

The Role of the Media, Perfectionism, and Difficulties in Emotion Regulation in Prediction of Muscle Dysmorphia Symptoms

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ABSTRACT

Objective: The purpose of this research was to investigate the role of the media, perfectionism, and difficulties in emotion regulation in prediction of muscle dysmorphia symptoms.

Methods: In this research, 240 male body-builders were selected from five gyms in Gorgan (north of Iran). They were required to answer Muscle Dysmorphia Disorder Inventory (MDDI), Multidimensional Perfectionism Scale (MPS), The Sociocultural Attitudes Toward Appearance Questionnaire-3 (SATAQ-3), and Difficulties in Emotion Regulation Scale (DERS). The collected data were analyzed by Pearson correlation and multiple regression.

Results: All variables were correlated with muscle dysmorphia symptom ($P < 0.01$). Multiple regression analysis showed that all three variables, the media, perfectionism, and difficulties in emotional regulation can significantly predict muscle dysmorphia symptom ($P < 0.001$).

Conclusion: Importance and multi-aspect nature of social, cognitive, and emotional variables in formulation of muscle dysmorphia disorder were emphasized in this research.

1. Introduction

Almost two decades ago, the concentration of body image researchers was on obesity and thinness. Results of their investigations revealed that in comparison to women, men are less worried about amount of their body fat, have less tendency to become thinner and it is less probable that they change their eating style to lose weight. Alongside such results, many of the researchers thought that men do not have any problems with their body and body image (McCreary, 2007). This hypothesis was not confirmed in the real world because researches proved that regarding the body image, men are opposite of women. This finding resulted in the creation of "reverse anorexia" or "bigorexia" concept. The birth of this concept dates back to Pope, Katz, & Hudson (1993). Some of the participants in this research reported

some symptoms that were opposite of the symptoms of anorexia nervosa. They were worried about their muscle size instead of being worried about fatness; whereas according to the objective criteria, they were very tall, muscular, and had only a few fat tissues. They reported that this preoccupation had negative effects on their social life.

The concept of reverse anorexia or bigorexia did not last too much, because Gruber, Choi, Olivardia, and Phillips (1997) replaced it with another concept, Muscle Dysmorphia. About this replacement, they said that in comparison with previous concept, muscle dysmorphia is more precise and include both genders. They indicated that the main feature of muscle dysmorphia is people's chronic preoccupation with the idea that their body is not as muscular as it should be.

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In fifth edition of Diagnostic and Statistical Manual of Mental Disorders (DSM-5) (American Psychological Association, 2013), there is a category called "Obsessive-Compulsive and Related Disorders". One of the disorders in this category is body dysmorphic disorder. This is written in one of the subdivisions of the disorder:

Muscle dysmorphia, a form of body dysmorphic disorder occurring almost exclusively in males, consists of preoccupation with the idea that one's body is too small or insufficiently lean or muscular. Individuals with this form of the disorder actually have a normal-looking body or are even very muscular. They may also be preoccupied with other body areas, such as skin or hair. A majority (but not all) diet, exercise, and/or lift weights excessively, sometimes causing bodily damage. Some use potentially dangerous anabolic androgenic steroids and other substances to try to make their body bigger and more muscular.

There are different models for describing criteria and characteristics of the muscle dysmorphia. Some believe that socio-cultural factors have the most important effect in this regard (Pope et al., 1997). They hold the idea that when men confront with social pressure that they should appear muscular, muscle dysmorphia emerges (Olivardia, 2001). They explained that changing cultural values from occupational identity to body identity persuaded men to decrease body fat, increase muscles mass, and create muscular body for differentiating themselves from women (Klein, 1993; Peoples, 2001; quoted from Baghurst & Lirgg, 2009).

Others remarked that muscle dysmorphia is the result of interaction between low Self-esteem and dissatisfaction or wrong perception of body, integrating with biological and social factors (Lantz, Rhea, & Mayhew, 2001). Grieve (2007) suggested that the most important variables related to muscle dysmorphia disorder are distorted perception of body, dissatisfaction of body, and internalization of ideal body image. These three variables alongside with perfectionism, negative effect low Self-esteem, and pressure of media, seem to be the main causes of muscle dysmorphia.

As mentioned above, studies demonstrate that different variables predict muscle dysmorphia. It is concluded that there is no research on muscle dysmorphia and its related variables in Iran up to now. So, in this study, the researchers intended to identify the role of three predictor variables, the media, perfectionism, and difficulties in emotional regulation among Iranian athletes.

2. Methods

In this cross-sectional study, 240 male body-builders were selected from 5 different gyms in Gorgan, Iran. The mean age of the participants was 25.25 years ($SD=6.39$). The participants were selected according to purposive sampling method. Questionnaires were completed individually in the gym. After completing the questionnaires, the researcher checked questionnaires for no-completed questions. Finally, all 240 questionnaires were analyzed.

Measures

Muscle Dysmorphia Disorder Inventory (MDDI) has 13 items that assess muscle dysmorphia disorder symptoms. Answers are in five-point Likert scale (1=never to 5=always). It has three subscales: drive for size, appearance intolerance, and functional impairment. Men who have exercised, at least 6 months exercising with weight, are qualified to answer it. According to the Jonda's study (2007), the Cronbach's alpha of the questionnaire is 0.81. For the three subscales (drive for size, appearance intolerance, and functional impairment), the values are 0.85, 0.77, and 0.80, respectively. In this study, reliability of the test was counted by internal consistency, and the Cronbach's alpha was 0.70. The Cronbach's alpha values of subscales were also found to be 0.69, 0.53, and 0.71 for the three subscales.

Multidimensional Perfectionism Scale (MPS) (Frost, Marten, Lahart, & Rosenblate, 1990) has 35 items that assess perfectionism. It has 6 subscales: concern over mistakes, personal standards, parental expectations, parental criticism, doubts about actions, and organization. Answers are in five-point Likert scale (1=completely agree to 5=completely disagree). Total perfectionism score is the sum of scores of 35 items. High score reveals high perfectionism. According to the study of Frost et al. (1990), the Cronbach's alpha of the questionnaire is 0.90. For the six subscales (concern over mistakes, personal standards, parental expectations, parental criticism, doubts about actions and organizations) the values are 0.88, 0.83, 0.84, 0.84, 0.77, and 0.93, respectively. In this study, reliability of the test was counted by internal consistency and the Cronbach's alpha was 0.80. The Cronbach's alpha values of subscales were 0.67, 0.68, 0.74, 0.58, 0.51, and 0.80 for 1 to 6 subscales, respectively.

The Sociocultural Attitudes Towards Appearance Questionnaire-3 (SATAQ-3) (Thompson, van den Berg, Roehrig, Guarda, & Heinberg, 2004) has 30 items that assess effects of social factors in appearance. Answers are in five-point Likert scale (1=completely disagree to 5=completely

Table 1. Mean, standard deviation, and correlation between dependent and independent variables.

	1	2	3	4	Mean	SD
Media (1)	1				83.301	20.02
Perfectionism (2)	0.33**	1			82.16	11.43
Difficulties in emotional regulation (3)	0.21**	0.28**	1		81.44	18.11
Muscle dysmorphia disorder (4)	0.26**	0.308**	0.47**	1	29.78	7.41

**P<0.01

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agree). It has 4 subscales: Internalization-General, information, pressures, and Internalization-Athlete. According to the study of Thompson et al. (2004), the Cronbach's alpha of the questionnaire is 0.94. For the four subscales (Internalization-General, information, pressures, and Internalization-Athlete) the values were 0.92, 0.94, 0.94, and 0.89, respectively. In this study, reliability of the test was counted by internal consistency and the Cronbach's alpha was 0.91. The Cronbach's alpha values of subscales were 0.82, 0.77, 0.69, and 0.72, respectively for 1 to 4 subscales.

Difficulties in Emotion Regulation Scale (DERS) (Gratz & Roemer, 2004) has 36 items. Factor analysis showed that these 6 factors explains 55% of wanted variance of variables. It has 6 subscales: nonacceptance of emotional responses (nonacceptance), difficulties engaging in goal-directed (goals), impulse control difficulties (impulse), lack of emotional awareness (aware), limited access emotion regulation strategies (strategies), lack of emotional clarity (clarity).

According to the Gratz & Roemer's study (2004), the Cronbach's alpha of the questionnaire was 0.93. For the six subscales (nonacceptance, goals, impulse, aware, strategies, and clarity), the values were 0.85, 0.89, 0.86, 0.80, 0.88, and 0.84, respectively. In this study, reliability of the test was counted by internal consistency and the Cronbach's alpha was 0.88. The Cronbach's alpha values of subscales were 0.73, 0.80, 0.80, 0.53, 0.76, and 0.66, respectively for 1 to 6 subscales.

Statistical analysis

The statistical methods that were used in this study were Pearson correlation and multiple regression (Enter Method). The data were analyzed by SPSS-19 software.

3. Results

Mean (and standard deviation) of the scores for the media were 83.301 (20.02), perfectionism were 82.16 (11.43), difficulties in emotion regulation were 81.44 (18.11) and muscle dysmorphia disorder were 29.78 (7.41). Ranges of the scores were 36-139, 50-111, 45-131, and 13-55.

Pearson correlation coefficient between dependent and independent variables illustrated that all variables (media, perfectionism, and difficulties in emotion regulation) were correlated with muscle dysmorphia symptoms ($p < 0.01$). The highest correlation was observed between difficulties in emotion regulation and muscle dysmorphia symptoms (Table 1).

Results of multiple regression for examining the effects of independent variables (the media, perfectionism, and difficulties in emotion regulation) on dependent variable (muscle dysmorphia symptoms) showed that these three variables altogether explain 26.9% of variance in muscle dysmorphia symptoms. Also, if results from samples be generalized to society, dependent variables can predict 25.9% of muscle dysmorphia symptoms variance (Table 2).

Table 2. Multiple regression summary for muscle dysmorphia symptom.

Model	SS	DF	MS	F	P	R	R2	R2 adj
Regression	3403.783	3	1134.594	27.844	0.001	0.519	0.269	0.259
Residual	30545.307		84.147					
Total	34149.726							

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Table 3. Coefficients.

Model	B	Beta	T	P
(constant)	4.423		1.340	0.182
Emotion regulation	0.164	0.400	4.705	0.001
Media	0.049	0.131	2.161	0.32
Perfectionism	0.097	0.150	2.417	0.016

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4. Discussion

The purpose of this study was to examine the role of media, perfectionism, and difficulties in emotion regulation in predicting symptoms of muscle dysmorphia. The results showed a significant positive relationship between sociocultural attitudes toward appearance (media), and muscle dysmorphia symptoms (0.26), and media could predict a significant variance of muscle dysmorphia symptoms.

One of the most powerful theories for explaining muscle dysmorphia is the media theory. According to this theory, concentration of media on being muscular is one of the most important factors in increasing men's drive for being muscular (Mc Creary & Sasse, 2000). The media sends this message that preferential body for women is a thin body and for men is a muscular one (Gray & Gbnsberg, 2007). Along with our results, deductions from Jonda (2007) demonstrated a direct significant relationship between sociocultural attitudes to appearance and muscle dysmorphia and it can significantly predict body dissatisfaction.

Internalization is one of the impressive variables in effects of the media. Internalization is a process that a person chooses the body image that is ideal in society as personal standard (Jones, 2004). Results of Karazsia and Crowther (2009) as well as Grammas and Schwartz (2009) showed that internalizing messages of the media significantly predict muscle dysmorphia and dissatisfaction from body image. So, sociocultural attitude toward appearance is one of the predictors of muscle dysmorphia symptoms.

The findings also showed a significant positive relationship between perfectionism and symptoms of muscle dysmorphia (0.308). Moreover, perfectionism could predict a significant variance of muscle dysmorphia symptoms. According to Grieve (2007), perfectionism, cognitive variable, can directly or indirectly predict muscle dysmorphia. Results of this study are in accordance with Grieve's model and similar to the results of Henson (2004), Grammas and Schwartz (2009), and Woodruff (2010). All of these

studies revealed some facets of perfectionism can significantly predict muscle dysmorphia.

Perfectionist people may have more intense tendency for doing extreme or even unhealthy behaviors to achieve their goals (Hewitt & Flett, 2004). Therefore, perfectionist men who prefer to have muscular body may have characteristic behaviors implying muscle dysmorphia traits (such as extreme exercises with weight or using anabolic steroids). The goal of these behaviors is to have extra muscular body (Woodruff, 2010). So, perfectionism has an important role in symptoms of muscle dysmorphia.

Finally, the results of this study showed a significant positive relationship between difficulties in emotion regulation and symptoms of muscle dysmorphia (0.47), and difficulties in emotion regulation could predict a significant variance of muscle dysmorphia symptoms. Just one case-study research (Murray, Maguire, Russell, & Touyz, 2012) studied the relationship between difficulties in emotion regulation and symptoms of muscle dysmorphia. Results showed that binge/purge episodes and compulsive muscle-building exercises are strategies of people with muscle dysmorphia for emotion regulation.

People with muscle dysmorphia are often anxious and depressed about their appearance. Anxiety and depression, that they experience, are very severe, disrupt their daily functions, and prevent them from achieving their goals. The disruption shows itself in form of extreme exercises (Babusa, 2013). Disability of the sufferers in regulating their emotions causes behavioral symptoms of the disorder, such as overtraining (Grieve, 2007). In other words, for regulating intensity and duration of negative emotions, the sufferer tries to do extreme exercises and overeating strategies that are useful in short-term but makes the disorder severe in long-term (Murray et al., 2012). These results showed that people suffering from muscle dysmorphia have difficulties in regulating their emotions.

Like any other investigations, this study also faced some limitations. One of the limitations was the questionnaires; it was the first time that they were translated and used in

Iran; and it was not possible to study them psychometrically because of their multiplicity. The other limitation was impossibility in causal relationships because we studied correlation in a descriptive model. In fact, there was a correlation relationship between predictors and muscle dysmorphia symptoms, not a cause-effect relationship. Finally, the samples were male body-builders of Gorgan, so it may not be possible to generalize it to other fields of sports such as weightlifting, power lifting, fitness and their other subcultures in Iran. On the other hand, the results can not be generalized to sportswomen and more studies are need to be done. Conducting extra studies with more variables and more examining the validity of research instruments, can help to generalize the findings. Besides, experimental study of some variables, such as the media, can help to understand causal relationship between variables. Finally, for increasing generalization of the results to Iranian society, such researches in other sports and different samples are highly required.

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