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GENDER SIMILARITY AND GENDER DIFFERENCE OF MALE AND FEMALE ATHLETES IN CYCLIC SPORTS

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Purpose: to determine the gender characteristics of male and female athletes specializing in cyclic sports.

Material and Methods: the study involved 115 students and female students aged 17 - 23 years who are engaged in cyclic sports and have different sports qualifications. Of these, 54 female athletes and 61 male athletes. Research methods used: analysis and generalization of literary sources and Internet resources on the investigated problem; psychological methods: S. Bam's "Masculinity / Femininity" methodology and the 16-factor Kettell questionnaire; methods of mathematical statistics.

Results: the group of cyclic sports from the point of view of their influence on the formation of gender identity was examined, and gender similarities and gender differences among male and female athletes were identified who are involved in running athletics, swimming, cycling, skiing, short track, and rowing. Among the investigared athletes, the percentage ratio of masculine (48% of boys, 54% of girls) and androgynous (52% of boys, 46% of girls) personalities was revealed. Feminine personalities have not been identified. Most masculinization of athletes contributes to swimming (67%) and cross-country skiing (55%). The similarities and differences

between masculine and androgynous girls and boys engaged in cyclic sports in relation to their personal qualities.

Conclusions: the obtained results indicate the different level of personal qualities in both male and female athletes of the masculine and androgynous types. Young men showed the greatest differences in terms of such personal qualities as: subordination - dominance ($t = 5.38$; $p < 0.001$) and restraint - expressiveness ($t = 5.63$; $p < 0.001$) in favor of masculine-type male athletes. For girls, the most significant reliability was obtained by indicators: restraint - expressiveness ($t = 4.89$; $p < 0.001$), timidity - courage ($t = 5.19$; $p < 0.001$), self-confidence - anxiety ($t = 6.17$; $p < 0.001$) and conservatism - radicalism ($t = 5.61$; $p < 0.001$) with better results in masculine type female athletes, except for the "stiffness – sensitivity" factor, which is higher for androgynous type athletes. In addition, the highest reliability was determined among athletes ($p < 0.001$) in 6 factors, and among female athletes in 7 factors. The foregoing indicates that a significant difference in performance corresponds to the possibilities of conducting competitive activities, which affects the formation of the personality of athletes.

Key words: cyclic sports, gender similarity, gender differences, masculinity, femininity, androgyny.

Introduction

Much attention is currently being paid to the issue of gender distribution. A gender role is a set of social norms that determine what types of behavior are considered permissible, which are suitable or desirable for a person depending on his gender, that is, belonging to women or men.

Gender roles are especially important, as they determine how to behave, what to strive for depending on the biological gender of the individual. But despite the positive that they carry gender roles, they can still limit the individual's ability to reveal his personality. Sports activities in terms of the distribution of gender roles are considered the prerogative of men. But the number of women involved in sports

every year is growing. This can be seen not only in mass sports, but also in sports of the highest achievements. Women master sports that until recently were considered purely male. Sports results that women demonstrate do not lag behind, and sometimes exceed the results of men. The IOC pays more and more attention to the gender balance of participants in Olympic competitions. At the Games of the 32th Olympiad, the number of participants was planned in the ratio: 51.2% of athletes and 48.8% of athletes. It was stated that these Games should be the first gender-balanced and history of the Olympic movement.

Sporting activity proves the need to review gender roles as such that society attributes to women or men. In recent years, a certain number of works by both domestic and foreign authors such as N. Tsykunov have been devoted to gender issues in sports. (2003; 2009), Artamonova T.V., Shevchenko T.A. (2009), Damadaev A.S. (2010; 2011; 2013); Shakhov Sh.K. (2011) Maskaev T.Yu., Germanov G.N. (2014); Rechkalov A.V. (2017) Baranova A.V. (2017) Dementieva I.V. (2017) Bosenko Yu.M., Kharitonova I.V., Raspopova A.S., Stoyanova Zh.O. (2018), Colker R. (1980), Matteo S. (1986), Lamont-Mills A. (1998), Lantz C.D., Schroeder P.J. (1999) and others. But the problem of the influence of many years of sports on the formation of a gender type of personality is highly debatable and requires further study. Thus, the study of the gender characteristics of the personality of male and female athletes is relevant.

Purpose of the study: to determine the gender characteristics of male and female athletes specializing in cyclic sports.

Material and Methods of the research

Research methods: analysis and generalization of literary sources and Internet resources on the investigated problem; psychological methods: S. Böhm's “Masculinity / Femininity” methodology, which diagnoses the psychological gender and reveals the degree of androgyny, masculinity or femininity of the person [16] and Kettell's 16-factor questionnaire, which diagnoses personality traits; methods of mathematical statistics.

The study involved 115 male and female students aged 17 - 23 years, studying at the Kharkiv State Academy of Physical Culture, the National University of Physical Education and Sports of Ukraine and Sumy State Pedagogical University named after A.S. Makarenko, engaged in running athletics, swimming, cycling, cross-country skiing, short track, rowing and have various sports qualifications, of which 54 athletes and 61 athletes.

Results of the research

In the process of studying athletes and sportswomen, both qualified (MSIG, MS, CMS), and mass category using the S. Boehm method of "masculinity / femininity", the percentage ratio of masculine, feminine and androgynous personality types was revealed among students engaged in various cyclic sports. The study involved 115 athletes, of which young men - 61 and women - 54, specializing in running athletics, swimming, cycling (track and highway), rowing, short track, cross-country skiing, sports tourism and orienteering.

The results of the study are presented in table 1.

Table 1

Percentage of gender personality types among male and female athletes in cyclic sports

Gender personality type	Biological gender	
	boys, n= 61	girls, n = 54
masculine	48%, n = 29	54%, n = 29
androgynous	52%, n = 32	46%, n = 25
feminine	0	0

If we compare male and female athletes in cyclic sports regarding their affiliation with a particular sociocultural gender, then among girls there are more masculine persons (54%), and among boys - androgynous (52%). The difference between masculine and androgynous boys is 4% in favor of androgynous type athletes, and between masculine and androgynous girls 8% in favor of masculine girls is not significant in the first or second case ($p>0,05$). This suggests that sports such as swimming, skiing, track and field athletics, short track, sports tourism, orienteering, rowing, cycling are gender neutral. Initially, approximately the same number of boys

and girls come to these sports, who have been training together for many years. And as a result, they adopt from each other both ways of behavior, and lifestyle, and attitude to certain issues, smooths out their gender differences.

As for the difference between masculine male and female athletes and androgynous male and female athletes, it was found that it is the same and makes up 6% among masculine personalities and androgenic ones, the only difference is that in the first case this difference is in favor of girls, and in the second in favor of young men.

We also revealed the percentage ratio of male and female athletes of different sociocultural sexes in individual cyclic sports. Only those sports were considered in which among the studied there were representatives of both male and female in the amount of at least 8 people (skiing, swimming and running athletics).

Table 2

Percentage of male and female athletes of various gender groups in individual cyclic sports

Kind of sport	Boys		Girls	
	Masculine	Androgynous	Masculine	Androgynous
Ski race	36%, n = 4	64%, n = 7	55%, n = 6	45%, n = 5
Swimming	47%, n = 7	53%, n = 8	67%, n = 8	33%, n = 4
Athletics (running disciplines)	40%, n = 4	60%, n = 6	43%, n = 6	57%, n = 8

In all analyzed sports, they belong to the group of cyclic species; the majority of representatives of the androgynous type of personality were identified in athletes. Female athletes - masculine girls have more in cross-country skiing and swimming, and representatives of running disciplines of athletics have an androgynous personality.

Thus, the formation of a masculine type of personality in girls is facilitated by swimming and skiing, and among the youths from the sports considered, no ones have been found that contribute to their masculinization.

We have identified the percentage ratio of gender personality types among male and female athletes specializing in cyclic sports relative to their sports

qualifications. All subjects with respect to their biological sex were divided into two groups. The first group is qualified male and female athletes. These include those with the title MSIG, MS and CMS. The second group is male and female athletes (1 and 2 sports categories). It was found that among qualified athletes, the ratio of masculine (49%) and androgynous (51%) personalities does not differ significantly. Among categories athlete, androgynous type personalities also predominate in a small amount (46% of the masculine and 54% of the androgynous). Among qualified athletes, the majority of masculine girls were found - 68% (androgynous – 32%), and among athletes with mass sports categories the ratio between girls from masculine and androgynous types of personality was recorded as 41% and 59%, respectively. Thus, it was found that among athletes specializing in cyclic sports, high sports qualifications contribute to masculinization of the individual, but this trend was not revealed in athletes.

Using the method of S. Boehm "Masculinity / Femininity", which diagnoses the psychological gender and reveals the degree of androgyny, masculinity and femininity of the personality and the 16-factor Kettell questionnaire, which diagnoses personality traits, we found out the similarities and differences between masculine and androgynous boys and girls specializing in sports games regarding their personal qualities (Table 3 and Table 4).

Table 3

Average indicators of personal qualities of youth athletes specializing in cyclic sports taking into account the gender type of personality, x±m, c. u.

Personal qualities	Masculine n1 = 29	Androgynous n2 = 32	t	p
Closure - Sociability (A)	7,59 ± 0,10	7,31 ± 0,08	2,19	< 0,05
General intelligence (B)	4,07 ±0,07	4,53 ± 0,09	4,04	< 0,001
Emotional instability - emotional stability (C)	7,52 ±0,10	7,16 ± 0,08	2,81	< 0,01
Subordination - Dominance (E)	**7,28** ±0,15	6,28 ± 0,11	5,38	< 0,001
Restraint - Expressivity (F)	5,55 ±0,10	5,06 ± 0,09	3,63	< 0,001
Sensitivity to feelings - high normative behavior (G)	8,79 ±0,12	8,22 ± 0,11	3,52	< 0,001
Shyness - Courage (H)	8,17 ±0,14	7,69 ± 0,12	2,61	< 0,05
Stiffness - Sensitivity (I)	*5,31* ±0,10	*5,67* ± 0,11	2,42	< 0,05
Gullibility - Suspicion (L)	**5,83** ±0,12	**5,13** ± 0,11	4,32	< 0,001

continuation of the Table 3

Practicality - Advanced Imagination (M)	6,38 ±0,11	6,84 ± 0,12	2,84	< 0,01
Straightforwardness - Diplomacy (N)	5,48 ±0,10	5,00 ± 0,10	3,40	< 0,01
Self Confidence - Anxiety (O)	5,83 ±0,10	5,48 ± 0,09	2,61	< 0,05
Conservatism - Radicalism (Q1)	*6,97* ±0,12	*6,63* ± 0,11	2,10	< 0,05
Conformism - Nonconformism (Q2)	5,66 ±0,11	6,00 ± 0,12	2,10	< 0,05
Low self-control - high self-control (Q3)	7,21 ±0,12	6,72 ± 0,11	3,02	< 0,01
Relaxation - Tension (Q4)	4,86 ±0,11	4,50 ± 0,10	2,13	< 0,05
Adequacy of Self-Assessment (MD)	7,72 ±0,14	6,97 ± 0,12	4,08	< 0,001

The results obtained indicate the existing difference in the reliability in the studied indicators of the personal qualities of young athletes, which are divided into three levels. The first level (p <0,05) includes indicators: isolation - sociability (t = 2,19), timidity - courage (t = 2,61), rigidity - sensitivity (t = 2,42), self-confidence - anxiety (t = 2.61), conservatism - radicalism (t = 2,10), conformism - non-conformism (t = 2,10), relaxation - tension (t = 2,13). To the second level (p <0,01): emotional instability - emotional stability (t = 2,81), practicality - developed imagination (t = 2,84), straightforwardness - diplomacy (t = 3,40), low self-control - high self-control (t = 3,02). The most significant reliability (p <0.001) was determined by indicators: general level of intelligence (t = 4,04), subordination - dominance (t = 5,38), restraint - expressiveness (t = 3,63), susceptibility to feelings - high normative behavior (t = 3,52), gullibility - suspiciousness (t = 4.32), adequacy of self-esteem (t = 4,68). Similar results were obtained in terms of personal qualities of girls-athletes (Table 4).

Table 4

Average personal characteristics of female athletes specializing in cyclic sports, taking into account the gender type of personality, x ± m, c. u.

Personal qualities	Masculine n1 = 29	Androgynous n2 = 25	t	p
Closure - Sociability (A)	8,17 ± 0,13	7,52 ± 0,12	3,67	< 0,001
General intelligence (B)	4,17 ± 0,08	4,48 ± 0,10	2,42	< 0,05
Emotional instability - emotional stability (C)	7,69 ± 0,12	7,04 ± 0,11	4,01	< 0,001
Subordination - Dominance (E)	6,45 ± 0,10	6,00 ± 0,09	3,33	< 0,01
Restraint - Expressivity (F)	6,28 ± 0,10	5,62 ± 0,09	4,89	< 0,001
Sensitivity to feelings - high normative behavior (G)	**9,07** ± 0,12	8,60 ± 0,11	2,90	< 0,01

continuation of the Table 4

Shyness - Courage (H)	8,07 ± 0,12	7,26 ± 0,10	5,19	< 0,001
Stiffness - Sensitivity (I)	6,72 ± 0,10	7,04 ± 0,11	2,16	< 0,05
Gullibility - Suspicion (L)	**5,48** ± 0,09	**6,12** ± 0,10	2,91	< 0,01
Practicality - Advanced Imagination (M)	6,17 ± 0,10	6,60 ± 0,11	2,90	< 0,01
Straightforwardness - Diplomacy (N)	4,55 ± 0,08	4,92 ± 0,09	3,08	< 0,01
Self Confidence - Anxiety (O)	6,28 ± 0,11	**7,28** ± 0,12	6,17	< 0,001
Conservatism - Radicalism (Q1)	7,48 ± 0,12	*6,36* ± 0,11	5,61	< 0,001
Conformism - Nonconformism (Q2)	5,10 ± 0,11	5,64 ± 0,12	3,33	< 0,01
Low self-control - high self-control (Q3)	6,59 ± 0,10	7,12 ± 0,12	3,40	< 0,01
Relaxation - Tension (Q4)	5,66 ± 0,08	5,92 ± 0,09	2,17	< 0,05
Adequacy of Self-Assessment (MD)	7,21 ± 0,12	6,60 ± 0,11	3,77	< 0,001

Female athletes also identified three groups of confidence levels.

The smallest confidence values ($p < 0,05$) are defined in terms of the general level of intelligence ($t = 2,42$), rigidity - sensitivity ($t = 2,16$), relaxation - tension ($t = 2,17$).

A significant number of indicators of personal qualities have an average level ($p < 0,01$): subordination - dominance ($t = 3,33$), susceptibility to feelings - high normative behavior ($t = 2,90$), credulity - suspiciousness ($t = 2,91$), practicality - developed imagination ($t = 2,90$), straightforwardness - diplomacy ($t = 3,08$), conformism - non-conformism ($t = 3,33$), low self-control - high self-control ($t = 3,40$).

The highest level of certainty ($p < 0.001$) has indicators: emotional instability - emotional stability ($t = 4.01$), isolation - sociability ($t = 3.67$), restraint - expressiveness ($t = 4,89$), timidity - courage ($t = 5,19$), self-confidence - anxiety ($t = 6,17$), conservatism - radicalism ($t = 5,61$), adequacy of self-esteem ($t = 3,77$).

Conclusions / Discussion

Thus, the obtained results indicate the different level of personal qualities in both girls and boys of the masculine and androgynous types. The greatest differences were found among youth athletes in terms of such personal qualities as: subordination - dominance ($t = 5,38$; $p < 0,001$) and restraint - expressiveness ($t = 5,63$; $p < 0,001$) in favor of athletes of the masculine type. In female athletes, the most significant reliability was obtained in terms of: restraint - expressiveness ($t = 4,89$; $p < 0,001$),

timidity - courage (t = 5,19; p <0.,001), self-confidence - anxiety (t = 6,17; p <0.,001) and conservatism - radicalism (t = 5,61; p <0,001) with better results in athletes of the masculine type, in addition to the indicator of the factor “rigidity - sensitivity”, which is higher in athletes of the androgynous type of personality. In addition, among youth athletes, the highest reliability (p <0,001) was determined in 6 indicators, and among athletes in 7 indicators. The above indicates that a certain difference in indicators corresponds to the possibilities of conducting competitive activity and affects the formation of the personality type of athletes.

Prospect of further research in this direction. Further research is planned to be carried out in the direction of identifying similarities and differences among male and female athletes of various gender types regarding their personality characteristics, taking into account the specifics of sports activities and sports qualifications.

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