

# Personal characteristics supporting Paralympic athletes' self-realization in sports

OLEG KOKUN<sup>1</sup> , LIUDMYLA SERDIUK<sup>2</sup>, OLEKSANDR SHAMYCH<sup>3</sup>

<sup>1</sup>*G.S. Kostiuk Institute of Psychology, National Academy of Educational Sciences of Ukraine, Kyiv, Ukraine*

<sup>2</sup>*Laboratory of Psychology of Personality, G.S. Kostiuk Institute of Psychology, National Academy of Educational Sciences of Ukraine, Kyiv, Ukraine*

<sup>3</sup>*Physical Education and Sports Department, Kyiv State University of Construction and Architecture, Kyiv, Ukraine*

## ABSTRACT

The purpose of this study was to investigate the personal characteristics supporting Paralympic athletes' self-realization in sports. The study involved 106 members of the Paralympic and Deaflympic teams of Ukraine (16-53 year-old, the average age of  $28.3 \pm 7.2$  years; 84 men with the average age of  $27.7 \pm 6.7$  years and 22 women with the average age  $30.3 \pm 8.3$  years) in different sports (football, fencing, power-lifting, sitting volleyball, judo, canoeing in pairs, swimming). It is determined that the most important personal factor supporting Paralympic athletes' self-realization in sports is their psychological hardiness. Their self-efficacy, capacity for self-organization of their activities and psychological well-being can also be considered as significant personal characteristic necessary for their self-realization in sports.

**Keywords:** Paralympic sports; People with disabilities; Personal factors; Personal development.

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 **Corresponding author.** G.S. Kostiuk Institute of Psychology, 2 Pankivska, Kyiv, Ukraine TX, 01033. <https://orcid.org/0000-0003-1793-8540>

E-mail: [kokun@ukr.net](mailto:kokun@ukr.net)

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## INTRODUCTION

The popularity and importance of Paralympic sports continues to grow rapidly in the world. One reason for this is that the engaging of people with disabilities into Paralympic sports significantly enhances their capacity for full-fledge personal development and full integration into society (Bardiovsky et al., 2013; Dađova, 2007).

This is thanks to the fact that sports help socialize people with disabilities, facilitate their physical and mental adaptation to living conditions, support their self-realization and personal development, reduce negative psychological-emotional states (Dieffenbach & Statler, 2012; Martin et al., 2011). After all, the role of cohesion is significantly higher in the Paralympic sports, which cater athletes' need for autonomy and social support (Falcao et al., 2015). Bardiovsky et al. (2013), Panagiotou et al. (2013) note that close interactions with athletes without disorders enables Paralympic athletes to compensate disability consequences, to establish new social contacts and develop true friendships, and to enhance their life satisfaction.

Campbell and Jones (1994) found that people with disabilities engaged in sports had better, more positive well-being and estimated their health better compared to those not engaged in any sport. They also have lower tension, depression, anger, and confusion, which is consistent with the results of Martin et al. (2011). Greenwood et al. (1990) noted better mood and higher self-efficacy of sport participants with disabilities.

Some researchers indicate that Paralympic athletes are generally characterized by high intrinsic motivation (Banack et al., 2011). Huang and Brittain (2006) identified the following leading motives for sport activities characteristics for people with disabilities: to form a positive attitude to life, enhance identity, improve health, as well as athletic skills, competence and competitiveness. Omar-Fauzee et al. (2010) added the following motives: possibility of self-realization, physical development, pleasure, rewards and support, stress easing. Torralba et al. (2017) determined that the most important motives for sports were related to social and overcoming issues.

At the same time, some researchers point out the lack of comparative studies to identify all aspects of sports impact on Paralympic athletes' personal development, in particular, their psychological hardiness and psychological well-being (Hanrahan, 2012; Jefferies et al., 2012). They emphasize the need for targeted assistance to Paralympics athletes in motivation managing and development of necessary psychosocial skills (Cardoso et al., 2018; Swanson et al., 2008). They also indicate that namely sport psychologists can help Paralympic athletes develop their abilities to manage stressful competition factors (Martin, 2012).

Accordingly, psychological and sociological-psychological studies, in particular, aimed at determination of psychological characteristics, indicators and prerequisites of Paralympic athletes' self-realization in sports are really important. Results of such studies can become an important scientific component supporting Paralympic athletes not only during training and competitions, but also, which is even more important, at their integration into society through Paralympic sports.

For this reason, we present the study aimed at determining the personal characteristics supporting Paralympic athletes' self-realization in sports.

## MATERIALS AND METHODS

### **Participants**

The study involved 106 members of the Paralympic and Deaflympic teams of Ukraine (16-53 year-old, the average age of  $28.3 \pm 7.2$  years; 84 men with the average age of  $27.7 \pm 6.7$  years and 22 women with the average age  $30.3 \pm 8.3$  years) in different sports (football, fencing, power-lifting, sitting volleyball, judo, canoeing in pairs, swimming).

### **Measures**

The following techniques were used at the study:

1. The questionnaire developed by us for this study and determining the levels and factors of Paralympic athletes' self-realization. It consists of 10 questions. The first four questions, answers to which we used in this analysis, obtain general information about the characteristics of Paralympic athletes' self-realization in sport.

Each of these four questions has 5 answer options, which are rated on a scale from 1 to 5:

- 1) "Are you satisfied with your sporting career?"; answer options are: 1 – "not at all", 2 – "rather not satisfied", 3 – "difficult to answer"; 4 – "rather satisfied"; 5 – "fully satisfied";
- 2) "After achieving your sport goal, how fast do you put forward your next one?"; answer options are: 1 – "do not put forward any at all", 2 – "after a long time", 3 – "after a certain time"; 4 – "fast enough"; 5 – "almost immediately";
- 3) "How clearly do you imagine your future in sport?"; answer options are: 1 – "I cannot imagine", 2 – "It is difficult to me to imagine", 3 – "As a general picture"; 4 – "I can imagine the main steps"; 5 – "As a clear and detailed picture";
- 4) "Do you think you have reached top achievements in sports?"; answer options are: 1 – "far from reaching", 2 – "partially reached", 3 – "largely"; 4 – "almost reached"; 5 – "fully reached".

2. Five psychological diagnostic techniques identifying personal characteristics that, as we believe, can be factors supporting Paralympic athletes' self-realization in sports: 1) Self-efficacy scale of R. Schwarzer and M. Jerusalem; 2) Ryff's Scales of Psychological Well-Being; 3) S. Maddi's Personal Hardiness test (adapted by D. Leont'ev); 4) the modified techniques of scaled self-estimation (O. Kokun), which is an informative method for such studies (Karpoukhina et al., 2008; Kokun et al., 2019); 5) the Self-Organization Questionnaire (O. Mandrikova).

### **Procedure**

The study was conducted during 2016-2017 at the camps of Paralympic and Deaflympic teams of Ukraine in different sports. The research procedures were usually applying on days off from training sessions in the presence of team coaches.

The studies were conducted with the Declaration of Helsinki. We got approval of the teams' management and the personal consent of the participants. The participants were informed that there were no right or wrong answers and were encouraged to respond candidly. Complete confidentiality was assured. Only de-identified data were used to perform the statistical analysis. We recorded only such general data of the studied athletes as their sport, age and gender.

### Statistical analysis

For statistical analysis, we used SPSS 22.0.0.0 software. Spearman's rank correlation coefficient was used.

## RESULTS

Although the studied athletes play different sports, have different genders and had some other differences, but we did not find fundamental differences for correlations determined for the studied indicators at different groups of athletes. Therefore, the following analysis of the obtained results was carried out for the entire sample of Paralympic athletes who participated in the study.

According to the performed correlative analysis, self-efficacy is quite a significant personal characteristic supporting Paralympic athletes' self-realization in sports (Table 1).

Table 1. Correlations between Paralympic athletes' self-realization and their self-efficacy.

	Indicators of self-realization	Self-efficacy in sports
1	Satisfaction with own sports career	.34***
2	Fastness of sportive goal setting after achievement of a previous one	.42***
3	Clarity of images on own future in sports	.22*
4	Reaching of top achievements in sports	.13

Note. \*\*\* –  $p < .001$ ; \* –  $p < .05$ .

As we can see from the Table 1, self-efficacy determines largely such indicators of Paralympic self-realization as “Satisfaction with own sports career” and “Fastness of sportive goal setting after achievement of a previous one”. Also, self-efficacy influences on some degree on the “Clarity of images on own future in sports”.

Table 2. Correlations between Paralympic athletes' self-realization and their psychological well-being.

Indicators of psychological well-being	Indicators of self-realization			
	Satisfaction with own sports career	Fastness of sportive goal setting after achievement of a previous one	Clarity of images on own future in sports	Reaching of top achievements in sports
Positive relations with others	-.17	.31***	.13	-.18
Autonomy	.01	.30**	.08	-.01
Environmental mastery	-.04	.35***	.18	.06
Personal growth	-.27**	.26**	.22*	-.26**
Purpose in life	-.10	.41***	.38***	-.09
Self-acceptance	.11	.20*	.20*	.14
Affective balance	.13	-.25**	-.10	.04
Life meaningfulness	-.09	.48***	.32***	-.04
A person as an open system	.04	.36***	.31***	-.03
Psychological well-being	-.09	.41**	.25**	-.06

Note. \*\*\* –  $p < .001$ ; \*\* –  $p < .01$ ; \* –  $p < .05$ .

We also determined that two of the four indicators of Paralympic athletes' self-realization in sports are closely and significantly related to the indicators of psychological well-being (Table 2).

To the greatest extent, this refers to the "*Fastness of sportive goal setting after achievement of a previous one*"; this indicator is significantly related to all ten psychological well-being scales ( $r = .20 - .48$ ;  $p < .05 - .001$ ). And, naturally, the two highest correlation coefficients are determined for such scales as "*Purpose in life*" and "*Life meaningfulness*". "*Clarity of images on own future in sports*" correlates significantly with the five psychological well-being scales ( $r = .20 - .38$ ;  $p < .05 - .001$ ), and more closely with the same two as in the previous case.

Such indicators as "*Satisfaction with own sports career*" and "*Reaching of top-achievements in sports*" have only one significant correlation with the "*Personal growth*" scale ( $r = .26 - .27$ ;  $p < .01$ ) and this correlation is negative. This result is also quite logical, since the higher the sports results achieved, the less opportunities are left to preserve the sense of continuous development, openness to new experience, the realization of one's potential, etc., which substantially reveal this scale of psychological well-being.

Table 3. Correlations between Paralympic athletes' self-realization and their psychological hardiness.

Indicators of self-realization	Scales of S. Maddi's Personal Hardiness test			
	Commitment	Control	Challenge	Psychological Hardiness
1 Satisfaction with own sports career	.22*	.33***	.22*	.30**
2 Fastness of sportive goal setting after achievement of a previous one	.44***	.54***	.40***	.53***
3 Clarity of images on own future in sports	.13	.18	.01	.15
4 <i>Reaching of top achievements in sports</i>	.30**	.38***	.34***	.39***

Note. \*\*\* –  $p < .001$ ; \*\* –  $p < .01$ ; \* –  $p < .05$ .

According to the results presented in Table 3, the most important personal characteristics supporting Paralympic athletes' self-realization in sports can be considered indicators of psychological hardiness.

All four scales of S. Maddi's Personal Hardiness ("*commitment*", "*control*", "*challenge*" and the integral scale) correlate significantly (up to  $r = .54$ ;  $p < .001$ ) with three of the four self-realization indicators in sports: "*Satisfaction with own sports career*", "*Fastness of sportive goal setting after achievement of a previous one*" and "*Reaching of top-achievements in sports*". We have already described the meaning of these scales above. I would also like to point out that "*Fastness of sportive goal setting after achievement of a previous one*" depends most strongly on Paralympic athletes' psychological hardiness.

Seven of the ten indicators of the Modified Techniques of Scaled Self-Estimation correlate reliably with various indicators of Paralympic athletes' self-realization in sports. This technique is the basis to determine subjective significance of various external and internal factors as incentives for sport activities (Table 4).

Table 4. Correlations between Paralympic athletes' self-realization in sports and their scaled self-estimation.

Indicators of self-realization		Indicators of scaled self-estimation						
		The pleasure of training, physical activity	Moral satisfaction because of won competitions	An opportunity to represent own country, club, city	Material incentives - salary, uniform, bonuses, etc.	Communication with friends, acquaintances	Acquiring experience, meeting with new people etc. that can help in the future life	Capability to be a full member of society
1	Satisfaction with own sports career	.10	.18	-.12	.10	.05	.20*	.11
2	Fastness of sportive goal setting after achievement of a previous one	.33***	.29**	.19*	.19*	.25**	.10	.24**
3	Clarity of images on own future in sports	.01	.13	.01	.13	-.01	.07	.21*
4	Reaching of top achievements in sports	.04	.19	-.16	.21*	-.10	-.02	.09

Note. \*\*\* –  $p < .001$ ; \*\* –  $p < .01$ ; \* –  $p < .05$ .

These seven indices of scaled self-esteem show some significant, but not very close correlations with the following indicators of Paralympian athletes' self-realization: "Satisfaction with own sports career" (it correlates with "Acquiring experience, meeting with new people, etc. that can help in the future life",  $r = .20$ ;  $p < .05$ ); "Clear presentation of one's sporting future" (it correlates with "Capability to be a full member of society",  $r = .21$ ;  $p < .05$ ); "Reaching of top-achievements in sports" (it correlates with "Material incentives - salary, uniform, bonuses, etc.",  $r = .21$ ;  $p < .05$ ).

However, one of the indicators of self-realization in sports, "Fastness of sportive goal setting after achievement of a previous one" has significant correlations ( $r = .19 - .33$ ;  $p < .05 - .001$ ) with six indicators of self-esteem. In particular, we can see that it depends to a great extent on such subjective factors as the pleasure of training, physical activity; moral satisfaction because of won competitions; communication with friends, acquaintances; capability to be a full member of society.

Paralympic athletes' self-organization of their activities also has sufficiently significant influence on their self-realization in sports, as we can see from Table 5.

Five of the seven self-organization indicators ("systematic character", "purposefulness", "persistence", "focus on the present", and the general indicator) have significant correlations ( $r = .19 - .50$ ;  $p < .05 - .001$ ), as in the previous case, with three out of four self-realization indicators – "Satisfaction with own sports career",

"Fastness of sportive goal setting after achievement of a previous one" and "Clarity of images on own future in sports". And just as in the previous case, we can state that the "Fastness of sportive goal setting after achievement of a previous one" depends mostly on Paralympic athletes' ability to self-organize their activities.

Table 5. Correlations between Paralympic athletes' self-realization in sports and self-organization of their activities.

Indicators of self-realization	Scales				
	Systematic character	Purposefulness	Persistence	Focus on the Present	General
1 Satisfaction with own sports career	.17	.19*	.14	.25**	.22*
2 Fastness of sportive goal setting after achievement of a previous one	.12	.50***	.41***	-.06	.31***
3 Clarity of images on own future in sports	.26**	.29**	.09	.20*	.21*
4 Reaching of top achievements in sports	.18	.14	.13	.03	.15

Note. \*\*\* –  $p < .001$ ; \*\* –  $p < .01$ ; \* –  $p < .05$ .

## DISCUSSION

As the study results show, the most important personal characteristic supporting Paralympic athletes' self-realization in sports is their psychological hardiness, since all four of its indicators have sufficiently close correlations with three of the four self-realization indicators - "Satisfaction with own sports career", "Fastness of sportive goal setting after achievement of a previous one" and "Reaching of top-achievements in sports".

Other significant personal characteristics supporting Paralympic athletes' self-realization in sports are:

- Self-efficacy that determines mostly such indicators as "Satisfaction with own sports career" and "Fastness of sportive goal setting after achievement of a previous one";
- The ability to self-organize own activities; five of the seven self-organization scales ("systematic character", "purposefulness", "persistence", "focus on the present" and the general indicator) have reliable correlations with three of the four indicators of sports self-organization - "Satisfaction with own sports career", "Fastness of sportive goal setting after achievement of a previous one" and "Clarity of images on own future in sports";
- Psychological well-being - Paralympic athletes' fastness of sportive goal setting after achievement of a previous one is significantly related to all ten psychological well-being scales, and their clarity of images on own future in sports correlates with five scales.

In addition, we found that the "Fastness of sportive goal setting after achievement of a previous one" depends to a large extent on some subjective factors, determined by scaled self-esteem technique, namely: the pleasure of training, physical activity; moral satisfaction because of won competitions; communication with friends, acquaintances; capability to be a full member of society.

In general, in the context of the studies problem, we should note that 10 years ago Perez-Turpin & Concepcion (2010) noted that Sport and Olympic games are a fundamental axis for the development of

society in the next decade, which was confirmed with time, but now, it is quite possible to assume that such a fundamental axis for the next decade (2020-2029) will become Paralympic sports. At the same time, as we can assert on the basis of the analysed scientific works, there is a lack of psychological research on Paralympic athletes; and, in particular, the studies on personal qualities of Paralympic athletes important for their self-realization in sports are practically absent.

Thus, in the context of the recent Paralympic psychological studies, it is possible to note only the studies of De la Vega et al. (2013) linking Paralympic athletes' mood and their perceived performance, Martin and Whalen (2015) and Wareham et al. (2017), who noted significant dependence of satisfaction with various aspects of Paralympic sports on quality of coaching and coach-athlete relationships, and Li et al. (2015), who found anxiety / overexcitement to be a major contributor to sports-related injuries at Paralympics.

Kehn and Kroll (2009), emphasizing the request for new training practices for Paralympic athletes, rightly pointed to the real need for psychologists as well as other specialists (physiotherapists, physicians) to be involved in training. Recently, a positive example of such practice was reported from Brazil by Cardoso et al. (2018), who discussed training of physical educators, physiotherapists, physicians, nutritionists, psychologists, massage therapists, nursing technicians and occupational therapists to work with Paralympic teams. However, as we noted above, practitioners' effective work must be based on the results of up-to-date scientific research on various aspects of the Paralympic athletes' training and participation in competitions.

## CONCLUSION

The performed study revealed that the most important personal characteristic supporting Paralympic athletes' self-realization in sports is their psychological hardiness. Their self-efficacy, capacity for self-organization of own activities and psychological well-being can also be considered as significant personal characteristics for their sportive self-realization.

We consider necessary to emphasize that the psychological and social-psychological studies, in particular, with the aim to determine the psychological characteristics, indicators and prerequisites of Paralympic athletes' self-realization in sports should become an important scientific component supporting Paralympic athletes not only during training and competitions, but also, which is even more important, at their integration into society through Paralympic sports.

### *Limitations*

As only members of the Paralympic and Deaflympic teams of Ukraine took part in the study, the results obtained may differ from those obtained in similar studies with the participation of Paralympic athlete from other countries.

## AUTHOR CONTRIBUTIONS

O.K. Conceived of the presented idea, conceived and planned the experiments. L.S. Developed the theory and performed the computations. O.S. Organized the experiments. L.S & O.S. Carried out the experiments. All authors discussed and interpreted the results and contributed to the final manuscript.

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## DISCLOSURE OF INTEREST STATEMENT

The authors declare that they have no conflicts of interest concerning this article.

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