

## THE INFLUENCE OF NARCISSISM AND AGGRESSION ON BODY IMAGE IN WEIGHT LIFTING AND MARTIAL ARTS

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**Abstract:** The main index of male attractiveness is muscularity, which is related to strength and agility. A focus on own appearance is considered one of the main features of narcissism, which may be manifested in both adaptive or maladaptive, for example, aggressive forms of behavior. Materials and method: One hundred and twelve men training in martial arts (Muay Thai, kickboxing, and MMA) and 96 men training in kettlebell lifting took part in the study. The study employed the Body Esteem Scale (BES), the Narcissistic Personality Inventory (NPI), and the Buss-Durkee Aggression Questionnaire (AQ). Results: The analysis showed that narcissism levels were higher among men training in martial arts than strength sports, in this case kettlebell lifting. It was revealed that aggression levels on all subscales were higher among men training in kettlebell lifting than martial arts athletes. Conclusion: Noticeable sudden aggressive behaviors in athletes may indicate anabolic steroid use. Particular attention should be paid to such behaviors in athletes training in strength sports.

**Keywords:** martial arts, kettlebell lifting, narcissism, aggression.

### Introduction

People have always desired to be forever young and beautiful. Although everyone pays attention to their own bodily appearance regardless of gender, the perception of its attractiveness differs between women and men. Women often see it as an object, while men - as a process [1]. Men see their body as a process, which leads to treating it as a well-functioning whole [2]. Such an approach results in lower criticism of own appearance, which becomes secondary in importance. Most researchers highlight the fact that the main index of male attractiveness is muscularity, which is related to strength and agility [3, 4]. Studies comparing women's preferences regarding male muscularity show that men overvalue this aspect of attractiveness [5]. However, it must be mentioned that striving for muscularity might take a pathological form, the so-called drive for muscularity [6]. This often leads to such consequences as depression, eating disorders, or behavioral addictions to exercise (obligatory runs as well as anabolic steroid use) [7, 8]. In the present, we believe that

dissatisfaction with one's appearance could be reported by both women and men. Thus, aside from cosmetic procedures, physical exercise also becomes imperative to win appreciation from one's peers. This drive for appreciation and adoration is one of the characteristics of narcissism, conceptualized as a personality dimension [9]. And we know that personality is relatively stable, depends on the experience gained, which shapes the features of individuals [10]. On the one hand, narcissistic behaviors can assume a pathological form – so-called narcissistic personality disorder – while on the other, self-acceptance, pride in oneself, and satisfaction with own appearance is necessary for proper development and functioning. Focusing on own appearance is considered to be one of the signs of narcissism [11]. Narcissism may be manifested in adaptive or maladaptive, for example, aggressive forms of behavior. Considering aggression and aggressiveness in sport, authors are talking about hostile and instrumental aggression [12]. When athletes perform different technical/ technical-tactical procedures to emerge victorious in the

competition (for example, various submissions in MMA - Bow and Arrow Choke, Americana Armlock, Rear Naked Choke etc.) we are talking about instrumental aggression, which, in sport, is socially accepted and applauded [13, 14]. Instead, when an athlete deliberately cause harm to another, not respecting the boundaries of the game, we refer to hostile aggression.

The following hypotheses were formulated:

*H1.* In a comparison of men training in strength sports and martial arts, higher levels of physical attractiveness and body strength will characterize kettlebell lifting athletes.

*H2.* In a comparison of men training in strength sports and martial arts, higher levels of narcissism will characterize strength sports athletes.

*H3:* Men training in martial arts will exhibit lower aggression levels than men training in kettlebell lifting.

## Materials and method

### Participants

The first group comprised 112 athletes training in martial arts, aged between 18 and 33 ( $M = 25.67$ ;  $SD = 3.37$ ). They trained in Muay Thai, kickboxing and MMA. Their mean training experience was  $M = 5.32$ ;  $SD = 3.56$ . The second group comprised 96 athletes training in kettlebell lifting (strength sports), aged between 18 and 38 ( $M = 27.08$ ;  $SD = 5.97$ ). Both groups were entirely male, recruited randomly from among sports clubs in Białystok, Poland via the snowball sampling method.

### Measures

The participants' body image was measured with The Body Esteem Scale [15], narcissism levels were measured using The Narcissistic Personality Inventory [16], while the aggression was measured using The Buss-Durkee Aggression Questionnaire [17, 18]

The Body Esteem Scale (BES), in a Polish adaptation by Lipowska and Lipowski [19] allows the participants to rate their attitude towards their own body. The scale contains 35 items in three subscales, different for women and for men. The subscales for men are: physical attractiveness, body strength, and physical condition (while the scales for women are sexual attractiveness, weight

concern and physical condition). Answers are given on a five-point Likert scale, where "1" denotes strong negative feelings, "5" - strong positive feelings, while "3" is neutral. The physical attractiveness subscale for men involves ratings of traits determining male attractiveness. These are parts of the face, hips, and feet, among others. Body strength aggregates the ratings of various body parts (e.g., arms or chest) as well as their functioning and fitness determining strength and activity. Physical condition refers to the ratings of the body's endurance and agility.

The Narcissistic Personality Inventory (NPI), in a Polish adaptation by Bazińska and Drat-Ruszczak [20] contains four subscales: superiority/ arrogance, leadership/ authority, vanity and self-sufficiency.

Regarding The Buss-Durkee Aggression Questionnaire (AQ), with a Polish normalization by Stanik, Roszkowska and Kucharewicz [21] contains 75 items forming seven subscales intended to measure forms of aggression and hostility, with an additional subscale measuring guilt. The questionnaire does not measure determinants of or intentions behind aggressive behaviors, though it allows for capturing the level of intensity of aggression.

### Procedure

The study took place in 2020, in Białystok, Poland. All three tests were applied to athletes via internet. The research respects the international ethic recommendation considering data confidentiality and the anonymity of participants.

### Quasi-experimental design

In the case of our study, the scores obtained by the participants for the three instruments (used in the research) represent the dependent variables, while the affiliation of the athletes to one of the two investigated groups (men training in martial arts, respectively men training in kettlebell lifting) plays the role of the independent variable.

### Results

The results of both groups were compared. It was assumed that narcissism, aggression, and body self-esteem will differ between the groups.

The Cochran-Cox test was used to measure the differences in the measured variables (SPSS 20 was used).

Table 1. Comparison of selected features of narcissism, body image, and aggression levels between martial arts and kettlebell lifting (strength sports) athletes

Dependent Variables	Kettbell		Martial arts		The Cochran Cox test	p two-way	g
	M	SD	M	SD			
Superiority/ arrogance	32.14	8.63	36.48	7.44	-3.77	***	0.54
Leadership/ authority	40.19	9.15	39.95	7.54	0.205	ns.	0.03
Vanity	15.76	3.95	16.84	3.15	-2.125	**	0.30
Self-sufficiency	26.33	3.43	24.13	3.35	4.516	***	0.65
Physical attractiveness	41.1	8.78	36.61	6.45	4.127	***	0.59
Body strength	36.1	6.01	32.59	5.09	4.416	***	0.63
Physical condition	47.1	9.98	47.73	7.79	-0.502	ns.	0.07
Assault	17.67	1.68	15.39	2.5	7.197	***	1.05
Indirect aggression	16.62	1.71	14.27	2.16	8.22	***	1.19
Irritability	20.38	1.77	17.39	2.51	9.314	***	1.36
Negativism	8.95	1.33	7.84	1.3	5.869	***	0.84
Resentment	14.57	1.44	12.77	1.96	7.102	***	1.03
Suspicion	17.57	1.9	15.55	2.28	6.578	***	0.95
Verbal aggression	23.81	2.48	20.34	3.21	8.244	***	1.20
Guilt	14.00	1.83	14.21	2.15	0.67	ns.	0.10

Note: \*p ≤ 0.05, \*\*p ≤ 0.01, \*\*\*p ≤ 0.001, ns. p > 0.05.

The groups differed to a statistically significant degree in all the measured variables except the leadership/ authority, physical condition, and guilt subscales. Higher levels of physical attractiveness and body strength ratings were observed in the kettlebell lifting group (*H1* was confirmed). Physical condition ratings did not differentiate the two groups All BES results were average, within the range of 4-6 stens. Higher levels of narcissism were observed in the martial arts group on the *superiority /arrogance* and *vanity* subscales, and lower levels - on the *self-sufficiency* subscale (*H2* was not confirmed). Considering the results on all AQ subscales these were high in both groups, ranging between the 8<sup>th</sup> and the 10<sup>th</sup> sten. Guilt results were on a level of the 8<sup>th</sup> sten in both groups, but they did not differentiate them. The group training in kettlebell lifting exhibited higher aggression levels on all subscales (except *guilt*). We can reject the null hypothesis (*H3*).

The effect size index (Hedges' g = 0.30) indicates a small to moderate difference [22] between the results obtained by the participants for vanity. In other words, the affiliation of the athletes to one of the two groups (martial artists and kettlebell lifting athletes) had a small to moderate effect on the results for vanity. Considering, for example, verbal aggression, the effect size index (Hedges' g = 1.20) indicates a very strong difference between the results registered by the two groups of athletes. The affiliation in one of the two groups (martial artists or kettlebell lifting athletes) had a very strong influence on verbal aggression.

**Conclusion**

This research investigated athletes' attitude towards their own body, their narcissism and aggression level, in order to capture significant differences between martial arts practitioners and men training in kettlebell lifting.

The results show that athletes training in kettlebell lifting exhibit higher levels of self-sufficiency compared to martial arts athletes. Perhaps a greater belief in one's own competence, success, and independence is related to the fact that those athletes were a little older than the martial arts athletes -  $M = 27.08 / M = 25.67$ . A surprising result were the higher levels of vanity in the group of martial arts athletes (even if the effect size index is relatively small). This narcissistic trait is related to a focus on own body and admiration of own physical appearance. It co-occurs with high self-esteem, low guilt, and social naivete. We mention that in a study by Rubinstein [23], bodybuilders were characterized by higher narcissism levels compared to people who have never trained in sports.

Regarding the traits comprising body image, physical attractiveness and body strength levels were higher in the group of kettlebell lifting athletes, which is consistent with our assumption. We argue also that physical condition did not differentiate between the two groups.

Additionally, according to the third hypothesis, kettlebell lifting athletes were characterized by higher aggression levels than martial artists. This group's results were statistically significantly higher than the mean results of prison inmates, as described in the questionnaire's manual. Why are aggression results among athletes training in kettlebell lifting so high? Perhaps some of these athletes desire rapid muscle mass growth and use anabolic steroids. Despite the fact that sports organizations and legislators have implemented various mechanisms to discourage athletes from using performance- and appearance-improving substances, a high proportion of athletes do admit to their continued use. Anabolic-androgenic steroids (AAS) are still the most commonly used substances in bodybuilding and recreational sports [24].

The following conclusions can be put forward: 1. Men training in martial arts are characterized by greater narcissism level than men training in strength sports, that is, kettlebell lifting.

2. Men training in kettlebell lifting are characterized by higher aggression levels than martial arts athletes, as well as prison inmates.  
3. Anabolic steroid use is a probable cause of such high aggression levels in men training kettlebell lifting.

#### Authors' Contributions

All authors have equally contributed to this study.

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