Body size attitudes and body image perception among preschool children and their parents: a preliminary study

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Summary

Objective: The objectives of our study were two fold: (1) to assess body attitudes among children and their parents, and (2) to analyze the predictors of body attitudes in both groups.

Method: The research sample consisted of 37 children, aged between 3 and 7, and 37 parents. We used the Sociocultural Attitudes Towards Appearance Questionnaire-4, the Child Figure Arrays, and the Contour Drawing Rating Scale.

Results: Twenty-eight children (75.68%) chose the thin and average silhouettes as the ideal body shapes. The most undesirable silhouette was that indicating obesity (62.16%). We found that a relationship between body dissatisfaction and thin ideal internalization (r = 0.627, p < 0.001), muscular ideal internalization (r = 0.369, p < 0.05), family pressure (r = 0.351, p < 0.05), media pressure (r = 0.702, p < 0.001) and peer pressure (r = 0.428, p < 0.05) made parents wish to change their children's body shape. Univariate and multivariate logistic regression revealed that media pressure among children and body dissatisfaction among their parents were predictors of ideal silhouette in children. In addition, mediation analysis showed that media pressure had mediated the relationship between parents' body dissatisfaction and children's ideal silhouette.

Conclusions: Both children and their parents preferred a slim silhouette. Body dissatisfaction was related to internalization of a socially acceptable silhouette and to pressure to change body shape among parents. There is a high risk that parents can model negative attitudes towards the body in their children. This should be considered in psychoeducational prevention programs.

preschool children, parents, body attitudes, body dissatisfaction, body image perception

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INTRODUCTION

Body image is a multidimensional construct [1]. The main concepts relating to the body are body image and attitudes towards the body, which include emotional, cognitive and behavioral aspects [1,2]. Body image and body attitudes are developed by individuals (e.g. perception of the body) and cultural factors (e.g. internalization of the ideal figure) [3,4]. Body attitudes are related to the internalization of thinness, internalization

of muscularity, and pressure from the media, family and peers to change the body shape [5–7]. The actual versus ideal body size discrepancy is associated with body dissatisfaction among children and adults [8–11].

Previous research has focused on adolescents as the main risk group for body image disturbances [12]. Researchers have distinguished a particularly important aspect that may influence body image dissatisfaction among children – mass media [13]. The media create ideal standards of beauty for men and women – a thin body shape for women and a lean, muscular body for men [13]. The standards are internalized for both sexes as a wish to achieve success [9]. Thus, society creates the stereotype of overweight body [12]. A thin body with a lower body mass index (BMI) is acceptable and desirable and an overweight body shape is not proper or acceptable [12]. Higher BMI may lead to body dissatisfaction and negative feelings towards the body [14].

Another important source in the development of body image in children is the information they receive from their parents [8, 9, 15, 16]. Children develop body attitudes by observing their parents' body experience [17–19], therefore parents can become role models in developing body dissatisfaction in their children [16].

Parental perception of their own body image influences body image perception in their children, especially the same-sex child [10]. There is a positive correlation between parents' and children's body dissatisfaction [10]. Pyle [20] suggested that media may mediate the relationship between parents' body dissatisfaction and children's ideal self. Both parents and the media may influence behaviors and attitudes towards the body among children. The way in which parents react to media messages about appearance, body shape and behaviors towards the body informs children on how they are supposed to behave towards their own body (making positive and negative comments about somebody's weigh, appearance, body shape or style as seen in a magazine or on TV) [21].

The latest research has shown that the age at which individuals become dissatisfied with their own bodies in getting lower [10, 22]. An anal-ysis of body image among preschool children shows that 7-year-old girls express body dissatisfaction [10]. 5-year-old children are concerned about body shape and weight [23] and know which diets to follow to change their body shape [24]. 4-year-old children express fat prejudice [25]. Children aged 4 most often choose the thin figure as the most ideal and the overweight and obese figure as less desirable [26]. Research shows that children with higher BMI are more dissatisfied with their body [27] and have strong anti-fat bias [16].

The main objectives of the study were to assess body attitudes and body perception among children and their parents, to analyze the predictors of attitudes towards the body in study groups, and to evaluate mediation between the variables: body dissatisfaction, media pressure and children's ideal silhouette. We put forward the following hypotheses:

1. The ideal silhouette chosen by children will be slim or in the normal weight range, whereas the least preferred silhouette will be obese.
2. Body dissatisfaction in parents will be positively associated with the internalization of thinness and muscularity, and pressure from family, media and peers to change the body shape.
3. Negative body attitudes in parents will result in a thin silhouette in children.
4. Media pressure will mediate the relationship between body dissatisfaction in parents and ideal silhouette in children.

MATERIALS AND METHODS

Participants

The study involved 37 preschool children (14 girls, 23 boys) aged 3–7 years (M = 5.05, SD = 0.88) and 37 parents (M_{age} = 32.25, SD = 4.81). The average BMI-for-age percentiles were 15.73 kg/m^2 (SD = 2.96) in children and the average BMI in parents was 22.41 kg/m^2 (SD = 2.82). Detailed information about BMI is presented in Table 1.

Table 1 Characteristics associated with participants' BMI

	Children[1] N (%)	Parents N (%)
Underweight	18 (48.65%) (<5th percentile)	2 (5.40%)
Normal weight	14 (37.84%) (5th<85th percentile)	28 (75.68%)
Overweight	3 (8.11%) (85th<95th percentile)	7 (18.91%)
Obesity	2 (5.40%) (≥95th percentile)	0

[1] BMI among children was calculated considering the growth chart (percentile analysis).

The study was performed in a preschool in the southern part of Poland. The only inclusion criteria were that the child be currently enrolled in the school. All participants (children and their parents) were informed about the purpose of the study. The response rate was 100% of those contacted. Informed consent was obtained from preschool director and from the parents.

First, parents agreed to participate in the study and gave permission for their children to participate. Next, the child agreed to participate. All parents completed the Sociocultural Attitudes Towards Appearance Questionare-4 (SATAQ-4) [28] and the Contour Drawing Rating Scale [29] during a parents' meeting in the school. Next, for 2 weeks two researchers (females) had an opportunity to participate in activities at the nursery. The aim was to build trust between researches and children. After the 2-week period we started the study. During a group meeting with the children, the researchers spoke to them about the study and explained what to expect during the meeting with a researcher. To reduce stress levels among children, everybody played together before the research. During playtime, the researcher asked children which of them wanted to take part in the study and who wanted to go first (all children took part in the study). While the rest of the group was playing, one child "worked" with the researcher separately. The researcher showed them the Child Figure Arrays [30] and read questions from the questionnaire. The child answered and got a colorful sticker in exchange for their participation. Then they went back to play with the other children.

Materials

Three questionnaires were used in the study: SATAQ-4 [28], the Contour Drawing Rating Scale [29] and the Child Figure Arrays. The first two were distributed to parents and the last one was distributed only to children [25,30].

Sociocultural Attitudes Towards Appearance Questionare-4

SATAQ-4 [28] is a 22-item questionnaire which measures how sociocultural processes influence attitudes towards appearance. It contains the following subscales: (a) Internalization Thin/Low Body Fat (e.g. "I want my body to look very thin"), (b) Internalization Muscular/Athletic Ideal (e.g. "I think a lot about looking muscular"), (c) Media Pressure (e.g. "I feel pressure from the media to look in better shape"), (d) Peer Pressure (e.g. "I get pressure from my peers to decrease my level of body fat"), and (e) Family Pressure (e.g. "I feel pressure from family members to improve my appearance").

The Polish version of SATAQ-4 was translated using a standard forward–backward translation procedure. The Cronbach's alpha obtained for the study was 0.806, 0.727 for internalization thin/low body fat, 0.737 for internalization muscular/athletic ideal, 0.781 for media pressure, 0.785 for peer pressure and 0.805 for family pressure.

The Contour Drawing Rating Scale

The scale [29] contains a set of nine hand-drawn human silhouettes where body fat levels in-

crease in a linear manner. It contains two sub-scales: male silhouette and female silhouette. Individuals choose their actual and their ideal silhouette. The discrepancy between ideal and actual body size (actual:ideal self-discrepancies) indicates body dissatisfaction.

The Child Figure Arrays

The Child Figure Arrays [30] contains a set of seven hand-drawn children's silhouettes that show increased body fat level in a linear fashion. It also contains four questions which may be used: (a) "Which of the seven drawings above does your child look most like?", (b) "Which drawing would you most like your child to look like?, (c) "Which drawing would you not like your child to look like?", and (d) "Circle all of the drawings that it would be OK for your child to look like" [25,30].

RESULTS

Collin's figure rating scale [30] does not define BMI. We used the silhouette classification proposed by the author [30]: picture A or B indicated thin, picture C – thinner than average, picture D – average, picture E – larger than aver-
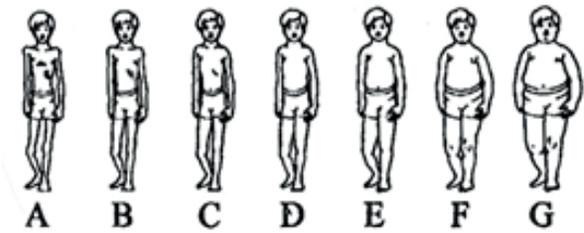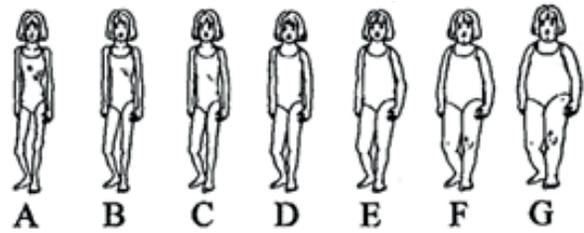

Fig. 1. Child silhouettes in Child Figure Arrays. Reproduced with kind permission of the author [30].

age, and picture F or G meant a large silhouette (Figure 1).

Twenty-eight children (75.68%) chose the thin and average silhouette for the most ideal body shape and only nine (24.32%) chose this type of silhouette as undesirable. Table 2 illustrates what percentage of children chose a particular silhouette.

Table 2. Percentage layout of children's ideal silhouette and undesirable silhouette

Silhouette	Ideal silhouette[1] N (%)	Undesirable silhouette[2] N (%)
A	6 (16.21%)	7 (18.92%)
B	6 (16.21%)	1 (2.70%)
C	3 (8.11%)	1 (2.70%)
D	13 (35.14%)	0
E	3 (8.11%)	3 (8.11%)
F	3 (8.11%)	2 (5.41%)
G	3 (8.11%)	23 (62.16%)

[1] "Which drawing would you most like your child to look like?" [30]
[2] "Which drawing would you not like your child to look like?" [30]

The relationship between body dissatisfaction and body attitudes among parents is presented in Table 3.

Table 3. Correlations between body dissatisfaction and body attitudes among parents

	Internalization of thinness	Internalization of muscularity	Family pressure	Media pressure	Peer pressure	BMI
Body dissatisfaction	0.627**	0.369*	0.351*	0.702**	0.428*	0.619**

$* p < 0.05$; $** p < 0.001$.

Univariate and multivariate logistic regression revealed that ideal silhouette in children was determined by media pressure and by parents' body image dissatisfaction ($F_{(4,32)} = 3.631$; $p < 0.05$; $R^2_{adjusted} = 0.226$) (Table 4).

Table 4. Model of regression for children's ideal silhouette

| Variables	β
Media pressures	0.348*
Parents' body dissatisfaction	-0.696**

$* p < 0.05$; $** p < 0.01$.

The data were analyzed using the SPSS, Version 20. To test whether the relationship between parents' body dissatisfaction and children's ideal silhouette was mediated by media pressure, we performed multiple mediation analyses with sequential mediators using PROCESS with 1000 bootstraps [31]. Mediation analysis indicated that media pressure mediated the relationship between body dissatisfaction in parents and children's ideal silhouette ($p < 0.001$) (Figure 2). Partial media pressure mediation was established between parents' body dissatisfaction and children's ideal silhouette.

Note: direct effect: $\beta = -0.91$, E = 0.27, t = − 3.34, p = 0.002; indirect effect: $\beta = 0.50$, SE = 0.18, LL BCA = 0.17, UL BCA = 0.87.

DISCUSSION

Our results confirm the first hypothesis that preschool children most often prefer slim and average silhouettes and we provided evidence that children are least likely to prefer obese silhouettes. This is a confirmation of previous studies [32,33] in which children preferred a thin silhouette as the most desirable body shape. An interesting result of our research is that children thought both obese and thin silhouettes undesirable. Other studies [16,25] show that an obese silhouette is the most undesirable. The fact that in our study the thin silhouette was also undesirable may be explained by a change in media messages associated with body shape – today, we can more often observe a well-shaped muscular body [34] This new trend may be internalized by children, whereas a thin, emaciated body shape is associated with an unhealthy lifestyle [34].

Our results reveal a positive association between body dissatisfaction and internalization of thinness, muscularity, pressure from family, media and peers to change the body shape, and parental BMI. Many researchers show that negative attitudes towards the body shape are associated with internalization and pressure to change it [9,35,36]. Additionally, high BMI is linked with body dissatisfaction [9]. The internalization of an ideal sociocultural silhouette, pressure from the environment and the media, and dissatisfac-

β = 2.90, SE = 0.50, p < 0.001		Media pressure		β = 0.17, SE = 0.06, p < 0.05
Parents' body dissatisfaction		β = -0.91 SE = 0.27 p < 0.01		Children's ideal silhouette
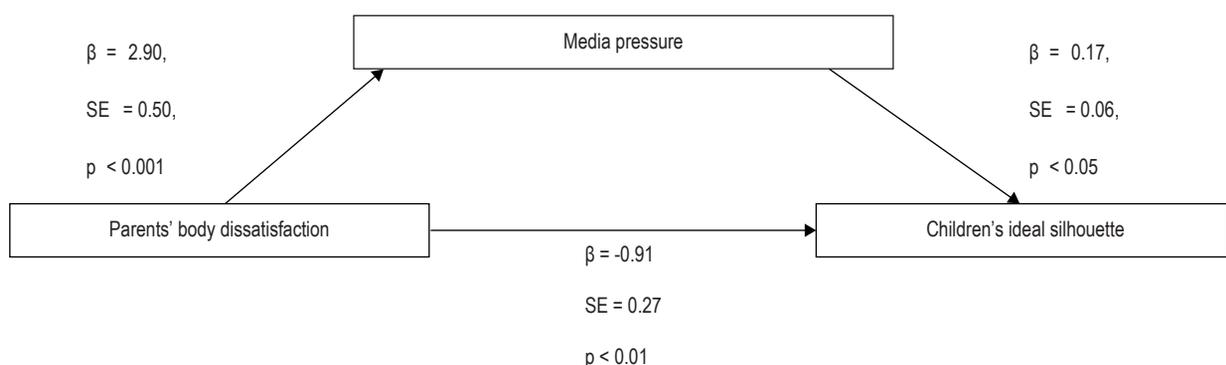
tion with the body are important risk factors for the development of eating disorders and muscle dysmorphia [15,34,37].

Our results confirm the next hypothesis – body dissatisfaction and media pressure to change the body shape among parents determine preferences for a thin silhouette among children. Parents may influence their children's body dissatisfaction in several ways [10]. First, parental attitudes towards the body are strongly correlated with children's body dissatisfaction [37]. It is not only children who are subject to media influence [25], but parents as well [38] – they internalize beauty standards and because of that may express body dissatisfaction [36]. It is important to point out that body attitudes in middle adulthood are different to those of adolescence, which is a high-risk period for developing body image disturbances [21]. Our study shows that the media has a strong impact on adults too.

What is more, we showed that media pressure mediates the relationship between body dissatisfaction in parents and an ideal silhouette in children. This is a confirmation of a study [20] in which parents indicated behavior ("what the body looks like") and attitudes towards their own body ("how I should care about my body or what I should wear") and the body of their children ("what should the body of my child look like"). The study [20] show that parents are models of proper behavior in relation to their child's body and how they feel about their child's body. It may be explained by new types of advertising directed both at children and parents, in which children's looks are modified to fit in with the current sociocultural standards of beauty [21].

CONCLUSIONS

Both preschool children and their parents prefer a slim silhouette. Among parents, body dissatisfaction is related to the internalization of socially acceptable standards of body and the pressure to change body shape. What is more, there is a high risk that parents can model negative attitudes towards the body in their children. It is necessary to inform parents that it is not only the media that influence their children but also their own behaviors and body attitudes.

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