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Gender role conflict and depression in males – the possible role of the athletic ideal*

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Summary

Aim. We studied gender role conflict, depression and the prevalence of non-competitive bodybuilding.
Material and methods. 480 male military college students and 752 "non-military" college students were a study group. A demographic questionnaire, the Beck Depression Inventory (BDI), and the Gender Role Conflict Scale (GRCS) was administered to all subjects. Data about desired weight, and anabolic steroid abuse were also detected.
Results. Non-military college students reported higher levels of gender role conflict on two subscales of GRCS, higher total score, and higher level of depression than military subjects. Non-competitive bodybuilding is more prevalent in military college students. 88.1% of the total population wants to lose or gain weight. i.e., was dissatisfied with present body weight.
Conclusion. The findings suggest that military college students compared to general college students have some protective factors against the psychopathological effect of the cultural pressure of body ideals.

athletic ideal / military population / non-competitive bodybuilding / gender role conflict / depression

INTRODUCTION

Gender role conflict and depression in males – the possible role of the athletic ideal

Compared to young female populations characterized by the appearance of classical eating disorders (anorexia nervosa and bulimia nervosa), young males have some vulnerability to body image disorders of other types. The male body ideal is based on the athletic ideal ("Schwarzenegger ideal"). A new problem of young males, muscle dysmorphia (MD) appeared in 1993 as a special body image disorder of males, regarded as a reverse form of the anorexia nervosa seen in females [1]. Muscle dysmorphia (MD – formerly discussed as reverse anorexia nervosa, bigarexia nervosa, machismo nervosa) is a newborn specific body image disorder of body builders. Its main feature is a body image disorder relating to the musculature, and can be generally found among male body builders. The abuse of anabolic steroid hormones is also a frequent symptom of this syndrome.

The proposed diagnostic criteria of MD [2] are presented in the Tab. 1.

Females predominate all types of classical eating disorders, so weight related problems are regarded as "feminine" disorders. Male body appearance disorders remained unrecognized because men often don't reveal their problems for fear that they will be considered "gay" or "effeminate" [3]. The new obsession with appearance, known as the Adonis Complex poses a health threat that is as insidious and deadly as eating disorders are for women and girls [3].

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Table 1. Proposed criteria of muscle dysmorphia [2]

1. The person has a preoccupation with the idea that one's body is not sufficiently lean and muscular. Characteristic associated behaviours include long hours of lifting weights and excessive attention to diet.
2. The preoccupation causes clinically significant distress or impairment in social, occupational, or other important areas of functioning, as demonstrated by at least two of the following four criteria; 2a) the individual frequently gives up important social, occupational, or recreational activities because of a compulsive need to maintain his or her workout and diet schedule; 2b) the individual avoids situations where his or her body is exposed to others, or endures such situations only with marked distress or intense anxiety; 2c) the preoccupation about the inadequacy of body size or musculature causes clinically significant distress or impairment in social, occupational, or other important areas of functioning; 2d) the individual continues to work out, diet, or use ergogenic (performance-enhancing) substances despite knowledge of adverse physical or psychological consequences.
3. `The primary focus of the preoccupation and behaviours is on being too small or inadequately muscular, as distinguished from fear of being fat, as in anorexia nervosa, or a primary preoccupation only with other aspects of appearance, as in other forms of BDD.

The American literature in the 1970's implies that men's socialization and adherence to rigid masculine sex-role stereotypes pose serious threats to their happiness and psychological health [4, 5, 6, 7]. Several studies have found evidence linking gender traits to both problem eating and body dissatisfaction [8]. The majority of studies that have studied non-clinical populations have shown that a high identification with feminine traits is linked to body dissatisfaction [9, 10, 11]. However, some studies have found a relationship between low masculinity scores, problem eating, and body dissatisfaction [12, 13].

Furnham [14] examined eating attitudes, reason for exercise, self-esteem, and their ideal versus current body size and shape in 235 adolescents. They found that boys were as likely to want to be heavier as lighter, whereas very few girls desired to be heavier.

Numerous studies have reported links between sexuality and body dissatisfaction, dieting and binge eating behaviour [15]. Meyer [16] studied the relationship between gender-role orientation and eating psychopathology in non-clinical men and women. There were links between femininity and high levels of eating problems, whereas masculinity was associated with relatively healthy eating related attitudes and behaviours. Their results support a model where femininity might be seen as a specific risk factor for eating disorders, whereas masculinity is likely to be a protective factor.

Pope [2] found that anxiety and mood disorders, like depression commonly co-occur with MD. Many studies have investigated the link between gender roles and psychological well-being in the last three decades [17]. The most consistently obtained finding has been that possession of masculine traits is associated with lower levels of anxiety, less depressed mood, and lower levels of hostility [18]. Others argue with the universality of this "masculinity effect" [19]. The findings suggest that the influence of gender roles on psychological well-being may be situational rather than general, and may also interact with other social roles which a person might adopt [20].

The literature related to eating disorders in women has shown that pathological eating and extreme weight control practices are generally more prevalent in some populations in which leanness or low body weight are important for enhanced performance or appearance (e.g., figure skating, gymnastics, wrestling etc.). The focus of the present study was to assess the relevance of athletic ideal as a risk factor in certain professional subcultures in young men with respect to the bodybuilding (BB) practice, weight change desire, gender role conflict and depression. These can be important risk factors of the Adonis Complex or MD in special populations.

Aim of the study

The aims of the present study were as follows: (1) to evaluate the frequency of non-competitive BB in young male populations; (2) to assess the

relationship between military education and gender role conflict as well as depression.

We assumed that (1) BB is more prevalent in a population where physical strength is a usual requirement; (2) military college students and non-competitive bodybuilders in both populations will score higher on Gender Role Conflict Scale (GRCS) and on Beck Depression Inventory.

MATERIAL AND METHODS

Demographic questionnaire

Items were included about general demographic and anthropometric data, present and ideal body weight, anabolic steroid abuse, history of weightlifting, other sport activities and participation in BB (weightlifting to enhance body shape and size). The participants completed two self-rating questionnaires: the Beck Depression Inventory [21] and the Gender Role Conflict Scale [22].

Gender role conflict

A pattern of gender role conflict is defined as a set of values, attitudes, or behaviours related to masculinity or femininity learned during socialization that causes negative psychological effects on a person or on other people. Gender role conflict was operationalized with the GRCS [22]. This self-report instrument consists of 37 items and measures 4 factors: a) Success, Power and Competition, b) Restrictive Emotionality, c) Restrictive Affectionate Behaviour Between Men, d) Conflict Between Work and Family Relations. These four factors represent theoretically based and empirically derived patterns of men's gender role conflict. The first factor, "Success, Power and Competition", is defined in the following way: success refers to gaining wealth, accomplishment, and eminence as a means of substaining and demonstrating value; power refers to obtaining authority, influence, or ascendancy over others; and competition refers to striving against others to win or gain something. The second factor, "Restrictive Emotionality", is defined as having difficulty expressing one's feelings or denying others their rights to emotional expressiveness. The third factor "Restrictive Affectionate Behaviour Between Men", is defined as having limited ways of expressing one's sexuality and affection to other men. The fourth factor "Conflict Between Work and Family Relations", is defined as having difficulty balancing the demands of work with the responsibilities of home and family.

Participants respond on a 6-point scale ranging from strongly disagree (1) to strongly agree (6). Higher scores indicate greater gender role conflict and fear of femininity. An exploratory factor analysis of the Hungarian sample in the present study supported the original four-factor model as originally proposed by [22] and later confirmed by [23]. Psychometric evaluation of the Gender Role Conflict Scale found excellent factor stability, good internal consistency, and freedom from a socially desirable response bias. The average reliabilities across 11 studies for the four subscales were .86 for Success Power and Competition, .84 for Restrictive Emotionality, .84 for Restrictive Affectionate Behaviour Between Men, and .84 for Conflict Between Work and Family Relations [24].

Authors translated the questionnaire into Hungarian. The Hungarian version of the scale was then back-translated into English by an individual who was unfamiliar with the tool. Comparing the original version with the back-translated version no meaningful differences were found. In the Hungarian military sample the four factors, resulting from a factor analysis with oblique rotation, are internally consistent (alphas range from .75 to .82) and have adequate test-retest reliability over a 5-week period (rs range from .78 to .93).

Depression

All participants reported their level of depression using the BDI [21], a 21-item scale for the assessment of the presence and severity of depression. The majority of the items focus on cognitions, but the BDI also includes items on affect, overt behaviour, somatic symptoms, and interpersonal symptoms. The person rates each item on a 4-point scale, with higher scores indicative of greater depression. Concurrent validity for the instrument is strong, the BDI shows significant correlations with other measures of de-

pression [25, 26, 27]. In a Hungarian sample [28] split-half reliabilities have been found in a range from .64 to .84. In our sample alpha coefficient was .86 for military college students and .83 for their non-military counterparts.

Desired Weight Change

Participants were asked the following: "How much do you think you weigh?" "How much would you like to weigh?" Desired weight change was calculated by subtracting estimated weight from desired weight. Negative scores correspond to a desire to lose weight, while positive scores refer to gain weight.

Body Mass Index (BMI)

Actual height and weight measurements were used in computing a BMI score for each subject (BMI=height [kg]\ weight [kg]^2).

Method of screening

The screening was performed at the Zrínyi Miklós National Defense University, Budapest and at the University of Debrecen. Men, ages 18-30 years were recruited by advertisements searching for individuals interested in taking part in a questionnaire study concerning health attitudes and health-related behaviour. The focus of the study was not revealed in the advertisements. Subjects participated voluntarily, and a written informed consent was obtained. The study was approved by the local ethical committee (Semmelweis University Research Ethical Committee).

Military college students have to perform special physical standards for admission to the university. As well as good health standards is also a requirement to absolve the semesters.

There were no differences in the two examined populations in intellectual ability or school grades.

Data analysis

We performed a chi-square test (Fisher's exact test for expected values lower than 5) to assess the significance of differences between two groups for categorical data. ANOVA and the F-test were used for continuous variables.

RESULTS

The study population contained 1232 subjects – the response rate of the total population was 76%. We have not found significant differences between study groups by age. The BMI (kg/m2) of military students was significantly higher than general college students ($F=6.19$, $p<0.05$). The rate of amateur bodybuilders is significantly higher in the military population ($\chi^2=55.55$, $p<0.001$). More military students use anabolic steroids (3.3%, n=16) ($F=5.09$, $p<0.05$).

67.29% (n=323) of the military population and 34.84% (n=262) of non-military controls would like to be heavier, which reminds one of the main characteristics of MD. 25.83% (n= 124) of the military participants and 49.46% (n=372) of the control subjects want to lose weight.

To test whether the members of the two examined groups differed on gender role conflict as measured by the four factors of the GRCS an ANOVA was conducted. Results indicated that the groups differed on the total scores of GRCS ($F = 6.32$, $p <0.05$). In order to determine if gender role characteristic differences existed between groups, a 2x4 (group x GRCS subscales) variance analysis was conducted. Follow-up univariate analyses of variance revealed that non-military students were significantly more likely to report higher scores in two subscales: Restrictive Emotionality and Restrictive Affectionate Behaviour Between Men than military students.

Non-military students show significantly greater level of depression ($F= 6.70$, $p<0.001$).

The Table 2 provides the means and standard deviations for the four dependent Gender Role Conflict Scales, and Beck Depression Inventory, as well as data of weight history and steroid abuse of the two samples.

To assess the effect of non-competitive BB practice on gender role conflict and depressed mood, two groups were separated in both populations:

1) men reported current or past history of BB,
2) men, who have never been engaged in BB.

Table 2. Data of weight history, steroid abuse and comparison of the scores of GRCS subscales and BDI in the study populations

	Non-military college students N=752	Military college students N=480
BMI (kg/m^2) (M±SD)	23.9±3.2*	23.5±2.4
Anabolic steroid use (%)	15 (1.99%)	16 (3.33%)*
Desire of gaining weight (%)	262 (34.84%)	323 (67.29%)***
Desire of losing weight (%)	372 (49.46%)***	124 (25.83%)
BB-engaged (current or past) (%)	221 (29.38%)	310 (64.58%)***
Non-engaged in BB (%)	531 (70.61%)***	170 (35.41%)
Depression (BDI) (M±SD)	6.10±6.44***	4.42±5.23
Success, Power and Competition (GRCS-1) (M±SD)	46.50±10.51	46.74±10.48
Restrictive Emotionality (GRCS-2) (M±SD)	29.64±9.82***	26.70±10.18
Restrictive Affectionate Behaviour Between Men (GRCS-3) (M±SD)	23.24±8.40***	21.55±9.10
Conflict Between Work and Family Relations (GRCS-4) (M±SD)	19.38±6.11	18.72±7.08
GRCS total score (M±SD)	29.68±6.34*	28.52±6.90

Note[1]. BB-engaged: participants who are actually or previously engaged in bodybuilding
Non-engaged: participants who have never been engaged in bodybuilding
Note[2]. ***p< 0.001, *p<0.05

Non-competitive BB related to gender role conflict and depression

We have not found significant difference between study groups by BMI. In the non-military group 16 of 221 BB-participants use anabolic steroids, which is significantly higher than in the military group (χ^2 = 0.31, p<0.05). More military bodybuilders would like to be heavier (χ^2 = 19.51, p<0.001), but more non-military students want to lose weight (χ^2 = 19.51, p<0.001).

Results indicated that BB-engaged non-military college students experienced more gender role conflict than did military subjects with BB history on Restrictive Emotionality (F=29.57, p <0.05) and on Affectionate Behaviour Between Men (F=24.07, p <0.01).

Non-military students as a whole, experienced greater depression to military educated amateur bodybuilders (F=6.70, p <0.001). The Table 3 presents the means and standard deviations for BDI, total scores and each of the GRCS subscales for non-competitive bodybuilders as well as data of weight history and steroid abuse of the groups.

Comparison of men without BB history

The BMI of non-military students was significantly higher than military college students (F=23.84, p<0.001). There were no steroid users in either group of men without BB history. Significantly more military students have a desire of weight expansion (χ^2 = 76.87, p<0.001), but more non-military students want to lose weight (χ^2 = 76.87, p<0.001).

Comparison of men who have never been engaged in non-competitive BB in the study groups results that non-military subjects score higher on three of four subscales of GRCS: Restrictive Emotionality (F=29.61, p <0.001), Affectionate Behav-

Table 3. Data of weight history, steroid abuse and comparison of the scores of GRCS subscales and BDI in the BB-engaged groups

	Non-military college students N=221	Military college students N=310
BMI (kg/m^2) (M±SD)	24.21±3.35	23.98±2.44
Anabolic steroid use (%)	15 (6.78%)*	16 (5.16%)
Desire of gaining weight (%)	100 (45.24%)	180 (58.06%)***
Desire of losing weight (%)	104 (47.05)***	80 (25.80%)
Depression (BDI) (M±SD)	6.70±5.96***	4.48±5.28
Success, Power and Competition (GRCS-1) (M±SD)	48.49±10.41	48.31±10.03
Restrictive Emotionality (GRCS-2) (M±SD)	29.57±10.38*	27.27±10.42
Restrictive Affectionate Behaviour Between Men (GRCS-3) (M±SD)	24.07±8.54**	21.74±9.36
Conflict Between Work and Family Relations (GRCS-4) (M±SD)	19.92±5.90	19.36±6.81
GRCS total score (M±SD)	30.47±6.22	29.42±6.63

Note[1]. BB-engaged: participants who are actually or previously engaged in bodybuilding
Non-engaged: participants who have never been engaged in bodybuilding
Note[2]. ***p< 0.001, **p< 0.01, *p<0.05

Table 4. Data of weight history, steroid abuse and comparison of the scores of GRCS subscales and BDI in the non-BB-engaged groups

	Non-military college students N=531	Military college students N=170
BMI (kg/m^2) (M±SD)	23.84±3.21***	22.83±2.47
Anabolic steroid use (%)	0	0
Desire of gaining weight (%)	160 (30.13%)	138 (81.17%)***
Desire of losing weight (%)	268 (50.47%)***	43 (25.29%)
Depression (BDI) (M±SD)	5.85±6.65*	4.58±5.17
Success, Power and Competition (GRCS-1) (M±SD)	45.62±10.45	44.64±10.77
Restrictive Emotionality (GRCS-2) (M±SD)	29.61±9.56***	26.07±9.79
Restrictive Affectionate Behaviour Between Men (GRCS-3) (M±SD)	22.82±8.34*	21.23±8.72
Conflict Between Work and Family Relations (GRCS-4) (M±SD)	19.11±6.21*	17.94±7.31
GRCS total score (M±SD)	29.30±6.38**	27.37±7.12

Note[1]. BB-engaged: participants who are actually or previously engaged in bodybuilding
Non-engaged: participants who have never been engaged in bodybuilding
Note[2]. ***p< 0.001, **p< 0.01, *p<0.05

iour Between Men (F=22.82, p <0.05), and Conflict Between Work and Family (F=19.11, p<0.05). Groups were also showed significant difference in GRCS total score (F=29.30, p <0.01).

Men in the non-military population feel more depressed in the groups (F=5.85, p<0.05).

The Table 4 shows the means and standard deviations for BDI, total scores and each of the GRCS subscales for non-BB-engaged students as well as data of weight history and steroid abuse of the groups.

DISCUSSION

The hypotheses of the study were partly supported. The primary aim of the study was to investigate the prevalence of non-competitive BB and psychological characteristics related to gen-

der role socialization in college student males. These data can help determine whether BB should be included in the growing number of activities and sports that are associated with an increased risk of developing stress, anxiety and depression related to body-ideal oriented problems, like the Adonis Complex or MD. Pope et al (1993) suggest that bodybuilders may be at greater risk than the majority of men for body dysmorphic symptoms as a whole, and that sociocultural factors may determine whether they move in the anorexic or reverse anorexic directions.

The total occurrence of BB is very high (64.5 %) in the military population. Clinical studies of MD [1, 3, 29, 30] suggest that this new problem of males is the most likely found in persons who are dissatisfied with their bodies and are heavily involved in weight lifting and other muscle development activities. The prevalence of BB, steroid abuse, and desire of weight gain in the studied population reveals that predisposition factors of the new phenomenon (MD) can also be found among young males in Central-Eastern Europe.

Furnham and Calnan [31] found that males who are dissatisfied with their bodies are equally divided between those who wish to gain weight and those who wish to lose weight. The best predictors of satisfaction with weight were the "reasons for exercise" variables. In our study 88.71% of both populations of males are dissatisfied with their current weight: 585 subjects want to be heavier, while 496 participants would like to lose weight. These results confirm the differences between male and female body dissatisfaction and the cultural pressure to obtain male ideal body shapes.

Non-competitive BB and gender role conflict

The drive for muscularity may be a means of compensating for a sense of inadequacy about one's masculinity [3]. Therefore young males who are engaged in BB and have greater extent of gender role conflict and fear of femininity may be in hazard of developing MD. To assess the related psychological correlates of non-competitive BB and the effect of the physical requirements of military profession in men, we performed a study comparing dedicated military and "general" college students who reported to be engaging in non-competitive BB either currently or in the past with those who are not. This investigation represents, to our knowledge, the first large controlled comparison in a clinically rarely examined, but highly affected population. The results of the current study indicate that non-military students report greater levels of certain behaviours and affections characteristic of gender role conflict than military students in all comparisons.

Borchert & Heinberg [32] explored how college-aged women's and men's self-reported discrepancies in actual and ideal femininity and masculinity are linked to body image. For women, physical size, but not gender role discrepancy, was predictive of body image. For the men, in addition to physical size, falling short of their masculine ideal was predictive of more negative body image.

The risk of eating disorders is higher among young women where the slim body ideal is dominant. There are more possible explanations as to why femininity be linked to high levels of eating disturbance. One model implicates societal factors, other involves the role of personal conflict and the resulting emotional responses [15]. As in homosexual men, a conflict between the individual's feminine role-orientation and society's view of men as physically strong and masculine might lead to emotional discomfort, which the individual would try to reduce in purging or other compensating behaviour [14].

In the studied population non-military students show higher levels of depression in all comparisons. Ravaldi [33] found no significant differences between amateur bodybuilders and male control subjects in BDI scores. The sex role patterns, conflicts and strains identified in the literature indicate that men's adherence to rigid masculine sex roles may produce inflexible behaviour and outcomes that are in many ways dysfunctional. Speculatively, gender role conflict in males may also link to the cultural pressure of body or masculine role ideals, which leads to psychological maladjustment in mood disorders or eating disturbances.

The limitations of the study may affect the generalizability of the results. We used self-report measures with potential sources of error. It

would be important to include significant others, acquaintances, trained raters, or a combination of these, in addition to self-report, in future studies that examine gender role conflicts. Another limitation concerns the education level, as all participants are college students. Our sample does not represent the population of bodybuilders well.

Our data suggest that male military college students (a special population of males where the physical strength and its demonstration in body appearance is important) compared to general college students have some protective factors against the psychopathological effect of the cultural pressure of body ideals. The origin of the protective factor is unknown yet. A longitudinal study would decide if the military environment or physical health (or both of these factors) act as the protective factor against the examined psychological features.

CONCLUSIONS

Our view is that the next steps in this line of research should focus on comparing the presented psychological and personal characteristics of the military sample with general college students.

The data suggest that special attention has to be paid to non-competitive BB related to men's athletic body ideal ("Schwarzenegger ideal"), the gender role conflict, and to the psychological health condition of young male populations.

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