ORIGINAL ARTICLE

Hardiness in the profession of sports coaches and physical education teachers

Ivanna Korobeinikova[1,2ABCDE], Georgiy Korobeynikov[2,3BCD], Oleg Kokun[1ABCE], Markus Raab[2,4BCE], Lesia Korobeinikova[2,3BCD], Iryna Syvash[3BCE]

[1] *Kostiuk Institute of Psychology of the National Academy of Educational Sciences of Ukraine, Kyiv, Ukraine*
[2] *Institute of Psychology, German Sport University Cologne, Cologne, Germany*
[3] *National University of Ukraine on Physical Education and Sport, Kyiv, Ukraine*
[4] *School of Applied Sciences, London South Bank University, London, United Kingdom*

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Abstract

Background and Study Aim: To study psychological features of sports coaches and physical education teachers' professional hardiness.

Material and Methods: The study involved 60 participants. Among them, 24 were coaches of children's and youth sports schools, 19 coaches of national teams of Ukraine and 17 physical education teachers. English-language version of the Professional Hardiness Questionnaire (PHQ) were used. The development of the English-language version of the PHQ was based on its initial Ukrainian-language version (http://prof-diagnost.org). The accuracy of its translation into English was checked and corrected by 12 bilingual specialists with degrees in medicine and/or psychology. To identify the peculiarities of the relationship between the indicators of professional resilience in different professional groups, we conducted a Spearman correlation analysis.

Results: The analysis of professional hardiness revealed the presence of significant differences between the surveyed groups of coaches and physical education teachers by various indicators. It turned out that the length of service in the respective positions of national team coaches is significantly higher than that of Youth Sports School (YSS) coaches and physical education teachers. This indicates the presence of greater professional experience among this category of coaches. Accordingly, physical education teachers and coaches of national teams have significantly higher professional experience than coaches of YSS. As a result, the majority of young specialists are among the coaching staff of the YSS. The correlation coefficient between the general level of professional hardiness and the namely professional component of 0.80 is much higher for coaches of national teams. Among physical education teachers it reaches 0.61, most likely this is because the control over the work of this group is less specific in contrast to the work of the coach. Coaches of YSS have the lowest level of the namely professional component 0.50, we explain this by the fact that the overall level of experience in the position is half as much as in the previous two groups.

Conclusions: The conducted analysis made it possible to establish relationships between the general level of professional hardiness and indicators of professional hardiness in each group of coaches and teachers.

Keywords: hardiness, professional activity, sports coaches, physical education teachers, psychological properties.

Introduction

The article presents the results of an empirical study aimed at determining the psychological characteristics of professional hardiness of sports coaches and comparing them with a group of physical education teachers, as a related profession. Hardiness is interpreted as a professional important characteristic that moderates individual behavior. Hardiness moderates professional behavior and is directly related to the quality of pedagogic work.

Taking into account the encompassing experience of coaches, which is spans the beginning until current of work in the chosen position. It needs to be considered that coaches and teachers often have been athletes themselves for multiple years (e.g. 8-15 years) and thus hardiness in the chosen profession developed over multiple decades. The coach profession is often sport specific and includes many features of behavior. Recently work on hardiness has increased, but still limited knowledge exists in the profession of sports coaches and physical education and sports teachers [1, 2].

For teachers the properties hardiness related with stress resistance. It is especially important for prevention from professional burnout [3, 4].

Unfortunately, there is a lack of research on hardiness in physical education and sports teachers.

Hardiness was first introduced by the American psychologists S. Kobasa and S. Maddi and separated

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in three components: commitment, control, and challenge [5, 6]. Further, hardiness is considered to be a personal potential of a person [7, 8]. Hardiness is a holistic system of relationships with the world around us, it is conceptualized as a necessary resource that can contribute to the improvement of physical and mental health and is associated with self-realization, self-affirmation, and transcendence of the individual [9].

Hardiness is needed as modern human life is characterized as stressful, and for sometimes even as extreme and critical [10]. If we take into account the number of areas of responsibilities a coach and teacher has, then hardiness may explain differences in behavior of these. Further considering the peculiarities and conditions of the working processes of coaches and teachers, their number of areas of responsibilities, the variance of athletes experience, their cultural and personal factors coach behavior requires the three components of hardiness [11, 12].

Hardiness is considered a rather novel concept recently studied in various fields. For instance hardiness has been studies and applied in medicine, in particular, health care and nursing, public safety, military operations, sports, business, and family [13]. Nevertheless the empirical evidence is limited on how hardiness develops as a professional important characteristic. It has been argued that the specific domain such as coaches and teachers in sports and its structural requirements, interpersonal interaction will have a positive impact on work when considering the moderating effects of hardiness [14].

There are not enough studies which add to understand the moderating effect of hardiness in the activities of the coach. Since one of the main professional characteristics of hardiness is the ability to withstand a stressful situation, maintaining internal balance, while not reducing the effectiveness of professional implementation sport and physical education as a domain seems understudied but important to apply effects of hardiness on coaching behavior [15].

Hypotheses. Our hypothesis concerns the assertion that coaches of elite varsity teams and physical education teachers have higher scores on all professional hardiness scales compared to coaches of young athletes.

The purpose: To study psychological features of sports coaches and physical education teachers' professional hardiness.

Material and Methods

Participants

To assess the professional hardiness of specialists in the field of physical culture and sports, we divided all the respondents into three professional groups. The first group – is coaches of children and youth sports schools (24 people) who work in private and public sports schools with a contingent of school-age athletes. The second group – is coaches of national teams (19 people) who work in national teams of different levels and different ages. The main contingent is highly qualified athletes. The third group - physical education teachers (17 people), are not directly related to the training process but are related to the field of physical education and sports. The study was approved by Biomedical Research Ethics Committee in accordance with the Ethical Standards of the Declaration of Helsinki.

Research Design

The study was conducted from 2019 to 2020. Online in the form of Google questionnaires for trainers. The study was conducted from 2019 to 2020. Online in the form of Google questionnaires for trainers. Total 60 persons: coaches of youth sports schools, coaches of National Teams and physical education teachers were examined.

Professional Hardiness Questionnaire (PHQ)

The participants' hardiness was assessed using the English-language version of the Professional Hardiness Questionnaire [16], which assesses eight indicators of professional hardiness:

1. General level of professional hardiness (score range 0–96);
2. Professional commitment;
3. Professional control;
4. Professional challenge acceptance (score range 0–36 each);
5. Emotional,
6. Motivational,
7. Social, and
8. Namely professional aspects of professional hardiness (score range 0–24 each).

The PHQ is a 24-item self-report measure. All questions are directly related to a specialist's occupational activities. Respondents were asked to rate each item on a 5-point Likert scale ranging from A to E. For each answer, option A was worth 0 points, option B equaled 1 point; option C, 2 points; option D, 3 points, and option E, 4 points. The PHQ includes questions such as 'How often do you enjoy the process of your work?', 'Do you feel praised when you solve non-standard work tasks?', 'Do you think clear work planning is needed?', 'How often do you return to professional work outside of your workplace?' and 'Do you think you need constant monitoring of (your own, colleagues', or organizational) work progress?'.

English-language version of the Professional Hardiness Questionnaire (PHQ). The development of the English-language version of the PHQ was based on its initial Ukrainian-language version (http://prof-diagnost.org). The accuracy of its translation into English was checked and corrected by 12 bilingual specialists with degrees in medicine and/or psychology.

The PHQ is a 24-item self-report measure. All questions are directly related to a specialist's occupational activities. In addition to the 'traditional' components of hardiness (commitment, control, and challenge), we also highlighted four more specific aspects for each: emotional, motivational, social, and namely professional.

Respondents were asked to rate each item on a 5-point scale Likert scale ranging from A to E. For each answer, option A was worth 0 points, option B 1 point, option C 2 points, option D 3 points, and option E 4 points. We improved the traditional version of the Likert scale to take into account the specifics of possible answers to various questions.

Thus, the PHQ provides an opportunity to examine not only the traditional commitment, control, and challenge components but also the emotional, motivational, social, and content-professional aspects of professional hardiness within a clear professional context.

Statistical Analysis

Statistical processing of the obtained results was performed using the "Statistica 12" software. Since the analyzed indicators were non-normal distributed, the Wilcoxon rank sum test was used to determine the statistically significant difference between the samples. In order to identify the features of the relationship between indicators of professional hardiness in different professional groups, we conducted Spearman's correlation analysis.

Results

Table 1 shows the results of an empirical study of professional hardiness among sports coaches and physical education teachers.

The analysis of professional hardiness revealed the presence of differences between the surveyed groups of coaches by various indicators.

It turned out that the length of service in the respective positions as a national team coaches is significantly higher than that of Youth Sports School (YSS) coaches and physical education teachers. This indicates greater professional experience among this category of coaches. Accordingly, physical education teachers, as well as coaches of National Teams, have significantly higher professional experience than coaches of YSS. This is due to the presence of a larger number of young professionals among the group of YSS coaches.

It was found that the level of professional acceptance of the challenge by teachers is significantly higher compared to coaches of YSS. Among coaches of National Teams, this indicator

Table 1. Results of an empirical study of professional hardiness among different groups of sports coaches and physical education teachers (Median, Low and Upper Quartiles)

Variable	Coaches Youth Sports School (n=24)	National team coaches (n=19)	Physical education teachers (n=17)
Length of work in the position, conventional units	7.00	20.76*	11.00***
	3.00; 20.00	10.34; 22.71	5.00; 15.00
General level of professional hardiness, conventional units	56.00	58.00	54.00
	52.00; 62.00	55.00; 69.00	52.00;61.00
Professional commitment, conventional units	18.00	19.00	16.00
	16.00; 21.00	15.00; 22.00	14.00; 18.00
Professional control, conventional units	19.00	20.00	18.00
	16.50; 22.50	19.00; 26.00	17.00; 22.00
Professional challenge, conventional units	18.50	20.00	21.00*
	16.50; 22.50	18.00; 24.00	19.00; 22.00
Emotional component, conventional units	13.50	14.00	12.00**
	11.00; 16.50	13.00; 17.00	11.00; 15.00
Motivational component, conventional units	15.00	17.00	15.00
	14.00; 18.00	16.00; 18.00	14.00; 16.00
Social component, conventional units	13.50	15.00*	14.00
	10.00; 15.50	1.00; 18.00	12.00; 15.00
Namely professional component, conventional units	13.00	15.00*	14.00
	11.00; 15.00	12.00; 19.00	10.00; 17.00

Legenda: * - p=0.05, compared to Coaches Children's Youth Sports School

is also higher, although not significantly. This means that the ability to adequately respond to the professional challenges of YSS coaches is somewhat more limited. This difference is especially visible in professional experience among teachers and a lack of experience among YSS coaches.

The study of the level of the emotional component has established significantly higher values of the indicator among both groups of youth and National Team coaches. The highest values are found in coaches of National Teams. This is probably due to the high peak performance environments and demands of the professional activity of the coach. Unlike teaching activity, coaching activity is often accompanied by competitive performance. The effectiveness of the performance of athletes in competitions is a criterion for the quality of the coach's work. This is equally present in coaches of both YSS and National Teams. In turn, competitive activity is characterized by emotional manifestations due to victories and defeats. The professional activity of the physical education teacher is less emotional, where the central criterion for the effectiveness of the work is the development of students' physical qualities and improvement of performance and health.

The indicator of the social component level is also significantly higher among National Team coaches. This reflects, in our opinion, a higher social responsibility of national team coaches than in other professional groups. After all, the performance of National Team athletes in the international arena is the hallmark of any country. Their activity is focused on international competitions with different countries and nations, and thus creates conditions for the development of this component.

The content-professional component level demonstrates that the coaches of the National Team and physical education teachers have more experience and knowledge in their work than the coaches of the Youth Sports Academy. In our opinion, this is because more often professional coaching experience begins with working with children. Many people choose to work at the State University of Higher Education because there is a place for young specialists to work there and an opportunity to gain initial experience. Also, there is a certain professional hierarchy in the school system, so there is someone to learn from and practice their theoretical skills, in contrast to working conditions in national teams. When a coach starts working on the National Team, they must demonstrate the already acquired professional level and experience. The importance of professional experience is often a selection of criteria for their posts. To identify the features of the relationship between indicators of professional hardiness in different professional groups, we conducted a Spearman's correlation analysis (tabl. 2).

The correlation coefficient between the general

Table 2. Correlation analysis between the general indicator and components of professional hardiness (according to Spearman) among different groups of sports coaches and physical education teachers

Variable	General level of professional hardiness	Professional commitment	Professional control	Professional challenge	Emotional component	Motional component	Social component	Namely professional component
General level of professional hardiness	-	**0.67**	**0.77**	**0.71**	**0.63**	**0.44**	**0.76**	**0.51**
Professional commitment	**0.67**	-	0.36	0.20	**0.77**	0.07	**0.48**	0.39
Professional control	**0.77**	0.36	-	0.34	0.27	**0.56**	**0.71**	0.31
Professional challenge	**0.71**	0.20	0.34	-	**0.41**	0.31	**0.46**	**0.53**
Emotional component	**0.63**	**0.77**	0.27	**0.41**	-	0.14	0.23	0.28
Motional component	**0.44**	0.07	**0.55**	0.31	0.14	-	0.09	-0.30
Social component	**0.76**	**0.48**	**0.71**	**0.45**	0.23	0.09	-	**0.55**
Namely professional component	**0.50**	0.39	0.31	**0.53**	0.28	-0.30	**0.55**	-

Legenda: reliable correlation coefficients are highlighted ($p<0.05$)

level of professional hardiness and the level of professional commitment among coaches of YSS is 0.67. This is lower than in other professional groups. This is probably because the majority of YSS workers are university graduates who do not have enough professional experience. This result is consistent with the results above.

The correlation coefficient between the general level of professional hardiness and the level of professional control in national team coaches is the highest at 0.84, most likely due to the amount of overall responsibility. Control of the training process, competition, selection of athletes and coaches, their working interaction in the team, and the result in general. Professional control of YSS coaches 0.77 and teachers 0.74 is approximately equal.

The correlation coefficient between the general level of professional hardiness and the level of professional challenge acceptance is very individual in each group. Coaches of YSS demonstrated the highest indicator of 0.71, perhaps this is because for most coaches it is just a step in their professional career and most coaches have ambitious goals and are ready to change their place of work. Therefore, they are ready for any professional challenges. For teachers, this indicator is 0.66 lower, perhaps because working in an educational institution is less challenging, more often this indicator depends on the individual. It turned out that the lowest correlation index was in the group of coaches of national teams only 0.60. We can only explain this by the fact that most of the interviewed coaches have been in their professional position for more than 5 years and the work itself consists of a constant challenge. In addition, the national team coaches have already achieved the maximum of their ambitious goals by getting into the position.

The correlation coefficient between the general level of professional hardiness and the emotional component in the group of teachers 0.83 is significantly higher compared to others. Perhaps this is because the teacher tries to be heard, therefore emotionally enriches the transfer of words and is generally more open to the exchange of emotions and thoughts, since in coaching activities there is mostly a team type of communication. Perhaps that is why YSS coaches demonstrate a coefficient of 0.62, and national team coaches 0.60.

The correlation coefficient between the general level of professional hardiness and the motivational component of teachers of 0.25 is reduced by almost two times, unlike other groups. While the coaches demonstrate an equally high level. Coaches working with children 0.44, and team players 0.45.

The correlation coefficient between the general level of professional hardiness and the social component is the highest among coaches of children's and youth sports schools - 0.76. We explain this by the fact that they have to communicate with a large number of people who are very diverse in the age segment: children in the segment of 5-16 years, colleagues, and parents. Let's also remember the variety of processes for which they have to be responsible: administrative, training, competitive, educational, and reporting. For teachers, it is less diverse, so the indicator is reduced by ten units to 0.66. We have some discrepancies in the correlation analysis of the social component of national team coaches because it is the lowest and is only 0.64. While in the first part of the article, it was the largest among the three groups.

The correlation coefficient between the general level of professional hardiness and the namely professional component of 0.80 is much higher for coaches of national teams, which is quite natural given the peculiarities of the work of each group of professionals. In teachers it reaches 0.61, most likely this is because the control over the work of this group is less specific in contrast to the work of the coach, which is estimated by the number of medals of their wards. Coaches of YSS have the lowest level of the namely professional component 0.50, we explain this by the fact that the overall level of experience in the position is half as much as in the previous two groups.

Discussion

Hardiness in professional activity reflects a person's ability to self-realization, stress resistance, and self-improvement [17, 18]. The purpose of the article was to study the psychological features of the professional hardiness of sports coaches and physical education teachers. Empirical studies were conducted for this purpose. For our research, we used a method of mental diagnostics such as the "Professional Hardiness Questionnaire" of different groups. To research the professional hardiness of specialists in the field of physical culture and sports, three professional groups were examined: coaches of the State University of Applied Sciences, coaches of national teams, and teachers of physical education.

The obtained results confirm the thesis that the presence of a high level of hardiness is usually natural for representatives of extreme professions [19]. Life-sustaining behavior is often a way for a person to choose his own "place under the sun" and defend his existence, which is very much the norm for sports implementation. At the same time, according to the results of research it was established that a low level of hardiness often leads to alcohol abuse [7].

Our study was found that the coaches of national teams and physical education teachers have more professional experience. While the level of professional challenge is higher among the professional group of physical education teachers.

This indicator is somewhat lower among national team coaches. It can be noted that adequate response to professional challenges is related to the professional experience of specialists.

The level of the emotional component is most pronounced among both groups of coaches. This is due to the presence of competitive activity, which is accompanied by the professional stress of the coaching profession.

The social responsibility of national team coaches will be more pronounced. This is related to the responsibility for the performance of athletes at the respective competitions. The obtained result shows the social significance of sport coaches.

Similar results were obtained when assessing the namely professional component among national team coaches. National team coaches have a high level of professional experience and social significance demonstrating the ability to improve professional skills.

Thus, taking into account the peculiarities of the life and professional realization, it is very natural that elite coaches and teachers of physical education have a higher level of hardiness than coachers of young in most indicators. But it is still necessary to take into account the difference between the selected contingents during the study.

The results obtained by us established the relationship between the general level of professional hardiness and indicators of professional hardiness in each group of the research. It has also been established that the overall hardiness among the coaches of the young coachers is ensured due to professional commitment, and social and motivational components, and among the coaches of the national teams and teachers of physical education, the overall hardiness is formed thanks to the indicators of the level of professional control and the namely professional component.

This is consistent with the previous works of [5], were showed that professional hardiness directly affects the level of realization and duration of professional life. It has been proven that professional hardiness in pedagogic labor helps in professional activities and overcoming emerging risks.

In addition, the obtained results can be applied to optimizing and preventing activities in conditions of burnout and reduced work quality.

Conclusions

1. It was found that adequate response to professional challenges is ensured by the presence of professional experience and work experience in coachers and physical education teachers.

2. It was found that the emotional and social indicators of the components among the coaches of the national teams and physical education teachers are the largest. But, the professional activity of a physical education teacher is less emotional and has little connection with personal work.

3. It was revealed that when a coach starts working on the national team, he must demonstrate his already acquired professional level and experience.

4. The conducted analysis made it possible to establish relationships between the general level of professional hardiness and indicators of professional hardiness in each group of subjects.

Prospects for further research

Prospects for further research: considering the availability of a small number of studies on this topic, we may study empirical regularities in the sports field and their connection with sports results.

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Conflict of interest

The authors declare that there is no conflict.

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Information about the authors:

Ivanna Korobeinikova; https://orcid.org/0000-0003-1662-8006; ivannakorobeynikova@gmail.com; Kostiuk Institute of Psychology of the National Academy of Educational Sciences of Ukraine (Kyiv, Ukraine); Institute of Psychology, German Sport University Cologne (Cologne, Germany).

Georgiy Korobeynikov; (Corresponding Author); https://orcid.org/0000-0002-1097-4787; k.george.65.w@gmail.com; National University of Ukraine on Physical Education and Sport (Kyiv, Ukraine); Institute of Psychology, German Sport University Cologne (Cologne, Germany).

Oleg Kokun; https://orcid.org/0000-0003-1793-8540; eryfhj@gmail.com; Kostiuk Institute of Psychology of the National Academy of Educational Sciences of Ukraine; Kyiv, Ukraine.

Markus Raab; https://orcid.org/0000-0001-6546-1666; Raab@dshs-koeln.de; Institute of Psychology, German Sport University Cologne (Cologne, Germany); School of Applied Sciences, London South Bank University (London, United Kingdom).

Lesia Korobeinikova; https://orcid.org/0000-0001-8648-316X; korlesia.66@gmail.com; National University of Ukraine on Physical Education and Sport (Kyiv, Ukraine); Institute of Psychology, German Sport University Cologne (Cologne, Germany).

Iryna Syvash; https://orcid.org/0000-0001-8548-3133; i_syvash@ukr.net; National University of Ukraine on Physical Education and Sport; Kyiv, Ukraine.

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