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Preferences for being Muscular and Thin in 6-year-old Boys

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Highlights

- Six-year-old boys report muscularity- and thinness-oriented body dissatisfaction
- One-third of boys wanted to be more muscular than their current figure size
- Boys' perceived greater rewards from muscularity than from thinness
- Muscularity dissatisfaction was associated with expected rewards of muscularity

Accepted Version

Abstract

Body dissatisfaction emerges at an early age in childhood. However, the unique experiences of young boys regarding muscularity have not been examined. Interview responses were collected from 101 6-year-old boys to examine muscularity- and thinness-oriented body dissatisfaction. Both muscularity- and thinness-oriented body dissatisfaction were evident; boys on average selected ideal figure sizes significantly more muscular and significantly thinner than current figures. In addition, a significantly greater proportion of boys wanted to be more muscular (32.6%) than less muscular (16.8%), and thinner (20.8%) rather than larger-fatter (8.9%). Further, boys perceived significantly greater rewards from muscularity than from thinness. Findings demonstrate that muscularity and thinness-oriented body dissatisfaction is present in a substantial proportion of young boys, although a greater proportion are dissatisfied with muscularity than with thinness, suggesting that examination of body image in young boys needs to focus on muscularity dimensions as well as thinness-fatness dimensions.

Keywords

Boys; body dissatisfaction; muscularity; thinness; figure rating scales

Introduction

Contemporary discourse suggests that males' body concerns are characterised more by drive for muscularity than for thinness (Murray, Griffiths, & Mond, 2016). Research with adolescent boys and young men has revealed high prevalence of muscularity concerns (Raevuori, Keski-Rahkonen, Rose, Rissanen, & Kaprio, 2006) and adverse effects including use of unhealthy muscle enhancing behaviours (Eisenberg, Wall, & Neumark-Sztainer, 2012). Thus, research is needed to examine muscularity-related body image, as an adjunct to examining desire for thinness. Although previous research has examined body image concerns in middle primary-school-aged boys and girls and early primary-school-aged girls (e.g., Ricciardelli, McCabe, Holt, & Finemore, 2003), little research has investigated body image in pre- or early primary-school-aged boys.

The few studies of boys aged 4 to 7 have used thinness-fatness figure rating scales to assess boys' perceptions of their current versus ideal body size, as an indicator of body dissatisfaction, with mixed outcomes. Data from the present sample when aged four years showed that, of the few boys who desired a figure different from current figure (27.8%), a greater proportion selected a larger-fatter ideal size than current size (77.1%), than selected a thinner ideal size (22.9%; Damiano et al., 2015). Possibly those findings did not reflect body dissatisfaction per se, but that larger-fatter bodies represent being older or having greater physical capability (Birbeck & Drummond, 2006). In older boys, aged 5-8 years, Lowes and Tiggemann (2003) found that the same proportion of boys wanted an ideal figure thinner than current figure (35%), as wanted an ideal figure larger-fatter than current figure (35%). These findings highlight the need to examine multiple dimensions of boys' body image, particularly muscularity.

Qualitative research with young boys provides insight into boys' muscularity-related experiences. Many boys aged 5-7 report that muscle-building activities or demonstrating a muscular physique, reflect the ideal man (Drummond, 2012). Similarly, boys aged 8-10 often report a preference for a muscular, rather than thinner, body size; although they dislike fatness (Tatangelo &

Ricciardelli, 2013). These findings align with sociocultural appearance ideals for males, characterised by muscularity and low body fat (Murray et al., 2016).

Sociocultural theory, which posits that body dissatisfaction results from the transmission of sociocultural pressures and expectations about appearance ideals from media, peers, and family, via internalised appearance ideals (Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999), may inform the examination of body concerns. Indeed, adolescent boys who report internalising appearance ideals (Knauss, Paxton, & Alsaker, 2007) and expect benefits from meeting appearance ideals (Simmons, Smith, & Hill, 2002), also report greater body dissatisfaction. Furthermore, adolescent boys' internalised ideals mediate relationships between expectations of benefits from meeting appearance ideals and body image-related outcomes (Trekels & Eggermont, 2017). In addition, in adolescent boys, lower appearance-ideal internalisation is associated with greater satisfaction with muscularity (Petrie, Greenleaf, & Martin, 2010). The examination of these relationships in young boys is limited and in need of investigation (Tatangelo, McCabe, Mellor, & Mealey, 2016). Thus, the present study explored relationships between both muscularity- and thinness-related body dissatisfaction and potential correlates: internalisation of appearance ideals and rewards from muscularity and thinness in 6-year-old boys.

We investigated body dissatisfaction (preferences for a muscular- or thin-ideal appearance), and correlates of body dissatisfaction in 6-year-old boys. Guided by previous research, we predicted that on average, 6-year-old boys would select an ideal figure more muscular than, but not thinner than, their current figure. We also predicted that internalisation of both media and athletic appearance ideals and expectancies of rewards of muscularity, but not thinness, would be associated with greater muscularity dissatisfaction and that internalisation would mediate the relationship between expected rewards and body dissatisfaction.

Method

Participants

Participants were 101 6-year-old boys from a larger longitudinal study in Melbourne, Australia, examining body image in young children (Damiano et al., 2015; Spiel et al., 2016). Participants were recruited at childcare centres and family events when children were 3 years old. The present sample comprised only boys from Wave 4 of data collection, as muscularity assessments were conducted for the first time (only with boys) at this wave. Mothers ($n = 90$) and fathers ($n = 57$) were highly educated, with 77.8% and 70.2%, respectively, having a university degree. Parent-reported postcode data ($n = 94$) suggested 70.2% of families lived in high, 24.5% in average, and 5.3% in disadvantaged socio-economic areas.

Measures

Demographics. Parents reported children's date of birth. Interviewers measured children's height and weight. Standardised body mass index (BMI-z) adjusting for age and gender was calculated (Blössner, Siyam, Borghi, Onyango, & de Onis, 2009).

Body dissatisfaction. A 9-figure rating scale (Tiggemann & Pennington, 1990) assessed thinness-fatness body dissatisfaction. Figures looked like young boys and ranged from 1 (*very thin*) to 9 (*very fat*). Boys selected the figure most like themselves (current) and which they would most like to be (ideal) and a discrepancy score (current minus ideal) was calculated. Positive scores reflect desire to be thinner, negative to be larger-fatter. Figure scales have adequate test-retest reliability (Damiano et al., 2015) and construct validity (Truby & Paxton, 2002) in young boys.

Muscularity dissatisfaction was assessed with a 5-figure rating scale (see Figure 1) adapted from the above scale. The average figure (5) from the thinness-fatness scale was Figure 1 for the muscularity scale and figures increased incrementally in muscularity to Figure 5 (*very muscular*). Boys selected their perceived current and ideal figures, and a discrepancy score (current minus ideal) was calculated. Negative scores reflect desire for greater muscularity, positive scores less muscularity.

Internalisation of appearance ideals. Three items (to manage burden) adapted from the Sociocultural Attitudes Towards Appearance Questionnaire-3 (Thompson, van den Berg, Roehrig,

Guarda, & Heinberg, 2004) assessed appearance ideal internalisation: "Would you like your body to look like the bodies of people in the movies/ on television/of sports people?" Responses were coded as 0 (*no*) or 1 (*yes*); unsure responses as missing. The first two items were summed to reflect media appearance ideals internalisation (inter-item $\rho = .72$). The last item reflected athletic appearance ideals.

Rewards of appearance ideals. Rewards of muscularity and thinness were each assessed with three items (e.g., "Do you think having muscles [...being thin...] helps you make more friends?") adapted from the Media Attitudes Questionnaire (Irving, DuPen, & Berel, 1998). Responses were coded as 0 (*no*) or 1 (*yes*); unsure responses as missing. Items for each scale were summed separately (score of 0 to 3). Internal consistency was adequate: rewards of muscularity $\alpha = .74$, thinness $\alpha = .75$.

Procedure

La Trobe University Ethics Committee, the Department of Education (Victoria), and Catholic Education Melbourne provided approvals. Parents provided written consent and children verbally assented. Individual face-to-face interviews, approximately 30 minutes duration, were conducted by trained interviewers. If boys did not respond to questions, a prompt was used. If no response was forthcoming, the interviewer said it was okay to be unsure and moved on. Interviews took place in children's homes or schools in private areas. Following data collection, families received a shopping voucher and were entered into a prize draw.

Results

Body Dissatisfaction

Table 1 shows descriptive statistics and correlations between variables. For muscularity, the mean ideal figure selected was significantly more muscular than current figure, $t(94) = -2.05$, $p = .043$, $\eta^2 = .04$. For thinness-fatness, the mean ideal figure selected was significantly thinner than current figure, $t(100) = 2.34$, $p = .021$, $\eta^2 = .05$. Effect sizes of differences were small ($\eta^2 .02 - .59$).

McNemar's test of dependent proportions for body size preferences showed that a significantly greater proportion of boys wanted an ideal muscularity-related body size different from their current size (49.5%; 32.6% more and 16.8% less muscular) than wanted an ideal thinness-fatness related body size different from their current size (29.7%; 20.8% more and 8.9% less thin), $p = .003$, OR = 3.25 (95% CI: 1.47, 7.18). For muscularity, a significantly greater proportion of boys chose a more muscular ideal than current figure (32.6%) than chose a less muscular ideal figure (16.8%), $p = .040$, OR = 1.94, (95% CI: 1.06, 3.54). Significantly more boys chose a thinner ideal than current figure (20.8%) than chose a larger-fatter ideal figure (8.9%), $p = .043$, OR = 2.33 (95% CI: 1.07, 5.10).

Many boys indicated they expected positive rewards from muscularity and thinness (see Table 1). However, boys perceived higher rewards from muscularity than from thinness, $t(100) = 2.45$, $p = .016$, $\eta^2 = .06$, with medium effects ($\eta^2 = .06 - .13$).

Body Dissatisfaction Correlates and Mediation Analyses

Desire for greater muscular was significantly associated with desire for greater thinness. Higher muscularity dissatisfaction was associated with greater rewards of muscularity. Thinness-fatness dissatisfaction was not significantly associated with any correlates. Media-ideal internalisation was positively correlated with internalisation of athletic ideals and with rewards of both muscularity and thinness. Interestingly, internalisation of athletic ideals was positively associated with rewards of muscularity but not of thinness. Rewards of muscularity and rewards of thinness were positively correlated (see Table 1).

Two separate simple mediation analyses, conducted with the PROCESS macro (Hayes, 2016), examined the indirect effects of expectations of appearance rewards (muscularity and thinness rewards separately), on muscularity-oriented body dissatisfaction, mediated by media ideals internalisation. As Steps 1 and 2 demonstrating significant associations between predictors and outcome variables and between mediator and outcome variables are in Table 1, they are not repeated here. For Step 3, the effect of the mediator on body dissatisfaction was not significant,

controlling for either muscularity or thinness rewards, unstandardized coefficients = $-.20$ (95% CI: $-.64, .25$) and $-.21$ (95% CI: $-.64, .23$), respectively. Step 4 showed that, controlling for the mediator, muscularity rewards, unstandardized coefficient = $-.24$ (95% CI: $-.54, .06$), and thinness rewards, unstandardized coefficient = $-.25$ (95% CI: $-.56, .05$), were no longer significant predictors of muscularity dissatisfaction. Based on 5,000 bootstrapped samples, for both analyses, indirect pathways from muscularity rewards and thinness rewards to muscularity-dissatisfaction via internalisation of media ideals were not significant, $b = -.04$ (95% CI: $-.12, .04$), $b = -.03$ (95% CI: $-.11, .02$), respectively. Thus, the hypotheses predicting indirect effects of muscularity and thinness rewards on body dissatisfaction via internalisation of media appearance ideals were not supported.

Indirect relationships to thinness-oriented body dissatisfaction were not examined. The lack of significant univariate relationships from the independent variables or the putative mediator to this dependent variable did not support conducting the proposed analyses.

Discussion

This study examined muscularity- and thinness-related body dissatisfaction and their correlates in 6-year-old boys. In partial support of our hypotheses, many boys reported muscularity- and thinness-oriented body dissatisfaction, defined as selecting ideal figures more muscular and thinner than perceived current figures. However, more boys desired an ideal body size different from current body size in relation to muscularity than in relation to thinness. Boys also perceived higher rewards from muscularity than thinness. Greater muscularity dissatisfaction correlated with expecting more rewards from muscularity, whereas no significant correlations for thinness-fatness dissatisfaction emerged. These findings supported our hypotheses. In contrast to expectations, relationships from muscularity rewards and from thinness rewards to muscularity dissatisfaction were not mediated by media-ideals internalisation. Furthermore, muscularity discrepancy and thinness-fatness discrepancy were significantly correlated; boys who selected a more muscular ideal than current figure were more likely to select a thinner ideal than current figure. These findings, as well as the substantial proportion of boys who expected positive outcomes from both muscularity

and from thinness, appear to reflect a desire for the lean/muscular body ideal that adolescent boys have reported (Field et al., 2014).

The results of this study confirm research in adolescent boys regarding muscularity-related body dissatisfaction (Reardon & Govender, 2011). The findings are also novel regarding preferences for both a more muscular and thinner body size at this young age. Ricciardelli et al. (2003) found 8- to 11-year-old boys rated muscles as important, but muscularity dissatisfaction was not assessed. We believe our study is the first to demonstrate muscularity-oriented body dissatisfaction in boys as young as 6-years-old. Findings may reflect expression of gendered body concerns, in which an orientation towards masculinity is associated with muscularity concerns (Blashill, 2011). In the current sample, muscular appearance preferences may signal initial stages of awareness of masculine appearance norms.

It was also a novel finding in this age group that the average ideal figure selection was significantly thinner than the average current figure selection. This finding has not been demonstrated in previous research with young boys (Damiano et al., 2015; Lowes & Tiggemann, 2003). The proportion of boys in this study who wanted to be a different body size was substantially smaller than in Lowes and Tiggemann's (2003) study with 5- to 8-year-old boys, but in that study, equal proportions wanted to be thinner as wanted to be larger-fatter. Contrary to current findings, an earlier examination of the present sample when boys were 4 years old found that ideal figure selection was significantly larger-fatter than current figure selection (Damiano et al., 2015). Although similar proportions of boys wanted to be a different body size from their current body size when aged 4 (28%) and when aged 6 (30%), a shift occurred regarding the size chosen as ideal. At age 4, more boys wished to be larger-fatter than thinner, whereas at age 6, more boys wished to be thinner than larger-fatter. As noted earlier, possibly younger boys perceive the larger-fatter figure to be older or more physically capable (Drummond, 2012), both being desirable. Alternatively, by age 6, boys may be more influenced by normative thinness ideals. It will be useful to follow up this sample to see whether dissatisfaction increases and to determine whether physical changes associated with

puberty, which typically bring boys' appearance closer to muscular ideals, counter age-related increases in boys' body dissatisfaction.

Although many boys in this study preferred a more muscular and also a thinner body size, boys perceived that being muscular was more rewarding than was being thin, consistent with qualitative research with preadolescent boys (Tatangelo & Ricciardelli, 2013). Perceived muscularity-based rewards were also associated with muscularity-related body dissatisfaction. Boys who desire greater muscularity may do so because they perceive social rewards from attaining that body ideal, although the causal direction is unknown. Contrary to expectations, neither internalisation of media nor athlete ideals were correlated with muscularity dissatisfaction. Young boys may be aware of the desirability of appearance ideals, reflected by endorsement of rewards of muscularity and thinness, and consistent with previous research (Drummond, 2012), but they may not have internalised ideals as personal standards, and thus they are not associated with their body dissatisfaction.

Study limitations included cross-sectional design, so causality cannot be concluded. Further, although figure scales are well-established for assessing body dissatisfaction in young children (Lowes & Tiggemann, 2003; Truby & Paxton, 2002), the validity of the muscularity-oriented figure rating scale is not established. However, the correlation with the thinness-fatness figure scale offers some support for construct validity. Furthermore, while figure ratings are commonly used to assess body dissatisfaction, they may not assess salience of ideal-current discrepancies. Future research should address both components of body dissatisfaction.

Our findings reinforce the importance of assessing multiple dimensions of body image in boys and highlight the importance of including boys in intervention programs. It is clear that any such program will need to attend to the unique elements of boys' body dissatisfaction to support most effectively the development of positive body image in young boys (McCabe, Connaughton, Tatangelo, Mellor, & Busija, 2017).

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Table 1

Means, Standard Deviations, and Correlations Between Boys' Age, BMI, and Body Image Variables

	<i>n</i> (% of full sample)		Mean	SD	1	2	3	4	5	6 ^d	7	8
	Yes	No										
1 Age ^a					-	.05	-.09	.06	.01	.15	-.01	.05
2 BMI-z ^a			0.53	1.03		-	-.15	.03	.14	.06	.14	.06
3 Muscularity Body dissatisfaction (muscularity discrepancy) ^a			-0.33	1.55			-	-.27**	-.17	-.13	-.21*	-.20
Muscularity current figure			2.98	1.44								
Muscularity ideal figure			3.31	1.51								
4 Body dissatisfaction (thinness-fatness discrepancy) ^a			0.22	0.93				-	-.20	-.10	.13	-.004
Thinness-fatness current figure			4.22	1.38								
Thinness-fatness ideal figure			4.00	1.49								
5 Internalisation of media ideals ^c			0.64	0.82					-	.49***	.38***	.31**
Look like people in movies	32 (38.6)	51 (61.4)										
Look like people on television	21 (25.3)	62 (74.7)										
6 Internalisation of athlete ideals ^{ad}			0.40	0.49						-	.48***	.18
Look like sports people	40 (39.6)	61 (61.4)										
7 Expectancies of rewards of muscularity ^a			1.36	1.23							-	.34**
Muscles make look better	47 (46.5)	54 (53.5)										
Muscles makes more friends	35 (34.7)	66 (65.3)										
Muscles makes more fun	55 (54.5)	46 (45.5)										
8 Expectancies of rewards of thinness ^a			1.02	1.17								-
Thinness make look better	29 (28.7)	72 (71.3)										
Thinness makes more friends	31 (30.7)	70 (69.3)										
Thinness makes more fun	43 (42.6)	58 (57.4)										

Note. Sample size differs for different variables due to missing data ^a *n* = 101; ^b *n* = 95; ^c *n* = 83

p* < .05; *p* < .01; ****p* < .001

^d biserial correlation (all other correlations are Pearson correlations)

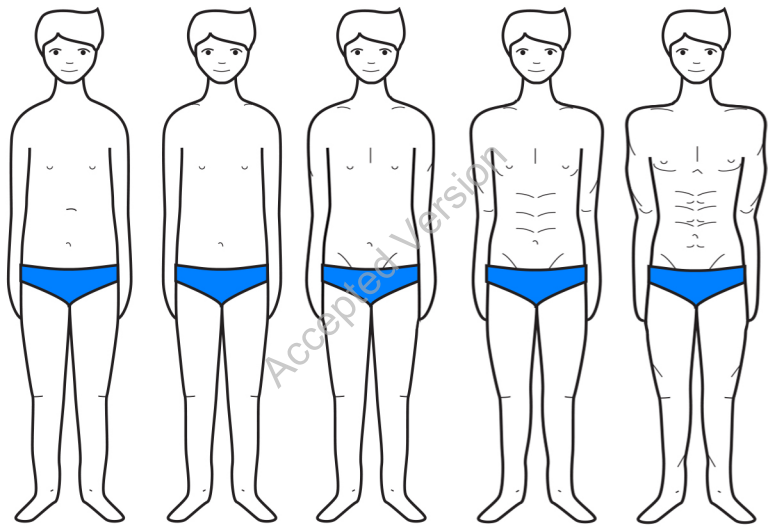


Figure 1 Caption

Figure 1. Muscularity figure rating scale

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