ARE BODY ESTEEM, EATING ATTITUDES, PRESSURE TO BE THIN, BODY MASS INDEX AND TRAINING AGE RELATED IN RHYTHMIC GYMNASTICS ATHLETES?

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Abstract

Rhythmic gymnastics athletes participate and compete from a very young and critical period of their lives, as childhood and adolescence. Purpose of the present study was to examine the relationship between body esteem, eating attitudes, perceived pressure to be thin by coaches, parents and friends, Body Mass Index (BMI) and training age in rhythmic gymnastics athletes. Eighty-three rhythmic gymnastics athletes participated (49 current and 34 former). They completed self reported questionnaires assessing demographic and personal characteristics, body esteem, global eating attitudes, and pressure to be thin by coaches, parents and friends. The results revealed that body esteem was predicted significantly by pressure to be thin by parents, BMI and training age. Also, former athletes had more positive body esteem and eating attitudes than current athletes, and current athletes felt more pressure to be thin by their parents, than former athletes. The results of the present study led to several suggestions for further studies.

Keywords: *rhythmic gymnastics, athletes, body esteem, eating attitudes, pressure to be thin.*

INTRODUCTION

Rhythmic gymnastics (RG) is a popular aesthetic female sport with a particular training process, including early specialization before bone maturation, big volume of training, many hours of intensive training per week, high level of technical elements performed by many repetitions, variant abilities required (Bobo-Arce & Méndez-Rial, 2013). Elite gymnastics seems to be a relatively closed and stable setting where gymnasts generally reach the peak of their powers in adolescence or very early adulthood and retire by their mid-20s (Tan, Bloodworth, McNamee, & Hewitt, 2014). Training in gymnastics affects goal orientation (Koumpoula, Tsompani, Flessas, & Chairopoulou, 2011), self confidence (Zisi, Giannitsopoulou, Vassiliadou, Pollatou, & Kioumourtzoglou, 2009) and self esteem (Donti, Theodorakou, Kambiotis, & Donti, 2012).

Self-esteem refers to a global sense of self-worth and body-esteem is used to imply a sense of self-esteem in a specific area (Rattan, Kang, Thankur, & Parthi, 2006). High self-esteem and positive body image are important for preventing disordered eating and the development of body image disturbances among adolescents and children (Smolak, 2004). Why athletes might be expected to be at increased risk for developing eating disorder or abnormal eating attitudes? One of the reasons, according to Byrne and McLean (2001) is because athletes are considered as subjects feeling sociocultural pressure to conform to a lean body ideal as well as to an ideal body shape. Also athletes, more likely elite athletes, exhibit certain psychological characteristics as perfectionism, goal-orientation (specifically ego-orientation) and concerns with performance that are often described as risk factors for eating problems (Gomez, Martins, & Silva, 2011). It cannot be denied that in some sports which are characterized as lean, body image is indeed important, as weight or appearance are important for success. Body esteem is a concept referring to self-evaluation of someone's appearance, a concept of self-appraisal of one's own body (Mendelson & White, 1985). Body esteem consists feelings about one's weight, feelings about one's general appearance and opinions attributed to others concerning one's appearance (Mendelson, Mendelson, & White, 2001). Adolescence is a period during which body dissatisfaction starts increasing for girls (Bearman, Presnell, Martinez, & Stice, 2006) and is also the age during which RG athletes train intensively, since the selection of gymnasts for the national teams take place by that age (Balyi, 2001; Cupisti, D' Alessandro, Castrogiovanni, Barale, & Morelli, 2000).

Eating disorders are a serious and modern health problem. During adolescence and early adulthood the onset of eating disorders typically occurs (Byrne & McLean, 2002; Halmi, 2009). Participating in competitive sports is considered as an important risk factor for developing eating disorders (Sundgot-Borgen & Torstveit, 2004), although there are also few studies that have shown more disordered eating in non-athletes (e.g., Michou & Costarelli, 2011). There are sports emphasizing leanness, thinness and aesthetic aspects and rhythmic gymnastics is such a sport (de Oliveira Coelho, da Silva Gomes, Ribeiro, & de Abreu Soares, 2014). Athletes competing in sports in which low body fat and low body weight are required for reasons of performance or appearance, may be under intense pressure in this regard (Sundgot-Borgen, 1993). So, athletes appear to be somewhat more at risk for eating problems than non athletes, more over elite athletes in sports emphasizing thinness (Smolak, Mumen, & Ruble, 2000).

Garner and Garfinkel (1979) in order to identify people who will possible have eating disturbances developed the Eating Attitudes Test (EAT). EAT is an objective, self report measure of the symptoms of anorexia nervosa. A short-version of EAT is the EAT-26 which derived from the original questionnaire and examining whether someone is possible to have eating disorders (not only anorexia nervosa) (Garner, Olmsted, Bohr, & Garfinkel, 1982). Although the EAT-26 consists of subscales (5 or 3) it is also used as a single scale (Garner et al., 1982). Several studies have examined eating disorders and eating attitudes in several populations, as athletes (Doninger, Enders, & Burnett, 2005; Ferrand, Champely, & Filaire, 2009; Filaire, Rouveix, Pannafieux, & Ferrand, 2007), female and male athletes and non athletes (Fortes, Kakeshita, Almeida, Gomes, & Ferreira, 2014), athletes in aesthetic and lean sports (Ferrand, et al., 2009), and dancers (Arcelus, Witcomb, & Mitchell, 2014). It seems that the prevalence in western countries of abnormal eating attitudes range from 8.3% among college students, young adults, in Switzerland (Buddeberg-Fisher, Bernet, Sieber, Scmid, & Buddeberg, 1996) to 26% among college age women in the USA (Graber, Tyrka, & Brooks-Gunn, 2003). More specifically in gymnastics Theodorakou and Donti (2013)

found that 30% female elite rhythmic and artistic gymnasts had abnormal eating attitudes. In their study, age and BMI were highly correlated to eating attitudes. Their findings were similar to Douka's study (Douka, Grammatopoulou, Skordilis, & Koutsouki, 2009). There are few studies trying whether to predict global eating attitudes score from dimensions of body esteem (Rouveix, Bouget, Pannafieux, Champely, & Filaire, 2006), or to predict a dimension of eating attitude scale, Dieting, from body esteem dimensions (Ferrand, Magnan, & Philippe, 2005). No study so far has used global eating attitude scale and global body esteem scale, examining their possible relation, although body esteem can be considered as an evaluation in higher level of generality that can affect attitudes and behaviors.

The belief among athletes and coaches that a reduction in weight or body fat could enhance athletic performance can also increase athlete's risk in prevalence of eating disturbances (Thompson & Sherman, 1999). This pressure to be thin is a fact in gymnastics, artistic and rhythmic, by coaches, parents and judges (Theodorakou & Donti, 2013; Salbach, Klinowski, Pfeiffer, Lehmkuhl, & Korte, 2007). There seems to be a trend toward gymnasts with lower height and weight in competitive gymnastics because it is more appealing to the eye, it is easier for the gymnast to perform flight skills and to have more speed and agility (Sample, 2000). Perceived pressure to be thin predicts subsequent increases in body satisfaction (eg. Stice & Shaw, 2002; Stice & Whitenton, 2002). Stice and Shaw (2002) also depicted graphical the putative precursors and consequences of body dissatisfaction where perceived pressure to be thin was affected by body mass and in turn it affected body dissatisfaction.

Purpose of the present study was to examine whether global body esteem could be predicted by eating attitudes, pressure to be thin by coaches, parents or friends, Body Mass Index (BMI) and training age in rhythmic gymnastics athletes. Body esteem is a more global concept, which affects attitudes. Also, the study examined the possible differences between former and current RG athletes in body esteem, eating attitudes, pressure to be thin by coaches, parents and friends. Body esteem and self reported BMI would be negatively related, as in other studies with typical female population (Mendelson, Mendelson, & Andrews, 2000). There would not be found significant differences between current and former athletes as it is supposed that involvement in sports leads to common positive changes in variables, as physical self-esteem, independently to the level of sport participation (Findlay & Bowker, 2009).

METHODS

Participants

In the present study participated 83 Greek rhythmic gymnastics athletes, former (N= 34) and current (N= 49). Their mean age was 17.45 years (±6.97). Former athletes' mean age was 25.03 years (±4.45) and current athletes' mean age was 12.35 years (±1.67). Their training age was 7.76 (±2.72). Former athletes' mean training age was 9.70 years (±2.05) and current athletes' mean training age was 6.45 years (±2.31).

Instruments

Self reported questionnaires were used assessing demographic and personal characteristics (age, competitive experience, being a current or a former athlete, body height and weight for calculating Body Mass Index [kgr/m^2]), eating attitudes, body esteem, and pressure for thin body by coaches, parents and friends.

Body esteem (BES)

A validated Greek version (Karamitziou, 2008) of the Body–Esteem Scale for Adolescents and Adults (Mendelson et al., 2001) was used to assess the body esteem which includes 23 items. Body-esteem scale has three subscales: Appearance, Weight, and Attribution. Also these items compute an overall factor "Body

esteem" which was used in the present study, with Cronbach's alpha .86. All responses were in a five-point Likert scale, from 0 (never) to 4 (always). Higher scores indicated a higher level of body esteem.

Eating attitudes

The validated Greek version (Varsou & Trikkas, 1991, Douka,et al. 2009) of Eating Attitudes Test-26 (Garner & Garfinkel, 1979; Garner et al., 1982) was used. Twenty six items scored using six answer options by the following scores: 0=never, rarely, or sometimes, 1= often, 2= usually, and 3=always. A total score ≥20 is indicative of symptoms and concerns about eating disorders. EAT-26 assesses global eating attitudes with Cronbach's alpha .87.

Pressure for thin body by coaches, parents and friends

It was measured by Durkin, Paxton and Wertheim's questionnaire (2005). In their study they assessed only peer and parental pressure using two items for each group ("Do you think your coach/parents/friends would like you to be thinner than you are now?", "Does you coach/parents/ friends encourage you to lose weight?"), rated from 1 (never) to 5 (very often). In the present study pressure to be thin was measured for each significant person separately (coach, parents and friends). For coaches Cronbach's alpha was .88, for parents Cronbach's alpha was .84 and for friends Cronbach's alpha was .70.

Procedure

Researchers received authorization from the Rhythmic Gymnastics clubs' Directors, the parents and the coaches. Before the athletes completed the questionnaires, they were assured their participation was voluntary and that there were no wrong or right answers. Researchers also assured them that their answers were confidential and anonymous and that coaches and parents would not be permitted to see their responses. Most of the athletes took approximately 15-20 min to complete. Former athletes were contacted by personal.

Statistical analyses

Descriptive statistics (M, SD) were examined for training age, BMI, eating attitudes, body esteem and pressure to be thin, for all participants and separately for former and current athletes. Correlations between measures were examined with Pearson r criterion. To examine the possible differences between current and former RG athletes in eating attitudes, BMI and body esteem independent t-tests were used. A repeated measures ANOVA was conducted to compare the differences in pressure to be thin by three groups of significant persons (DVs: by coaches, by parents and by friends) between RG athletes (IV: current-former athletes). Hierarchical regression analysis was used to examine the prediction of body esteem from eating attitudes, pressure to be thin from coaches, parents of friends, BMI and training age for all participants. The analyses were conducted with SPSS 20.0 for Windows, adopting a level of significance of 5%.

RESULTS

Descriptive statistics and Correlations

Table 1 indicates means (M) and standard deviation (SD) values for all variables for all participants, for former and current athletes. Correlations among measures are shown in Table 2. Results indicated significant correlations between BMI and pressure to be thin by coaches, between body esteem and eating attitudes, pressure to be thin by coaches and parents, between eating attitudes and pressure to be thin by parents and friends. Finally, there were significant correlation between pressure to be thin by every signifant person.

Differences between current and former athletes

There was a significant difference in BMI between former and current athletes ($t79= 8.68$, $p<.001$). Former athletes had

higher BMI than current athletes (Table 1). None participant had BMI larger than 25, meaning that none was overweight. Underweight (lower than 18.5) was 61.4% (26.5% of the former athletes and 85.7% of the current athletes). There was, also, a significant difference in BES between former and current athletes (t80=2.12, $p<.05$), with former athletes having higher body esteem.

Eighteen participants (21.7%) had eating attitudes' score higher than 20, indicating eating concerns or disorders (Garner & Garfinkel, 1979; Garner et al., 1982). There were 5 former athletes and 13 current athletes scoring higher than 20, 26.5% of the current athletes and 15.2% of the former athletes. The different percentages between current and former athletes were not significant (*chi square*=1.49, $p=.17$). Differences in eating attitudes between current and former rhythmic gymnastics athletes were significant ($t80=-2.09$, $p<.05$). Current athletes had higher mean score on eating attitudes ($M= 16.26 \pm 10.40$) than former athletes ($M= 11.45 \pm 9.97$).

A repeated measures ANOVA was conducted to compare the differences in pressure to be thin by three groups of significant persons (by coaches, by parents and by friends) between RG athletes, with a Greenhouse-Geisser correction. The results determined that there was a significant effect or the pressure to be thin (Wilk's Lambda= 71.93, F (2,160) = 93.53, $p< .001$, eta squared= .54), and there was a significant interaction between type of RG athlete (current-former) and pressure to be thin by each significant persons (coach, parent, friend) ($F2,160= 8.34$, $p <001$). Post hoc tests using the Bonferroni correction revealed that for current RG athletes and for former RG athletes there were significant differences between pressure by every significant other group, coach- parents-friends (Table 1). Analysis of Variance was used to examine differences between current and former RG athletes in pressure to be thin by coaches, by parents and by friends. There was a significant difference only in pressure to be thin by parents ($F(1,80) = 5.10$, $p <.05$).

Prediction of Body Esteem

In the regression analysis as dependent variable body esteem was used and as independent variables global eating attitudes, pressure to be thin by coaches, parents or friends, BMI and training age were used. In Table 3 there is a summary of hierarchical regression analysis indicating that contributed significantly only pressure to be thin by parents, training age and BMI.

Table 1
Mean (M), standard deviation (SD) and differences in training age, BMI, EAT, MES and pressure to be thin for all participants, former and current athletes.

	Total M (SD)	Former athletes M (SD)	Current athletes M (SD)
Training age	7.76 ± 2.72	9.70 ± 2.05	6.45 ± 2.31
BMI	17.44 ± 2.30	19.41 ± 1.65	16.15 ± 1.65
EAT	14.33 ± 10.44	11.45 ± 9.97	16.26 ± 10.40
BES	2.54 ± .47	2.67 ± .32	2.45 ± .53
Pressure to be thin by coaches	3.16 ± 1.40	3.50 ± 1.55	2.94 ± 1.26
Pressure to be thin by parents	1.88 ± 1.07	1.56 ± .90	2.09 ± 1.13
Pressure to be thin by friends	1.40 ± .67	1.23 ± .42	1.52 ± .78

Table 2
Correlation coefficients values (Pearson r) between variables.

	1	2	3	4	5	6	7
1.Training age	1						
2.BMI	.67**	1					
3.Body esteem (total)	.09	-.17	1				
4.EAT-26	-.12	.06	-.22*	1			
5.Pressure to be thin by parents	-.01	.03	-.45**	.34**	1		
6.Pressure to be thin by coaches	.21	.43**	-.22*	.07	.29**	1	
7.Pressure to be thin by friends	-.11	.02	-.13	.30**	.51**	.22*	1

**: p<.01 , *: p<.05

Table 3
Summary of Hierarchical Regression Analysis for Variables predicting body esteem.

	Variable	R	R^2	ΔR^2	F_{change}	*df*	*B*	*SE B*	*p-values*	*Part*
Step 1		.24	.05	.45	3.78	1. 79				
	Eat-26						-.01	.01	ns	-.21
Step 2		.29	.09	.04	3.39	1.78				
	Eat-26						-.01	.01	ns	-.20
	Pressure by coaches						-.07	.04	ns	-.20
Step 3		.46	.21	.12	12.08**	1. 77				
	Eat-26						-.00	.01	ns	-.07
	Pressure by coaches						-.03	.04		-.09
	Pressure by parents						-.17	.05	.000	-.35
Step 4		.48	.23	.02	1.67	1. 76				
	Eat-26						-.00	.01	ns	-.09
	Pressure by coaches						-.04	.04	ns	-.10
	Pressure by parents						-.20	.05	.000	-.38
	Pressure by friends						.11	.08	ns	.13
Step 5		.49	.24	.02	1.74	1. 75				
	Eat-26						-.01	.01	.000	-.10
	Pressure by coaches						-.01	.04	ns	-.03
	Pressure by parents						-.21	.05	ns	-.38
	Pressure by friends						.11	.08	ns	.13
	BMI						-.03	.02	ns	-.13
Step 6		.57	.32	.08	8.25*	1. 74				
	Eat-26						-.00	.01	ns	-.08
	Pressure by coaches						-.00	.04	ns	-.01
	Pressure by parents						-.22	.05	.000	-.41
	Pressure by friends						.14	.08	ns	.17
	BMI						-.09	.03	.01	-.28
	Training age						.07	.02	.01	.28

Note: *p < .05, **p < .001

DISCUSSION

Young girls participate in educational classes of rhythmic gymnastics or in competitive classes. Their participation takes place during fragile periods of their lives, specifically childhood and adolescence, during which their bodies change dramatically. Purpose of the present study was to examine if body esteem could be predicted by global eating attitudes, pressure to be thin by significant others, as

coaches, parents and friends, BMI and training age. Former and current RG athletes participated in the study, in order to examine possible differences between them in body esteem, eating attitudes pressure to be thin and BMI. The results revealed that body esteem was predicted significantly negatively by pressure to be thin by parents and BMI, and positively by training age. Also, former athletes had more positive body esteem and eating attitudes than current athletes, and current athletes felt more pressure to be thin by their parents, than former athletes.

In the present study, body esteem was more positive (higher) for former athletes than current athletes. Self esteem changes during adolescence and body is a significant factor influencing self esteem which also changes during adolescence. During adolescence, body dissatisfaction increases, especially for girls (Bearman et al., 2006; Eisenberg et al., 2006), as females are more concerned about their body changes (Gatti, Ionio, Traficante, & Confalonieri, 2014). Participating in a lean sport, as RG, may increase even more body dissatisfaction, moreover when significant others demand athletes to be thin. As Tan, Bloodworth, McName and Hewitt (2014) mentioned adolescent gymnasts are developing their own sense of self, at a time of life where body image concerns are common, they also often compete at the very top of the sport with a need to maintain a body shape and weight optimal for elite performance. Body esteem was higher for former athletes than current athletes in the present study which probably means that after disengagement all possible negative effects disappear or revise.

Being a RG athlete, may affect body esteem. There are many reasons why that could happen. For example RG athletes must wear appropriate athletic suits which are leotards, while they are competing and practicing. Their body changes are observable to themselves and others, their coaches, their teammates, judges. A great Bulgarian RG coach, Neska Robeva, in her book "Championers' School" (Robeva & Rangelova, 1988) included a chapter by the title "The terrible war against weight". From the title of the chapter it is obvious how important weight is assumed for the sport. Training for so many hours per day, for a long period per year, is leading to a great amount of training loads. Even a small amount of change in body weight changes the effect on body and the demands from the body during practice. Joints and muscles are stressed, and injuries may happen. So, although people think that body weight change is rather an aesthetic problem, the truth is that it is mostly a problem of training loading (Robeva & Rangelova, 1988).

About eating attitudes, the results of the present study are in order to other studies. Specifically, twentysix percent of the current RG athletes who participated in the present study had abnormal eating attitudes, while Theodorakou and Donti (2013) found 30%, of female elite athletes of gymnastics (rhythmic and artistic) had abnormal eating attitudes. In their study only elite athletes from two different sports (artistic and rhythmic gymnastics) participated. In Ferrand and his colleagues' (2009) study the RG group had the highest values from all groups and also the most dispersed values. In their study 37.7% of the RG athletes had abnormal eating attitudes and it must be mentioned that their mean age was 16.2, meaning that most of the athletes were teenagers while in the present study participated also younger RG athletes. Former RG athletes had less abnormal eating attitudes (15.2%). This finding is interesting for further research. Does it mean that after sport disengagement abnormal eating attitudes become more positive?

Pressure toward athletes to be thin by coaches, parents and judges is a fact in gymnastics (Theodorakou & Donti, 2013; Salbach et al., 2007). The results of the present study revealed that pressure was higher by coaches for both current and former RG athletes. Coaches have significant role in adolescent athletes' development (Fraser-Thomas & Côté, 2009). Weight control and body esteem is a

context in which coaches are involved during practice. They argue with their athletes for many years about weight change and weight control in RG. This pressure could affect athlete's body image and body esteem through both different routes of persuasion, central and peripheral (Petty & Cacioppo, 1986). According to the Elaboration Likelihood Model of persuasion (Petty & Cacioppo, 1986) a person can be persuaded to change his/her attitudes relying on the arguments of the persuader or/and by other cues than the arguments. In the first case it is the central route of persuasion and in the second it is the peripheral route of persuasion. By the central route of persuasion, athletes are weighted every single day in the gyms and coaches try to persuade them to stay as thin as possible, giving them arguments (Robeva & Rangelova, 1988). Practices coaches use, such as routines, behaviors and no verbal communication before, during or after training, can serve as cues in the peripheral routes of persuasion (Petty & Cacioppo, 1986). In many cases the recipient can rely on peripheral cues to change his/her attitude on the subject, such as when he/she is not interested in or has not enough relevant knowledge (Alba & Hutchinson, 1987). Also adolescents often use the peripheral route of persuasion as they think that some issues do not involve them, for example they think that the consequences of smoking are far away from them even if they are smokers, so far as elderly (Scott, 1996). Coaches should be aware of the ways that they can persuade RG athletes effectively, by central and peripherical route of persuasion. Perhaps nowadays curriculums at Departments of Physical Education and Sports include some lectures about subjects like communication, body image, and that's why former athletes perceived their coaches to pressure them more to be thin than current athletes. On the other hand, many coaches have athletic experience in RG, so they try not to adopt behaviors their coaches did. Appropriate educational programs should be addressed not only to coaches but to every other person is involved in RG athletes' lives (e.g., parents).

Nowadays parents are highly involved in RG athletes' carrier. Rhythmic Gymnastics is a sport in which parents have to transport athletes to and off the training centers, invest money and time, and actively participate in the sport clubs as administrators or just members. They are also responsible for athletes' diet. So, in a recent study it was found that Greek athletes in specializing years desired more praise and understanding by their parents (Giannitsopoulou, Kosmidou, & Zisi, 2010). In other words athletes desired more positive behaviors by their parents during their training years. Pressure to be thin is a negative behavior for athletes during their athletic career which needs to be minimized. By the results of the present study it was found that only pressure to be thin by parents contributed significantly to the prediction of body esteem. This revealed the importance parents plays in the development of RG athletes.

In previous studies body esteem and eating attitudes were not examined simultaneously. In the present study eating attitudes as a global variable did not contribute significantly to the prediction of body esteem. Probably it should be used sub-scales of eating attitudes, but this requires more participants for the appropriate statistical analyses, which was a limitation of the present study as will be mentioned below.

Since early '80s, in Greece many girls participate in RG clubs. Unfortunately, athletic careers in gymnastics are remarkably short-lived and according to female gymnasts there is a lack of psychological support by coaches during the biological maturation (Koukouris, 2005). After the early disengagement, former rhythmic gymnasts do not always participate as coaches or judges. Reasons are questionable and should be examined. Including former athletes in studies, may lead to conclusions concerning rhythmic gymnastics in Greece. Are the effects on body esteem and eating attitudes permanent

or not? Can effects on body esteem and eating attitudes change after sport disengagement? By the results of the present study it can be assumed that after disengagement girls have positive body esteem and positive eating attitudes, so the possible effects on eating attitudes are not permanent and can be reversed after ending athletic career. This is a question to be answered.

The present study had some limitations. First of all the number of participants was not very high, although it was acceptable. Larger number of participants would allow the researchers to test more statistical models. Also, using self-reported questionnaires is a limitation that could be overcome only by using at the same time qualitative methods. Psychological issues, as body esteem, eating attitudes etc, are measures by using self- reported written questionnaires. Also, there are not many instruments that can be addressed both to adolescents and adults.

The results of the present study lead to suggestions for further future studies. For example, about body esteem there are limited studies in which former rhythmic gymnastics athletes participate and this is a direction for future studies. Probably a longitudinal study should be designed to. About eating attitudes, it is reasonable to include former athletes in order to examine how permanent are the effects of sports. Finally, programs should be designed and addressed to parents educating them, so they could be aware of the specificities of the sport and the ways they could and should help RG athletes in order to built positive body esteem.

CONCLUSION

The results of the present study can lead to several suggestions for further studies. Body esteem and eating attitudes should be examined between current and former athletes from different sports (aesthetic vs. non aesthetic, lean vs. non lean, individual vs. team), in different cultures, in different levels of sport participation (elite, recreational, non athletes). More instruments examining esteem, body and self, should be addressed in order to have more global view of body esteem in RG and sports. Not only quantitative studies should be conducted but also qualitative in order to participate younger aged athletes and observe issues as body image, body esteem and body dissatisfaction from childhood (when a girl participate for the first time in RG classes) to adulthood (years after sport disengagement).

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