

## **Association between the level of physical activity and body dissatisfaction among college students**

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Recent studies have demonstrated the effects of physical activity (PA) in people's lives, with special regard to its influence on the physical, social and emotional aspects (Caetano et al., 2009). PA can be classified as any body movement with energy burn above the resting levels, including daily and work activities, such as walking, carrying things; leisure activities, such as exercising, practicing sports or dancing (Johnson & Ballin, 1996 apud Araújo & Araújo, 2000). It can also be any body movement produced by the locomotor system which results in energy burn, notwithstanding how much was spent.

The regular practice of physical activity can be motivated by the incessant search for a desired physical shape (Damasceno et al, 2005). That is a resource found by many people which reflects an excessive dissatisfaction with the image that one has of his/her own body. That is why some authors believe that a negative body image may have some relationship with the level of physical activity (Novaes, 2001).

Body dissatisfaction is part of a component of body image related to the attitudes and assessment of one's own body (Cash & Pruzinsky, 2002), Campana & Tavares, 2009). In this sense, it can be defined as the negative assessment of one's own appearance. Today, body dissatisfaction may be directly linked to the display of beautiful bodies by the media, and it has determined, in the last decades, a compulsion for the search of the ideal body (Scagliusi et al. 2006). The PA may influence body satisfaction not only in men but also in women, as well as this search for an active lifestyle.

Based on these discussions, this study aimed to analyze the relationship between the Level of Physical Activity and Body Dissatisfaction of students at the Federal University of Juiz de Fora (UFJF).

This work was approved by the Ethics Committee on Research with Human Beings of the Federal University of Juiz de Fora, protocol no. 1920.264.2009.

One hundred and twenty-four students from the three sectors of the university (humanities, health care and exact sciences) and currently enrolled in its courses participated in the survey. A simple random sampling was used.

For the classification of the level of PA, the short version of the IPAq questionnaire (*Internacional Physical Activity Questionnaire*), proposed by Pardini et al. (2001), was used since it is the most frequently suggested version for use in youth populations. This version is composed of eight essay questions whose information allow us to estimate the weekly time spent in different aspects of physical activity (walks, physical efforts of moderate and high intensity) and in physical idleness (sitting down). This tool allows five classifications, namely: very active, active, irregularly active A, irregularly active B and sedentary.

For the assessment of body dissatisfaction, a Silhouette scale for adults was used (Kakeshita et al, 2009), which was created and validated for Brazilian samples. It was composed of 15 sillouettes ranging from very thin to very fat, and they were correlated with the BMI between 12.5 and 47.5 Kg/m<sup>2</sup>, with a difference of 2.5Kg/m<sup>2</sup> between silhouettes. Satisfaction or dissatisfaction with one's body image is assessed according to the discrepancies between the selected figures (Fingeret, Gleaves & Pearson, 2004). The discrepant values may range from -14 to +14. For the classification of the levels of dissatisfaction in this study, the values concerning the difference between the ideal silhouette and the actual one below -4 or above +4 were considered very dissatisfied; values between -4 and -2 or +2 and +4 were considered dissatisfied; and values between -1 and +1 were considered satisfied.

For the calculation of the BMI, the self-reported heights and body masses of the students during the process of data collection were gathered. Later, the BMI was calculated according to the relationship between weight (kg) and height<sup>2</sup> (m).

For the data analysis, averages and standard deviation for the variables age and BMI were verified. The *Kolmogorov Smirnov* normality test (KS-test) was performed to check if the variables were parametric or not. Additionally, a *Person* correlation was performed to correlate body dissatisfaction and the level

of physical activity. The level of significance was  $p < 0.05$ . All these analyses were carried out with the *Statística 8.0* software.

The average age of the college students was 21.38 ( $\pm 3.87$ ) years of age, in a total of 124 people, 49 of whom were male (39.52%) and 75 female (60.48%). The mean value of the total BMI of this sample was 22.70 kg/m<sup>2</sup> ( $\pm 3.60$ ). Among the male students the mean value of the BMI was 25 kg/m<sup>2</sup> ( $\pm 3$ ) and among the females it was 21 kg/m<sup>2</sup> ( $\pm 3$ ).

The frequency analysis of the results, when separated by sex showed one male classified as very dissatisfied, 20 as dissatisfied and 28 satisfied with the appearance of their bodies. When analyzing these values, one can see a trend towards underestimating the real size of the body since 38.8% of these people wanted to increase their body silhouette.

The group composed of females had 33 dissatisfied people and 42 satisfied. There were no women very dissatisfied with their bodies. In this group, a trend towards underestimating the real size of the body was found. Moreover, 62.7% manifested the desire to have a body with a larger silhouette.

In order to assess the level of physical education, most people were in the active and very active categories (87.8% of the males and 74.6% of the females). These data show a sample population which has, as a habit, the practice of regular physical activities.

Regarding the association between body dissatisfaction and the level of physical activity, we find a very low correlation ( $r = 0.04$ ), without statistical significance for these variables. Thus, we can conclude that the level of physical activity for these students did not influence their body dissatisfaction.

The results of this study diverge from the studies of McCabe, Ricciardelli, Waga, Goundar and Fotu (2009). These authors show that women try to have a thinner body to feel more satisfied, attempting through physical activity to attain an ideal body. Similarly, a significant number of men seek to adhere to the socio-cultural standards by increasing muscle mass (Ferreira, Castro & Gomes, 2005). Should this transcend the normal it can become pathological, representing a risk to health (ibidem).

With this study, we have concluded that there was no statistically significant association between the level of physical activity and body dissatisfaction. We have also found in both sexes the desire to have a larger silhouette than the

current one, contrasting with findings in some other studies (Damasceno, et al., 2005).

Further studies should be carried out with the college population so as to investigate a possible relationship between the level of physical activity and body dissatisfaction, involving other factors such as sex and BMI. It is still not clear in the literature if this influence interferes positively or negatively in the body image dissatisfaction of a person who practices regular physical activities.

## References

Araújo, D. S. M. S; Araújo, C. G. S. (2000). Aptidão Física, saúde e qualidade de vida relacionada à saúde em adultos. *Revista Brasileira de Medicina do Esporte*, v. 6. n. 5, p. 194-203.

Caetano A.S; Tavares M.C.G.C.F; Lopes M.H.B.M; Poloni R.L. (2009). Influência da atividade física na qualidade de vida e auto-imagem de mulheres incontinentes. *Revista Brasileira de Medicina do Esporte*, v.15, p.93-97.

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

Cash T.F; Pruzinsky T. (2002). *Body image: A handbook of theory, research, and clinical practice*. New York: Guilford Press.

Damasceno, V.O., Vianna, J.M., Vianna, V.R.A., Novaes, J.S., Lima, J.R.P. (2005). Tipo físico ideal e satisfação com a imagem corporal de praticantes de caminhada. *Revista Brasileira de Medicina do Esporte*. v. 11,n. 3, p. 181-186.

Ferreira, M. E. C., Castro, A. P. A., Gomes, G. (2005). A obsessão masculina pelo corpo: malhado, forte e sarado. *Revista Brasileira de Ciência do Esporte*. 27(1): 7-18.

Fingeret, M. C., Gleaves, D. H., & Pearson, C. A. (2004). On the methodology of body image assessment: The use of figural rating scales to evaluate body

dissatisfaction and the ideal body standards of women. *Body Image*, v. 1, p. 207-212.

Johnson J. M., Ballin, S. D. (1996). Surgeon general's report on physical activity and health is hailed as a historic step toward a healthier nation. *Circulation*, v.94, p.20-45.

Kakeshita, I. S.; Silva, A. I. P.; Zanatta, D. P.; Almeida, S. S. (2009) Construção e fidedignidade teste-reteste de escala de silhuetas brasileiras para adultos e crianças. *Psicologia: Teoria e Pesquisa*, v 25, n. 2, p. 263-270.

McCabe, M. P., Ricciardelli, L., Waga, G., Goundar, R., Fotu, K. (2009). Body image and body change strategies among adolescent males and females from Fugi, Tonga and Australia. *Body Image*, 6, 299-303.

Pardini, R. et al. (2001). Validação do Questionário Internacional de Nível de Atividade Física (IPAQ – Versão 6): estudo piloto em adultos jovens brasileiros. *Revista Brasileira de Ciências e Movimento*, v.9, p.45-51.

Scagliusi, F. B., Alvarenga, M., Polacow, V. O., Cordas, T. A., Queiroz, G. K. O., Coelho, D., Philippi, S. T. & Lancha Jr., A. H. (2006). Concurrent and discriminant validity of the Stunkard's figure rating scale adapted into Portuguese. *Appetite*, v. 47, p. 77-82.