

Comparison of body awareness and body dissatisfaction among adolescent competitive swimmers genres

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The competitive sport is a factor causing stress as a result of physiological, biomechanical, psychological and metabolic disorders that play a key role in sports performance (Miranda & Bara Filho, 2008). Moreover, the media has used as a form of marketing images of athletes recognized on the international scene, which can lead to a quest for "ideal body" in the context of sports training. The purpose of researching this topic is also on developing programs and strategies to assess the effectiveness of control interventions of psychological disorders in order to prevent the onset or to evaluate the effectiveness of control interventions and prevention of psychological disorders and therapeutic indications for young athletes.

In athletes, the demand for ideal body and weight eventually lead to the risk that they develop attitudes harmful to their health as dissatisfaction with their body.

It is understood by imaging of the human body the picture of our body formed in our minds (Schilder, 1999). Dissatisfaction with body image is part of a component related to body image attitudes and evaluations of their own body (Campana & Tavares, 2009, Grabe & Hyde, 2006). This dissatisfaction with the actual picture may reflect the formation of the identity of the individual body, especially the teenagers.

The perceptual dimension of body image can be assessed by methods that allow diagnosis to change the size of the dimensions of the body (Campana & Tavares, 2009). The perceptual dimension is strongly influenced by the attitudes of the body. Therefore, body dissatisfaction influences the perception and vice versa.

Physical exercise and sport can be used to achieve a strong, slim and functional body, both as a result of body dissatisfaction, as the requirement for a

body type typical of certain sports, often analyzed using body composition and somatotype classification (Zary & Fernandes Filho, 2007).

Thus, the aim of this study was to assess the body perception and to compare body dissatisfaction according to the sex of young competitive swimmers.

The study was conducted in two major sports clubs located in the city of Juiz de Fora / MG.

The study population consisted of young competitive athletes of both genders in swimming mode, with an average age between ten and nineteen. The sample comprised 31 individuals. For the sample selection criterion was adopted by convenience sample.

To characterize the actual body size of the sample an anthropometric assessment was performed. For each subject body weight, height, bone diameters (epicondiliano Condylar femoral and humeral), circumferences (contracted arm, chest, waist, hip, thigh and calf) and skinfolds (triceps, subscapular, pectoral, suprailiac, abdominal, thigh and leg) were measured. Body mass and height were collected with the aim of characterizing the Body Mass Index (BMI) of subjects, and these were classified into four contrasting groups, namely: underweight (BMI less than 15.3 kg/m^2), normal weight (BMI from 15.31 to 24.9 kg/m^2), overweight (BMI over 25.0) (WHO, 2007).

We applied the Body Shape Questionnaire (BSQ), created by Cooper, Taylor, Cooper, and Fairburn (1987) apud White, Hilary, and Cintra (2006), aiming to diagnose body dissatisfaction. This test is a self-administered questionnaire with 34 questions to be answered according to a legend, as validated version for Brazilian adolescents by Conti, Cordás and Latorre (2009). The analysis revealed an internal consistency α of 0.96 for both sexes. The correlation coefficient between the scores of test-retest were significant, ranging from 0.89 to 0.91 for women and men respectively.

Body perception was assessed by correlation between measured BMI and reported BMI. As the perceptual dimension is how the subject perceives the size of their body parts, we believe that the reported BMI compared with the measured BMI can be a variable that indicates how the subject perceives his body size.

To determine the degree of psychological commitment that an individual may have with the habit of exercising, we used the Scale of Dedication to Exercise

(EDE) developed by Davis and Brewer Ratusny (1993) apud Laus (2009). It assesses the degree to which feelings of well being are modulated by exercise, the maintenance of exercise in the face of adverse conditions and the degree of interference that physical activity has on the individual's social commitments.

For the variables age, BMI, fat percentage, BSQ and EDE, we used descriptive analysis, in which we calculated the mean, standard deviation, and minimum and maximum values. We applied the Shapiro Wilk test and found to be a nonparametric distribution of the sample, therefore we applied the Mann-Whitney test to compare body dissatisfaction in boys and girls. It was used Spearman correlation to assess the relationship between the measured parameters (body satisfaction, measured BMI, reported BMI, fat percentage and somatotype). In all cases, the level of significance was $P < 0.05$.

This research was developed only after receiving the opinion number (129.273.2009) of the ethics committee and research in humans, Federal University of Juiz de Fora issued on 02.10.2010, in accordance with Resolution 196/96. Moreover, those responsible for these teenagers signed a consent form authorizing the participation of these individuals in the study.

The results showed an average age of 14.03 (± 2.49) years, BMI measured 20.04 (± 2.77) kg/m², body fat 11.74 (± 8.1)%, 56.06 BSQ (± 21.28) and EDE 745.67 (± 161.16).

Regarding BMI, 29 subjects were classified as normal, and only 2 as overweight, with no individuals classified as underweight. For the BSQ, 29 (93.5%) athletes were classified as free of body dissatisfaction and 2 (6.5%) athletes remaining moderately unsatisfied. In the instrument EDE, 6 (19.4%) subjects showed negative scale and 24 (77.4%) positive scale as interference in the relations and social commitments with the dedication to exercise, and one (3.2%) subject did not answer the questionnaire.

The correlation between measured and reported BMI was statistically significant showing $r = 0.86$. The other correlations were not statistically significant, and showed low r .

The Mann-Whitney test showed us that there was no significant difference ($U = 95.00$, $p < 0.44$) between boys and girls regarding body dissatisfaction.

Vieira, Amorim, Vieira, Rocha and Amorim (2009) found average BSQ of 61.1 \pm 28 (10-12 years), 89.6 \pm 39 (13-14 years) and 95.2 \pm 13.7 (above 15 years).

Our study showed similar mean BSQ only to athletes 10-12 years to the above mentioned study.

Vieira, Oliveira, Vieira, Vissoci, Hoshino and Fernandes (2006) found significant differences between judo athletes of different genders, showing that girls are more dissatisfied than boys and teenagers of both sexes are more dissatisfied than adults practicing the same sport. Our study differs from the results regarding comparison of body dissatisfaction between the sexes, since no significant differences were found.

We conclude that this sample has a good sense of weight and height (reported BMI) and there is no difference between sex and body dissatisfaction in teenager athletes from competitive swimming.

We suggest that more studies be done with athletes from other sports of competitive context, evaluating both the perceptual dimension as the attitudinal body image and comparing them with groups of non-athletes to know how much the process of physical training influences that dynamic and multifaceted construct that is body image.

References

Branco, L. M., Hilário, M. O. E., Cintra, I. P (2006). Percepção e satisfação corporal em adolescentes e a relação com seu estado nutricional. *Revista Psiquiatria Clinica*, 33(6), 292-296.

Campana, A. N. N. B., & Tavares, M. C. G. C. (2009). *Avaliação da Imagem Corporal: Instrumentos e diretrizes para pesquisa*. São Paulo: Phorte.

Conti, M. A.; Cordás, T. A.; & Latorre, M. R. D. O. (2009). Estudo de validade e confiabilidade da versão brasileira do body shape questionnaire (bsq) para adolescentes. *Revista Brasileira de Saúde Materna e Infantil*, 9(3), 331-338.

Grabe, S., & Hyde, J. S. (2006). Ethnicity and body dissatisfaction among women in the United States: a meta-analysis. *Psychological Bulletin*, 132, 622-640.

Laus, M. F. (2009). *Estudo das relações entre prática de atividade física, estado nutricional e percepção da imagem corporal em adolescentes dos ensino médio de Ribeirão Preto – SP*. Dissertação de mestrado. Faculdade de Filosofia, Ciências e Letras de Ribeirão Preto da USP.

Miranda, R., Bara Filho, M. G. (2008). *Construindo um atleta vencedor*. Rio de Janeiro: Artmed.

Schilder, P. (1999). *A imagem do corpo*. São Paulo: Martins Fontes.

Vieira, J. L. L., Amorim, H. Z., Vieira, L. F., Amorim, A. D., & Rocha, P. G. M. (2009). Distúrbios de atitudes alimentares e distorção da imagem corporal no contexto competitivo da ginástica rítmica. *Rev Bras Med Esporte*, 15(6), 410-414.

Vieira, J. L. L., Oliveira, L. P., Vieira, L. F., Vissoci, J. R. N., Hoshino, E. F., & Fernandes, S. L. (2006). Distúrbios de atitudes alimentares e sua relação com a distorção da auto-imagem corporal em atletas de judô do estado do Paraná. *Rev da Educação Física/UEM*, 17(2), 177-184.

World Health Organization (2007). Development of a WHO growth reference for school-aged children and adolescents. *Bulletin of the World Health Organization*, 85(9), 660-667.

Zary, J. C. F. & Fernandes Filho, J. (2007). Identificação do perfil dermatoglífico e somatotípico dos atletas de voleibol masculino adulto, juvenil e infanto-juvenil, de alto rendimento no Brasil. *R. bras. Ci. e Mov*, 15(1), 53-60.