

**Objective and subjective assessments of the psychological gender  
of female athletes practicing martial arts**

Original Scientific Paper

Data analysis of the psychological gender of female athletes practicing martial arts

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## **Abstract**

Experts point to the existence of a certain warped judgement gender in respect of female athletes practicing martial arts. There is a lack of objective data in the sphere of determining the predominant traits of the psychological gender of female athletes practicing martial arts. The purpose of the research is to compare objective and subjective data of the psychological gender of female athletes aged 18-26 practicing boxing and kickboxing. Sample - female athletes (n=58) practicing boxing and kickboxing at elite and close to elite levels for at least 5 years. Psychological gender was determined using the Sandra L. Bem technique. Independent assessments of the psychological gender of female athletes and their personal trainers were also taken into account. Data analysis was performed using the Mann–Whitney U–test. The data show a significant ( $p<0.05$ ) predominance of individuals with traits of the androgynous psychological gender of the total number of female athletes. A significant ( $p<0.01$ ) difference was revealed between the data of an objective assessment and self-assessment of their psychological gender by female athletes. Some athletes with a masculine psychological gender endow themselves with excessive traits of androgyny. It was found that many trainers unreasonably endow their female athletes with excessive features of the masculine psychological gender.

**Key words:** *female boxing, psychological gender, androgyny, masculinity.*

## **Introduction**

Comprehensive training of athletes practicing martial arts needs high-quality scientific support for competitive activity (Osipov, et al., 2019). Experts propose using the study of the characteristics of the psychological gender of athletes for an objective scientific assessment of martial arts practices (Channon, & Jennings, 2014). Scientists studying the issues of sports psychology of women practicing martial arts indicate a lack of data in determining the psychological gender of female engaged in various types of martial arts (Kavoura, et al., 2012). Moreover, the most of the research is dedicated to male athletes in the field of psychological adaptation to sports activities (Pacesova, et al., 2019). Experts emphasize the presence of a certain gender warped judgement in a number of sports (Alvariñas-Villaverde, et al., 2017). Traditionally, the most specialists associate various types of martial arts with masculinity and participation of female athletes causes some discussion (Kavoura, et al., 2018). There is an opinion about the predominance of psychological masculinity practicing different types of martial arts among female athletes (Burdzicka-Wolowik, & Goral-Radziszewska, 2014). However, a number of scientists point to the predominance of individuals with the characteristics of the androgynous psychological gender during the self-identification of female athletes practicing martial arts (Cardoso, et al., 2016). McGannon, et al., indicate a lack of research in the study of the characteristics of the psychological gender and social gender structure of women boxers of an elite level (McGannon, et al., 2019). It is known that various problems of the psychological identity of women practicing martial arts including boxing have a significant impact on the athletic performance of female athletes (Schinke, et al., 2019). Experts indicate that athletic psychological identity of athletes is closely related to the motivation engaging in sports activities and needs to be studied (Hagiwara, et al., 2018).

Scientists recognize that the problems of the psychological identity of female athletes practicing martial arts are not given due attention in Russia (Osipov, et al., 2017). Some aspects of sports psychology including the psychological gender of athletes are not taken into account from the selection process for martial arts to the end of a sports career by the trainers (Kovalev, et al., 2019). There is a need for quality psychological support for athletes maintaining their psychological health (Kuzmin, et al., 2018) and the prevention of psychological stress (Nagovitsyn, et al., 2018).

Objective of the research: to determine the characteristics of the psychological gender of female athletes at the age of 18-26 years old practicing knock types of martial arts: boxing and kickboxing. The correlation has also been investigated between the objective data of the psychological gender and the self-awareness of their psychological identity of female athletes.

## **Material & Methods**

Study participants: women (n=58) who have been practicing boxing and kickboxing for at least 5 years. Sports qualifications of women athletes: candidates for master of sports in boxing (n=35) who are close to the elite level; elite are masters of sports in boxing and kickboxing (n=23). Age of female athletes: from 18 to 26 years old. All female athletes gave voluntary informed consent to participate in research. The studies were approved by the local ethics expert committee of the Institute of Physical Culture, Sports and Tourism (Siberian Federal University).

Organization and research methods: Sandra L. Bem methodology was used to determine the psychological gender characteristics of female athletes. All participants were asked to answer 60 specially selected questions allowing to evaluate in points the development degree of certain personal qualities. The research participants have taken part in the survey twice with a difference of 2 months increasing the reliability level of the obtained data. Special questions were answered twice by persons who knew these women well (their relatives, friends and trainers). The average value was determined - the main index (IS) which was finally taken into account from the obtained answer options (each woman and a person familiar with this female) in points in the studies. Before the survey, female athletes were asked to indicate their psychological gender independently. The question about the psychological gender of female athletes was also answered by their trainers.

Statistical analysis: the results of the study were evaluated using the SPSS20 program. The reliability of the obtained data was determined using the Mann–Whitney U–test.

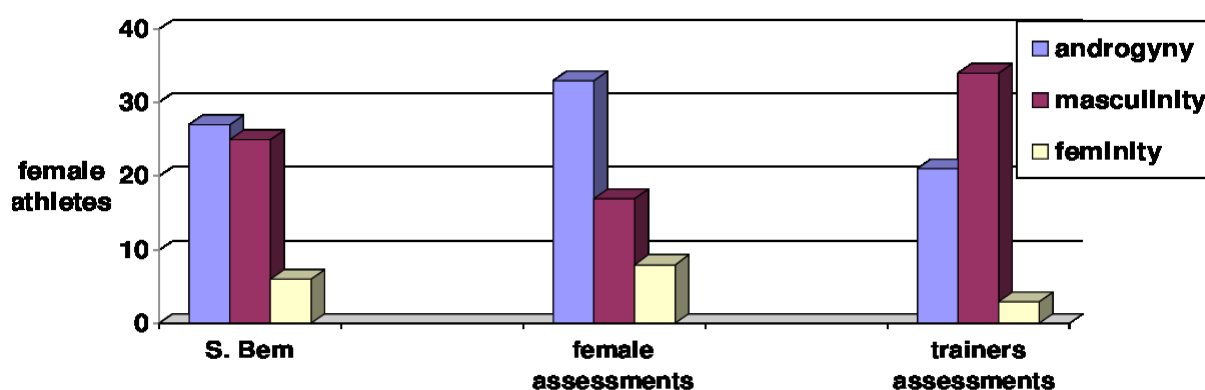
## **Results**

Studies have shown that the most (n=27) female athletes have their signs of androgyny (IS=0.849). Signs of masculine psychological gender were identified among 25 female athletes (IS=-1.813). Also, signs of femininity prevail (IS=1.358) among 6 female athletes. In independent assessments of their psychological identity, the most women (n=33) indicated a predominance of

androgynous traits. 17 women attributed themselves to the masculine psychological gender. Eight female athletes classified themselves as feminine psychological gender. The data revealed a significant ( $p<0.05$ ) predominance of individuals with traits of the androgynous psychological gender in the total number of studied women athletes. A significant ( $p<0.01$ ) difference was found between objective survey data and independent assessments of female athletes by the definition of androgyny and masculinity. There are also significant ( $p<0.05$ ) discrepancies in the results of femininity assessment.

The vast majority ( $n=34$ ) of female athletes are characterized by masculinity according to the estimates of the personal trainers of the research participants. The trainers of only three women athletes attributed them to the representatives of the feminine psychological gender. The trainers attributed the rest ( $n=21$ ) of female athletes to the androgynous psychological gender.

The main research results are presented in Figure 1.



**Fig. 1. Data about the psychological gender of female athletes**

## Discussion

The most of the data about the psychological characteristics of female athletes practicing boxing is based on one-off surveys or interviews with these individuals. Experts note that one-time interviews do not accurately determine the psychological gender of female athletes. The scientists recommend conducting multiple surveys of female athletes for a long time improving the research quality. It is also useful to interview close acquaintances, relatives and trainers of the studied female athletes increasing the level of information reliability (McGannon, et al., 2019). In our studies, two-time surveys of the studied female athletes were conducted in which their close relatives, friends and trainers were also interviewed.

The literature presents data about the predominance of women with traits of psychological masculinity in martial arts (Burdzicka-Wolowik, & Goral-Radziszewska, 2014). In our studies, the majority of female athletes ( $n=27$ ) are dominated by signs of psychological androgyny. Experts note that many women with psychological self-identification practicing martial arts usually indicate an androgynous psychological gender (Cardoso, et al., 2016). Experts attribute this to the subconscious fears of many female athletes receiving reproaches for excessive masculinity (Read, 2017). In our studies, the majority ( $n=33$ ) of female athletes with an independent assessment of their psychological gender also identified themselves as representatives of the androgynous psychological gender. However, the survey data show that objectively the androgynous psychological gender includes a significantly ( $p<0.01$ ) smaller ( $n=27$ ) number of female athletes.

Studies of the psychological gender characteristics of young (18-22 years old) Russian female athletes practicing martial arts have shown a significant (over 70% of the total) predominance of individuals with psychological androgyny (Kovalev, et al., 2019). Masculinity traits were found among only 23% of the participants. In our studies, traits of psychological androgyny were identified among 47% of female athletes aged from 18 to 26 years. The prevalence of masculinity was detected among 45% of the studied female athletes. Perhaps, there are more female athletes with a predominance of psychological masculinity at a more mature age (after 22 years) in sports activities. Women with a different psychological gender finish an active sports career in favor of creating a family and having children.

Data from the trainers of the studied female athletes shows that the most trainers have given excessive masculinity to their athletes. This feature is typical for male trainers who train women in martial arts. Scientists recommend that educational events should be held for trainers with the involvement of psychologists for the correct assessment of the psychological gender and the creation of a favorable psychological atmosphere in women's sports teams (McGannon, et al., 2019).

A significant ( $p<0.01$ ) discrepancy between the data of an objective assessment of the gender psychological characteristics of female athletes practicing martial arts and the independent psychological identification was revealed among these individuals. Many female athletes fear reproaches of excessive masculinity and endow themselves with excessive traits of androgyny and

femininity. The results also show a predominance ( $p<0.05$ ) among the studied female athletes 18-26 years old who are the individuals with features of the androgynous psychological gender. The obtained data are somewhat inconsistent with general ideas about the predominance of masculine psychological traits among the majority of female athletes practicing martial arts.

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### **Conflict of Interest**

The authors declare that there are no conflicts of interest.

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