94 - ATHLETES BODY IMAGE PERCEPTION

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INTRODUCTION

The sports environment is an environment that leads to an increase on social and cultural pressures, motivated by the ideal of a thin body among most of the sports activities (OLIVEIRA *et al.,* 2003). The need to attain movement perfection and comeliness are not only related to excessive training: in some sport types in which graciousness and lightness of the performance are scored, athletes are expected to have low body weight.

External pressures as the ones mentioned, together with internal pressures to win competitions, can lead female athletes to dissatisfaction when it comes to body image perception (BI).

Contemporarily, low body weight is related to beauty, success and happiness as described by Killen *et al.* (1993) and such circumstance may initiate a pursuit for such ideal beauty standard among young people in general and increase existing pressures on young female athletes training.

To Williams (1989), because the sports practice impositions specificities are unknown to them, some female athletes do harm their own health and struggle to achieve or to keep an inadequate body weight target associated to a fat percentage as low as possible.

BI dissatisfaction induces young women to imprudent use of diuretic laxatives, anorexiant drugs abuse and excessive physical training in order to attain the current beauty standard (BEATTY, 1995).

Such significant energy restriction that leads to weight loss in a short period of time reduces the Basal Metabolic Rate. Besides, it damages muscle-skeletal, cardiovascular, endocrine and thermoregulation functions and causes a lack of attention and concentration, as Oliveira (2003) mentions.

Because of these social pressures and the sport characteristic pressures, the adolescents become more susceptible to eating disorders, especially in sports that require low body weight (VILARDI, 2001).

Stein (1998) finds that BI dissatisfaction is related to eating disorders, such as anorexia and bulimia nervosa. Body weight dissatisfaction is also associated to low self-esteem and limitations on psychosocial performance, associated to psychological depression conditions (TRICHES, 2007).

One is able to notice a relationship between BI and physical performance, which turns athletes into a group that is vulnerable to eating disorders, if we take into account the emphasis given to weight control in sport types that have artistic features as well as in sport types in which low weight leads to participation in a more convenient category within a sport type.

In researches done by Rosen & Hough (1998) and Vilardi (2001) it shows that most coaches set a weight control program for their female athletes, even though in general they are not nutrition specialists and/or ignore relationships between nutrition and performance.

Given the above information, the aim of the present study is to undertake a descriptive analysis of the dissatisfaction in body image perception among female sailor athletes and female non- athletes.

MATERIALS AND METHODS

The project in which the present analysis is contained is developed at the Exercise Physiology Laboratory of the Physical Education and Sports School from UFRJ. The data collection was done at a sports club in Rio de Janeiro. The sample of this study is composed of 17 female sailors (18.3 ±7.4 years) and 12 female non-athletes (19.50 ±1.78).

The Ethics Committee of the Clementino Fraga Filho Hospital-UFRJ, approved this study and all the parents signed an informed consent from agreeing to the procedures to be adopted and authorizing the scientific use of the study results, as required by the Brazilian Health National Board regulation nº 196/96.

The body composition was measured by the anthropometric method (*International Society for Advancement in Kinanthropometry* - ISAK). The items measured were: skinfold thickness (chest, triceps, biceps, subscapulare, iliac crest, abdominal, axillary, front thigh and leg skinfold calipers, 0,1mm); height (stadiometer, 1mm) and total body mass (electronic scale, 50g). The body density estimate was obtained by the Withers *et al.* (1956) equation, developed specifically for athletes and the relative body fat was estimated by the Siri equation (1961).

The analysis of BI perception was obtained by using the Body Shape Questionnaire (BSQ) (COOPER *et al.*, 1987).

The statistical analysis was done on Microsoft Excel 2000. Data is expressed by occurrence percentage, averages, standard deviation. The Pearson correlation test was applied to check the relation among the variables used in this study, as well as the t-Student test to check group similarity.

RESULTS

The physical characteristics of the sample used are shown on Table 1 and the BSQ results are contained on Table 2.

The correlation coefficient obtained from the BSQ results and the BF% of the assessed athletes was 0.65 and 0.58 for non-athletes. Such results seem to better explain the BI dissatisfaction found among athletes.

One should highlight the significant number of interviewees that presents no BI distortion on both groups (Table 1) -- fact that *does not* prevents a concern with the existence of results showing light, mild and severe distortions.

The correlation is obtained by crossing BSQ results and the BF% of female sailors (r=0.65), as well as from the non-athletes group (r=0.58) and show a positive relationship between Bi dissatisfaction and a higher BF%. Such relationship apparently portrays a regular behavior in relation to the concern with fat accumulation, especially when such accumulation is increased. Nevertheless, both female athletes and non-athletes show BF% within the healthy range (medium) for their age and gender (Table 1).

Table 1: PHYSICAL CHARACTERISTICS OF THE SAMPLE

Groups	Age (years)	TBM (kg)	Height (m)		Body Fat (BF%) Pollock & Wilmore,1993
Athletes n=17	18.3 **7.4**	55.4 **8.5**	1.70 **0.1**	24.7 ÿ4.99	(in average)
Non-Athletes n=12	19.5 **1.8**	58.5 **6.3**	1,6 **0.1**	24.3 ÿ2.85	(in average)
Test t-Student (p)	0.53	0.29	0.11	0.79	

Results presented by medium and ±SD=standard deviation; n=total; TBM= total body mass; significance to p<0,05.

Table 2: BSQ RESULTS

	Athletes		Non- Athletes	
Groups	**(total)**	**(%)**	**(total)**	**(%)**
SEVERE body image distortion	1	6	-	-
MILD body image distortion	1	6	1	8
LIGHT body image distortion	4	24	4	33
NO body image distortion	11	65	7	58

DISCUSSION

The results presented by Benedikt *et al.,* (1998) confirm the findings of the present study, as 60.7% of the teenagers were dissatisfied with their BI, despite the fact that just 13.6% of them really had excessive body weight.

On Table 2 we can see that 36% of the athletes and 41% of the non-athletes assessed on this analysis show positive results on BSQ, varying among light, mild and severe (just one) dissatisfaction.

Damasceno *et al.*, (2005) in a study that poses questions to female participants on BI satisfaction level by asking them to choose a silhouette that she would like to have, found that the assessed women, thought having regular BF% levels, have chosen thinner silhouettes than their current ones. Similar results were also found by Triches and Giugliani (2007), as well as at the present analysis, which found BI dissatisfaction in women that otherwise had regular patterns of body fat for their age and gender. According to these findings, Bosi *et al.,* (2008) noticed that, among female students from a Physical Education teacher training course, BI dissatisfaction was not related to age nor to BMI, though it shows a significant relationship with the analysis of the ideal weight as stated by our subjects, which in majority expressed the desire to a lower body weight that the current weight.

On the other side, the study undertaken by Braggion *et al.,* (2000) has detected a strong coherence among teenagers who considered themselves *fat* and the presence of higher fat levels.

Among athletes, a study written by Oliveira *et al.*, (2003) found levels of BI dissatisfaction (33%) that are closer to the ones found among sailors (35%) at this present study.

Although it is worth noticing that BI dissatisfaction levels may vary greatly among studies (FERRANDO *et al.*, 2002), there is a general agreement on related literature that the existence of higher BI dissatisfaction levels, mostly during adolescence, particularly among women, is related to a higher incidence of *Anorexia Nervosa* development a troubling issue which should be a target for preventive interventions in order to maintain physical health not only among athletes but also among regular people (ALVES *et al.*, 2008).

CONCLUSIONS

There is a relation between BI dissatisfaction and BF%, which might not be explain changes in BSQ because the BF% levels was classified as the expected standard in terms of gender and age.

Furthermore, in spite of the fact that there is a significant absence of dissatisfaction in the tow group, it does not reduces concerns over results that pointed changes distortions that need to be fight off, both, in the sports environment and among young people in general.

REFERENCES

ALVES, E., VASCONCELOS, F.A.G., CALVO, M.C.M., NEVES, J. Prevalência de sintomas na anorexia nervosa e insatisfação com a imagem corporal em adolescentes do sexo feminino do município de Florianópolis, Santa Catarina, Brasil, **Cad. Saúde Pública**, Rio de Janeiro, v.24, n.3, p.503-512, mar., 2008.

BEATTY, D., FINN, S.C. Position of the American Dietetic Association and the Canadian Dietetic Association: women´s health and nutrition. **J. Am. Diet. Assoc,** v.104, n.6, p.984 -1001, june, 2004.

BENEDIKT, R., WERTHEIN, E.H., LOVE, A. Eating attitudes and weight-loss attempts in female adolescents and their mothers, **J. Youth Adolesc.**, v.27, n.1, p.43-57, 1998.

BRAGGION, G.F., MATSUDO, S.M.M., MATSUDO, V.K.R. Consumo alimentar, atividade física e percepção da aparência corporal em adolescentes, **Rev. Bras. Ciên. e Mov.**, Brasília, v.8, n.1, p.15-21, janeiro, 2000.

BRANCO, L. M., HILÀRIO, M. O. E., CINTRA, I. P. Percepção e satisfação corporal em adolescentes e a relação com seu estado nutricional, **Rev. Psiq. Clín.**, v.33, n.6, p. 292-296, 2006.

BOSI, M. L.M, LUIZ, R. R., UCHIMURA, K. Y., OLIVEIRA, F.P. Comportamento alimentar e imagem corporal entre estudantes de educação física, **J. Bras. Psiquiatr.**, v.57, n.1, p. 28-33, 2008.

COOPER, P.J., TAYLOR, M., COOPER, Z., FAIRBUN, C.G. The development and validation of the Body Shape Questionnaire, **Int. J. Eat. Disord.**, v.6, n.4, p. 485-94, 1987.

DAMASCENO, V.O., LIMA, J.R.P., VIANNA, J.M., VIANNA, V.R.A., NOVAES, J.S. Tipo físico ideal e satisfação com imagem corporal de praticantes de caminhada, **Rev. Bras. Med. Esporte**, v. 11, n. 3, p. 181-6, 2005.

FERRANDO, D.B., BLANCO, M.G., MASO, J.P., GURNéS, C.S., AVELLí, M.E. Eating attitudes and body satisfactions in adolescents: a prevalence study, **Actas Esp. Psiquiatr.**,v.30, n.4, p. 207-12, jul-ago, 2002.

INTERNATIONAL SOCIETY FOR THE ADVANCEMENT OF KINANTHROPOMETRY, **ISAK.** 1. ed. Australia, 2001.

KILLEN, J.D., TAYLOR, C.B., HAYWARD, C., WILSON, D.M., HAYDEL, F., HAMMER, *et al.,* Pursuit of thinness and onset of eating disorder symptoms in a community sample of adolescent girls, **Int. J. Eat. Disord.**, v. 16, n.3, p.227-38, 1994.

PALHA, F.O., BOSI, M.L.M., VIGÁRIO, P.S., VIEIRA, R.S. Comportamento alimentar e imagem corporal em atletas, **Rev. Bras. Med. Esporte,** v.9, n.6, p.348-356, nov./dez.2003.

SIRI, W.E. Body composition from fluid spaces and density. **Univ. Calif. Donner Lab. Med. Phys. Rep.**, march 1956.

STEIN, S., CHAULHOUB, N., HODES, M., Very early-onset bulimia nervosa: report of two cases. **Int. J. Eat. Disord.**, v. 24, n.3, p. 323-7,1998.

TRICHES, R.M., GIUGLIANI, E.R.J. Insatisfação corporal em dois municípios da região sul do Brasil, **Rev. Nutr.**, Campinas, v.20, n.2, p.119-128, mar. /abr.,2007.

VILARDI, T.C.C., RIBEIRO, B. G., SOARES, E.A. Distúrbios nutricionais em atletas femininas e suas inter-relações, **Rev. Nutr.**, Campinas, v.14, n.1, p. 61-69, jan./abr.2001.

WILLIAMS, S.R. **Nutrition and diet therapy**. 6. ed. St. Louis: Times, 1989.

WITHERS, R.T., WHITTINGHAM, N.O., NORTON, L.K., LA FOGIA J.,ELLIS, M.W, CROCKETT A., Relative body fat and anthropometric prediction of body density of female athletes. **Eur. J. Appl. Phisiol.,** v.56, n.2, p.169-80, march,1987.

ATHLETES BODY IMAGE PERCEPTION
ABSTRACT

Social pressures and/or the search for a better physical performance in sports may cause the dissatisfaction with body image (BI). In some sports where the beauty, the lightness or a low body weight may contribute to the best performance, the perception of the BI can be change. The main of this study is analyzing the athletes' BI satisfaction. Seventeen women sailors were evaluated (18.3 ±7.4 years) and 12 young non-athletes (19.50 ±1.78 years). The degree of dissatisfaction with the BI was obtained by the *Body Shape Questionnaire* (BSQ). It is a version translated and validated to Portuguese. The athletes showed similar results (p>0.05) to the non-athletes for age, body weight, height and body fat (%BF). The correlation between the result of BSQ and %BF was positive (athletes=0.65 ; non-athletes=0.58). These study verified that 36% of the athletes have some level of dissatisfaction with the BI, but they had pattern of %BF within health limits set for age and gender.

Key words: Body image; body fat and athletes.

PERCEPTION DE L'IMAGE CORPORELLE DES ATHLÈTES
RÉSUMÉ

L'insatisfaction avec l'image corporelle peux être provoqué par les pressions sociales, ou mesme selon la recherche d'une meilleure performance physique dans les sports. Dans certains sports, où la beauté, la légèreté ou d'un faible poids corporel faveur la performance physique, la perception de l'image corporell peut être change. Cette étude a faite l´analyze descriptive de l´insatisfaction avec l'image corporelle d´athlètes de 17 athletes (18,3 ±7,4 ans) et 12 non-athlètes (19,50 ±1,78 ans). Le degré d'insatisfaction à l'image corporelle a été obtenu par le *Body Shape Questionnaire* (BSQ) dans la version traduite et validée pour le portugais. Le deux gruop ont été avec l'âge, le poids, la hauteur et la graisse corporelle similaires (p>0,05). La corrélation entre le résultat du BSQ et et la graisse corporelle a été positive pour les deux groupes (athletes=0,65 ; non-athletes=0,58). Il a été constaté que 36% des athlètes ont un certain niveau de l'insatisfaction avec l'image corporelle, même montrant normal résultats de la grasse corporelle dans les limites de normalité établies pour l'âge et le sexe.

Mots clés: Image corporelle, graisse corporelle et athletes.

PERCEPCIÓN DE LA IMAGEN CORPORAL DE LOS ATLETAS
RESUMEN

La insatisfacción de la imagen corporal (IC) puede ser causada por presiones sociales y/o la búsqueda de un mejor rendimiento físico en los deportes. En algunos deportes donde la belleza, la ligereza o un bajo peso corporal permiten el bueno rendimiento, la percepción de la IC puede ser cambiado. El principal de este estudio es analizar la insatisfacción de la IC de las atletas de y no atletas. 17 atletas fueron evaluadas (18,3 ±7,4 años) y 12 jóvenes no atletas (19,50 ±1,78 años). El grado de insatisfacción con el IC se obtuvo por le Cuestionario *Body Shape Questionnaire* (BSQ) en la versión traducida y validada para el portugués. Los atletas mostraron resultados similares (p> 0,05) a la no-atleta: edad, peso corporal, altura y la grasa corporal. La correlación entre el resultado del BSQ y G% fue positivo (atleteas=0,65 ; non-atletas=0,58) para los dos grupos, y se constató que el 36% de los atletas tienen cierto nivel de insatisfacción con la IC, sino que habían patrón de la grasa corporal dentro de los límites establecidos para la edad y el género.

Palabras clave: Imagen corporal, grasa corporal y atletas.

PERCEPÇÃO DA IMAGEM CORPORAL DE ATLETAS
RESUMO

A insatisfação da imagem corporal pode ser decorrente de pressões socioculturais e/ou da busca por um melhor desempenho físico no âmbito esportivo. Em algumas modalidades desportivas em que, a beleza, a leveza ou um baixo peso corporal favorece o desempenho, a percepção da imagem corporal (IC) pode ser alterada. O presente estudo teve como proposta realizar uma análise descritiva da percepção de insatisfação da IC em atletas praticantes de vela e não-atletas. Foram avaliadas 17 velejadoras (18,3±7,4anos) e 12 jovens não-atletas (19,50±1,78 anos). O grau de insatisfação com a IC foi obtido pelo *Body Shape Questionnaire* (BSQ) na versão traduzida e validada para o português. As atletas apresentaram resultados semelhantes (p>0,05) aos das não-atletas para idade, peso corporal, estatura e gordura corporal. A correlação entre o resultado do BSQ e o %G foi positiva (atletas=0,65 ; não-atletas=0,58). Observou-se que 36% das atletas apresentam algum nível de insatisfação com a IC apesar de apresentarem padrão de gordura corporal dentro de limites estabelecidos para idade e gênero.

Palavras chaves: Imagem corporal, Gordura corporal e Atletas.