



Brief research report

Body image trends among Icelandic adolescents: A cross-sectional national study from 1997 to 2010

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ABSTRACT

The aim of this study was to evaluate trends in body image among Icelandic adolescents from 1997 to 2010. Data from five cross-sectional surveys conducted among national samples of 9th and 10th graders in Iceland using five time points (1997, 2000, 2006, 2009, and 2010) were compared to examine changes in body image. In total, 32,397 adolescents participated in the study. Body image among 14–15-year-old adolescents in Iceland improved significantly over the 13-year period. Girls reported more negative body image than boys at all time points. However, the positive change in body image from 1997 to 2010 was more pronounced for girls than boys, resulting in a narrower gap between the genders. The current results are encouraging and indicate that in an age of increased overweight and obesity, the body image of Icelandic adolescents is becoming more positive.

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Introduction

The adolescent years are an important period in the development of body image. Studies have indicated that, from childhood through early and mid-adolescence, the prevalence of negative body image increases (Fenton, Brooks, Spencer, & Morgan, 2010; Kostanski, Fisher, & Gullone, 2004). A longitudinal study among North American adolescents showed that these negative changes were more prominent among younger adolescents than older ones (Eisenberg, Neumark-Sztainer, & Paxton, 2006).

Adolescent girls have been identified as an at-risk group for developing negative body image, a finding that has been linked with unrealistic cultural ideals, including the thin ideal (Cash, Morrow, Hrabosky, & Perry, 2004; Clay, Vignoles, & Dittmar, 2005; Rozin, Trachtenberg, & Cohen, 2001; Storvoll, Strandbu, & Wichstrom, 2005). This is a cause for concern since negative body image has been related to a number of emotional and behavioral problems, including disordered eating (Stice, 2002), greater depression (Stice & Whitenton, 2002), lower self-esteem (Clay et al., 2005), and reduced quality of life (Cash & Fleming, 2002).

Empirical studies examining trends in body image over time have mainly been conducted among the North American college population (e.g., Cash et al., 2004; Neighbors, Sobal, Liff, & Amiraian, 2008; Rozin et al., 2001). Most of these studies have indicated a

negative trend in women's overall body image from the 1970s until the mid-1990s while men's body image seems to have remained quite stable during this period (Cash et al., 2004; Feingold & Mazella, 1998; Rozin et al., 2001). More recently, researchers have observed positive changes in some aspects of women's body image, while body image among men still seems stable (Cash et al., 2004; Neighbors et al., 2008). Cash et al. (2004) investigated multiple facets of body image among college students using a cross-sectional survey design over a 19-year period. Their results indicated significant improvements in the evaluation of women's overall body image and less preoccupation with overweight between the two time periods 1996–1998 and 1999–2001. Neighbors et al. (2008) studied trends in body weight evaluation among undergraduates in 1990 and 2005. Their study indicated that, despite women's increase in body mass index (BMI) between the two time points, they were more satisfied with their body weight in 2005 than in 1990, were more likely to perceive their weight status correctly, and less likely to claim that they were trying to lose weight.

In recent years, very few studies have examined body image trends in early and mid-adolescence. The most recent study was conducted in Norway at two time points (1992 and 2002) and compared adolescents' satisfaction with their overall appearance as well as their more specific aspects of appearance, including their face, muscle tone and weight (Storvoll et al., 2005). The results indicated a polarization in adolescents' body image, where a higher proportion of adolescents had both very positive body image and very negative body image in 2002 compared to 1992.

Cash et al. (2004) have called for further research on trends in body image from different Westernized cultures, since information

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on this issue is greatly lacking, particularly among children and adolescents. Iceland is an ideal location to reflect on these trends. The population is both small and quite homogeneous. It has been possible to carry out systematic population-based studies among cohorts of Icelandic adolescents, providing a unique opportunity to examine and bring to light the important question of trends in body image in times of change of obesity and overweight. A progressive increase has been observed in the rates of overweight and obesity among adolescents and adults in Iceland (Eidsdottir, Kristjansson, Sigfusdottir, Garber, & Allegrante, 2010; OECD, 2011). According to OECD indicators, the proportion of obesity and overweight among adolescents and children (5–17 years) in Iceland is considerably higher than in Scandinavia, but lower than in the US (OECD, 2011).

The present study seeks to add knowledge to the field by investigating trends in body image among adolescents over a period of 13 years, using nationally based cross-sectional survey data from five cohorts, all of which were based on the same instruments and methodology. In the current study, the body image measure is based on Offers' Body and Self-Image subscale, which "indicates the extent to which the adolescent has adjusted to or feels awkward about his body" (Offer, Ostrov, & Howards, 1977, p. 6). According to Offer et al. (1977) good adjustment in this facet of self-image indicates a secure self concept whereas bad adjustment indicates that the adolescent had great doubts about himself. In line with recent literature (Cash et al., 2004; Neighbors et al., 2008), it was hypothesized that body image among adolescent girls would show a significant improvement between 1997 and 2010, while body image among adolescent boys would remain stable. Furthermore, it was hypothesized that being a girl (Cash et al., 2004; Clay et al., 2005; Rozin et al., 2001; Storvoll et al., 2005) and being older (15 opposed to 14) (Eisenberg et al., 2006; Fenton et al., 2010; Kostanski et al., 2004) would independently predict more negative body image.

Method

Participants

Survey data were analyzed from five cross-sectional, nationally representative samples of 14- and 15-year-old adolescents attending the compulsory 9th and 10th grades in Iceland. The surveys in 2000, 2006, 2009, and 2010 consisted of all adolescents present in class during the days of the surveys. In 1997, two surveys were administered, each to a randomly selected sample of half of all 9th and 10th graders present in class. Only one of the two surveys included the measures of body image and was therefore used in the current study. The number of participants and percentage of the total population of 9th and 10th graders in Iceland was as follows (by year): 3913 (45.6%) in 1997, 6346 (82.4%) in 2000, 7430 (81.4%) in 2006, 7514 (83.5%) in 2009, and 7194 (85.6%) in 2010. Hence, a total of 32,397 adolescents participated in the current study.

Measures

Body Image. The body image scale consisted of five questions from the Body and Self-Image subscale of the Offer Self-Image Questionnaire (OSIQ) (Offer et al., 1977). The OSIQ is a widely used, self-report inventory, measuring the psychological adjustment of adolescents in eleven content areas. In general, studies have reported that the OSIQ instrument has high reliability (Patton & Noller, 1994) and moderate discriminant validity (Laukkanen, Peiponen, Aivio, Viinamäki, & Halonen, 1999) but its eleven content areas have been criticized (Patton & Noller, 1994). The Body and Self-Image subscale, which contains nine items, was abbreviated to five items in the current study. The abbreviated measure was made

on the basis of item analysis of pilot data in 1992 from groups of 9th and 10th graders in Iceland, yielding acceptable internal consistency and validity (Thorlindsson, Karlsson, & Sigfusdottir, 1994). The questions, which were translated to Icelandic, were identical at all five time points and were all related to how the adolescent felt about his body, physical appearance or physical health. Participants were asked how well the following statements described them: "When I think about how I will look in the future, I am happy", "I frequently feel ugly and unattractive", "I am proud of my body", "I am happy with the way my body has changed in recent years", and "I feel strong and healthy." In the current study, a four-point response scale was used (1 = *Describes me very well*, 4 = *Does not describe me at all*) instead of a six-point response scale as used in the OSIQ. Four of the items were reverse-coded and combined with the fifth item ("I frequently feel ugly and unattractive") into a scale, ranging from 0 to 15 with higher scores reflecting more positive body image. The scale had a satisfactory internal consistency in all the surveys (Cronbach's alphas = .74–.77). A factor analysis of the five items yielded a single factor, explaining 52% of the total variance of the five items (eigenvalue = 2.61), with factor loadings of items ranging from .65 to .82. The high factor loadings and the fact that none of the communalities were low (ranging from .42 to .66) supported that the scale was a single factor where all the items were of importance. A prior study has similarly supported adequate internal consistency of this same measure as well as its criterion validity (Vilhjalmsson, Kristjansson, & Ward, 2011). Of the subscales in the OSIQ, The Body and Self-Image subscale has demonstrated the highest correlation with measures of depression and life satisfaction (Teri, 1982). This has been viewed as an indication of the criterion validity of the subscale as well as a demonstration of the importance of the physical self-concept when studying psychosocial adjustment among adolescents (Patton & Noller, 1994; Teri, 1982).

Demographic Variables. Demographic variables in the study were the adolescents' gender (male, female) and age, whereas age was indicated by the adolescents' grade (9th = 14 years old, 10th = 15 years old).

Procedure

The surveys were part of the National Survey of Icelandic Adolescents, "Youth in Iceland". The data were collected in accordance with the Privacy and Data Protection Authority in Iceland, by and under the direction of Institute for Educational Research (in the year 1997) and the Icelandic Centre for Social Research and Analysis (ICSRA) (2000–2010). After gaining informed consent, anonymous questionnaires were administered to adolescents who were present in class during the days of the surveys. Teachers and research assistants distributed the questionnaires and adolescents placed and sealed them in blank envelopes upon completion of the survey.

Statistical Analysis

Differences in mean scores of the body image scale between years was tested for boys and girls separately using analyses of variance (ANOVAs) and Scheffe's post hoc tests. The ANOVAs were followed up by three multiple linear regression models, testing for main and interaction effects of study year, age (14 = 0 and 15 = 1), and gender (male = 0 and female = 1), with the body image scale serving as the dependent variable. All the necessary underlying assumptions of linear regression models were met.

Table 1
Descriptive statistics and results from ANOVAs and Scheffe's post hoc tests (standard errors in parentheses) showing mean levels of body image from 1997 to 2010 for boys and girls.

Gender	Body image				Difference between means				
	Year	N	Mean	SD	X ₉₇ -X ₀₀	X ₀₀ -X ₀₆	X ₀₆ -X ₀₉	X ₀₉ -X ₁₀	X ₉₇ -X ₁₀
Boys ^a	1997	1949	9.79	2.74	-0.20 (.08) <i>p</i> = .12	-0.12 (.07) <i>p</i> = .43	-0.32 (.07) <i>p</i> < .01	-.56 (.07) <i>p</i> < .01	-1.20 (.08) <i>p</i> < .01
	2000	2904	9.99	2.89					
	2006	3453	10.11	2.83					
	2009	3405	10.43	2.84					
	2010	3336	10.98	2.90					
Girls ^b	1997	1841	7.78	3.07	-0.42 (.09) <i>p</i> < .01	-0.39 (.07) <i>p</i> < .01	-0.44 (.73) <i>p</i> < .01	-.23 (.07) <i>p</i> = .04	-1.49 (.09) <i>p</i> < .01
	2000	3141	8.20	3.12					
	2006	3527	8.59	3.07					
	2009	3630	9.04	3.01					
	2010	3476	9.26	3.03					

^a ANOVA for boys; $F(4,15042) = 78.07, p < .001$.

^b ANOVA for girls; $F(4,15610) = 103.04, p < .001$.

Results

Table 1 shows the trends in body image among adolescent boys and girls for the years 1997, 2000, 2006, 2009, and 2010. The mean levels on the body image scale increased significantly between 1997 and 2010, indicating a more positive body image in 2010 than in 1997 for both genders. The mean level of the body image scale was higher for boys than girls at all time points, with the effect sizes for the gender difference ranging from Cohen's $d = .49$ to $.66$ (1997 = $.66$; 2000 = $.57$, 2006 = $.50$; 2009 = $.49$, and 2010 = $.55$).

In Table 2, multivariate linear regression models are presented, predicting body image among adolescents. Looking at Model 1, year linearly predicted mean levels of body image, where each added time point predicted higher levels of positive body image. The trend remained significant after the variables gender and age were added to the model (see Model 2). Model 2 furthermore showed that younger age and being male significantly predicted more positive body image.

In Model 3, the interactions were added to the model. Two significant interactions were detected. First, the results indicated that the linear change in body image over time was greater for girls than boys in the period under study (Year \times Gender). Second, there was a significant interaction between gender and age when predicting body image (Gender \times Age). This indicates that age is a stronger predictor of body image among girls than boys, where higher age predicted more negative body image.

Discussion

The findings of the current study indicated a positive linear trend in body image among Icelandic adolescents between 1997 and 2010. While boys reported more positive body image than girls at all time points, the positive change in body image turned out to be stronger for girls than boys, resulting in a narrower gap between the genders. Furthermore, 15-year-old adolescents were more likely to have more negative body image than younger adolescents (14-year-olds), with this difference being more pronounced for girls than boys. In general, the results support findings reported by recent studies, indicating a positive trend in women's body image (Cash et al., 2004; Neighbors et al., 2008). The results are also in accordance with studies reporting more negative body image among adolescent girls than boys (Cash et al., 2004; Rozin et al., 2001; Storvoll et al., 2005), as well as more negative body image among older adolescent girls than younger ones (Clay et al., 2005; Eisenberg et al., 2006; Storvoll et al., 2005). However, to our knowledge, this is the first study to report a general positive trend in body image among adolescent boys. Other studies among men have either reported few changes in their overall body image (Cash et al., 2004; Neighbors et al., 2008) or a polarization, indicating a higher proportion having a very positive or very negative body image (Storvoll et al., 2005).

The present results, revealing more positive body image among both adolescent boys and girls, are interesting given the frequent cultural message from the media in today's Western society,

Table 2
Multivariate linear regression models, predicting body image among adolescents.

Variables	Body image					
	Model 1		Model 2		Model 3	
	β	<i>t</i>	β	<i>t</i>	β	<i>t</i>
Main effects						
Year	.13	23.6*	.14	24.7*	.14	24.7*
Gender (female = 1)		-.27	-.48.5*	-.27	-.48.5*	
Age (15 = 1)		-.04	-.6.8*	-.04	-.6.8*	
Interactions						
Year \times gender			.02	4.20*		
Year \times age			.00	1.32		
Gender \times age			-.03	-5.10*		
<i>F</i> (<i>df</i>)	557.04*		997.75*		507.16*	
	(1, 30997)		(3, 30466)		(6, 30463)	

β = beta, standardized coefficient; *df* = degrees of freedom.

* $p < .001$ (two-tailed test).

promoting thin ideal for women and a muscular ideal for men (Labre, 2002; Lawrie, Sullivan, Davies, & Hill, 2006). Specifically, this is interesting in light of a prior Icelandic study revealing an increased prevalence of overweight and obesity for both genders in most adolescent and young adult age groups between the years 1992 and 2007 (Eidsdottir et al., 2010). High BMI has been reported as one of the most important predictors of negative body image among adolescents (Clark & Tiggemann, 2008; Fenton et al., 2010; Stice & Whitenton, 2002). At first hand the current findings hence may seem contradictory and the causes most likely are complex. However, two important explanations come to mind.

First, it is likely that increase in BMI during the last few decades has resulted in a greater diversity of body shapes and sizes in society. As suggested by Cash et al. (2004), increased diversity may lead to a normalization that promotes greater body acceptance among individuals through social comparison. Hence, more diversity in society could compensate for some of the negative influences popular media has on adolescents' body image through social comparison with unrealistic and standardized media models (Cash et al., 2004; Clay et al., 2005).

The second possible explanation is linked to the social context in which the adolescents find themselves. Hence, support and closeness of communication with parents and teachers have been identified as important factors in sustaining a positive body image in adolescence (Fenton et al., 2010; Stice & Whitenton, 2002). Since 1998, a community-based health promotion strategy has been carried out in Iceland, focusing on promoting healthy lifestyles among adolescents and enhancing protective factors, including social support and integration (Sigfusdottir, Kristjansson, Gudmundsdottir, & Allegrante, 2011). This health promotion has been linked to a significant increase in social support, time spent with parents, and communication between adolescents and parents in Iceland (Gudmundsdottir, Kristjansson, Sigfusdottir, & Sigfusson, 2009; Sigfusdottir et al., 2011). It is likely that these positive changes in communication patterns, and feelings of support among adolescents in Iceland may have contributed to the development of a more positive body image among adolescents observed in the current study. Future research is imperative to conclude about these possible explanations.

The current study has some limitations that need to be addressed. First, the survey only studied limited aspects of body image which included an abbreviated version of the Body and Self-Image subscale of the OSIQ, including five out of nine questions. This abbreviated scale has been used in other studies on body image and has indicated acceptable internal consistency and validity (Thorlindsson et al., 1994; Vilhjalmsdottir et al., 2011). However, the OSIQ scale has been criticized for its eleven content areas (subscales). According to Patton and Noller (1994) a factor analysis of the OSIQ indicated the existence of five factors instead of eleven. This suggests that further examination and development of the OSIQ and its subscales are needed.

Second, the study is based on self-reports from the adolescents with a potential response bias, including answering in a socially desirable manner. Studies have however indicated that socially desirable responding is not a substantial problem when administering the OSIQ among 14–16 year old adolescents (Patton & Noller, 1994). Third, the response scale used in all the surveys was a four-point scale instead of a six-point scale as used in the OSIQ. The four-point scale was used to increase the consistency in the response categories of the questions in the “Youth in Iceland” comprehensive surveys (Thorlindsson et al., 1994). This makes comparisons between the current study and others studies using similar measures with different response scale problematic. Fourth, the age range in the study was restricted to only two age groups. Further research is needed to conclude on the trends in

body image among adolescents. Ideally, these studies should use standardized and validated measures; including measures of adolescents' body image evaluation, adolescents' evaluation of specific physical characteristics (such as body weight or shape) as well as adolescents' psychological investment in appearance (Cash et al., 2004). Finally, cross-cultural comparative studies focusing on possible individual and sociocultural explanations for changes in body image would give valuable information (Clark & Tiggemann, 2008; Wardle, Haase, & Steptoe, 2006).

In conclusion, the findings of the current study are both encouraging and thought-provoking. In an age of increased overweight and obesity throughout the US and Europe, this study shows that body image of Icelandic adolescents is becoming more positive. While it is generally good that young people are content with themselves, we need to face emerging health consequences related to increase in overweight and obesity. The current findings support prior implications (Clark & Tiggemann, 2008; Eidsdottir et al., 2010; Fenton et al., 2010) that intervention approaches should focus more on improving health, psychological well-being and healthy lifestyles, but less on decreasing body weight for improved body image.

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