

TENDENCIES TO MUSCLE DYSMORPHIA AMONG MEN TRAINING SILHOUETTE SPORTS

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- students
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Abstract:

The problem of muscle dysmorphia has been presented in the literature of the subject since 1993. Harrison Pope, was the first who described the disorder as “inversion of anorexia”. Four years later, the author formulated “muscle dysmorphia” term with his research team. The term occurs nowadays as “bigorexia” or “Adonis’ complex” in an informal speech. The exploration is an attempt to find some relations between tendencies to muscle dysmorphia among those who dabble in silhouette sports and their level of education, training experience and age. There were 40 men within 20-36 years old analysed, who dabble in silhouette sports. Diagnostic survey was used in the research, a questionnaire was a research tool, in which there were 37 open, semi-open, and closed questions. There were single and multiple-choice questions.

INTRODUCTION

The problem of muscle dysmorphia has been presented in the literature of the subject since 1993. Harrison Pope, was the first who described the disorder as “inversion of anorexia”. Four years later, the author formulated “muscle dysmorphia” term with his research team. The term occurs nowadays as “bigorexia” or “Adonis’ complex” in an informal speech [Urlych, 2013, p. 20].

Muscle dysmorphia is a subtype of dysmorphiaphobic disability. It is about obsessive taking care about own musculature. The person with “Adonis’ complex” is marked with spending a lot of time on strength training, using rigorous diet supplemented with various ingredients, exceeding acceptable doses of supplements. The developing dysmorphia results in the situation when the trainee is forced to use forbidden medicines (steroids) or esthetic surgery. All the treatments result from own body perception’s dysfunction [Wronowicz, 2009, p. 525].

Muscle dysmorphia obtrudes in persons with specific individual and social and cultural conditions. The first are personal factors which are connected with family and social life. Social and cultural context is linked to media and society influence as well as impact of culture creating factors [Brytek-Materna, 2008, pp. 124-125].

Childhood may be the cause of muscle dysmorphia. Sick people, who are treated in psychiatric hospitals, very often claim that they did not have good relations with their parents in their childhood, and also they had difficulties in contacts with school peers and functioning in a social group. A lack of any social support or help resulted in low self-esteem, and a gym became a source of self-confidence’s creation through an ideal silhouette’s building [Cylwik, Starzomska, 2013, p. 205]. A lack of therapeutic intervention towards people with “Adonis’ complex” results in overtraining syndrome of sportsmen. Punishing training at the gym for people with the syndrome, bereft of an optimal biological regeneration, improved by not optimal diet and anabolic and androgenic steroids (AAS), is the most important part of the

day [Mędraś, Słowińska-Lisowska, 2004, pp. 111-113, Pokrywka, 2011, pp. 267-268, Bean, 2008, pp. 64-65, 78-103, Ziemiański, 2001, pp. 78-110].

The consequence of muscle dysmorphia may result in dangerous depressive disorders [Landowski, Szeliga-Lewińska, 2006, pp. 22-23, Rabe-Jabłońska, Wojtczak, 2006, p. 45, Nitka-Siemińska, Nyka et al., 2005, pp. 40-42] appearing through insomnia, worse mood as well as psychical and physical exhaustion [Puzyński, 2008, pp. 19-35, Gmitrowicz, 2006, pp.197-208].

MATERIAL AND METHOD

There were 40 men within 20-36 years old analysed, who dabble in silhouette sports. The essential thing for the exploration was the attempt of answering the following research question: If the tendencies to muscle dysmorphia are seen among men who dabble in silhouette sports? The variables that were included in the research and results' interpretation were also used to clarify the phenomenon, as well as to give direction of formulating detailed questions as follows:

- period of silhouette sports' training (20 respondents with over 2-years practice were arbitrarily treated as advanced and 20 persons with less than 2-years practice – as the beginners);

- age of the respondents (arithmetic average of men's age was approximately 27. There was made a division: persons below the age of 27 (there were 21 respondents), and persons at the age of 27 and older (there were 19 respondents);

- the respondents' level of education (men with secondary education – 24 respondents, and higher education – 16 respondents).

Diagnostic survey was used in the research, a questionnaire was a tool, in which there were 37 open, semi-open, and closed questions. There were single and multiple-choice questions. In order to solve the research problem, the authors used the following questions concerning: applied diet, training tasks, opinion about AAS (anabolic-androgenic steroids), having some personal pattern (idols) connected with silhouette sports, satisfaction with own silhouette, social life as well as feelings connected with lack of opportunity to train.

The analysis of research results has been verified with the use of chi-square test of independence with taking into account Yates' discontinuity. The given probability value has been compared to the significance level (p-value) $\alpha = 0,05$, which means, that:

- 1) $p > \alpha$ means, that the test is statistically insignificant.
- 2) $p > \alpha$ means, that the test is statistically significant

[<http://www.quantpsy.org/chisq/chisq.htm>]

DISCUSSION

Muscle dysmorphia is the disorder that is relatively new and discovered recently, and a knowledge about it is still insufficient to be unambiguously interpreted. The research that were led by Schier and Rakfalska [2008] in 2007 were to present features of muscle dysmorphia among persons who train at gym very intensively. Research method was a survey put on popular thematic online forums concerning body building issues. There were almost 295 respondents, mostly men. The results induced scientists to claim, that the respondents were satisfied with those parts of their bodies, which they were training on.

In other research concerning muscle dysmorphia problem the mentioned above authors [Schier, Rakfalska 2008] searched for correlation between family bonds with parents of the men training strength sports intensively, and their image of their own body. Among the respondents there were 80 men from Warsaw and Kraśnik. The basic group counted 43 men training strength sports intensively, whereas in the control group there were 37 men who did not train strength sports.

Many of the research devoted to muscle dysmorphia were led by Harrison Pope – the author of “muscle dysmorphia” term. In one of the research, Pope with his colleagues, analysed 108 musclemen. Among them, there were men who took AAS and who did not take AAS. It occurred, that 9 musclemen from the whole group fulfilled diagnostic criteria of bigorexia [Ulrych, 2013].

In the next research, the same scientist analysed 193 respondents with dysmorphicaphobic disabilities of their body. It occurred, that 18 men patients fulfilled the criteria of muscle dysmorphia. The further, interesting research led by Pope, concerned an abstract thinking about the price that men can pay for the silhouette they could be fully satisfied. Years of lifespan were treated as a currency. The results were shocking, because 17 per cent of men said, that they could be ready to “give back” three years from their life in order to have an ideal silhouette, whereas 11 per cent of the respondents claimed, that 5 years less instead of dreamed body shape could be palatable [Ulrych, 2013].

In the case study described by Czuma and Orłowski [2005] a man suffering from muscle dysmorphia claimed clearly, that he could not find a common language with his father, he was rather tied up with his mother.

RESEARCH RESULTS

1. Tendencies to muscle dysmorphia with taking into account training practice among the respondents

Among the persons with the tendencies to muscle dysmorphia, the tendencies to strict and rigorous diets are observed as well. The aim is to build muscle mass and loose fatty tissue.

Table 1. The respondents’ diet with taking into account their trainings’ practice

Answers	The Respondents			
	Beginners		Advanced	
	N	%	N	%
Yes, rigorous diet according to hard-and-fast rules	2	10	2	10
Yes, but I do not hold the hard-and-fast rules	3	15	11	55
No, but I try to eat healthy food	14	70	4	20
No, I eat whatever I want	1	5	3	15
Chi ²	11,126			
C Pearson’s	0,593			
V_Cramer’s	0,527			
st. swob.	3			
p	0.011			

Source: the authors’ elaboration.

On the base of the results presented in the table 1 one can claim, that among persons who dabble in silhouette sports, their practice partly influences their diet. The same number of respondents (10 per cent of the respondents from the basic and 10 per cent of the respondents from the advanced group) claimed, that they are on a rigorous diet according to hard-and-fast rules. The advanced respondents (55 per cent of the respondents) are significantly strict with using rigorous diet in comparison to the beginners (15 per cent of the respondents apply the rigorous diet). On the other hand, 70 per cent of the beginners and only 20 per cent of the

advanced trainees try to eat healthy food. 15 per cent of the advanced respondents and 5 per cent of the beginners claimed, that they do not have a systematized diet. Significance level has been confirmed with the use of statistical function.

One of the „supplements” of the diet among persons with bigorexia tendencies are anabolic and androgenic steroids (AAS) (table 2).

Table 2. AAS using by the respondents with taking into account their training practice

Answers	The Respondents			
	Beginners		Advanced	
	N	%	N	%
Yes, several times	0	0	5	25
Yes, once	0	0	0	0
No, but I do not exclude such a possibility	3	15	8	40
No, I'm adversary of AAS	17	85	7	35
Chi ²	11,439			
C Pearson's	0,619			
V_Cramer's	0,534			
st. swob.	2			
P	0,003			

Source: the authors' elaboration.

In the group of the beginners there were no respondents who applied steroids, whereas 15 per cent of the respondents did not exclude such a possibility. In the advanced group 25 per cent of the respondents admitted to taking steroids. Majority of the respondents (40 per cent) did not exclude taking steroids in the future, however 35 per cent of the respondents claimed that they are the opponents of steroids. Research results clearly indicate at positive correlation between silhouette sports' training practice and using AAS. It confirms a level of significance.

In table 3 the authors presented answers concerning main motives of taking up strength activity.

Table 3. Main training motives of the respondents with taking into account their training practice

Answers	The Respondents			
	Beginners		Advanced	
	N	%	N	%
Muscle mass	13	65	19	95
Fitness	7	35	7	35
Reduction of fatty tissue	8	40	5	25
Strength	5	25	7	35
No answer	0	0	1	5
Others	0	0	0	0
Chi ²	2,669			
C Pearson's	0,236			
V_Cramer's	0,192			
st. swob.	4			
P	0,922			

Source: the authors' elaboration.

The most important aim at the gym both for the beginners (65 per cent of the respondents) and for the advanced (95 per cent of the respondents) was building mass' process. 35 per cent of the respondents from each group claimed, that they take up strength sports in order to keep fit in general. 40 per cent of the respondents with a short training practice and 35 per cent of the respondents with longer training practice pursue losing fatty tissue. More respondents from the advanced group (35 per cent) than from the beginners' group (25 per cent) train in order to improve their strength. Substantial number of the respondents from both of the groups (beginners and advanced) presented tendencies to muscle dysmorphia. The result of statistical function does not confirm a suitable level of significance.

It is known, that among persons with muscle dysmorphia tendencies psychical discomfort with unrealized training programme appears. In table 4 the authors presented a juxtaposition of strength sports trainees' answers for questions connected with feelings when they do not have a possibility to make a whole programme of the training.

Table 4. Psychical condition of the respondents caused by unrealized training's programme with taking into account their training practice

Answers	The Respondents			
	Beginners		Advanced	
	N	%	N	%
Anger	7	35	9	45
Sadness	5	25	3	15
Feeling of guilt	6	30	12	60
Indifference	5	25	3	15
Relief	0	0	0	0
Others	1	5	0	0
Chi ²	4,087			
C Pearson's	0,340			
V_Cramer's	0,283			
st. swob.	4			
P	0,394			

Source: the authors' elaboration.

Research results presented in table 4 may suggest, that a majority of the respondents from both of groups (beginners and advanced) feel discomfort connected with lack of systematic training. 90 per cent of the beginners pointed at pejorative feelings when skipping training. Only 25 per cent of the beginners claimed, that occasional training does not influence their general sensation, whereas 5 per cent of the respondents said, that they are satisfied with it.

Lots of people from the advanced group of the respondents pointed at negative psychical results of irregular training, and merely 15 per cent of the advanced respondents did not see any difference in their emotional state. In spite of the fact, that differentiation between results in separate groups is visible, significance level does not point at statistically substantial correlation.

According to the literature of the subject, men training silhouette sports, in whose bigorexia tendencies are seen, are mostly not satisfied with their body shape.

Table 5. Image of own body among the respondents with taking into account their training practice

Answers	The Respondents			
	Beginners		Advanced	
	N	%	N	%
Yes, it is ideal	0	0	0	0
Yes, but it could be better	11	55	14	70
It is average	4	20	6	30
I'm not satisfied	5	25	0	0
I don't like it at all	0	0	0	0
Chi ²	5,76			
C Pearson's	0,465			
V_Cramer's	0,379			
st. swob.	2			
P	0,056			

Source: the authors' elaboration.

Research results presented in table 5 are indicative of lack of silhouette celebration among all the respondents, but on the other hand, nobody claims, that his body shape is ideal and he is satisfied with it for 100 per cent.

A little more than a half of the beginner respondents (55 per cent) is satisfied with their posture, but they do not exclude the improvement. Majority of the advanced respondents (70 per cent) claimed, that they are satisfied with their body shape, but they still can improve it. Only 30 per cent of the respondents think that they are the owners of an average silhouette. The advanced respondents are a little more satisfied with their body than the beginners, but the applied statistical function does not confirm a significance level of the correlation.

Research results point, that training practice may have nonsignificant influence on muscle dysmorphia tendency among the persons who dabble in strength sports. Among the men respondents from the advanced group there may be persons who show muscle dysmorphia tendency. The confirmation of that situation may be answer concerning using forbidden treatments or supplements (doping) and a big difficulty in resignation of strength exercises. If it is true, one can point at people with bigorexia tendencies among the respondents. Taking into account the results of the beginners' group of the respondents, one can hypothetically claim, that the longer training practice, the higher inclination of muscle dysmorphia among the amateurs.

2. Muscle dysmorphia tendency with taking into account the age of the respondents

All the respondents were divided into two research groups. The first group consisted of 21 persons – amateurs in strength sports below the age of 27. The second group consisted of 19 persons – dabble in strength sports at the age of 27 and older.

Table 6. Diet of the respondents with taking into account their age

Answers	The Respondents			
	Below the age of 27		27 years and older	
	N	%	N	%
Yes, rigorous diet according to hard-and-fast rules	4	19	0	0
Yes, but I do not hold the hard-and-fast rules	5	24	9	47
No, but I try to eat healthy food	10	47,5	8	42
No, I eat whatever I want	2	9,5	2	11
Chi ²	5,278			
C Pearson's	0,434			
V_Cramer's	0,363			
st. swob.	3			
P	0,152			

Source: the authors' elaboration.

Among the men respondents from the first group 19 per cent of them was stacked to rigorous diet (table 6). The second group respondents (it means 47 per cent of them) and the first group men (24 per cent of them) did not hold radical diets. Similar percentage of both groups' respondents (47,5 per cent from the first group and 42 per cent from the second group) claimed, that they try to eat healthy food. It occurs, that there is no significant statistical correlation between the age of the respondents and the diet they use ($p = 0,375$).

Table 7. Using of AAS by the respondents with taking into account their age

Answers	The Respondents			
	Below the age of 27		27 years and older	
	N	%	N	%
Yes, several times	1	5	4	21
Yes, once	0	0	0	0
No, but I do not exclude such a possibility	8	38	3	16
No, I'm adversary of AAS	12	57	12	63
Chi ²	3,982			
C Pearson's	0,395			
V_Cramer's	0,315			
st. swob.	2			
P	0,136			

Source: the authors' elaboration.

Only 5 per cent of the respondents below the age of 27 used AAS several times (table 7). A majority of them (38 per cent of the respondents) did not exclude using of steroids in the future. More than a half of the respondents (57 per cent) is opposite to using AAS. It results, that 21 per cent of men at the age of 27 and older, used steroids several times, and 16 per cent of the respondents did not exclude using it in the future. 63 per cent of the respondents declare, that they will not take any doping during their live time. These are the persons who never used steroids in their trainings. Despite so various research results in the both groups of the respondents, the results are not statistical significant. Minimal differentiation in the

answers appears among the respondents who were asked about training's motives. Some of them (71 per cent of below the age of 27 respondents) and others (89 per cent of at the age of 27 and older respondents) point at enhancement of body mass and reduction of fatty tissue (consecutively 43 per cent and 21 per cent of the respondents) as the most significant motive when taking up physical activity. The third most important motive of taking up physical activity was general fitness.

Table 8. The respondents' feelings concerning skipping training schedule with taking into account their age

Answers	The Respondents			
	Below the age of 27		27 years and older	
	N	%	N	%
Anger	8	38	8	42
Sadness	5	24	3	16
Feeling of guilt	9	43	9	47
Indifference	4	19	4	21
Relief	0	0	0	0
Others	1	5	0	0
Chi ²	1,328			
C Pearson's	0,199			
V_Cramer's	0,161			
st. swob.	4			
P	0,856			

Source: the authors' elaboration.

With giving multiple-choice answers, a big group of the respondents (43 per cent below the age of 27 group and 47 per cent from at the age of 27 and more group) points at feeling of guilt in case of skipping daily training programme for different reasons (table 8). These are the respondents, who feel angry (consecutively 38 per cent and 42 per cent) and sad (consecutively 24 per cent and 16 per cent). Only 19 per cent of the respondents from the group below the age of 27 and 21 per cent of the respondents from the group at the age of 27 and older pointed at lack of discomfort in case of skipping training schedule, and even one of the respondents claimed, that he is satisfied with it.

Table 9. The respondents' feelings concerning their silhouette with taking into account their age

Answers	The Respondents			
	Below the age of 27		27 years and older	
	N	%	N	%
Yes, it is ideal	0	0	0	0
Yes, but it could be better	12	57	13	68
It is average	6	29	4	21
I'm not satisfied	3	14	2	11
I don't like it at all	0	0	0	0
Chi ²	0,541			
C Pearson's	0,151			
V_Cramer's	0,116			
st. swob.	2			
P	0,762			

Source: the authors' elaboration.

Research results presented in table 9 show self-assessment of the respondents' silhouettes. It resulted from the research, that 57 per cent of below the age of 27 men and 68 per cent of at the age of 27 and older men are satisfied with their silhouettes and claimed, that it can be better in the future. Widely less men (29 per cent of below the age of 27 men and 21 per cent of at the age of 27 and older) think that they have an average body silhouette. Similar number of the respondents who are not satisfied with their body shape is seen in both of the research groups.

3. Muscle dysmorphia tendency with taking into account a level of education of the respondents

An essential step in the exploration was to determine correlations between respondents' level of education and the diet they apply.

Table 10. Diet of the respondents with taking into account their level of education

Answers	The Respondents			
	Secondary education		Higher education	
	N	%	N	%
Yes, rigorous diet according to hard-and-fast rules	3	12	1	6,5
Yes, but I do not hold the hard-and-fast rules	8	32	6	40
No, but I try to eat healthy food	11	44	7	46,5
No, I eat whatever I want	3	12	1	7
Chi ²	0,719			
C Pearson's	0,169			
V_Cramer's	0,134			
st. swob.	3			
P	0,868			

Source: the authors' elaboration.

On the base of the research results presented in table 10 one can claim, that the respondents with secondary education (12 per cent) apply more often a rigorous diet according to hard-and-fast rules than the respondents with a higher education (6,5 per cent).

The most respondents from both of the groups (approximately 45 per cent) claimed, that they try to eat healthy food. 40 per cent of the respondents with higher education and 32 per cent of the respondents with secondary education have a diet, but they do not hold strict rules. No significant percentage of the respondents eats whatever they want.

The respondents' awareness of AAS harmfulness is high among the respondents with secondary education (84 per cent). Only 53,3 per cent of the respondents with higher education confirm an adverse influence of AAS on human body. The respondents claim, that the steroids are harmful only in case of incompetent using it (16 per cent of the respondents with secondary education). None of the respondents did not claim, that steroids do not harm health.

Despite many varied respondents' opinions about steroids' harmfulness, many of them confessed to using it. Relatively lots of the respondents with higher education (33,5 per cent) and secondary education (24 per cent) think that they may use steroids in a future. In both of the groups, most of the respondents excluded using steroids.

The main motive of taking up strength exercises among the respondents is an increase of muscle mass. 40 per cent of the respondents with secondary education do exercises to improve their general fitness. A bit less respondents (36 per cent) want to reduce fatty tissue, and 28 per cent want to improve the strength. The respondents with higher education care about reduction of fatty tissue to a lesser extent as well as improvement of general fitness (27 per cent of the answers).

Table 11. The respondents' feelings concerning skipping their training schedule with taking into account their level of education

Answers	The Respondents			
	Secondary education		Higher education	
	N	%	N	%
Anger	10	40	6	40
Sadness	6	24	2	13
Feeling of guilt	8	32	10	66
Indifference	6	24	2	13
Relief	0	0	0	0
Others	1	5	0	0
Chi ²	4,037			
C Pearson's	0,338			
V_Cramer's	0,281			
st. swob.	4			
p	0,401			

Source: the authors' elaboration.

From the data presented in table 11 one can claim, that most of the respondents from both of the groups have negative feelings concerning skipping training schedule. The same percentage of men (40 per cent of the respondents in both of groups) feels angry when they can not be at the training, and 24 per cent of the respondents with secondary education feel

sad because of it (13 per cent of the respondents with higher education). 66 per cent of the respondents with higher education feel guilty when they do not attend the training (32 per cent of the respondents with secondary education).

Table 12. The respondents' feelings concerning their silhouette with taking into account their level of education

Answers	The Respondents			
	Secondary education		Higher education	
	N	%	N	%
Yes, it is ideal	0	0	0	0
Yes, but it could be better	17	68	8	53,5
It is average	4	16	6	40
I'm not satisfied	4	16	1	6,5
I don't like it at all	0	0	0	0
Chi ²	3,136			
C Pearson's	0,353			
V_Cramer's	0,280			
st. swob.	2			
P	0,208			

Source: the authors' elaboration.

Research results presented in table 12 point at the fact, that people with a secondary education (68 per cent of the respondents) as well as people with higher education (53,5 per cent of the respondents) are satisfied with their silhouettes and they know, that they also can improve it. More people with higher education (40 per cent of the respondents) than people with secondary education (16 per cent of the respondents) are convinced of the fact, that their silhouettes are average, whereas 16 per cent of secondary education respondents and 6,5 per cent of higher education respondents are not satisfied with their body shape.

CONCLUSIONS

A significant aim of the paper was to show relationships between muscle dysmorphia tendencies among persons training silhouettes sports and their training practice, level of education as well as their age. When analyzing the correlation between separate variables one can claim, that in each of the analysis one can see worrying symptoms indicating at bigorexia tendency. It is also worth mentioning, that only a differentiations of the respondents in terms of training practice are confirmed by the applied statistical functions. An absolute attitude towards rigorous diet among the respondents is seen at this stage of training practice. The respondents were also more prone to risky behaviours such as: using AAS. One can assume, that the respondents' level of education will differentiate them in order to their consciousness of using anabolic and androgenic steroids. As it resulted from the research, the respondents with higher education are more open to experiment with their body in comparison to the respondents with secondary education. The first group of the respondents could be marked as those with muscle dysmorphia tendencies.

It also occurred, that because of so complex research area of the exploration, the analysis of only one variable does not exhaust the whole interpretative area. Only a specific compilation of the variables of the syndrome mentioned in the paper may indicate at

searching for tendencies to bigorexia among the respondents. The attitude marked with applying rigorous and radical diets with forbidden supplements, exposing psychical discomfort because of skipping the training schedule as well as negative image of own body shape directs all the considerations towards bigorexia area. Only three persons among all the respondents presented worrying correlation of the described symptoms.

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