Girls feeling good at school: School gender environment, internalization and awareness of socio-cultural attitudes associations with self-esteem in adolescent girls

Victoria L. Cribb, Anne M. Haase[*]

Centre for Exercise, Nutrition & Health Sciences, School for Policy Studies, University of Bristol, 8 Priory Road, Bristol BS8 1TZ, United Kingdom

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ABSTRACT

As society continues to advocate an unrealistically thin body shape, awareness and internalization of appearance and its consequent impact upon self-esteem has become increasingly of concern, particularly in adolescent girls. School gender environment may influence these factors, but remains largely unexplored. This study aimed to assess differences between two different school environments in appearance attitudes, social influences and associations with self-esteem. Two hundred and twelve girls ($M = 13.8$ years) attending either a single-sex or co-educational school completed measures on socio-cultural attitudes towards appearance, social support and self-esteem. Though marginal differences between school environments were found, significantly higher internalization was reported among girls at the co-educational school. School environment moderated relations between internalization and self-esteem such that girls in co-educational environments had poorer self-esteem stemming from greater internalization. Thus, in a single-sex school environment, protective factors may attenuate negative associations between socio-cultural attitudes towards appearance and self-esteem in adolescent girls.

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Introduction

Self-esteem declines during adolescence, with research suggesting that changes in body composition contribute to this considerable reduction (Ata, Ludden, & Lally, 2007; Clay, Vignoles, & Dittmar, 2005). Self-esteem is related to thoughts and feelings about one's body (Ata et al., 2007), which can contribute to poorer mental and physical health (Trzesniewski et al., 2006), and multiple factors can lead to this reduction in self-esteem. Adolescence is a critical time for forming views about oneself while experiencing peer evaluation and involvement, which has the likelihood of shaping self-esteem.

Everyday conversations with peers and frequent media exposure form a context for discussing and interpreting information associated with appearance and body shape (Grabe, Ward, & Hyde, 2008; Jones, Vigfusdottir, & Lee, 2004). Adolescent girls with greater internalization of media ideals report greater appearance conversations with friends and more peer appearance criticism when exposed to magazines with an emphasis on appearance (Jones et al., 2004). Evidence consistently

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* Corresponding author. Tel.: +44 (0) 117 331 1082; fax: +44 (0) 117 331 0418.
  E-mail address: Anne.Haase@bristol.ac.uk (A.M. Haase).

suggests internalization of thin ideals predict a drive for thinness and high body dissatisfaction (Bearman, Presnell, Martinez, & Stice, 2006; Smolak, Levine, & Thompson, 2001) with exposure to the media and internalization being highly salient mechanisms supporting body image concerns and subsequently overall self-esteem (Grabe et al., 2008). As such, a study in girls aged 11–16-years found experimental exposure to either ultra-thin or average size magazine models lowered body image satisfaction and consequently self-esteem (Clay et al., 2005). Thus, perceptions of physical appearance and any degree of internalization impacting upon these perceptions is likely important for the development of self-confidence and self-esteem.

With increased exposure to unrealistically thin ideals portrayed in the media, most adolescent girls have an awareness of these thin ideals, but not all girls internalize them by attempting to conform to these ideals. However, there is the suggestion that those adolescent girls experiencing low self-esteem more often internalize the sociocultural ideal of thinness. The more these images are internalized, the greater the likelihood of social comparison (Fernandez & Pritchard, 2012), even despite the realization that these images are unattainable. A recent study showed how internalization precedes appearance comparison, which leads to greater body dissatisfaction (Rodgers, McLean, & Paxton, 2015). Given the association with body dissatisfaction, internalization could also be argued to impact independently upon other important psychological outcomes, specifically self-esteem.

Previous research has already identified peers to be an important determinant in the development of appearance concerns (Ferguson, Winegard, & Winegard, 2011) and low self-esteem (Shroff & Thompson, 2006). Peers can be influential, providing both positive and negative effects on how a female feels about her body (Steinberg & Sheffield-Morris, 2001) and on her overall self-esteem. Throughout adolescence, peers become more important, with reliance, support and need for approval increasing during this period (Cafri, Yamamiya, Brannick, & Thompson, 2005). Not having support or acceptance from friends has been associated with body dissatisfaction (Ata et al., 2007) and low self-esteem (Shroff & Thompson, 2006), as it perpetuates girls' belief that they would become more popular if thinner (Oliver & Thelen, 1996).

Friendship groups often share similar attitudes towards the importance of appearance and often discuss dieting and weight issues with friends (Paxton, Schutz, Wertheim, & Muir, 1999); with these conversations reinforcing the notion that appearance is important (Jones et al., 2004). Friendship groups can share similar feelings of mood and self-esteem (Paxton et al., 1999). Likewise, peer conversations contribute to prominent social comparisons in adolescents (Jones et al., 2004). It is not unexpected that girls who make comparisons with their peers and have weight-related conversations are more likely to experience lower self-esteem and poorer body dissatisfaction (Ata et al., 2007), as a consequence of listening to others' comments about being dissatisfied with their own bodies (Helfert & Warschburger, 2011). However, it is less likely that those adolescent girls who feel accepted by their peers will to try to conform to the thin ideal (Bearman et al., 2006).

As a consequence, peer pressure to conform to the thin-ideal stereotype depicted by the media can therefore occur in one of two ways; either directly through methods, such as teasing and/or criticisms of weight and appearance, or indirectly by a friend voicing concerns over their own appearance (Ferguson et al., 2011). Research and meta-analyses that have examined weight-related teasing have shown a positive longitudinal relationship with self-esteem (Menzel et al., 2010); such that those who are teased are more likely to diet and experience poorer body image (Clark & Tiggemann, 2007).

School can be a place for girls to develop, gain confidence and improve self-esteem, not only through learning, but also through developing friendships. Schools and peers, as well as parents, have been found to influence a child's self-esteem (Strange, Neuenschwander, & Dauer, 2005). However, it is argued that girls maintain more negative attitudes and behaviors towards each other, and thus in an all-girl environment this could impact further on appearance concerns, especially for those with low confidence and self-esteem (Delfabbro, Winefield, Anderson, & Winefield, 2011). Alternatively, a single-sex school may have benefit, as girls in co-educational schools tend to exhibit a greater focus on boys and potentially greater social comparison. What is not clear is the strength and direction of these associations within different school environments.

The school gender environment could be influential in girls managing internalization and self-esteem issues, but it is yet unclear the extent to which this environment impacts upon these relationships. Schools are thought to be places where a culture focusing on physical appearance and weight consciousness may exist and that single-sex schools in particular may manifest such a culture (Dyer & Tiggemann, 1996). Research conducted among 261 Australian girls (mean age 16.1 years) from two private single-sex and two co-educational schools identified that girls from both school environments wished to obtain a thinner body, but what drove that desire for thinness appeared to differ between the schools (Tiggemann, 2001). Specifically, in the single-sex school, more importance was given to intelligence and professional success as key reasons for the drive for thinness (Tiggemann, 2001). This importance on intelligence and professional success are likely to be key determinants relevant not only to appearance concerns, but importantly play a likely role in girls' global self-esteem.

Broadly, it is recognized that appearance concerns are an increasing issue among adolescents (Ricciardelli & McCabe, 2001) with potential to impact upon global self-esteem. However, the school environment has not been fully investigated in relation to self-esteem in schools with different gender make-up. It may be that factors such as social support may be stronger in the single-sex schools and are likely to predict greater self-esteem. One study found no effect of school type on associations between appearance concerns and self-esteem in girls, but there was no accounting for negative sociocultural influences (awareness of socio-cultural attitudes, internalization) or for other positive psychological factors (social support) potentially associated with increasing girls' self-esteem within the context of the school environments (Delfabbro et al., 2011). Furthermore, girls are influenced most by similar others, in that the weight loss practices of an over-weight girl are primarily related to weight loss practices of their over-weight peers (Mueller, Pearson, Muller, Frank, & Turner, 2010). Yet despite the potential influence of school environment on appearance and weight concerns, particularly as argued may be present in

single-sex schools, more protective psychological factors (e.g. perceived social support) may counter balance negative effects of these associations.

Therefore, the aim of the present study was to assess the differences between a single-sex and co-educational school in relation to appearance concerns (awareness and internalization), social support and associations with self-esteem in adolescent girls. Furthermore, a secondary aim was to determine the independent contribution of awareness, internalization and social support to self-esteem in girls, and any potential moderating effect of school-type on this relationship.

Method

Participants

Cross-sectional data were collected from 212 UK adolescent girls attending either a single-sex ($n = 106$) or co-educational ($n = 106$) school in West Sussex, South East England. Participants' mean age was 13.8 years ± SD 0.42 (range 13−15-years) with 79% of the sample within the 14-years category. Both schools were relatively similar in terms of socioeconomic position, and within the same geographical area. School uniform was compulsory at both schools, which helped to minimise potential differences between schools related to clothing choice.

Measures

All participants completed a questionnaire, which consisted of self-reported height and weight, general questions on losing weight and measures of self-esteem, attitudes towards appearance and perceived social support. Participants were asked seven yes/no questions about their attempts to lose weight and what methods had been used. Sample items from the questionnaire are, "*Are you trying to lose weight?*" and "*Do you exercise to lose weight?*" Body Mass Index (BMI) was calculated with the formula (weight (kg)/height (m)^2) using participants self-reported height and weight and classified into under-weight, normal weight, overweight and obese groups using age-and sex specific cut-off points (Cole, Bellizzi, Flegal, & Dietz, 2000).

The Rosenberg self-esteem scale

The 10-item Rosenberg Self-Esteem Scale (Rosenberg, 1965) was used to measure self-esteem. Participants responded to a four-point Likert-type scale with anchors from 1 (*strongly disagree*) to 4 (*strongly agree*). A sample item from the scale is, "*On the whole, I am satisfied with myself*". Scores range from 10 to 40, with higher scores indicating higher self-esteem. Previous research provided evidence of internal reliability (Moran & Eckenrode, 1991; Polce-Lynch, Myers, Kliewer, & Kilmartin, 2001) and validity in adolescent populations (Petersen, Schulenberg, Abramowitz, Offer, & Jarcho, 1984). In this study, the Cronbach's alpha value was 0.84.

Sociocultural attitudes towards appearance questionnaire (SATAQ)

The 14-item self-report Sociocultural Attitudes towards Appearance Questionnaire (two subscales; the 6-item Awareness scale and the 8-item Internalization scale), (Heinberg, Thompson, & Stormer, 1995) was used to measure recognition of society's standards of appearance (awareness scale) and the extent to which the female accepts these standards (internalization scale). Participants responded to a five-point Likert-type scale with anchors from 1 (*completely disagree*) to 5 (*completely agree*). A sample item from the awareness scale is "*In our society, fat people are not regarded as unattractive*" and from the internalization scale is "*I believe that clothes look better on thin models*". Awareness subscale scores range from 5 to 25 and internalization subscale scores from 6 to 30, with higher scores indicating greater awareness and internalization. Previous research provided evidence of internal reliability for the subscales (Stark-Wroblewski, Yanico, & Lupe, 2005) and convergent validity with other measures (Thompson & Stice, 2001) (Thompson, van den Berg, Roehrig, Guarda, & Heinberg, 2004). In this study, the Cronbach's alpha value was 0.50 for the awareness scale and 0.86 for the internalization scale. The SATAQ original was used and not the SATAQ-3 as the original has been validated in young adolescents, the same age group as the current sample (Smolak et al., 2001).

The multidimensional scale of perceived social support

The 12-item Multidimensional Scale of Perceived Social Support Zimet, Dahlem, Zimet, and Farley (1988) was used to measure perceived support from peers, family and significant others. Participants responded to a seven-point Likert-type scale with anchors from 1 (*very strongly disagree*) to 7 (*very strongly agree*). A sample item from the scale is "*My friends really try to help me*". Scores range from 12 to 84, with higher scores indicating higher levels of perceived social support. Previous research provided evidence of reliability (Zimet et al., 1988) and discriminant validity (Canty-Mitchell & Zimet, 2000). In this study, the Cronbach's alpha was 0.91.

Procedure

Ethical approval was given by the departmental Research Ethics Committee. Participation was voluntary and anonymous, with no compensation given for involvement. Schools were contacted about the study, via letter and follow-up phone call. Informed consent and permission to conduct the study was obtained from both schools' head teachers, who acted in *loco parentis*, as the study was conducted as an in-house project with the schools taking full responsibility. Students consented by completing and returning the anonymous questionnaire; those who did not want to participate left the questionnaire blank. All students were informed participation was voluntary, all responses were anonymous and they had the opportunity not to participate. Girls in the single-sex school were given a verbal presentation outlining the study and requesting their participation, followed with written study information through the distribution of information sheets. Questionnaires were completed during registration the following day. In the co-educational school, girls were informed of the study verbally and through information sheets. The researcher and deputy-head teacher were present to answer any questions. Afterwards, questionnaires were distributed for completion and collected as individuals finished. The overall response rate was 100%.

Data analysis

All items from each scale were summed (positively worded items were reverse scored), giving a total score for each scale. To explore differences between school environments, chi-square tests and independent *t*-tests were conducted for categorical and continuous variables, respectively. Correlations between variables were examined to determine relationships between self-esteem, sociocultural attitudes towards appearance and perceived social support for inclusion in regression models. To determine if school-type (single sex vs. co-educational) moderated the relationship between the independent variables and self-esteem, hierarchical moderated regression analyses were used (Aiken & West, 1991). Internalization, awareness and social support were entered in step one to assess their independent contribution to self-esteem, school-type entered in step two, and finally the interaction term between the moderator and independent variables were entered to determine any moderating effect by school-type. All statistical analyses were performed using SPSS for Windows, version 18 (SPSS Inc., IL, USA).

Results

Sample characteristics

Table 1 presents descriptive statistics of attempts to lose weight by dieting, exercise or smoking for each school environment. Some 46% of participants reported trying to lose weight with 23% dieting and 41% participated in exercise, while only a small percentage (1%) of the girls used smoking to lose weight. Nine per cent reported peers encouraged individuals to lose weight. Slightly more girls (49%) at the single-sex school were trying to lose weight compared to the co-educational school (43%), but this difference was non-significant. A high percentage (91%) of the total sample exercised and very few (17%) smoked. Chi-squared tests illustrated no significant differences between the school environments (Table 1). The majority (79%) were classified within the 'normal' range for BMI. Sixteen girls (36%) who reported their weight were within the under-weight category, while 13 girls were categorized as overweight. However, there were more overweight/obese girls at the co-educational school. A chi-squared test ($\chi^2 = 2.06$, $p = 0.56$) showed no difference in weight categories between the schools.

Comparison of school environment

As presented in Table 2, the mean scores for self-esteem and socio-cultural attitudes toward appearance were on average higher than other studies, suggesting slightly higher self-esteem, greater awareness and internalization within this sample. Perceived social support was somewhat lower in the single-sex school, suggesting girls perceived they were receiving less

Table 1
Descriptive statistics for attempts to lose weight for the total sample, single-sex and co-educational schools.

	Total sample	Single-sex school (frequency of girls who answered yes)	Co-educational school (frequency of girls who answered yes)
Are you trying to lose weight?	98 (46%)	52 (49%)	46 (43%)
Are you dieting to lose weight?	48 (23%)	20 (19%)	28 (26%)
Do your peers encourage you to lose weight?	20 (9%)	12 (11%)	8 (8%)
Do you exercise?	193 (91%)	98 (93%)	95 (90%)
Do you exercise to lose weight?	87 (41%)	49 (46%)	38 (36%)
Do you smoke?	35 (17%)	16 (15%)	19 (18%)
Do you smoke to lose weight?	3 (1%)	2 (2%)	1 (1%)

Table 2
Comparisons in means (standard deviation) between school gender environments on BMI and the five scales.

	Scale range	Total sample ($N = 212$)	Single-sex school ($n = 106$)	Co-educational school ($n = 106$)	p Value (difference between schools)
Age		13.80 (0.42)	13.83 (0.38)	13.76 (0.45)	0.25
BMI		19.2 (2.80)	18.9 (2.5)	19.5 (3.00)	0.15
Self-esteem	10—40	26.91 (4.63)	27.18 (4.79)	26.66 (4.46)	0.41
Total socio-cultural awareness					
Awareness	5—25	18.25 (3.62)	17.88 (3.44)	18.63 (3.76)	0.13
Internalization	6—30	23.02 (7.47)	21.74 (8.12)	24.30 (6.54)	0.01
Perceived social support	12—84	66.96 (13.05)	65.43 (15.34)	68.46 (10.18)	0.09

support from friends and family. Significant differences between the two school environments were found on scores for internalization ($t_{(1,209)} = 2.52$, $p = 0.01$) and perceived social support ($t_{(1, 206)} = 1.69$, $p = 0.09$).

Bivariate correlations

As shown in Table 3, self-esteem scores were negatively associated with sociocultural attitudes subscales (awareness, internalization) in both school environments. Furthermore, internalization was negatively associated with perceived social support. However, perceived social support was positively associated with self-esteem only in the single-sex school, while no association was found in the co-educational school. Additionally, there was a positive relationship between BMI and internalization only in the co-educational school.

Prediction of self-esteem

Results shown in Table 4, indicated that internalization and social support significantly contributed to 22% of variance explaining self-esteem in girls ($R^2 = 0.22$, $F\Delta$ (3, 203) $= 19.30$, $p = 0.00$), while the introduction of school—gender environment did not contribute any variance ($p = 0.56$). However, the interaction term of internalization by school environment significantly contributed an additional 3% of variance to self-esteem in adolescent girls ($R^2 = 0.25$, $F\Delta$ (3, 199) $= 2.87$, $p = 0.04$), suggesting moderation by school—gender environment. Therefore, to examine the nature of the interaction, two regression analyses were conducted, one for each school—gender environment (co-educational vs. single sex). Regression analyses showed a significant negative relationship was present in girls attending the co-educational school ($\beta = -0.50$, $R^2 = 0.25$, $F\Delta$ (1, 103) $= 33.35$, $p = 0.00$) such that higher internalization was associated with poorer self-esteem. However, in girls attending the single sex school, internalization only explained 12% of variance in self-esteem ($\beta = -0.35$, $R^2 = 0.12$, $F\Delta$ (1, 104) $= 14.23$, $p = 0.00$), a 50% reduction in explained variance as compared to the co-educational school (internalization explained 25% variance). Thus, internalization of the thin ideal portrayed by the media has a stronger association with self-esteem in girls attending a co-educational school, suggesting that greater internalization is linked to lower self-esteem in girls in mixed gender environments. As such, school—gender environment changes the strength of relations between internalization and self-esteem in adolescent girls.

Discussion

The present study determined associations between awareness and internalization of the thin ideal, perceived social support and adolescent girls' self-esteem within two school environments (single-sex vs. co-educational schools). As expected, greater awareness and internalization of the thin ideal contributed to poorer self-esteem, while positive factors of social support contributed to higher self-esteem. These findings contribute to the growing body of literature identifying key determinants and risk factors of poor self-esteem in adolescent girls. This study provides preliminary support for the

Table 3
Bivariate correlations for scores on each scale by school gender environment.

	BMI	Self-esteem	Awareness	Internalization	Social support
BMI		−0.13	0.04	0.23*	−0.12
Self-esteem	−0.05		−0.23*	−0.50**	0.08
Awareness	−0.12	−0.29**		0.31**	−0.20*
Internalization	0.01	−0.35**	0.41**		−0.12
Social support	−0.08	0.39**	−0.19	−0.22*	

Note. Correlations for co-educational school participants ($n = 106$) are presented above the diagonal, and correlations for single-sex school participants ($n = 106$) are presented below the diagonal. Self-esteem = Rosenberg self-esteem scale; Awareness and internalization = Awareness and Internalization subscales from total socio-cultural attitudes towards appearance scale; Social support = Multidimensional scale of perceived social support. *$p < 0.05$; **$p < 0.01$.

Table 4
Summary of hierarchical moderated regression analyses predicting self-esteem in adolescent girls.

Variable	b	t	95% CI	p	R^2	$R^2\Delta$
Step 1						
Internalization	−0.347	−5.188	−0.295, −0.133	0.00		
Awareness	−0.122	−1.823	−0.318, 0.012	0.07		
Social support	0.171	2.707	0.016, 0.102	0.01	0.222	
Step 2						
Internalization	−0.340	−5.027	−0.292, −0.128	0.00		
Awareness	−0.120	−1.785	−0.316, 0.016	0.08		
Social support	0.177	2.761	0.017, 0.105	0.01		
School environment	0.037	0.588	−0.794, 1.470	0.56	0.223	0.001
Step 3						
Internalization	−0.853	−3.760	−0.802, −0.250	0.00		
Awareness	0.050	0.248	−0.438, 0.565	0.80		
Social support	−0.246	−1.027	−0.248, 0.078	0.31		
School environment	−0.824	−1.524	−17.055, 2.186	0.13		
Interaction terms						
Internalization × school type	**0.696**	**2.398**	**0.036, 0.368**	**0.02**		
Awareness × school type	−0.352	−0.926	−0.486, 0.175	0.36		
Social support × school type	0.753	1.863	−0.005, 0.181	0.06	0.255	0.032

Note. Awareness and internalization = Awareness and internalization subscales from socio-cultural attitudes towards appearance scale; Social support = Multidimensional scale of perceived social support. Significant interaction terms highlighted in bold.

argument that the presence of the opposite sex may inflate appearance concerns and lower self-esteem. Despite awareness and internalization being present within both school environments and consistently associated with poorer self-esteem, greater perception of social support contributed to more self-esteem in girls attending a single sex school, suggesting a potential buffering or positive factor possibly counterbalancing negative associations. Hence, these factors appear to have slightly differential patterns relating to self-esteem in the two school environments.

Beyond examining associations, the predictive nature of these positive and negative correlates of girls' self-esteem highlighted potential determinants for interventions. Internalization of the thin ideal significantly contributed to poorer self-esteem in girls' at both school environments, yet the amount of internalization variance contributing to lower self-esteem in the co-educational environment was double that within the single-sex school environment. Although the association of internalization of the thin ideal with self-esteem is consistent with other studies (Delfabbro et al., 2011; Lawler & Nixon, 2011), the magnitude of variance explained between the two school environments suggests a more detrimental effect being present within a co-educational setting. The lower contribution of internalization to poor self-esteem in a single sex school adds weight to the argument of the benefit of this type of school environment (Aiken & West, 1991) for encouraging improved self-esteem, psychological and social well-being in adolescent girls. Furthermore, it is likely that within this type of school environment, peer friendship groups (Helfert & Warschburger, 2011) and support from parents and friends may not be diluted by effects of mixed gender, for example pressure to appear a certain way in front of boys.

Awareness and internalization of media influences were predominant in both types of environments, despite most UK schools having uniform codes which adolescents must abide by. In today's society, the mass media can act as mechanisms to relay societal ideals to both children and adults (Clark & Tiggemann, 2007), and as such, body dissatisfaction may develop through reinforcement of these ideals presented in the media by peers and family (Lawler & Nixon, 2011). However, not all girls internalize them to the same extent and consequently experience low self-esteem, as the awareness and internalization of media images of thin ideal differs by individual. As peers are an important way sociocultural messages of appearance are conveyed (Lawler & Nixon, 2011), the positive contribution of perceived social support may counter the internal perceptions and attitudes (sociocultural attitudes, awareness of media influences) thereby contributing to overall psychological well-being as measured by global self-esteem.

One strength of this research was that school environments (single-sex and co-educational) were included, which both required uniforms, and hence was an attempt to minimize any confounding effects that might occur when comparing schools with and without uniforms, or when girls compare between each other within the school setting. However, certain limitations of the study should be acknowledged. Firstly, the sample was restricted to only two schools and was not large enough to closely examine interactions and strength of relationships between variables across the schools. In addition, the reliability of the awareness subscale ($\alpha = 0.50$) was low. Hence, the generalizability of the findings may be limited. Secondly, additional data on socioeconomic status would have helped to maximize internal validity, although students may not easily estimate their own socioeconomic status. Due to the observational design, limited time available and deferring to the head teachers requests for short measures, other extraneous or confounding variables were unable to be included. Thirdly, body dissatisfaction was not measured and could be included in further studies to determine additional mediating effects contributing to low self-esteem in adolescent girls. Furthermore, given the reliance on self-report data, it would have been beneficial to collect accurate anthropometric measures and to conduct focus groups to explore concepts in more depth, though restrictions mentioned above prevented this. Future work might extend these results to a larger, more representative sample, including

more schools, greater spread of socio-economic position, and different methods of data collection. This study provided a preliminary cross-sectional picture of associations, whereas a future longitudinal study could shed light on how school gender environment interacts with appearance evaluation on self-esteem.

Conclusions

In conclusion, the present study identified the school environment to be influential with appearance attitudes and social influences relating directly to self-esteem. Despite contributing to the literature on self-esteem and appearance concerns, it is clear that a variety of questions remained unanswered. The exact means which link the school gender environment, positive and negative psychological factors, and internalization with self-esteem remains unclear, and thus future studies are necessary to further identify the roles of peers and the school environment on the development of self-esteem among adolescent girls.

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