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ORIGINAL ARTICLE

Physical self-efficacy is associated to body mass index in schoolchildren^{☆,☆☆}

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KEYWORDS

Obesity;
Overweight;
Childhood;
Physical self-efficacy;
Perceived Physical
Ability Scale for
Children

Abstract

Objective: The present study aimed to investigate the relationship between physical self-efficacy and body mass index in a large sample of schoolchildren.

Methods: The Perceived Physical Ability Scale for Children (PPASC) was administered to 1560 children (50.4% boys; 8–12 years) from three different countries. Weight and height were also recorded to obtain the body mass index.

Results: In agreement with the literature, the boys reported greater perceived physical self-efficacy than girls. Moreover, the number of boys who are obese is double that of girls, while the number of boys who are underweight is half that found in girls. In the linear regression model, the increase in body mass index was negatively related to the physical self-efficacy score, differently for boys and girls. Furthermore, age and nationality also were predictors of low physical self-efficacy only for girls.

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^{☆☆} Study conducted at University of Bologna, Bologna, Italy; Hospital de Clínicas de Porto Alegre (HCPA), Universidade Federal do Rio Grande do Sul (UFRGS), Porto Alegre, RS, Brazil; and University of Barcelona, Barcelona, Spain.

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56**PALAVRAS-CHAVE**Obesidade;
Sobrepeso;
Infância;
Autoeficácia física;
Escala de Capacidade
Física Percebida para
Crianças

Conclusion: The results of this study reinforce the importance of psychological aspect of obesity, as the perceived physical self-efficacy and body mass index were negatively associated in a sample of schoolchildren for boys and girls.

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Autoeficácia física associada ao índice de massa corporal em crianças em idade escolar**Resumo**

Objetivo: Este estudo visou investigar a relação entre a autoeficácia física e o índice de massa corporal em uma grande amostra de crianças em idade escolar.

Métodos: A Escala de Capacidade Física Percebida para Crianças (ECFPC) foi administrada a 1560 crianças (50,4% meninos; 8-12 anos) de três países diferentes. O peso e a altura também foram registrados para obter o índice de massa corporal.

Resultados: De acordo com a literatura, os meninos relataram maior autoeficácia física percebida que as meninas. Além disso, o número de meninos obesos é o dobro do de meninas, ao passo que o número de meninos abaixo do peso é metade do de meninas. No modelo de regressão linear, o aumento no índice de massa corporal foi negativamente relacionado ao escore de autoeficácia física, diferentemente em meninos e meninas. Além disso, a idade e a nacionalidade também foram preditoras de autoeficácia física baixa apenas para meninas.

Conclusão: Os resultados deste estudo reforçam a importância do aspecto psicológico da obesidade, uma vez que a autoeficácia física percebida e o índice de massa corporal foram negativamente associados em uma amostra de crianças em idade escolar para meninos e meninas. © 2016 Sociedade Brasileira de Pediatria. Publicado por Elsevier Editora Ltda. Este é um artigo Open Access sob uma licença CC BY-NC-ND (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Introduction

The health benefits of regular physical activity for children are well known.¹ To gain a better understanding of physical activity behavior in children, there has been an increased focus on determining the relationship between physical activity and psychosocial correlates.^{2,3} Self-efficacy, defined as people's beliefs about their capacity or ability to perform a certain action required to achieve results in a specific situation,⁴ is a variable that is considered to be associated with physical activity in adolescents, which can be an important mediator in providing more effective participation in these activities.⁵⁻⁷

A recent study on 281 children (116 boys and 165 girls) showed that those who have high physical self-efficacy scores participated in significantly more physical activity compared to their low physical self-efficacy score counterparts.⁸ Girls are generally less active and report lower perceived physical ability, as well as higher perceived body fat and greater body dissatisfaction than boys in a school setting.^{1,2,6,9,10} Thus, the perceived competence for physical activity seems to be sex-related, due to the fact that boys are more physically active, and perceive greater strength and sporting competence than girls.^{6,11,12}

In addition to gender, age is a factor that may influence physical self-efficacy, most evidently during adolescence,^{6,7} given that physical self-efficacy tends to decrease with increase of biological age. Another factor, which correlates with self-efficacy, is the body mass index (BMI), an index

of weight-for-height that is used to classify overweight and obesity. Changes in perceived physical abilities^{9,10,13,14} are influenced by excess of weight, related to a low perception of competence and motivation to perform physical activity, impacting on physical activity participation and physical appearance.¹⁵ In fact, higher BMI has been associated to lower levels of self-efficacy for physical activity, including weight status predicted by physical self-efficacy and healthy eating.¹⁶ Indeed, older children and those with a higher BMI perform less physical activity.¹² Based on this evidence, a significant relationship between physical self-efficacy and BMI was expected to be found.

As demonstrated in the literature, gender is related to BMI, and boys tend to have higher BMI, thus this effect was expected. Therefore, the relationship was explored between physical self-efficacy and BMI in a large sample of schoolchildren, controlling for confounding variables that can influence physical self-efficacy, such as age, gender, and nationality. Three countries where there is a concern with the increased prevalence of overweight and obesity were selected: Italy,¹⁷ Spain,¹⁸ and Brazil.¹⁹

Methods**Sample**

This was a cross-sectional study on 1560 children (50.4% male). The sample comprised 1110 Italian (10.01 ± 0.65

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