

Body Image in Adolescent Dancers from Clothing Type and Instructor Communication

Submitted by
Paige S Wanner

Psychology

To
The Honors College
Oakland University

In partial fulfillment of the
requirement to graduate from
The Honors College

Mentor: J. Bayley Thompson, Ph.Dc., Lecturer of Psychology
Department of Psychology
Oakland University

Mentor: Ali R. Woerner, Assistant Professor of Dance
Department of Music, Theater, and Dance
Oakland University

(March 3, 2014)

Female adolescent dancers are seven times more likely to develop eating disorders than non-dancing high school students (Clough & Wilson, 1993). This population group is at risk of poor outcomes from chronic negative body image, such as eating disorders (Isomaa, Isomaa, Marttunen, Kaltiala-Heino, & Björkqvist, 2009; Ravaldia et al., 2003) as well as mood, body image, and personality disturbances (Bettle, Bettle, Neumarker, & Neumarker, 2001; Brooks-Gunn, Burrow, & Warren, 1988). One in five adolescent girls struggle with negative body image that will lead to eating disordered patterns (Isomaa et al., 2009). Often, eating disordered behaviors do not meet the full criteria for clinical diagnosis but still share the same psychopathology as a classified eating disorder (Stice, Marti, Shaw, & Jaconis, 2009). Girls in this category tend to be overlooked cases and do not receive help. (Fairburn & Bohn, 2005; Machado, Machado, Goncalves & Hoek, 2007).

Dancers, particularly ballerinas, are an at-risk group for the incidence of eating disorders and for subthreshold eating disordered behavior (Bettle et al., 2001; Langdon & Petracca, 2010; Piran, 1999). To be determined as “subthreshold,” dancers will exhibit most to all eating disorder symptomatology; however, they fall short of fully measuring up to one or more criterion. Dancers may only engage in compensatory behavior one to two times per month over a three-month period, such as manipulation of caloric intake, excessive exercise, purging, or use of laxatives. Threshold diagnosis would see compensatory behavior occurring eight times per month over a three-month period (Stice et al., 2009). Adolescent dancers have the highest incidence of bingeing and purging in comparison to adolescent figure skaters and swimmers, as well (Brooks-Gunn et al., 1988).

Mood and body image disturbances are a strong characteristic of subthreshold criteria. (Stice et al., 2009; Daleng, McGowan, & Pierce, 1993). Compared to female athletes in

gymnastics, figure skating, and swimming, dancers have the worst view of their bodies, have the lowest self-esteem, and have the most pressure to be thin (Francisco, Narciso, & Alarcão, 2012; Brooks-Gunn et al., 1988). Depression and even suicide ideation can be symptoms of mood disturbance (Ackard, Fulkerson, & Neumark-Sztainer, 2011). Disturbances in personality can, also, provoke negative body image (Anshel, 2004; Van Durme, Goossens, & Braet, 2012). Anshel (2004) found that dancers expressed high levels of perfectionism and high sensitivity to criticism along with weight preoccupation and body dissatisfaction. Perfectionism was characterized by a drive for thinness, determination for accomplishing personal goals, and the need for high control over eating behaviors (Anshel, 2004; Clough & Wilson, 1993; Hewitt, & Flett, 1991). Van Durme et al. (2012) reported similar findings for adolescent dancers and personality disturbances: high scores for perfectionism, negative self-evaluation, and weight and body shape concerns. From mood, body image, and personality psychopathology and the strong statistics of eating disorders, adolescent dancers with negative body image are clearly at high risk for clinical and subclinical eating disorders.

Clothing that exposes the female figure has been identified as a key correlate associated with negative body image in women. (Fredrickson, Roberts, Noll, Quinn, & Twenge, 1998; Price & Pettijohn II, 2006). Although the study was conducted with adult women, not adolescents, Fredrickson et al. (1998) had women try on either a swimsuit or a sweater in front of a mirror and then take a series of tests. Women in the swimsuit condition expressed higher shame of their bodies, which predicted restricted eating habits. When given a mathematics test, the women performed noticeably lower than usual.

Price and Pettijohn II (2006) examined clothing type in college dance classes and found a strong relationship between tight clothing in a ballet class and negative body image in the

dancers. Negative body image reflected in survey scores through lowered self-perception, body-perception, and performance-perception. Suggestions for dance attire to be more sensitive to the dancers' needs were made; however, in the world of dance that change is not always practical, as Price and Pettijohn II (2006) mentioned. Form-fitting clothing helps instructors see dancers' bodies for proper alignment, which is essential to ballet technique as well as injury prevention.

In addition to dance attire, critical verbal statements from instructors may be contributing factors associated with poorer body images in dancers. Although, to date, no direct research examines verbal messages in dance classes, related research exists on authority figures in classrooms and in households. School teachers' and mothers' criticism both contribute to a low self-concept during development, and maternal criticism specifically influences future negative habits concerning eating and body weight (Fox, 1993; Burnett, 1999; Chen, Thompson, Kromrey, & Chang, 2011; Dweck, Davidson, Nelson, & Enna, 1978).

The self-concept is how a person views herself based on self-perception, thoughts, and feelings which are influenced by experiences through environments and significant others, such as a teacher or parent (Bong & Skaalvik, 2003; Marsh & O'Mara, 2008; Shavelson, Hubner & Stanton, 1976). One's self-concept consists of an evaluative piece (e.g., "I am good at dance") and a descriptive piece (e.g., "I like dance") (Marsh & O'Mara, 2008). During childhood and adolescence, an individual's self-concept is strongly shaped through significant authority figures (Fox, 1993). Research has shown that positive interactions and statements with significant authority figures produce positive self-concepts in children, and negative interactions and statements the inverse (Burnett, 1999).

Similarly, verbal feedback from these influential adults affects students' self-concepts in school (Fox, 1993). Academic self-concept benefits from positive oral feedback from teachers

(Burnett, 1999; Chen et al., 2011). Dance instructors have different goals than academic teachers. However, the principles behind their instruction is the same: strengthening students in relevant tasks (Chen et al., 2001). In a classroom setting, Dweck et al. (1978) found that elementary girls internalized negative feedback from school teachers and interpreted the criticism as a lack of capability, which falls under negative self-concept evaluation (Marsh & O'Mara, 2008).

Self-concept, also, evolves in a household setting. Pike and Rodin (1991) studied mothers and daughters with eating disorders and found that mothers of eating-disordered girls expressed many critiques on their teenagers' bodies. The mothers communicated that their daughters needed to lose more weight or to be thinner. In addition, the mothers rated their daughters as less attractive than the girls even rated themselves. The criticism imposed onto the adolescent girls reinforced the psychopathology of the eating disorders (Pike & Rodin, 1991). When Baker et al. (2000) looked at negative outcomes in later development, female college-aged students held negative attitudes and behaviors toward eating that had stemmed from perceived parental direct criticism (Baker, Whisman, & Brownell, 2000).

Therefore, the developing self-concept in girls is shaped through criticism from authority figures, such as teachers and mothers (Fox, 1993, Burnett, 1999, Dweck et al., 1978; Pike & Rodin, 1991). If the type of criticism is related to weight and eating, the verbal statements can solidify negative body images in females long term (Baker et al., 2000). For most dancers, dance instructors fall into the category of significant authority figures. Critiques on their dance technique as well as their bodies frequent dance class, giving dance instructors positive or negative influence on dancers' developing self-concepts with their oral feedback.

Given the above research, propensity for adolescent girls to internalize authority criticism could compound the influence of tight clothing given the plasticity of the developing self-

concept. Poor body image can result from each factor, and the combination could be detrimental. Leaving adolescent girls with negative body image, and consequently a strong proclivity for eating disordered behavior, can allow a dangerous mindset of adult eating disorders to develop in the dance profession (Ackard, Henderson, & Wonderlich, 2004). Research indicates that not all teenage dancers with clinical or subthreshold eating disorders overcome the unhealthy physical and mental habits, such as bulimic behaviors and high perfectionism (Ackard et al., 2004). Body image must be addressed in female dancers to promote healthy views of themselves, short and long term (Piran, 1999).

The current research seeks to combine research on clothing type in dance classrooms and instructor communication to determine which environments produce the most negative body image in female adolescent dancers. The study compares tight- and loose-fitting dance clothing as well as the frequency of praise and criticism of dance instructors. Results aim to expose high-risk atmospheres for intervention. It is hypothesized that adolescent female dancers will have poorer body image in classes that require tight-fitting clothing, in classes where the instructor is high in verbal criticism, and most of all in classes with both tight-fitting clothing and high verbal criticism. Conversely, results are expected to show that dancers will have the best body image in classes with the combination of loose-fitting attire and low verbal criticism.

Method

Participants

After obtaining approval in December 2013, potential dance organizations and participants were recruited through letters of agreement from the directors and through information sheets in accordance to Institutional Review Board parameters. Two dance studios and one high school dance team participated; some observed classes, though not all were classes

that performed competitively. The varied dance styles included jazz, contemporary, hip hop, and ballet.

The 29 participants were female dancers, ages 13-17 and one 18 year old ($M=15.5$ years old, $SD=1.87$) all of whom were Caucasian except for one who was of Asian descent.

Participants were enrolled in dance classes for the 2013-2014 year. Exclusion criteria included pregnancy, a medically-determined physical disability, or being a drop-in student. A dancer qualified as a drop-in if her presence in the observed class was less than one month of consistent attendance. The five adult dance instructors of the participants were employed either full- or part-time for the organization and did not need prior teaching experience although all verbally indicated that they were seasoned instructors, spanning from the least of three years to the greatest of twenty years ($M=10$ years, $SD=5.62$).

Procedure

At the start of each class, ten minutes were set aside to explain the purpose of the study and request the dancers to read the child assent form. From the previously distributed information sheets, the dancers had been instructed to wear the required attire for the dance style of their classes per instructor regulation. For example, a jazz class would be wearing spandex bottoms and a fitted top.

During each 45-90 minute class session, the researcher tallied by hand the frequency of praise and criticism of instructor verbal communication that was directed at the dancers. The researcher sat away from the instructors and kept her eyes downcast, so that only what was spoken was measured, and body language of the instructors was not an influencing factor.

After each class ended, for 15 minutes the dancers filled out two surveys, followed by a clothing assessment conducted by the researcher. All data collection occurred inside the dance rooms.

Measurements

Demographics questionnaire. The first survey was a brief demographics questionnaire created for the study. The items collected information regarding age, grade level, race, dance style preference, and enrollment in dance classes. Dance style preference indicated the dance style each dancer most identified with. Enrollment in dance classes indicated different dance styles as well as the number of classes taken per week of each style by each dancer.

Body Appreciation Scale (BAS) Items. The second survey was the BAS, which has thirteen items that are measured using the following 5-point scale: 1=never, 2=seldom, 3=sometimes, 4=often, 5=always. Validated and reliable, the BAS is relevant for adolescents and examines respect and care of one's body, influences of media on body ideals, acceptance of perceived shortcomings of one's body, and positive regard for one's body (Jáuregui Lobera & Bolaños Ríos, 2011). Jáuregui Lobera and Bolaños Ríos (2011) showed the BAS to have internal consistency (Cronbach's α coefficient = .94) and construct validity as a survey that measures the single dimension of positive body image.

Code for verbal communication. A coding system to measure instructor verbal communication was created for the study. The items were based on the researcher's extensive experience as a dancer and dance instructor. Ali Woerner, an assistant professor of dance at Oakland University and the co-founder and co-director of the dance company Take Root, confirmed the items as legitimate. The items listed various forms of praise and criticism that are typical in a dance classroom as shown in Table A1.

Code for clothing types. A coding system to assess clothing types was created for the study. The items were determined from the same methods as the code for verbal communication. The items assessed tight-fitting and loose-fitting clothing that are typical in a dance classroom as shown in Table A1.

Statistical Analyses

We examined the relationship between body image and clothing type with a One-way Analysis of Variance (ANOVA). After an arcsin transformation on instructor criticism, we examined the relationship between body image and instructor criticism with a bivariate Correlational test. We performed an Independent Samples t-test on body image and its relation to the dichotomous variable peer criticism; this additional variable was created from observation during data collection. Lastly, we analyzed the relationship of peer criticism to instructor criticism with a Mann-Whitney U test. 29 dancers participated in the study; however, the tests were run with scores from 28 dancers because one dancer was a significant outlier at $p < .01$.

Results

The hypothesis predicted that body image would be significantly lower in dance classes with tight clothing and high instructor criticism. A One-way Analysis of Variance (ANOVA) determined that there was not a significant effect of clothing type on body image ($F(2,26) = .480$, $p = .624$). Proportion data is known to be non-normal; therefore, the percentage of instructor criticism from total communication was transformed by arcsin to normalize the data. However, after the arcsin transformation, body image from BAS scores showed a non-significant negative relationship with instructor criticism ($r = -.182$, $p = .173$).

In some dance classes, high peer criticism was observed, and a dichotomous variable was created for classes that had high peer criticism and classes that did not have peer criticism. An

Independent Samples t-test showed no differences in average body image when comparing classes that had criticism verses classes that did not ($t(26)=-1.291$, $p=.10$). Means, standard deviations, and group numbers for clothing type, instructor criticism, and peer criticism are displayed in Table A2. Lastly, a Mann-Whitney U test revealed a significant relationship between classes high in peer criticism and classes high in instructor criticism ($Z=-4.553$, $p<.001$).

Discussion

In the original hypothesis, adolescent female dancers were expected to have poorer body image in classes that required tight-fitting clothing, in classes where the instructor was high in verbal criticism, and most of all in classes with both tight-fitting clothing and high verbal criticism. Conversely, results were expected to show that dancers had the best body image in classes with loose-fitting attire as well as low verbal criticism. The results showed that clothing type did not have a significant effect on the dancers' body image as depicted in Figure A2. In previous studies, clothing type has been shown to influence body image in females (Fredrickson et al., 1998; Price & Pettijohn II, 2006); thus, although the data did not reflect earlier findings, the hypothesis concerning clothing type may not have been flawed in its assumption.

The percentage of instructor criticism from total praise and criticism communication had a non-significant negative relationship with body image as presented in Figure A1. Since body image increased as instructor criticism decreased, results suggest that instructors may have some measure of influence over their dancers' perceptions of their bodies. Although no studies have directly examined dance instructors, research has shown that authority figures do impact self-esteem and self-concepts (Bong & Skaalvik, 2003; Shavelson et al., 1976; Fox, 1993; Burnett, 1999), suggesting that the authority-adolescent dynamic is worth further study.

The variable for peer criticism was created because of undeniable instances of harsh dancer criticism. Types of observed peer criticism were either fat jokes or dance performance critiques. The four fat jokes by dancers were directed at the more physically-developed dancers in the class. For example, before the class session began, one thin dancer scoffed at a nearby developed dancer, saying, “A test on body image? Ha ha you are going to fail that!” In another class, the instructor had her dancers observe classmates perform a dance routine in small groups. The dancers who were observing gave 35 performance critiques, and approximately 94% of critiques were directed to specific dancers instead of the class as a whole unit. The dancers’ tone for the performance critiques was consistently accusatory, too. Therefore, an additional hypothesis proposed that dancers’ body image would be lower in classes that had high peer criticism. When classes that had peer criticism and classes that did not have peer criticism were compared to body image, the results suggest that peer criticism was not a significant influence on dancers’ body image as displayed in Figure A3. Although this finding was not consistent with past research (Jones, Vigfusdottir, & Lee, 2004), it may have been difficult to find the effect due to the small sample size.

However, once peer criticism was a viable factor, the data appeared to have a relationship for classes with high criticism for both peers and instructors. A third hypothesis suggested that classes high in peer criticism would, also, be high in instructor criticism. Results confirmed a significant positive relationship: classes with high peer criticism had high instructor criticism on average as Figure A4 demonstrates. As instructors deliver more criticism, dancers could be adopting the habit of criticism from frequent interactions with the instructors as well as from the value that the dancers place on instructors as people of significant authority (Fox, 1993, Burnett, 1999, Dweck et al., 1978; Pike & Rodin, 1991).

Based on the results, the original hypothesis was not supported. Adolescent dancers were anticipated to have lower body image in classes with tight-fitting clothing and high instructor criticism; data did not reflect this expectation. However, the inverse relationship from instructor criticism and dancer body image has warrant for future investigation. From the additional result on high peer and instructor criticism, a revised hypothesis could examine peer criticism and instructor criticism based on research concerning modeling. Although the current study did not find peer criticism to influence body image specifically, an alternative hypothesis could still examine the effects of peer criticism on body image, self-esteem, and self-concepts (Jones, Vigfusdottir, & Lee, 2004).

Given the design of the study, we found three distinct limitations: sample size, control of clothing type, and the measure for body image. A few changes concerning the current limitations could result in a different or more conclusive outcome for the initial hypothesis. The sample size of 29 dancers is under powered at 23.6% power; ideal power would be 80.0% power for a small effect size at 100 participants. With a larger number of dancers and instructors, increased power could reveal a measureable effect on body image.

What was anticipated for clothing type was instructor adherence to traditional dance clothes in all classes; for example, in a ballet class, dancers should be in tights, leotards, and ballet slippers. However, during data collection, the clothing types in the classes became a disturbance variable. Dancers were generally allowed to wear whatever they wanted to class, such as sweatshirts and socks to a ballet class. Although the information sheets indicated that the dancers “wear the correct clothing for the dance style of the class,” there was no consistency in attire requirement of the dance classes. Unfortunately, measuring clothing type was compromised through the diversity within the classes.

Another limitation discovered through data collection was the measure of body image. Although the Body Appreciate Scale is geared towards adolescents (Jáuregui Lobera & Bolaños Ríos, 2011), a simpler measure may have been more appropriate. Adolescence is a period when teenagers are forming independent opinions about abstract thought (Beckett, 2007; Demetriou, 2003). For example, the first item on the BAS stated: I respect my body. A few dancers needed to ask what that item meant—what was respect and how was it to be applied to one's body? A simpler measure of body image with more understandable items, particularly for the dancers who were on the younger end (ages 13-14), could result in more accurate data.

Before interventions can be targeted at female adolescent dancers with negative body image, more research needs to narrow the high-risk environments concerning clothing types, instructor criticism, and peer criticism. Negative body image can establish unhealthy mindsets and behaviors that evolve into subthreshold and threshold eating disorders (Isomaa et al., 2009; Bettel et al., 2001; Langdon & Petracca, 2010). Dance itself is a therapeutic intervention and positive reinforcement for girls to build their self-esteem and body image (Lewis & Scannell, 1995; Burgess et al., 2006); therefore, other factors must be contributing to the tendency for eating disorders and negative body image in dancers. Future studies should aim to expose potential effects of criticism from different sources as well as clothing type associated with negative body image in hopes to prevent stereotypical negative outcomes in adolescent dancers (Ackard et al., 2004; Piran, 1999). Additionally, research should specifically examine the impact of instructor criticism on peer criticism to find how that dynamic affects peer interaction in dance classes, which would ultimately have bearing on dancers' body image, self-esteem, and potential eating disorders.

References

- Ackard, D. M., Henderson, J. B., & Wonderlich, A. L. (2004). The associations between childhood dance participation and adult disordered eating and related psychopathology. *Journal of Psychosomatic Research*, 57(5), 485-490.
doi:<http://dx.doi.org/10.1016/j.jpsychores.2004.03.004>
- Ackard, D. M., Fulkerson, J. A., & Neumark-Sztainer, D. (2011). Psychological and behavioral risk profiles as they relate to eating disorder diagnoses and symptomatology among a school-based sample of youth. *International Journal of Eating Disorders*, 44, 440-446.
- Anshel, M. H. (2004). Sources of disordered eating patterns between ballet dancers and non-dancers. *Journal of Sport Behavior*, 27(2), 115-133. Retrieved from <http://search.proquest.com/docview/620410682?accountid=12924>
- Baker, C. W., Whisman, M. A., & Brownell, K. D. (2000). Studying intergenerational transmission of eating attitudes and behaviors: Methodological and conceptual questions. *Health Psychology*, 19(4), 376-381. doi:10.1037/0278-6133.19.4.376
- Beckett, T. E. (2007). Cognitive autonomy and self-evaluation in adolescence: A conceptual investigation and instrument development. *North American Journal of Psychology*, 9(3), 579-594. Retrieved from <http://search.proquest.com/docview/621992185?accountid=12924>
- Bettle, N., Bettle, O., Neumarker, U., & Neumarker, K. (2001). Body image and self-esteem in adolescent ballet dancers. *Perceptual and Motor Skills*, 93, 297-309.
- Bong, M., & Skaalvik, E. M. (2003). Academic self-concept and self-efficacy: How different are they really?. *Educational Psychology Review*, 15, 1-40.

- Brooks-Gunn, J., Burrow, C., & Warren, M. P. (1988). Attitudes toward eating and body weight in different groups of female adolescent athletes. *International Journal of Eating Disorders*, 7(6), 749-757.
- Burgess, G., Grogan, S., & Burwitz, L. (2006). Effects of a 6-week aerobic dance intervention on body image and physical self-perceptions in adolescent girls. *Body Image*, 3(1), 57-66.
- Burnett, P. C. (1999). Children's self-talk and academic concepts: The impact of teachers' statements. *Educational Psychology in Practice*, 15, 195-200.
- Chen, Y., Thompson, M. S., Kromrey, J. D., & Chang, G. H. (2011). Relations of student perceptions of teacher oral feedback with teacher expectancies and student self-concept. *Journal of Experimental Education*, 79(4), 452-477.
doi:<http://dx.doi.org/10.1080/00220973.2010.547888>
- Clough, M., & Wilson, B. (1993). The relationship between eating disorder characteristics and perfectionism among 22 dance students 17-21 years. *Sports Health*, 11, 5-8.
- Dweck, C., Davidson, W., Nelson, S., & Enna, B. (1978). Sex differences in learned helplessness: II. The contingencies of evaluative feedback in the classroom and III. An experimental analysis. *Developmental Psychology*, 14, 268-276.
- Daleng, M. L., McGowan, R. W., & Pierce, E. F. (1993). Scores on exercise dependence among dancers. *Perceptual and Motor Skills*, 76, 531-535.
- Demetriou, A. (2003). Mind, self, and personality: Dynamic interactions from late childhood to early adulthood. *Journal of Adult Development*, 10(3), 151-171. Retrieved from <http://search.proquest.com/docview/620113125?accountid=12924>
- Fairburn, C. G., & Harrison, P. J. (2003). Eating disorders. *Lancet*, 361, 407-416.
doi:10.1016/S0140-6736(03)12378-1

- Fairburn, C. G., & Bohn, K. (2005). Eating disorder NOS (EDNOS): An example of the troublesome “not otherwise specified” (NOS) category in DSM-IV. *Behaviour Research and Therapy*, 43, 691–701. doi:10.1016/j.brat.2004.06.011
- Fox, M. (1993). *Psychological perspectives in education*. (p. 68). London, England: Cassell Publication.
- Francisco, R., Narciso, I., & Alarcão, M. (2012). Specific predictors of disordered eating among elite and non-elite gymnasts and ballet dancers. *International Journal of Sport Psychology*, 43(6), 479-502. Retrieved from <http://search.proquest.com/docview/1367575902?accountid=12924>
- Fredrickson, B. L., Roberts, T., Noll, S. M., Quinn, D. M., & Twenge, J. M. (1998). That swimsuit becomes you: Sex differences in self-objectification, restrained eating, and math performance. *Journal of Personality & Social Psychology*, 75(1), 269-284.
- Hewitt, P., & Flett, G. (1991). Perfectionism in the self and social contexts: Conceptualization, assessment, and association with psychopathology. *Journal of Personality and Social Psychology*, 60, 456-470.
- Isomaa, R., Isomaa, A., Marttunen, M., Kaltiala-Heino, R., & Björkqvist, K. (2009). The prevalence, incidence and development of eating disorders in finnish adolescents—A two-step 3-year follow-up study. *European Eating Disorders Review*, 17(3), 199-207. doi:<http://dx.doi.org/10.1002/erv.919>
- Jáuregui Lobera, I., & Bolaños Ríos, P. (2011). Spanish version of the body appreciation scale (bas) for adolescents. *The Spanish Journal of Psychology*, 14(1), 411-420.
- Jones, D. C., Vigfusdottir, T. H., & Lee, Y. (2004). Body image and the appearance culture among adolescent girls and boys: An examination of friend conversations, peer criticism,

- appearance magazines, and the internalization of appearance ideals. *Journal of Adolescent Research*, 19(3), 323-339. doi:<http://dx.doi.org/10.1177/0743558403258847>
- Langdon, S. W., & Petracca, G. (2010). Tiny dancer: Body image and dancer identity in female modern dancers. *Body Image*, 7(4), 360-363.
- Lewis, R. N., & Scannell, E. D. (1995). Relationship of body image and creative dance movement. *Perceptual and Motor Skills*, 81, 155-160.
- Machado, P. P. P., Machado, B. C., Goncalves, S., & Hoek, H. W. (2007). The prevalence of eating disorders not otherwise specified. *International Journal of Eating Disorders*, 40, 212–217. doi: 10.1002/eat. 20358
- Marsh, H. W., & O'Mara, A. (2008). Reciprocal effects between academic self-concept, self-esteem, achievement, and attainment over seven adolescent years: Unidimensional and multidimensional perspectives of self-concept. *Personality and Social Psychology Bulletin*, 34, 542-552.
- Pike, K. M., & Rodin, J. (1991). Mothers, daughters, and disordered eating. *Journal of Abnormal Psychology*, 100(2), 198-204. doi:<http://dx.doi.org/10.1037/0021-843X.100.2.198>
- Piran, N. (1999). Eating disorders: a trial of prevention in a high risk school setting. *The Journal of Primary Prevention*, 20, 75-90.
- Price, B. R., & Pettijohn II, T. F. (2006). The effect of ballet dance attire on body and self-perceptions of female dancers. *Social Behavior and Personality*, 34(8), 991-998.
- Ravaldia, C., Vannacci, A., Zucchi, T., Mannucci, E., Cabras, P. L., Boldrini, L. (2003). Eating disorders and body image disturbances among ballet dancers, gymnasium users and body builders. *Psychopathology*, 36, 247–254.

- Shavelson, R. J., Hubner, J. J., & Stanton, G. C. (1976). Validation of construct interpretations. *Review of Educational Research*, 46, 407-441.
- Stice, E., Marti, C. N., Shaw, H., & Jaconis, M. (2009). An 8-year longitudinal study of the natural history of threshold, subthreshold, and partial eating disorders from a community sample of adolescents. *Journal of Abnormal Psychology*, 118(3), 587-597.
doi:<http://dx.doi.org/10.1037/a0016481>
- Van Durme, K., Goossens, L., & Braet, C. (2012). Adolescent aesthetic athletes: A group at risk for eating pathology? *Eating Behaviors*, 13(2), 119-122.
doi:<http://dx.doi.org/10.1016/j.eatbeh.2011.11.002>

Appendix A

Table A1

Codes for Instructor Verbal Communication and Dancer Clothing Type

<u>Verbal Communication</u>		<u>Clothing Type</u>	
Praise	Criticism	Tight	Loose
There you go!	Stop!	Tights	Sweatpants
Yeah! Yea! Exactly! Yes!	Now, do <i>correction/movement.</i>	Spandex/snug shorts of any length	T-shirts and baggy tank tops
Good use of <i>correction/body part/movement</i>	What are you doing? Why did you do <i>movement?</i>	Fitted tank tops and shirts—need to touch the entire torso	Sheer skirts that are worn over a leotard, i.e., ballet skirts
Excellent, great, good, beautiful, wonderful, strong, entertaining, nice, incredible, stunning, perfect	Terrible, bad, lazy, horrible, awful, sloppy, no control, too much/little	Bandeau bras, sports bras, or crop tops— need to touch the upper half of torso entirely	Loose-fitting shorts of any length; e.g., basketball shorts, MC Hammer pants
That's better.	Do it again/better.	Leotards	Sweatshirts/hoodies/zip- up jackets
	No/not	Leg warmers	Crop tops that float away from torso
	Try harder.	Leggings/yoga pants	
	Get rid of <i>movement.</i>	Shirts that are tied under the bust and worn over another fitted top; i.e., ballet shrugs	
	You're not using your <i>body part/music.</i>		
	I want more/less of <i>correction/movement.</i>		
	Yelling out specific <i>body parts/movement</i>		
	You're not listening to the <i>correction/music</i>		
	Make sure that you do <i>correction/movement.</i>		

Table A2

Summary of Means, Standard Deviation, and Group Numbers for Clothing Type and Criticism on Body Image

Variable	M	SD	N
Clothing type			
Tight	3.886	.577	11
Loose	3.842	.757	9
Combination	3.615	.603	9
Criticism			
Instructor	3.814	.576	28
Peer	3.732	.588	17
No peer	4.011	.538	11

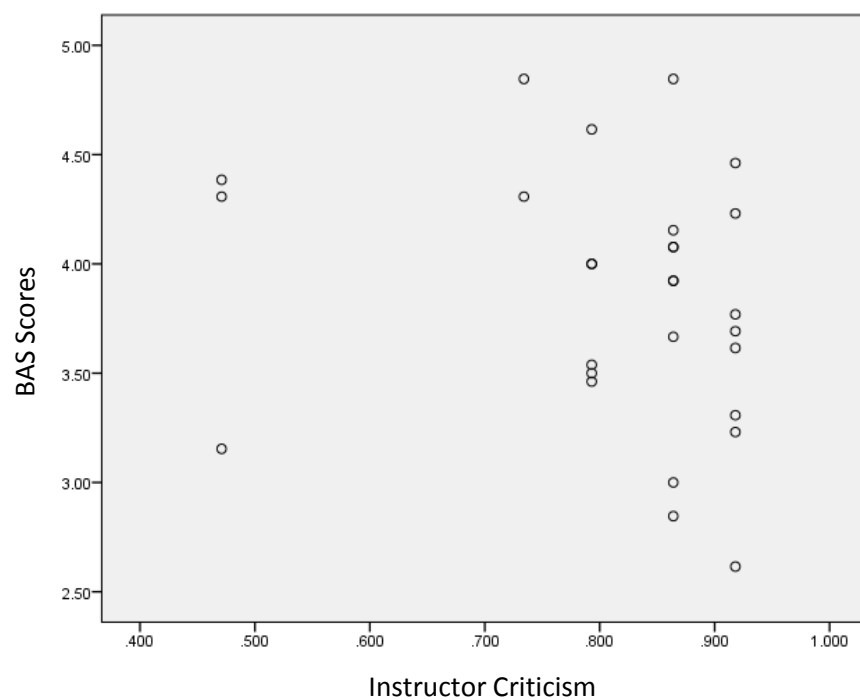


Figure A1. Scatterplot of BAS Scores Based on Instructor Criticism

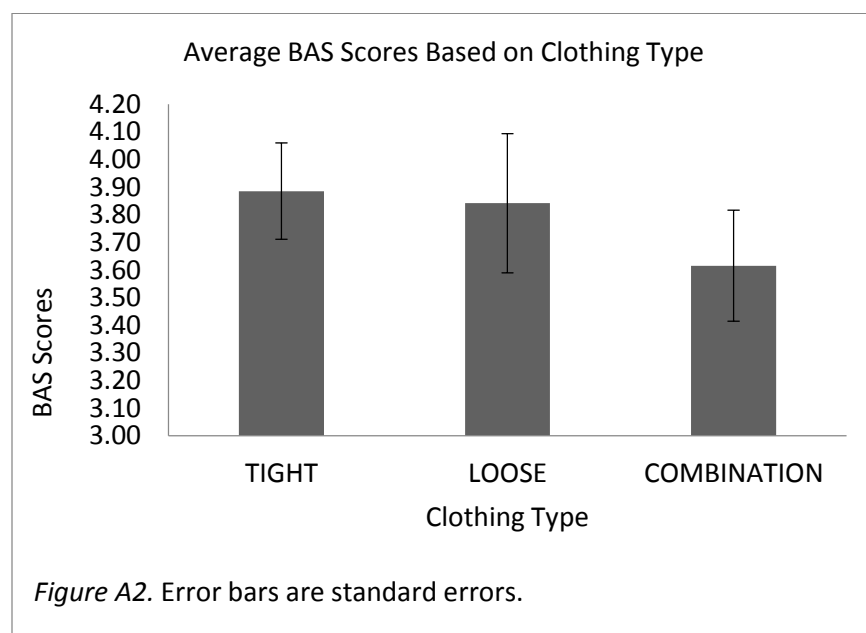


Figure A2. Bar Graph on Average BAS Scores Based on Clothing Type

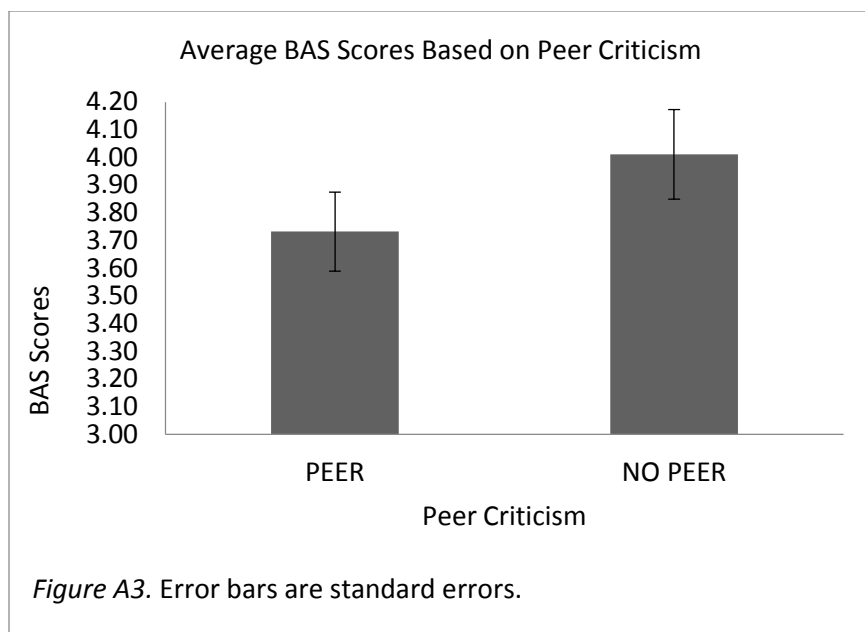


Figure A3. Bar Graph on Average BAS Scores Based on Peer Criticism

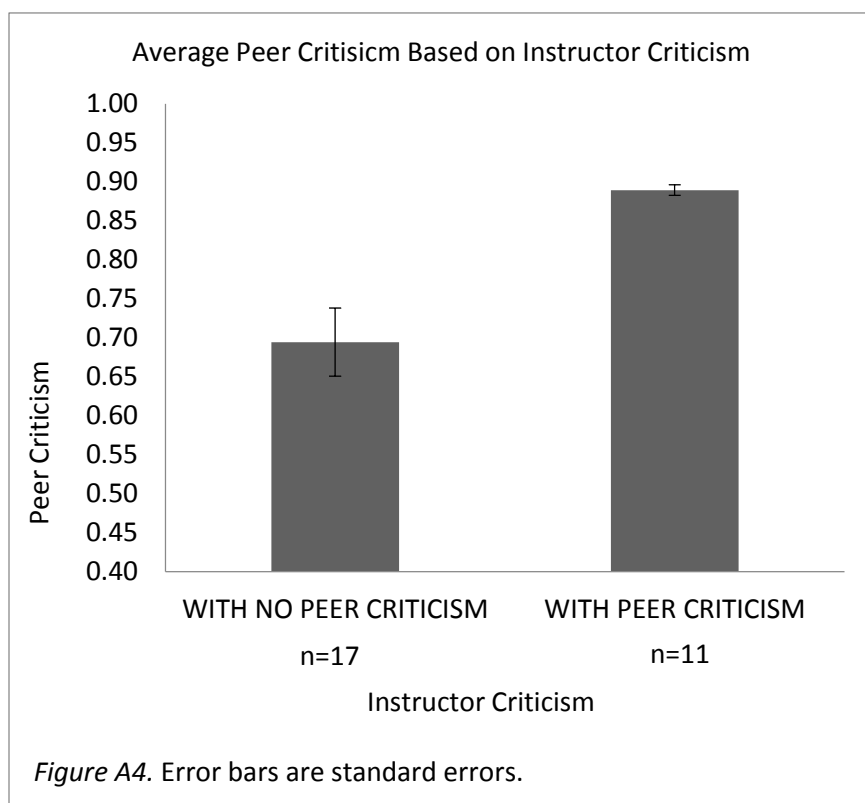


Figure A4. Bar Graph on Average Peer and Instructor Criticism

Appendix B

Mentor Evaluative Statements

J. Bayley Thompson. “Paige has impressed with her hard work and attention to detail through this entire process. She came up with an excellent actionable hypothesis with very little input from her advisors. She set her own schedule and followed it without needing to be pushed. Paige was required to attain IRB approval for this project. This process can sometimes be daunting to even the seasoned researcher. Paige impressed me by again requiring very little input from me to acquire approval. Unfortunately, Paige was not able to get approval on the first try which reduced the amount of time she had to collect her data, reducing her sample size. Despite this Paige put together an impressive analysis, displaying advanced critical thinking and creativity for any level. I am very proud of the work that Paige has done and proud to have been a part of this process” (J. B. Thompson, personal communication, March 2, 2014).

Ali Woerner. “As advisor to Ms. Paige Wanner, I was privy to her honors college thesis experience from the beginning. I believe her topic to be a perfect blend of her educational and creative backgrounds and passions. This mix of clinical and artistic balance posed an intriguing hypothesis for Ms. Wanner. As with all hypotheses, an investigator can never be sure of the outcome nor the elements or degree of commitment offered by those within the study. I believe although Ms. Wanner connected with certain dance studios who agreed to allow her to observe their students, she was unable to come to the conclusion she hoped for because of the lack of commitment towards the history of dance attire by those partaking in the study. Ms. Wanner was successful with her communication with me for advising and showed a mature and educated trend within her planning, research, discoveries and completion of her thesis. More importantly, I believe she was open to the curves that came during her investigation. Although her original

hypothesis was not answered in full, it lent to the discovery of another hypothesis under this same topic range that could be investigated in the future. Because Ms. Wanner was open to the information she discovered, she learned a great deal regarding adolescent dancers, possibly more than what would have been possible had she not approached her thesis experience in this objective broad-minded capacity” (A. Woerner, personal communication, February 28, 2014).