motivation, eating, and body image variables as predictors of weight control. *Medical Science Sports Exercise, 38*, 179–188. <https://doi.org/10.1249/01.mss.0000180906.10445.8d>
- Thompson, J. K., Heinberg, L. J., Altabe, M., & Tantleff-Dunn, S. (1999). *Exacting beauty: Theory, assessment, and treatment of body image disturbance*. Washington, DC: American Psychological Association.
- West-Smith, L. (1997). *Body image perception of active outdoorswomen: Toward a new definition of physical attractiveness*. Ann Arbor: University of Michigan.
- Witkin, H. A. (1965). Development of the body concept and psychological differentiation. In H. Werner & S. Wapner (Eds.), *The body perception* (pp. pp. 26–47). New York, NY: Random House.