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ABSTRACT

This paper reviews the findings reported by Dyer and Tiggemann (1996) in Australia studying the effect of single sex versus coeducational school environments on body concerns in adolescent females. It details the reasons why parents and their children choose to be educated in single sex versus coeducational environments; and reviews literature revealing that single sex education tends to promote adherence to particularly confusing gender role attitudes. The paper then describes the connection between disordered eating and a sense of gender ambivalence resulting from increased exposure to conflicting gender role prescriptions. Based on the argument developed, it is predicted that girls attending single sex schools will exhibit greater body dissatisfaction and eating disorder symptomatology than their counterparts. The hypothesis is tested and supported in a re-analysis of the data. The paper concludes with a discussion of the counterintuitive nature of these findings and future implications of the research. (Contains 47 references and 3 tables.) (Author/JDM)

Running Head: SINGLE SEX VERSUS COEDUCATION AND DISORDERED EATING

Conflicting gender role prescriptions and disordered eating in single sex and coeducational school environments

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Abstract

The purpose of the present paper is to illuminate the significance of data collected by Dyer and Tiggemann (1996) in Australia studying the effect of single sex versus coeducational school environments on body concerns in adolescent women. First, research on why parents and their children choose to be educated in single sex versus coeducational environments is detailed. Literature revealing that single sex education tends to promote adherence to particularly confusing gender role attitudes is then reviewed. Finally, a connection is made between disordered eating and a sense of gender ambivalence resulting from increased exposure to conflicting gender role prescriptions. Based on the argument developed, it is predicted that girls attending single sex schools will exhibit greater body dissatisfaction and eating disorder symptomatology than their coeducational counterparts. This hypothesis is tested and supported in a re-analysis of the data mentioned above. The counterintuitive nature of these findings and future implications of the research are discussed.

Conflicting gender role prescriptions and disordered eating

in single sex and coeducational school environments

Adolescence is often characterized as a chronic state of emotional turbulence. In hopes to resolve the Margaret Mead--Derek Freeman controversy over the landmark study of *Coming of Age in Somoa,* (i.e., the nature versus nurture debate with respect to adolescent emotional turbulence) the academic community has come to understand this period of "storm and stress" as attributable to an interaction between the biological disequilibrium stimulated by puberty and cultural or environmental circumstances (Cote', 1994). The physiologically inevitable changes in one's physical appearance, often occurring quite rapidly during adolescence, commonly result in body image disturbances, especially in girls (Grogan, 1999; Keel, Fulkerson, & Leon, 1997; Nichter, & Vuckovic, 1994). Adding to this difficulty, in Western cultures the threshold of adolescence marks an intensification of gender role prescriptions. It is during this stage that girls become most aware of what will be expected of them as they approach adulthood (Johnson, Roberts, & Worell, 1999). Despite increased gender role flexibility over the past quarter century, messages remain, at best, conflicting in regards to the opportunities presently accorded to women on one hand, and the practical expectations of women still prevailing on the other. Also, while our society's dominant culture values independence and becoming an autonomous individual as one matures, girls often establish a sense of identity primarily in relation to others (Chodorow, 1978; Gilligan, 1982). As adolescent girls grapple with their development as women amidst these contradictions, they frequently pay harsh social and psychological consequences.

Psychological research on adolescent girls has tended to underestimate the importance of context (Johnson et al., 1999). While a multitude of contexts impinge upon the daily behaviors of

adolescents, this paper will focus on the social context of schools. The most relevant aspect of a school's social context to the present discussion is probably its gender composition. Single sex versus coeducation has developed into a long standing debate in the literature dating back to 1906 when G. Stanley Hall argued to continue educating the sexes separately. Over the years a large body of research has accumulated on the benefits and drawbacks of single sex education (see Shmurak, 1998 or AAUW, 1998 for a review). The concern of the present paper however, is not to determine if single sex education is superior or inferior for adolescent girls. Rather, based on the development of the upcoming literature review, we attempt to support the hypothesis that while indeed holding benefits for many young women, single sex schools simultaneously increase the tendency for young women to exhibit greater body dissatisfaction and eating disorder symptomatology than their coeducational counterparts. Re-analyses of data extracted from Dyer and Tiggemann's 1996 study on school environments, eating, and body image disturbances is performed and results discussed.

Many studies conducted in Westernized societies, primarily in the 1980's, have found girls educated in single sex environments to gain an array of academic and gender related benefits such as superior math achievement and decreased exposure to sex role stereotyping (Dederick, Dederick, & Zalk, 1977; Vockell, & Lobonc, 1981; Trickett, Trickett, Castro, & Schaffner, 1982; Hamilton, 1985; Lee, & Byrk, 1986; Harvey, & Stables, 1986; Carpenter, & Hayden, 1987; Foon, 1988; Lee, & Lockheed, 1990; Cairns 1990; Riordan, 1992). In order to better understand why might such an abundance of differences exist across the globe between girls attending single sex institutions and those attending coeducational schools, Lee and Marks (1992) conducted research focusing on the reasons that parents and their children choose to be educated

in single sex as opposed to coeducational secondary schools. The data used for this study came from the United States National Study of Gender Grouping in Independent Secondary Schools. Past research and experience working in single sex environments led Lee and Marks to conceptualize two different rationales for why families might choose single sex education for their daughters. Some families, often those who are newer to the private school track, see single sex education as an "opportunity structure" that has the potential of being an empowering experience for their daughter. An environment that is academically focused and less socially distracting will, they hope, equip young women with the skills and confidence "to surmount gender discrimination and stratification in the larger social arena" (p. 226). Other families gravitate to the single sex environment for its "traditional structure." These primarily upper class families have a long history of attending prestigious single sex institutions. Parents in this group are seeking the elite, conservative and protective environment that single sex institutions have historically offered young women.

A logistic regression utilizing a multi-level model that predicted attendance to a single sex versus a coeducational secondary school was imposed on the data collected in order to reveal significant factors. Significant level one variables, those involving personal characteristics, were age, religiosity, and being Jewish. Students attending single sex schools were somewhat older, more religious, and less likely to identify as Jewish. The only significant factors revealed in level two variables, which involved characteristics of the family, were the educational backgrounds of both parents and relatives. Having parents, siblings, or other relatives who attended single sex schools, significantly predicted choosing a single sex institution. In addition, what could be interpreted as a contradictory finding, having parents who attended all *public* schools also

predicted choosing a single sex high school. Significant level three variables, consisting of entry level characteristics such as academic abilities, included having attended a single sex private elementary school, and having lower standardized math scores. The fourth and final level of variables, those involving personal reasons for choosing the type of school they attend, listed in the order of their significance, included a) the school admitting only women, b) the school's college placement record, and c) the option of boarding facilities.

Keeping in mind both the opportunity versus traditional structures, it is also important to note the group of factors that did *not* significantly influence a family's choice of single sex over coeducational schools for their daughters. These factors included tuition costs, family income, race-ethnicity, school selectivity, strong financial aid packages, and much to the surprise of the researchers, social reputation, that is the characteristic of being known as a "finishing school." Not only did families fail to indicate social reputation as a significantly deciding factor when choosing to attend a single sex institution, but single sex schools were no more likely than coeducational schools to be considered a "finishing school". Interestingly, social reputation was a significant deciding factor for those attending a coeducational school.

Given that by far the best predictor among reasons for choosing to attend a single sex institution was the very fact that the school only admitted women, we know that girls and their families are choosing the single sex option not just because these schools have otherwise desirable characteristics but because they are in fact single sex institutions. Additionally, academic as opposed to social reputation being a significant predictor of choosing a single sex institution suggests that choices seemed to be derived from the opportunity structure rationale. The strong influences of religiosity, and families with single sex educational histories however, as well as the

importance of boarding facilities being available, suggest that the traditional clientele are still quite clearly represented. With a conservative world view coming from the traditional families and a more progressive ideology reflecting the values of first generation families who are seeking an empowering opportunity for their daughter, these structures essentially represent conflicting interests. This unspoken competition may in fact play out as a subtle but real structural ambivalence prevailing in the environment of many single sex institutions. The administrations of independent private schools are herein confronted with a serious dilemma. They are obligated to continue appealing to the monetarily fundamental yet shrinking market of traditional families who, with their financial endowments, will ensure the survival of single sex institutions. In today's competitive market however, and with threats resulting from Title IX of the Educational Amendments of 1972 (1), single sex schools must also assure the public that they do in fact offer pedagogically advantageous educations for young women. Thus, they are simultaneously forced to reach out to this new more progressive clientele interested in the opportunistic nature of the single sex environment. Given the schools' attempts to sufficiently meet these potentially incompatible goals, the adolescent girls are vulnerable to suffering the consequences of continually receiving mixed messages from their families, teachers, and the general ambiance of their schools.

Other studies have alluded to the presence of subtle conflicting expectations placed on young women attending single sex institutions. A qualitative piece about girls attending a single sex school in the United States discussed the prevalence of superwoman ideals demonstrated by participants in their reports of strong desires for marrying and raising children while still fully intending to achieve high status professions (Brody et al., 1998). In focus group research

conducted with adolescent girls attending single sex and coeducational independent schools in New York City, participants expressed angst over the hypocrisy of their all female school environment. In their opinion, what they referred to as the "hidden curriculum" offset the good intentions of the school's endorsement of feminism and a push for female empowerment (Mensinger, 2000). This phenomenon of a hidden curriculum could also partially account for the findings of Signorella and Frieze's 1996 study in the United States where they were unable to support their hypothesis of less gender stereotyping occurring in single sex rather than coeducational schools. Extensive research on gender and school environments in Australia has lead Gill to refer to the single sex benefit as "a now-you-see-it-now-you-don't-effect that is both tantalising and frustrating" (1996, p.7). She has come to the determination that "teacher awareness is of much more significance than school gender context in producing or overcoming stereotypical gender limitations on students" (p. 17).

In Heyward's research (1995) the presence of conflicting messages in one of these "female valuing" environments in Canada is made quite evident. While the school pays tremendous lip service to their girls maintaining a "lady-like" appearance, their sack-shaped tunic for a uniform, often still seen today in North American private schools, distinctly disguises any hints of feminine curves or sexuality. Jewelry and make-up are forbidden for the most part, and the requirement of ascots and oxfords indeed portray a masculine appearance. The administration claims not wanting to overemphasize the importance of appearance in response to the modern obsession with body image; however, Heyward's observations suggest that negative impacts have nevertheless resulted. Although it may not be initially apparent, over time one can imagine how this dress code might subliminally communicate a fundamentally confusing statement. In Heyward's words,

the underlying message the dress code, alongside other school policies, suggests is "that feminine sexuality is a shameful thing, that intellectual pursuit is a masculine attribute, and that academic success is achieved only by imitation of the 'superior' male" (p.195). The consequences of such a subtle yet powerful paradox, that females are indeed valued and expected to achieve on one hand, yet success requires a masculine presentation on the other, could be detrimental to a young woman's sense of identity.

Lee, Marks, and Byrd (1994) found a preponderance of sexism occurring in the single sex environments in their extensive qualitative research investigating the process of engenderment in over 20 single sex and coeducational independent secondary schools in the United States. Due to Title IX of the Educational Amendments, single sex institutions can only operate legally in the private sector in the US; therefore, the actions of these schools are indeed financially pressured to reflect the values of the affluent and often conservative clients whom they serve. Given this reality, it is easier to understand why their research revealed such disconcerting results. They reported that the vast majority of sexist incidents were initiated by members of the faculty. A common example involved encouraging girls to behave in dependent or childlike behaviors, or adopting a noticeably non-rigorous approach to certain subject matters. Although these actions may appear innocuous, repetitious treatment of this kind, in conjunction with a conservative elite upbringing within the family environment, could conceivably produce potentially talented young women who feel expected to do no more than marry into another upper class family and raise children. While there is nothing wrong with doing this, the question remains, will these young women feel conflicted by this choice as a result of the values of their less privileged peers and the increasing presence of feminist pedagogy in many of the single sex institutions? In fact,

researchers reported that even in the schools where the girls were clearly coddled, "feminism and sexism were sometimes evident simultaneously in the same class ...delivering a confusing message to students" (p. 112). Additionally, how might these traditional values impact the girls of the upwardly mobile families seeking an opportunity structure in their choice of a single sex institution for their daughter? Clearly, Lee et al's research further substantiates the phenomenon of competing structures communicating mixed statements to adolescents girls attending single sex schools.

It is more understandable now why such vast inconsistencies remain in the literature on single sex versus coeducation. Parents would be wise to thoroughly investigate the climate of a particular single sex school before sending a child there on the basis of wanting an egalitarian environment for their daughter. The American Association of University Women's 1998 publication on the coed/single sex debate reports the problem with "recent popular commentary on single-sex education sometimes informally assum[ing] that single sex environments by their nature diminish sex stereotyping" (p. 20). The heterogeneous populations that often today comprise the independent school system, that is the remaining influence of the traditional affluent families, make these goals difficult. Amira Proweller's (1998) ethnographic study of a single sex institution also addresses this problem. She asserts that the vast changes in the class culture of private school education are bound to have ramifications on the construction of female identities taking place behind once very exclusive walls. As Lee et al's previous research has shown, the fact remains that most families choosing the single sex option "are likely to be seeking *either* safe and traditional environments for 'young ladies' *or* academically demanding educational environments in which girls are free to flourish–not both" (emphases in the original, 1994, p.

112).

The perhaps dismal consequences of these opposing interests lead us into the body of research on disordered eating and gender role attitudes. Over the decades since the women's movement, feminist researchers in the field of body image and eating disorders among women have speculated about the problematic nature of the opposing forces between accepting one's developing curves [which have been conceptualized as symbolically representing the caring and interrelatedness inherent in a "feminine" identity, (Gilligan, 1982)] or abiding by the more recent liberated, "masculine" conception of womanhood which involves the "self-made" female with exceptionally high standards for achievement (Orbach, 1978, 1986; Palazzoli, 1978; Emmet, 1985; Steiner-Adair, 1986; Barnett, 1986). In anorectic women, Susie Orbach describes the recurrent theme of "thinness as ultra-feminine and at the same time thinness as rejection of femininity" creating a parody of modern female attractiveness (1986, p. 85). Best sellers such as Naomi Wolf's *Beauty Myth* (1991), reflected in the following passage, have brought these issues to the forefront of feminist scholarship:

> Young women have been doubly weakened: Raised to compete like men in rigid male-model institutions, they must also maintain to the last detail an impeccable femininity. Gender roles, for this generation of women, did not harmonize so much as double: Young women today are expected to act like "real men" and look like "real women." Fathers transferred to daughters the expectations of achievement once reserved for sons; but the burden to be a beauty, inherited from the mothers, was not lightened in response. (p. 211)

A passionate discussion of the modern epidemic of eating disorders throughout *The Beauty Myth*

stands as a testimony to the consequences faced by young women exposed to conflicting gender role prescriptions.

In Timko, Streigel-Moore, Silberstein, and Rodin's study (1987) of the relationship between femininity, masculinity, and disordered eating there is also evidence of apparent conflicting gender roles in women with eating issues. Their data found that the importance of socially desirable masculine traits *paired with* the importance of appearance (again alluding to a possible conflict of interests) were significant predictors of disordered eating. Their results also indicated that women reporting a greater number of roles as central to their identity displayed more disordered eating than those defining themselves by fewer roles. Furthermore, those individuals identifying with more roles in general, were significantly more likely to rate masculine traits as important. Once again, this research recommends we should further examine the implications of the multiple and often conflicting roles placed on modern women.

Silverstein and Perlick (1995) in their book *The Cost of Competence*, also argue that especially during historical times of changing gender roles, intelligent adolescent women with nontraditional aspirations have faced emotional dilemmas as they tried to develop an identity. The typical result of these emotional dilemmas is a sense of gender ambivalence, that is, "feeling split between their femininity and the aspects of themselves defined by academic, professional, and political achievement, which are often labeled, even today, as 'masculine.' For some of these women, this conflict has led them to devalue aspects of their own feminine identities" (p. 7). In Silverstein and Perlick's words, "disordered eating is just one of the costs of competence paid by talented women who strive to succeed" (p.10).

In light of the previous literature reviewed, evidence associating eating and body image

disturbances to girls being educated in single sex environments is sought. Thus, we turn to data collected in a metropolitan city of South Australia by Dyer and Tiggemann (1996) examining eating disorder symptomatology in 142 adolescent women attending one of two demographically comparable private single sex and coeducational institutions. All of the participants were Caucasian, were between the ages of 15 and 17 years, and came from upper middle class backgrounds. Dyer and Tiggemann's research was an exploratory study with no expected findings, and their use of the complete Eating Disorder Inventory (EDI) (Garner, Olmsted, & Polivy, 1983) may have overly complicated matters. The original full EDI scale consists of eight subscales which measure psychological characteristics such as maturity fears, interpersonal distrust, and ineffectiveness in addition to disordered eating behaviors. Essentially, these additional subscales confounded their results and made findings difficult to interpret. While some school differences were revealed, the discussion leads readers unconvinced and asking what might have accounted for these findings. The review of both the single sex versus coeducational literature followed by the gender roles and disordered eating literature in the present paper, develops a plausible and cogent argument that helps illuminate the significance of these data with a brief re-analysis of the key variables involved.

Methodology

In hopes to clarify the implications of the Dyer and Tiggemann data, only the relevant subscales were extracted from the complete Eating Disorder Inventory (EDI) for the present analysis. These included the Drive for Thinness scale, the Bulimia scale, and the Body Dissatisfaction scale. The subscales were scored in a 6 point Likert fashion that ranged from never = 1, to always = 6, depending on the direction of the question. Untransformed scores were

used, as is recommended for non-clinical populations (Schoemaker, van Strein, & van der Staak, 1994). By totaling the scores across the three subscales we created a truncated EDI score which we used to test the hypothesis that greater disordered eating and body dissatisfaction will be found in the single sex environment.

Also of relevance in the present analysis are the body perceptions derived from the Figure Rating Scale (FRS) (Fallon & Rozin, 1985). In the Dyer and Tiggeman study, participants were asked to choose the following three most accurate depictions from a set of nine schematic figure drawings ranging from emaciated to obese, (a) the figure that best represents their current size, (variable labeled CURRENT), (b) the figure they see as their ideal size (variable labeled IDEAL), and (c) the figure they believe is most attractive to the opposite sex, (variable labeled ATTRACT). Self reported heights and weights were used to calculate a Body Mass Index (BMI) for each of the participants.

Results

We already know from Dyer and Tiggemann's original publication (1996) that the girls in the single sex environment reported significantly lower ideal and attractive body perceptions, as well as lower BMIs. Therefore, we ran simple Pearson correlations between EDI, the body perceptions measured using the Figure Rating Scale (i.e., IDEAL, ATTRACT, and CURRENT), and BMI, in order to detect possible covariates before proceeding with a test on the effect of school environment on disordered eating and body dissatisfaction. This will clarify whether or not if differences detected in EDI are a function of the gender composition of the school, or simply attributable to the girls in the single sex context having thinner ideal and attractive body perceptions and/or lower BMIs. Correlations for the sample as a whole are available in Table I

and with the sample divided by type of school in Tables II and III.

While there are indeed significant or marginally significant relationships between EDI and all of these variables (i.e., CURRENT, IDEAL, ATTRACT, and BMI) for the sample as a whole, when we divide it into the separate schools, a slightly different picture emerges. BMI becomes highly significant in the single sex context and not at all significant in the coeducational environment. That is for girls attending the single sex school, as BMI increases, EDI score increases as well; whereas, in the coeducational school BMI has no detectable effect on EDI scores. This suggests that heavier girls in the single sex context are struggling to a greater degree than their equally as heavy peers in the coeducational context.

Interestingly, while the impact of attractive body perceptions was marginally significant in the total sample Pearson correlations, it becomes non significant in the individual school data suggesting that perceptions of an attractive figure for adolescents girls are fairly stable. The relationship between EDI scores and perceptions of an ideal figure on the other hand, appears to play a differing role in these particular groups. In the single sex environment the relationship disappeared entirely; however for the coed group a negative relationship still emerged. That is to say for the coed group, as EDI scores increased, the girls tended to endorse a thinner ideal figure for themselves. The fact that this intuitive relationship failed to emerge in the single sex environment is an issue to be further addressed in the discussion section. A similar pattern is revealed in the relationship between BMI and perceptions of an ideal figure size. In the coeducational environment a significant positive relationship exists between BMI and IDEAL. Therefore, as BMI increases, girls in the coed school are tending to endorse a heavier ideal figure for themselves. Once again, this intuitive finding fails to emerge in the sample of girls from the

single sex context.

Given the pattern of relationships revealed when we divided the sample by type of school, we are now mathematically and theoretically restricted to only using perceptions of one's current figure size as a covariate in examining the relationship between school environments and symptoms of disordered eating (1). A univariate analysis of covariance testing for the effect of school environment on our truncated EDI score, while controlling for the impact of CURRENT body perceptions, revealed highly significant results ($F(1,138) = 14.623, p = .000$). Girls in the single sex context demonstrated greater disordered eating patterns as revealed by pooled scores from the Drive for Thinness, Bulimia, and Body Dissatisfaction subscales of the Eating Disorder Inventory.

Discussion

Typically, adolescents show an increased interest in establishing more intimate relationships with members of the opposite sex. Carol Gilligan's work (1990) specifies that it is during this period that girls start worrying about their weight and how they look to others, especially boys. Numerous researchers in the field of body image and eating disorders have indicated that adolescent girls strongly believe an important component in attractiveness to boys is weight and figure size (Pierce, 1990; Smolak, Levine, & Gralen, 1993; Nichter, & Vuckovic, 1994; Grogan, 1999). In fact, it is noted in the Brody et al. study (1998) (mentioned in the literature review), where students were experiencing the transition from single sex to coeducation, that on several occasions students expressed feeling pressure and anxiety about having to look good for members of the other sex. One student, specifically quoted in the Brody et al. paper, actually recommended a younger friend to attend the single sex school because of her history

with eating disorders and depression. She thought, quite understandably, that the coeducational school would provide an environment that placed too much emphasis on appearance. Given these trends in the data, one might assume that there would be a greater prevalence of body image and eating concerns in a coeducational environment. Clearly, the present data suggest otherwise, and perhaps this is why the Dyer and Tiggemann article is hesitant to draw firm conclusions.

Research by Cohn et al. (1987) implies that the presence of males may actually mitigate a female's distorted body image when she reaches the state of emaciation so commonly seen in anorectics. Replicating a previous study using college students as the sample, Cohn et al. employed the Figure Rating Scale (Fallon & Rozin, 1985) to demonstrate in an adolescent population how girls and boys perceive their current bodies, how they would ideally like to look, and which figure size they consider most attractive to the other sex. Findings revealed that out of 198 subjects (including girls and boys) who depicted themselves as currently smaller than their ideal, only 54% later reported actually wanting to be heavier. Interestingly, girls also chose an ideal figure that was significantly thinner than the figure they indicated as being most attractive to boys. In addition, girls considerably underestimated the size of the female figure to which boys are in fact most attracted. Given Cohn et al.'s results, the consideration that the presence of boys may provide a reality check is indeed plausible. However and more importantly, this research also suggests that the desires of adolescent girls to achieve thinness is motivated by something beyond the preferences of their male peers. The line of reasoning developed in the present paper both supports and purports to emphasize this notion.

Given closer scrutiny, the Dyer and Tiggemann data demonstrate the need for this critical distinction. While girls in single sex environments may not be facing the often fierce competition

for the attention of their male peers at school, they are unfortunately not protected from the body dissatisfaction and unhealthy eating patterns that we often presume result from pressure to "look good" for boys. Recall that girls in the single sex environment, as a group, regardless of their current size (i.e., BMI) and their current level of disordered eating patterns and body dissatisfaction, were endorsing thinner ideal figures for themselves. Whereas the girls in the coeducational group endorse ideal figures for themselves in accordance with their current size. This suggests the existence of a possible homogenization effect in the single sex environment. Furthermore, it is those girls with higher BMIs that appear to be struggling to a greater degree in the single sex context. Given the lack of a statistical relationship between BMI and EDI for girls in the coeducational environment, size evidently has much less an impact on their eating patterns. Being larger does not automatically predict problems with body image and disordered eating for girls educated at the coed school–suggesting greater flexibility in acceptable body types. Beyond the surface meaning of acceptable body types there is probably a deeper more discerning acceptance of lifestyle, goals, ambitions, and values–all gender related. The subculture of the single sex school on the other hand, evidenced by its rigidity in acceptance of ideal bodies and due in part to its likely emphasis on the importance of female empowerment, may actually be promoting conflicting gender role prescriptions, albeit subtly and unwittingly. Nevertheless, the consequences appear to be encouraging the students to place an extraordinarily high value on the ultra-thin, virtually masculine-like (i.e., without feminine curves) physique. With overall lower Body Mass Indexes reported by the girls in the single sex group, the presence of this value appears to have already declared an effect.

Disordered eating is more profound than a mere diet to achieve a particular culturally

accepted thin aesthetic. It is a visible yet often silent statement of the problematic nature of current gendered expectations placed on young women today. Making this distinction is an important step in the understanding and treatment of the modern epidemic of eating disorders.

Conclusion

All adolescents are exposed to Western Culture's obsession with thinness. It must be recognized that there is no entirely safe environment in which to educate girls. In today's society, women cannot completely avoid encountering conflicting gender role prescriptions. In the words of Candace Heyward "we are in an age of tremendous gender-role upheaval and there are no guide books to point the way" (p.190). It is our hope that mere cognizance of the contradictions in the over arching gender regimes of the culture, and particularly in single sex institutions, will gradually attenuate the potency of these problematic messages. To expedite matters, perhaps efforts should be made for implementing "unconventional" prevention strategies for eating disorders in high schools. Now at the turn of the twenty-first century, the awareness is indeed out there. Girls know what eating disorders are, and they know that engaging in these kinds of behaviors can be life threatening. The forces needing to be addressed are operating on a subconscious level. Undermining their powers will be no easy task. Perhaps the curriculum could incorporate required classes involving gender issues that address the contradictions with which adolescents are faced. Without even overtly connecting it to eating disorders, an open forum where feelings can be discussed may help alleviate the confusion, fear, and ambivalence around gender role expectations. In light of the present study, special concentration should be made on these issues in single sex institutions.

It must be underscored that this research represents an important study addressing a major

gap in the literature. To this date, there are no other published studies examining the impact of a school's gender context on disordered eating. Unfortunately the present data are indeed limited in that we do not have information regarding the gendered politics of either of these school environments. Nor do we have the individual gender role attitudes of the participants. Consequently, for now we can merely speculate. Future research should be directed at specifically testing the theory of conflicting gender role prescriptions and its impact on disordered eating in single sex versus coeducational environments. Qualitative work involving talking with and observing girls in both single sex and coeducational settings in attempt to uncover some of the differing gendered processes occurring in these respective school environments should compliment methodologically sound quantitative studies. Only with this kind of contextualized information will we be able to better understand the complicated nature of the socio-cultural contribution to eating disorders.

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Endnotes

1) **Title IX of the Educational Amendments of 1972**

(Title 20 United States Constitution Section 1618-1688)

Section 1681.sex(a) prohibition against discrimination, states that "No person in the United States shall, on the basis of sex, be excluded from participation in , be denied the benefits of, or be subjected to discrimination under any education program or activity receiving Federal financial assistance..."

(2) In order to appropriately control for the effects of covariates, there cannot be an interaction between any of the covariates and the grouping variable, in this instance the school variable. The mathematical adjustment will be nullified if an interaction effect exists. Since running Pearson correlations for the relationships between EDI and the potential covariates for each school environment individually yielded significantly different relationships on each variable except CURRENT (see Tables II & III), we can conclude that BMI, & IDEAL both interact with the school variable when predicting EDI. ATTRACT becomes an insignificant predictor in both environments, therefore it is no longer warranted to control for it. CURRENT body perceptions, on the other hand, have a strong positive relationship to EDI in both school environments; therefore, it is theoretically and mathematically justified to covary out the effects of this variable on predicting EDI scores with school environment.

References

American Association of University Women. (1998). *Separated by Sex: A critical look at single sex education for girls.* Washington DC: AAUW Education Foundation.

Barnett, L. R. (1986). Bulimarexia as symptom of sex-role strain in professional women. *Psychotherapy: Theory Practice, and Research, 23,* 311-315.

Brody, C., Fuller, K., Gosetti, P., Moscato, S., Nagel, N., Pace, G., Schmuck, P. (1998). *Gender and the culture of schools.* Paper presented at the annual meeting of the American Educational Research Association. San Diego, CA.

Cairns, E. (1990). The relationship between adolescent perceived self-competence and attendance at single-sex secondary school. *British Journal of Educational Psychology, 60,* 207-211.

Carpenter, P., & Hayden, M. (1987). Girls' academic achievements: Single-sex versus coeducational schools in Australia. *Sociology of Education, 60,* 156-167.

Chodorow, N. (1978). *The Reproduction of Mothering Psychoanalysis and the Sociology of Mothering.* Berkeley: University of California Press.

Cohn, L.D., Adler, N.E., Irwin Jr, C.E., Millstein, S.G., Kegeles, S.M., Stone, G. (1987). Body-figure preferences in male and female adolescents. *Journal of Abnormal Psychology, 96(3),* 276-279.

Cote', J.E. (1994). *Adolescent Storm and Stress: An Evaluation of the Mead-Freeman Controversy.* Hillsdale, NJ: Lawrence Erlbaum Associates.

Dederick, W.E., Dederick, J.G., Zalk, S.R., (1977). *Interpersonal values of intellectually gifted adolescent females: single sex or coeducation?* Paper presented at the annual meeting of the American Educational Research Association. (Resources in Education publication 12:93, No. ED 140 523).

Dyer, G. Tiggemann, M. (1996). The effect of school environment on body concerns in adolescent women. *Sex Roles, 34(12),* 127-138.

Emmett, S.W. (1985). Future Trends. In S.W. Emmett (Ed.), *Theory and treatment of anorexia nervosa and bulimia: Biomedical, sociocultural, and psychological perspectives.* New York: Brunner/Mazel.

Fallon , A. E., & Rozin, P. (1985) Sex Differences in Perceptions of Desirable Body Shape. *Journal of Abnormal Psychology, 94(1),* 102-105.

Foon, A. E. (1988). The relationship between school type and adolescent self esteem, attribution styles, and affiliation needs: Implications for educational outcomes. *British Journal of Educational Psychology, 58,* 44-54.

Garner, D. M., Olmsted, M. P., & Polivy, J. (1983). Development and validation of a multidimensional eating disorder inventory for anorexia nervosa and bulimia. *International Journal of Eating Disorders, 2,* 15-34.

Gill, J. (1996). *Different contexts: similar outcomes.* Paper presented at the annual meeting of American Educational Research Association, New York, NY.

Gilligan, C. (1982). *In a Different Voice*. Cambridge: Harvard University Press.

Gilligan, C., Lyons, N.P., & Hanmer, T.J. (Eds.) (1990). *Making Connections: The Relational Worlds of Adolescent Girls at Emma Willard School.* Cambridge: Harvard University Press.

Grogan, S. (1999). *Body Image: Understanding body dissatisfaction in men, women, and children.* New York: Routledge.

Hall, G.S. (1906). The question of coeducation. *Munsey's Magazine, 34,* 588-592.

Hamilton, M.A. (1985). Performance levels in science and other subjects for Jamaican adolescents attending single sex and coeducational high schools. *Science Education, 69,* 525-547.

Harvey, T.J., & Stables, A. (1986). Gender differences in attitudes to science for third year pupils: An argument for single sex teaching groups in mixed schools. *Research in Science and Technological Education, 4,* 163-170.

Heyward, C. (1995). Catching up: Gender values at a Canadian independent school for girls, 1978-1993. *Gender and Education, 7(2),* 189-203.

Johnson, N.G., Roberts, M.C., Worell, J. (1999). *Beyond Appearance: A New Look at Adolescent Girls.* Washington DC: American Psychological Association.

Keel, P.K., Fulkerson, J.A., & Leon, G.R. (1997). Disordered eating precursors in pre and adolescent girls and boys. *Journal of Youth and Adolescence, 26,* 203-216.

Lee, V.E., & Bryk, A.S. (1986). Effects of single-sex secondary schools on student achievement and attitudes. *Journal of Educational Psychology, 63,* 334-341.

Lee, V.E., & Lockheed, M.M. (1990). The effects of single sex schooling on achievement and attitudes in Nigeria. *Comparative Education Review, 34(2),* 225.

Lee, V.E., & Marks, H.M. (1992). Who goes where? Choice of single sex and coeducational independent secondary schools. *Sociology of Education, 65,* 226-253.

Lee, V.E., Marks, H.M., & Byrd, T. (1994). Sexism in single-sex and coeducational secondary school classrooms. *Sociology of Education, 67(2),* 92-120.

Mensinger, J.L. (2000). *An exploration of gender role attitudes and disordered eating in adolescent females: the impact of single sex and coeducational school school environments.* Unpublished master's thesis. The Graduate Center of The City University of New York.

Nichter, M., & Vuckovic, N. (1994). Fat talk: Body image among adolescent girls. In N. Sault (Ed.) *Many mirrors: Body image and social relations* (pp. 109-131). New Brunswick, NJ: Rutgers University Press.

Orbach, S. (1978). *Fat is a feminist issue: The anti-diet guide to permanent weight loss.* New York: Paddington Press.

Orbach, S. (1986). *Hunger Strike: The anorectic's struggle as a metaphor for our age.* New York: Norton.

Palazzoli, M.S. (1978). *Self-starvation: From individual to family therapy in the treatment of anorexia nervosa.* New York: Jason Aronson.

Peirce, K. (1990). A feminist theoretical perspective on the socialization of teenage girls through *Seventeen* magazine. *Sex Roles, 23(9/10),* 491-500.

Proweller, A. (1998). *Constructing Female Identities: Meaning Making in an Upper Middle Class Youth Culture.* Albany, NY: SUNY Press.

Riordan, C. (1992). Single and mixed gender colleges for women: Educational, attitudinal, and occupational outcomes. *Review of Higher Education, 15,* 327-347.

Rodin, J., Silberstein, L., & Streigel-Moore, R. (1988). Women & weight: A normative discontent. In S. Bem (Ed.) *Psychology of Sex Roles.* Littleton, MA: Copely.

Schoemaker, C., van Strein, T., & van der Staak, C. (1994). Validation of the Eating Disorder Inventory in a non-clinical population using transformed and untransformed scores. *International Journal of Eating Disorders, 15,* 387-393.

Shmurak, C. B. (1998). *Voices of Hope: Adolescent Girls at Single Sex and Coeducation High Schools.* New York: Peter Lang.

Signorella, M., & Frieze, I. (1996). Single sex versus mixed sex classes and gender schemata in adolescents: A longitudinal comparison. *Psychology of Women Quarterly, 20,* 606.

Silverstein, B., & Perlick, D. (1995). *The Cost of Competence. Why Inequality Causes Depression, Eating Disorders, and Illness in Women.* New York: Oxford University Press.

Smolak, L., Levine, M.P., & Gralen, S. (1993). The impact of puberty and dating on eating problems among middle school girls. *Journal of Youth and Adolescence, 22(4),* 355-368.

Steiner-Adair, C. (1986). The body politic: Normal female adolescent development and the development of eating disorders. *Journal of the American Academy of Psychoanalysis, 14,* 95-114.

Timko, C., Streigel-Moore, R., Silberstein, L., & Rodin, J. (1987). Femininity/masculinity and disordered eating in women: How are they related? *International Journal of Eating Disorders, 6(6),* 701-712.

Trickett, E.J., Trickett, P.K., Castro, J.J., & Schaffner, P. (1982). The independent school experience: Aspects of the normative environments of single sex and coeducational secondary schools. *Journal of Educational Psychology, 74 (3),* 374-381.

Vockell, E.L., & Lobonc, S. (1981). Sex role stereotyping by high school females in science. *Journal of Research in Science Teaching, 18,* 209-219.

Wolf, N. (1991). *The Beauty Myth: How Images of Beauty Are Used Against Women.* New York: Doubleday.

Table I

Total Sample Correlations between EDI, BMI, and the components of the Figure Rating Scale

		CURRENT	IDEAL	ATTRACT	BMI	EDI
CURRENT	Pearson Correlation	1.000	.372**	.293**	.397**	.541**
	Sig. (2-tailed)	.	.000	.000	.000	.000
	N	141	141	141	141	141
IDEAL	Pearson Correlation	.372**	1.000	.757**	.241**	-.187*
	Sig. (2-tailed)	.000	.	.000	.004	.027
	N	141	141	141	141	141
ATTRACT	Pearson Correlation	.293**	.757**	1.000	.142	-.164
	Sig. (2-tailed)	.000	.000	.	.092	.052
	N	141	141	141	141	141
BMI	Pearson Correlation	.397**	.241**	.142	1.000	.170*
	Sig. (2-tailed)	.000	.004	.092	.	.044
	N	141	141	141	141	141
EDI	Pearson Correlation	.541**	-.187*	-.164	.170*	1.000
	Sig. (2-tailed)	.000	.027	.052	.044	.
	N	141	141	141	141	141

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table II

Correlations between EDI, BMI, and the components of the Figure Rating Scale

Coeducational School

		CURRENT	IDEAL	ATTRACT	BMI	EDI
CURRENT	Pearson Correlation	1.000	.289**	.288*	.406**	.589**
	Sig. (2-tailed)	.	.010	.010	.000	.000
	N	79	79	79	79	79
IDEAL	Pearson Correlation	.289**	1.000	.827**	.235*	-.229*
	Sig. (2-tailed)	.010	.	.000	.037	.042
	N	79	79	79	79	79
ATTRACT	Pearson Correlation	.288*	.827**	1.000	.140	-.166
	Sig. (2-tailed)	.010	.000	.	.218	.145
	N	79	79	79	79	79
BMI	Pearson Correlation	.406**	.235*	.140	1.000	.132
	Sig. (2-tailed)	.000	.037	.218	.	.247
	N	79	79	79	79	79
EDI	Pearson Correlation	.589**	-.229*	-.166	.132	1.000
	Sig. (2-tailed)	.000	.042	.145	.247	.
	N	79	79	79	79	79

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table III

Correlations between EDI, BMI, and the components of the Figure Rating Scale

Single Sex School

		CURRENT	IDEAL	ATTRACT	BMI	EDI
CURRENT	Pearson Correlation	1.000	.453**	.270*	.360**	.572**
	Sig. (2-tailed)	.	.000	.034	.004	.000
	N	62	62	62	62	62
IDEAL	Pearson Correlation	.453**	1.000	.631**	.177	-.030
	Sig. (2-tailed)	.000	.	.000	.168	.819
	N	62	62	62	62	62
ATTRACT	Pearson Correlation	.270*	.631**	1.000	.058	-.069
	Sig. (2-tailed)	.034	.000	.	.655	.595
	N	62	62	62	62	62
BMI	Pearson Correlation	.360**	.177	.058	1.000	.390**
	Sig. (2-tailed)	.004	.168	.655	.	.002
	N	62	62	62	62	62
EDI	Pearson Correlation	.572**	-.030	-.069	.390**	1.000
	Sig. (2-tailed)	.000	.819	.595	.002	.
	N	62	62	62	62	62

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

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