

NOTICE:

The copyright law of the United States (Title 17, United States Code) governs the making of reproductions of copyrighted material. One specified condition is that the reproduction is not to be "used for any purpose other than private study, scholarship, or research." If a user makes a request for, or later uses a reproduction for purposes in excess of "fair use," that user may be liable for copyright infringement.

RESTRICTIONS:

This student work may be read, quoted from, cited, and reproduced for purposes of research. It may not be published in full except by permission by the author.

The Effects of “Fitspiration” and Acute Exercise on Self-Esteem and Body Satisfaction

Michalia Humphrey

Candidate for the degree

Bachelor of Sciences

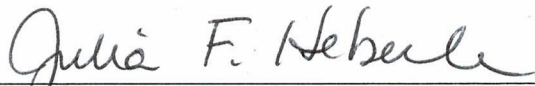
Submitted in partial fulfilment of the requirements for

College Honors

Departmental Distinction in Psychology



Bridget Hearon, Ph.D



Julia Heberle, Ph.D



David Osgood, Ph.D

Albright College Gingrich Library

F. Wilbur Gingrich Library
Special Collections Department
Albright College

Release of Senior Thesis

I hereby grant to the Special Collections Department of the F. Wilbur Gingrich Library at Albright College the nonexclusive right and privilege to reproduce, disseminate, or otherwise preserve the Senior Honors Thesis described below in any noncommercial manner that furthers the educational, research or public service purposes of Albright College. Copyright privileges remain with me, the author.

Title: The Effects of Fatspiration and Acute Exercise on Self-Esteem and Body Satisfaction

Signature of Author: Michaela Humphrey Date: 11/29/17

Printed Name of Author: Michaela Humphrey

Street Address: 3609 Darby Road

City, State, Zip Code: Harrisburg PA 17109

Albright College Gingrich Library

The Effects of “Fitspiration” and Acute Exercise on Self-Esteem and Body Satisfaction

Michalia A. Humphrey

Albright College

Albright College Gingrich Library

The Effects of “Fitspiration” on Self-Esteem and Body Satisfaction

Societies often place different stigmas and expectations for the ideal female body type. Given the rise in technology over the past three decades, social and standard media outlets now serve as common sources to determine what society believes is the ideal body type. Women now have the ability to view the latest trends within the palm of their hands. The ease in ability to view social sites has led to the average American spending 184 minutes online per day (Boepple & Thompson, 2016). Due to this effortless ability to follow trends and extended screen time, researchers have examined how media targeted towards appearances affects women’s body satisfaction and self-esteem. Boepple, Ata, Rum, and Thompson (2016) found that increased exposure to content promoting anorexia or extreme thinness is related to an increase in body dissatisfaction and eating disordered habits. In the past, it was often thought that women idealized thinness, but recent research has found that the fit ideal has increased in females (Chrisler, Fung, Lopez, & Gorman, 2013). That is, rather than attempting to restrict food in an effort to appear thin, individuals are participating in extreme workouts in an effort to achieve a more muscular and tone physique. Individuals participating in this rigorous exercise reported feeling guilty after skipping a workout (Boepple et al., 2016). Researchers have just begun to examine what may be causing this shift in ideal body type with evidence suggesting that fitspiration posts in social media may serve as a contributing factor. Fitspiration posts are exercise and diet related images and text intended to inspire people to live a healthy and fit lifestyle (Boepple et al., 2016). Although these posts are meant to encourage individuals to be healthy, researchers are still deciding if these posts actually have any positive influence on peoples’ lifestyles.

Fitspiration was originally marketed as positive posts focused on encouraging unhealthy individuals to exercise for health related reasons rather than ones focused on physical size (Holland & Tiggemann, 2016,). Unfortunately, researchers have found that fitspiration sites do not explicitly promote a healthy lifestyle. Boepple and Thompson (2016) found that fitspiration sites contain content about body weight, thinness, objectification, and stigmatization. With individuals, it is often more difficult to recognize the effects of fitspiration on self-esteem and body image because exercising is often considered a healthy activity. The goal of fitspiration sites and posts are to inspire individuals to live healthy lifestyles, but many sites promote unhealthy goals of muscle tone and body image. After a review of 84 fitspiration websites and coding of 510 pictures, Boepple et al. (2016) found that 93% of the images were of women who fit culturally-based standards of beauty and 97.8% of the images were of thin women. Messages on these websites also promoted exercise for physical appearance rather than the health benefits (Boepple et al., 2016). Based on the analyses of these websites, rather than providing inspiration to live an active and healthy lifestyle, the authors concluded that fitspiration websites are promoting living up to society's standard of the ideal body.

Previous research exploring the specific effects of fitspiration revealed a complex picture. Tiggemann and Zaccardo (2015) found that individuals who viewed fitspiration images as opposed to a comparison condition that viewed travel images felt significantly greater inspiration to improve their fitness and to eat healthy, but also had increased negative mood and body dissatisfaction after viewing the images. It has also been shown, that individuals who are prone to upward body comparisons have an increased chance of being affected by fitspiration posts. Additionally, more media usage also often leads to higher upward body comparison (Boepple et al., 2016). Those individuals who are prone to upward comparisons, particularly to thin or

athletic appearances may experience increased motivation to exercise and participate in dieting behaviors to an extent that such behaviors become unhealthy.

While individuals finding inspiration and motivation from others is positive, sometimes the fitspiration images cause viewers to become extremists. Specifically, individuals who endorse high internalization and upward comparison have an increase motivation to exercise and participate in dieting behavior (Boepple, Ata, Rum, & Thompson, 2016). Research has found that engagement in exercise and health behaviors for appearance motivated reasons can lead to negative body image and eating disorders. Therefore, although these images may have good initial intentions sometimes they can become misinterpreted.

On its own, exercise has been shown to increase mood and decrease short-term negative affect. However, although exercise is helpful in promoting positive affect, there is a threshold point at which exercise is no longer enjoyable for many individuals (Green & Petruzzello, 2015). In a review study by Ekkekakis, Parfitt, and Petruzzello (2011), the authors noted that at exercise intensities below the ventilatory threshold, there was evidence that affect became more positive. Additionally, Green and Petruzzello (2015) found that during the 70% intensity condition participants showed a slight increase in affect or pleasantness. This threshold is important to identify, because a negative connotation of exercise could be constructed if an individual is pushed too hard during exercise. In relation to exercise, self-esteem and body image satisfaction (BIS) are often discussed in relation to exercise habits. Individuals may believe that exercise will lead to a more ideal body type, thus increasing BIS and self-esteem. According to Sani, Fathirezaie, Brand, Pühse, Holsboer-Trachsler, Gerber, and Talepasand (2016) there is evidence to suggest that physical changes do not need to occur for enhanced self-esteem after exercise.

These findings help support the idea that even after completing an acute bout of exercise, individuals could still receive self-esteem, body image, and affect benefits.

Although there has been a recent increase in research surrounding fitspiration, no studies have focused on how participating in moderate-intensity exercise after viewing such stimuli affects the negative outcomes attached to fitspiration posts. The goal of this experiment is to examine if participating in the action of exercising changes individuals' self-esteem, body image satisfaction and mood compared to individuals who do not exercise after viewing such images. This study will add to the research by helping identify if participating in what the fitspiration posts encourage aids in preventing lowered self-esteem, body image, and positive affect. Additionally, while previous studies have examined the effects of exercises on affect, none have used a fitspiration stimuli to compare if exercise still increases positive affect after a negative stimuli is presented. This study will help build on the research surrounding body image, self-esteem, and body comparison in women.

The aim of the present study was to investigate the effects of the exposure to fitspiration images and exercise on women's body image satisfaction, self-esteem, and affect. In this study, I hypothesize that individuals in the fitspiration conditions will experience a change in self-esteem and body satisfaction compared to the control travel image group. Specifically, I believe the travel image plus sitting condition will have no significant change in their body image satisfaction, self-esteem, or affect. For the travel image and exercise group I hypothesize that there will be no change in participants' body image satisfaction or self-esteem, but there may be an increase in positive affect. In regards to the fitspiration groups, I hypothesize that the two groups will have different outcomes. First, I expect the fitspiration and sitting group will have a decrease in their self-esteem, body image satisfaction, and affect scores posttreatment. However,

for the fitspiration and exercise group I hypothesize that these participants will have a significant increase in body satisfaction scores, self-esteem, and positive affect. Additionally, I also hypothesize that participants who have pre-existing low self-esteem or body satisfaction will benefit the most from the post-video manipulation exercise and have a significantly higher body satisfaction or self-esteem compared to those who sit for 10 minutes or those who see travel images.

Methods

Participants

The participants for this study were selected from the population of Albright College students. All participants in this study were female students who were enrolled in a psychology class at Albright. Females were recruited through SONA. SONA is a website that allows students to view available research studies, read an overview of the purpose of the experiment, and sign up to participate during available time slots. All students who participated received course credit or extra credit. There were a total of 64 participants. The experiment included female participants who were 18-25 years old ($M = 19.60$, $SD = 1.43$). In terms of racial composition, the participants were 37% Caucasian, 26% African American, 2% American Indian, 10% Asian, 18% multiracial and 8% identified as other. Of the participants, 80% identified as non-Hispanic or Latino.

Materials

Experimental manipulation. Two different video conditions were used to test change in body image satisfaction, self-esteem, and affect. Both videos were two minutes long and contained 30 different images. One video contained images of women who were in good physical shape and would be defined as fit individuals. These images were similar to Instagram posts and contained women in workout clothing flexing their muscles or participating in some form of physical activity. This condition was labeled as the fitpiration condition. The other condition was the travel condition and was utilized as the control compared to the fit condition. This condition contained images of landscapes and cityscapes including beaches and city infrastructure. The image stimuli for both conditions were comparable to a previous study by Tiggemann and Zaccardo (2015) in an attempt to align with the types of images used previously.

State self-esteem. The Rosenberg Self-Esteem Scale was used to assess participants' self-esteem before and after they received the fitspiration condition manipulation (Rosenberg, 1965). The scale had ten statements that participants were asked to rate on a 4-point scale (1 to 4) based on their self-esteem level at the current moment. Half of the statements were reverse coded. Lower scores suggested lower self-esteem, with 10 being the lowest obtainable score. Scores below 25 suggested low self-esteem in those individuals. Scores ranging from 25-35 were considered within a normal range for self-esteem. Individuals with scores of 35 and above were considered to have high self-esteem.

Physical Activity Readiness Questionnaire. This assessment ensured that the individuals participating in the study were clear to be able to complete physical activity (Clark, Rossi, Greaney, Riebe, Greene, Saunders & Nigg, 2005). Participants had to answer yes or no to a series of seven questions about chest pain, joint and muscle damage, and medications. Any individuals who were unable to participate in physical activity were able to stay if they had been randomized into the sitting condition, but if they were supposed to be in the exercise condition they were still able to receive credit for the study without exercising.

Depression, Anxiety, Stress Scale. The Depression, Anxiety, Stress Scale (DASS) is a self-report questionnaire designed to measure the severity of a range of symptoms common to both depression and anxiety (Lovibond & Lovibond, 1996). By completing the DASS participants indicate the presence of different symptom over the past week. It is measured on a zero to three scale from does not apply to me at all to applied to me very much.

Body Image Satisfaction Scale. The Body Satisfaction Scale (BISS) measures participants' satisfaction with their body image in the moment (Cash, Fleming, Alindogan, Steadman, & Whitehead, 2002). Participants were asked to circle the one statement that best

describes how you feel right now, at this very moment. Participants answers could range from extremely dissatisfied to extremely satisfied and were rated on a scale. This test was administered pre-posttest style to see how participants' scores changed after receiving the stimuli.

Positive and Negative Affect Schedule. The Positive and Negative Affect Schedule Questionnaire (PANAS) was administered to determine what participants affect was during the study (Watson, Clark, & Tellegen, 1988). The scale consists of a number of words that describe different feelings and emotions. Participants were to indicate to what extent they felt this way right now from one to five, that is, at the present moment. The questionnaire was given in a pre-posttest fashion to test if the stimuli significantly changed the participants affect.

Multidimensional Outcome for Exercise Scale. This assessment was given to determine the participants' pre-experiment outlook towards exercise (Wójcicki, White, & McAuley, 2009). The items reflected participants' beliefs or expectations about the benefits of regular exercise or physical activity. Participants rated the 15 questions they were asked on a scale of 1-to-5 going from strongly disagree to strongly agree.

International Physical Activity Questionnaire. This scale was used to assess the amount of physical activity participants already completed in their daily lives (Hagströmer, Oja & Sjöröm, 2006). Participants were asked about the kinds of physical activities: moderate, vigorous, or none, that they completed within the last seven days. This measure was used to assess participants' baseline levels of physical activity.

Physical Activity Enjoyment Scale. This scale was used to determine individuals preconceived ideas about exercise (Kendzierski & DeCarlo, 1991). The purpose is to later

compare how individuals who had higher enjoyment ratings towards exercise perceived the interventions compared to those who had lower ratings for enjoyment of exercise.

Anxiety Sensitivity Index. Participants were asked to rate eighteen statements on a scale of one to five regarding how much they agreed or disagreed with them (Taylor, Zvolensky, Cox, Deacon, Heimberg, Ledley, & Cardenas, 2007). Participants were to regard the statements as a general description of themselves.

Procedure

Participants used a site called SONA to sign-up for the study. Participants were told that they were participating in a study looking at the effects of exercise, and visual stimuli on their wellbeing. Participants attended this in-person study in an enclosed experiment room and took around 45 minutes. Participants were given the informed consent and asked to read and sign agreeing to the measures of the study. Following the informed consent, participants completed the Physical Activity Readiness Questionnaire which assesses whether exercise may be contraindicated for an individual. Any participant indicating a concern on this questionnaire was excluded from the study. There were no participants were excluded for this reason. Next, participants completed the aforementioned study questionnaires on SurveyMonkey.

After the surveys were completed, participants were randomly assigned to one of four conditions. One group viewed travel images then sat for 15 minutes after the video. Another group viewed travel images but then participated in 15 minutes of moderate-intensity exercise. The third group viewed fitspiration images and sat for 15 minutes. Finally the fourth group viewed fitspiration images and then completed 15 minutes of moderate-intensity exercise. In order to ensure that moderate intensity exercise was achieved, participants wore a heart rate

monitor. The exercise itself was completed using a treadmill in the lab space. The speed was incrementally increased over the first 5-minutes. It was considered a warm up period until participants showed a steady heart rate that was approximately 70% of their age-adjusted maximum heart rate. This heart rate percentage was consistent with American College of Sports Medicine Guidelines for exercise of moderate intensity (ACSM, 2006). They were then asked to persist at this target heart rate (+ or – 5 beats per minute) for the remaining 10 minutes. After completion of the 15 minutes (sitting or exercising) participants were asked to again answer the PANAS, body image satisfaction scale, and the self-esteem scale. Researchers fully debriefed participants on the study after completion.

Results

There were a total of 64 female participants. The sample contained participants who range from 18-25 years old ($M= 19.60$, $SD= 1.43$). In terms of racial composition, the participants were 37% Caucasian, 26% African American, 2% American Indian, 10% Asian, 18% multiracial and 8% identified as other. Of the participants, 80% identified as non-Hispanic or Latino. Participants were randomly assigned to one of the four groups: fitspiration and exercise, fitspiration and sitting, travel and exercise, and travel and sitting. Each condition contained 16 participants.

Body Image Satisfaction

A 2x2 ANOVA was used to test the hypothesis that exercise could prevent body image satisfaction from decreasing after viewing the video condition. Video condition (fitspiration vs. travel), and post-video activity (sitting vs. exercise) were entered as between subjects factors. Baseline scores on the body image satisfaction scale were entered as a covariate. Results revealed no significant effect of video condition ($F(1, 64) = 0.23$, $p = .63$), post-video activity (F

(1, 64) = 0.10, $p = .75$), nor their interaction ($F(1, 64) = 1.46$, $p = .23$). Only BIS baseline scores were significant ($F(1, 64) = 51.99$, $p < .01$).

To further analyze the relationship between body image satisfaction (BIS) and our experimental manipulation, participants were divided into high and low body image satisfaction based on their initial BIS scores. High and low satisfaction was determined based on a mean split. An ANOVA predicting change in BIS scores between time one and time two again revealed no significant effect of video condition ($F(1, 64) = 0.35$, $p = .55$), post-video activity ($F(1, 64) = 0.02$, $p = .90$), nor any interactions between video condition, post-video activity, and baseline BIS status. Classification of high vs. low baseline body image satisfaction was the only significant predictor of time two body image satisfaction ($F(1, 64) = 7.81$, $p = .01$), such that those with relatively lower body-image satisfaction to begin experienced a slight increase in body image satisfaction ($M = .74$, $SD = 2.49$) regardless of experimental manipulation, while those with relatively high body image satisfaction at baseline experienced a slight decrease ($M = -1.07$, $SD = 2.42$).

Self-Esteem

A 2x2 ANOVA was conducted to determine if the video condition and post-video activity had an effect on participants' self-esteem. Video condition and post-video activity were again added as between subjects factors while baseline scores on the Rosenberg Self-Esteem Scale were added as a covariate. Results revealed no effect of video condition ($F(1, 64) = 2.69$, $p = .11$), post-video activity ($F(1, 64) = 0.69$, $p = .41$), nor their interaction ($F(1, 64) = 0.34$, $p = .56$). Only the covariate, baseline SE, was significant ($F(1, 64) = 204.01$, $p < .01$).

Self-esteem (SE) was also evaluated to compare low versus high baseline self-esteem based on a mean split of baseline Rosenberg Self-Esteem Scale scores. An ANOVA predicting change in self-esteem scores between time one and time two revealed no main effect of video condition ($F(1, 64) = 1.33, p = .25$), nor post-video activity ($F(1, 64) = 0.34, p = .56$). However, there was a main effect of self-esteem status ($F(1, 64) = 12.44, p < .01$) such that those with relatively low baseline self-esteem experienced an increase ($M = 1.82, SD = 2.56$) on this construct, while those with relatively high self-esteem at baseline experienced a slight decrease ($M = -.48, SD = 2.51$). As depicted in Figure 1, there was also a significant interaction between post-video activity and baseline self-esteem status ($F(1, 64) = 4.54, p = .04$), such that individuals who had low baseline SE had the greatest increase in SE when they performed physical activity following the video condition. In contrast, those who had high SE at baseline experienced a decrease in self-esteem when they performed physical activity following the video.

Positive and Negative Affect

Once again, a 2x2 ANOVA was used to examine the effects of video condition and post-video activity on negative affect as measured by the PANAS. In this model, there was no effect of video condition ($F(1, 64) = 1.30, p = .26$), post-video activity ($F(1, 64) = 0.99, p = .33$), nor their interaction ($F(1, 64) = 0.02, p = .99$). Only the covariate, baseline negative affect, emerged as significant ($F(1, 64) = 43.83, p < .01$).

In regards to positive affect, a similar ANOVA model revealed no main effect of video condition ($F(1, 64) = 2.72, p = .10$), nor the interaction between video condition and post-video activity ($F(1, 64) = 0.37, p = .55$); however, there was a main effect of post-video activity ($F(1, 64) = 7.46, p = .01$), such that those who participated in physical activity reported higher levels of

positive affect ($M = 33.56, SD = 8.45$) than those who sat ($M = 26.47, SD = 11.70$). Baseline positive affect was also significant ($F(1, 64) = 87.50, p < .01$).

Discussion

The purpose of the present study was to investigate the effects of the exposure to fitspiration images and exercise on women's body image satisfaction, self-esteem, and affect. Although there were no effects of video condition or post-video activity on body image satisfaction, further analysis examining the change in BIS from time one to time two showed that low versus high baseline BIS scores predicted overall increases in body satisfaction across the experiment while those with high baseline BIS scores experienced slight decreases. Similar to BIS, individuals with lower self-esteem at baseline had an increase in self-esteem, while those who had higher self-esteem at baseline had a slight decrease in final self-esteem ratings. There was also a significant main effect of post-video activity in predicting time two positive affect such that individuals who exercised reported higher levels of positive affect on their post-test compared to those who sat.

This research adds to previous studies on fitspiration by adding a physical activity component. Previous research by Tiggemann and Zaccardo (2015), found that fitspiration images lead to increased negative mood in participants. Despite using similar stimuli and procedures to Tiggemann, the current study did not replicate the same reductions in BIS and SE. This difference could be due to the fact that participants in that study rated the quality of the photos while in the present study they just watched a video of fitspiration images. Since participants rated the pictures they could have had a higher tendency to compare themselves to the photos. While these results differed, the present study found that participants who exercised had a significant increase in positive affect regardless of condition. This finding was similar to

previous research examining the effects of acute exercise on affect (for review see, Ekkekakis, Parfitt, and Petruzzello ,2011), where the authors found that affect became more positive for women who exercised at a moderate rate below the ventilatory threshold. This could help provide some evidence that participating in a positive health related behavior after experiencing a negative stimuli could counterbalance the negativity. This study also provided different results, compared to what was hypothesized, regarding body image and self-esteem. Based on previous research, it was hypothesized that individuals with low baseline BIS and SE would have a significant drop in post-test scores without exercise, but regardless of video and exercise condition, participants scoring low on these constructs had an increase from baseline levels. While this was anticipated for individuals who exercised, it was independent of condition. Given the consistency of this finding across two related constructs, body image satisfaction and self-esteem, and that the magnitude of change was greatest among those classified as low scorers, these results may indicate greater malleability of these constructs among individuals with relative deficits. Although those classified as high on these constructs experienced a slight decrease in body image satisfaction and self-esteem, these changes were much smaller than the increase experienced by their low-scoring counterparts suggesting that high scorers may be less influenced by external stimuli.

A strength of this study was the continued investigation into how fitspiration post change individuals' view of their body image and self-esteem. This study added to the research by providing more information on possible counteractive measures to the effects of fitspiration posts. The research also helped provide more information about how exercise changes affect lending further support to the immediate mood benefit of moderate-intensity exercise. Despite these considerable strengths, several limitations should also be considered. A limitation of this

study was the testing space. Every participant completed the surveys and conditions in a room with a treadmill. The presence of the treadmill could have had an effect on participant who were in the sitting condition even though they did not participate in physical activity. Another weakness of the study was the population of participants. Since students could see that there was a possibility to complete exercise if they signed up for the study, this may have deterred individuals who did not believe they were in sufficient enough shape. Another weakness of this study was that some participants mentioned that they often see similar posts on their social media. Since the participants were all college students, if they often see these kinds of images they may have already developed a coping mechanism for when they see these posts. This could have altered the results due to preconditioning with similar images.

Future research would benefit from investigating the effects of fitspiration and exercise longitudinally. It would be interesting to examine more consistent presentations of fitspiration (e.g. daily) and analyze if any participants begin lifestyle changes. Use of fitness trackers before and after manipulation to objectively measure physical activity would allow for assessment of changes in exercise behavior in the naturalistic setting. This could help understand if these posts help inspire individuals to become more active. It would also be interesting to look at different types or intensities of exercise to determine if that has any impact of body image or self-esteem.

The findings in this study help develop a better understanding about the effects of fitspiration posts and physical activity. They help develop a deeper understanding for the complexity of body image and self-esteem. These results also identify the differences in body image and self-esteem based on baseline scores. Despite limitations, the result that physical activity increased positive affect shows the positive changes that exercise is able to promote. It

could help suggest that any negative stimuli that causes and individual to feel negative about themselves, could be counteracted by physical activity.

References

- Boepple, L., Ata, R. N., Rum, R., & Thompson, J. K. (2016). Strong is the new skinny: A content analysis of fitspiration websites. *Body Image, 17*, 132-135.
doi:10.1016/j.bodyim.2016.03.001
- Boepple, L., & Thompson, J. K. (2016). A content analytic comparison of fitspiration and thinspiration websites. *International Journal of Eating Disorders, 49*(1), 98-101.
doi:10.1002/eat.22403
- Cash, T. F., Fleming, E. C., Alindogan, J., Steadman, L., & Whitehead, A. (2002). Beyond body image as a trait: The development and validation of the Body Image States Scale. *Eating Disorders: The Journal of Treatment & Prevention, 10*(2), 103-113.
- Chrisler, J. C., Fung, K. T., Lopez, A. M., & Gorman, J. A. (2013). Suffering by comparison: Twitter users' reactions to the Victoria's Secret Fashion Show. *Body Image, 10*(4), 648-652. doi:10.1016/j.bodyim.2013.05.001
- Clark, P. G., Rossi, J. S., Greaney, M. L., Riebe, D. A., Greene, G. W., Saunders, S. S., & ... Nigg, C. R. (2005). Physical Activity Readiness Questionnaire--Modified. *Psychtests, 10*(1), 1-10. doi:10.1037/t11312-000
- Ekkekakis, P., Parfitt, G., & Petruzzello, S. I. (2011). The Pleasure and Displeasure People Feel When they Exercise at Different Intensities: Decennial Update and Progress towards a Tripartite Rationale for Exercise Intensity Prescription. *Sports Medicine, 41*(8), 641-671.

- Greene, D. R., & Petruzzello, S. J. (2015). More isn't necessarily better: Examining the intensity–affect–enjoyment relationship in the context of resistance exercise. *Sport, Exercise, And Performance Psychology*, 4(2), 75-87. doi:10.1037/spy0000030
- Hagströmer, M., Oja, P., & Sjöström, M. (2006). The International Physical Activity Questionnaire (IPAQ): A study of concurrent and construct validity. *Public Health Nutrition*, 9(6), 755-762. doi:10.1079/PHN2005898
- Holland, G., & Tiggemann, M. (2017). 'Strong beats skinny every time': Disordered eating and compulsive exercise in women who post fitspiration on instagram. *International Journal Of Eating Disorders*, 50(1), 76-79. doi:10.1002/eat.22559
- Kendzierski, D. & DeCarlo, K. (1991). Physical Activity Enjoyment Scale: Two Validation Studies. *Journal of Sport and Exercise Psychology*, 13(1), 50-64.
- Lovibond, S. H., & Lovibond, P. F. (1996). Depression Anxiety Stress Scales. *Psychtests*, doi:10.1037/t01004-000
- Rosenberg, M. (1965). Rosenberg Self-Esteem Scale. *Psychtests*, doi:10.1037/t01038-000
- Taylor, S., Zvolensky, M. J., Cox, B. J., Deacon, B., Heimberg, R. G., Ledley, D. R., & ... Cardenas, S. J. (2007). Anxiety Sensitivity Index-3. *Psychtests*, doi:10.1037/t00034-000
- Tiggemann, M., & Zaccardo, M. (2015). 'Exercise to be fit, not skinny': The effect of fitspiration imagery on women's body image. *Body Image*, 15, 61-67. doi:10.1016/j.bodyim.2015.06.003
- Sani, S. Z., Fathirezaie, Z., Brand, S., Pühse, U., Holsboer-Trachsler, E., Gerber, M., & Talepasand, S. (2016). Physical activity and self-esteem: testing direct and indirect

relationships associated with psychological and physical mechanisms. *Neuropsychiatric Disease & Treatment*, 122617-2625. doi:10.2147/NDT.S116811

Watson, D., Clark, L. A., & Tellegen, A. (1988). Positive and Negative Affect Schedule. *Psychtests*, doi:10.1037/t03592-000

Wójcicki, T. R., White, S. W., & McAuley, E. (2009). Assessing outcome expectations in older adults: The Multidimensional Outcome Expectations for Exercise Scale. *Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 64B(1), 33-40.

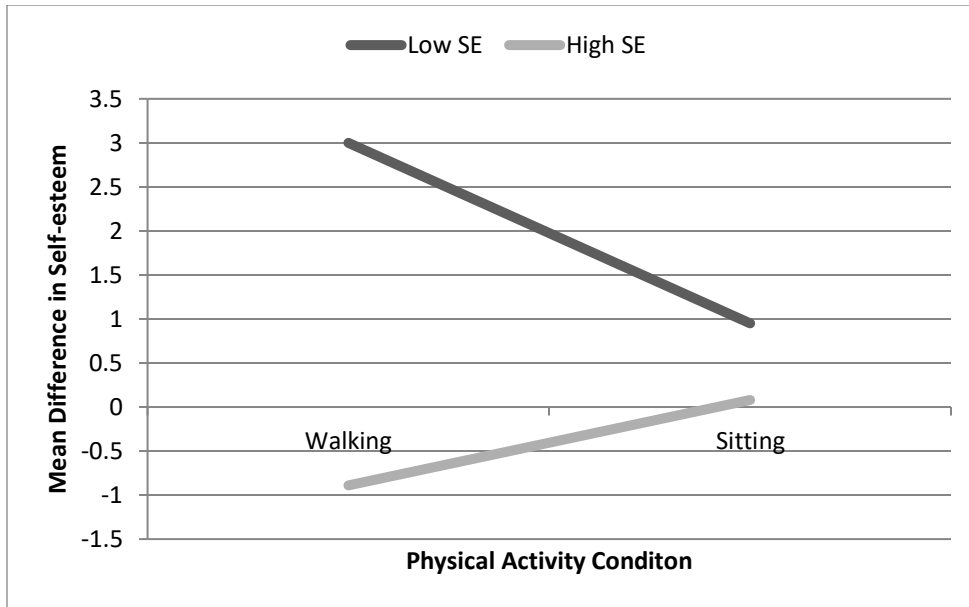


Figure 1. The mean difference representing self-esteem in the walking and sitting conditions based on the change in self-esteem for baseline.

Albright College Gingrich Library