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**Original Article**

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# Study on the relationship between physical activity and the development of professional competence: Findings from a study in Ukraine

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## ABSTRACT

The search for motivation for physical activity is always relevant, competitive advantages in the labour market are one of type of such motivation. This article presents the application of the developed method for identifying professionally important qualities as components of a student's competency levels and their physical activity levels. 314 Ukrainian students, 442 of their parents and 104 professionals who have subordinates in the fields of education and technology were reviewed. We have detailed well-known studies in the field of professionally important qualities. In spite of this, it has been identified that professionals in general are mildly interested in the qualities obtained through a student's physical activity. Wherein the lower  $r$  value between the weight of qualities mentioned by the athletes and their parents in comparison with the  $r$  value between the weight of qualities mentioned by non-athletes and their parents reveals an increased social mobility rate of athletes. **Keywords:** Physical activity; Physical education; Competence; Professional qualities.

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## INTRODUCTION

The importance of physical education (Ph. Ed.) is emphasized by various international and European organizations in the fields of health and education. It has become a priority to search for solutions caused by a passive way of life, obesity, low immunity and the emergence of various diseases related to low physical activity among students. In modern society, scientists are looking for new ways to motivate people to become more physically active.

The influence of sports has been studied extensively in modern science and has known important benefit of physical activity: aiding students in preparation for future careers. The issue of the formation of important professional qualities through sports activities is also quite widely reported on in scientific publications. In most of studies, the role of sports in the formation of such qualities and skills is considered auxiliary to the main processes of learning (Hillman, Erickson, & Kramer, 2008; Weinberg & Gould, 2018). Such an influence can be applied to establishing a link between Ph. Ed. and future professional activities. But such a connection is strongly mediated, and its measurement is complicated.

In the article, we address another question of the utmost importance regarding Ph. Ed. in the learning process. This question is to determine the relationship between the formation of important professional qualities as components of a student's competency levels and their physical activity levels. These qualities are in understanding the activity, and its implementation. They ensure the efficacy of human labour and, together with knowledge and skill, constitute competences. In contrast to skill and knowledge, important professional qualities that do not reflect subject content are common. Therefore, their formation can be supplemented by non-specialized teaching, including Ph. Ed.

The study (SportsEconAustria, 2012) examines the obvious markers of economic growth. However, latent factors such as the formation of skills and professional qualities developed through sports are not sufficiently considered in this study. How wide is the diversity of such qualities? Most researchers believe on average there are 1-5 such qualities and skills (Khripunova, 2014; Murphy, Murphy, MacDonncha, Woods, Byrne, Ferguson, & Nevill, 2015; Sabetova, 2016), and in total – no more than 25. In some of these publications, the authors use generalized definitions such as “Motor skills”, “Social skills” etc. Qualities which are brought by Ph. Ed. within the framework of professional sports are also considered in studies (Beaumont, Gedye, & Richardson, 2016; Campos-Izquierdo, González-Rivera, & Taks, 2016). Although, to understand and implement the benefits of physical activity in wider context, a greater degree of details is needed.

Sports are considered a significant educational component in the process of interprofessional education (Breitbach & Richardson, 2015). It is known that former elite athletes have a number of competitive advantages in the labour market, for example, in higher salary (Dewenter & Giessing, 2015). Other advantages which include a greater willingness to work in a team, endurance, commitment, discipline etc. are mentioned here.

Scientists note that culture already makes a connection between varsity sports and employment opportunities for young men (Erkut, Pappano, & Tracy, 2014). Thus, in the report, the authors highlight the importance of qualities such as teamwork. Teamwork skills, competitiveness, and time management skills and an ability to set and work toward goals are defined by other scientists as significant sports-related skills (Deke & Haimson, 2006). Lerman (2013) defined such qualities as occupational skills, and sports teams that require discipline, practice, and teamwork as “byproduct of activities” of non-academic skill development are defined. Skills such as decision-making, communication, leadership capabilities, confidence etc. are also highlighted (Kay

& Dudfield, 2013). Dalziel (2011) writes that by learning in, through, and about movement (i.e. sports activities) formed constructivism, critical thinking and other physical and social skills. In another study, it is noted that sports activities typically involve teamwork and communication (Weinberger, 2014). In the Guide to core work skills, Brewer (2013) listed 23 skills and values learned through the sports sector, relating to the moral, psychological and physical qualities of the person.

Thus, scientists are not overly focus attention on the variety of professionally important qualities that young people form and develop through sports activity. No more than 35 can be listed on the basis of a literature review. The Final Report on the Study on Sport Qualifications acquired through Sport organizations and (Sport) Educational Institutes (2016) stated that “the educational potential of sport is translated into the clear advantage that sports activities can help acquire skills that complement formal education and enhance their employability”. However, the details, specifics, and mechanisms of the formation and such qualities are not fully presented here.

There is insufficient attention paid to the diversity of important professional qualities. There is a need for detailed consideration on this issue, considering that the work in the modern world is more cognitively complex and multi-tasking. This requires a wide range of solutions, psychological stability, responsibility etc. which can be provided through the diversity of important professional qualities.

The cross-sectional study has the following objectives:

- Development and implementation of the method for identifying morally, psychologically and physically important professional qualities as components of competencies, that are formed and / or developed through engagement in physical activity.
- Establishing a link between the identified qualities and the requirements of market.

## METHOD

### *Design and participants*

In the cross-sectional study 314 Ukrainian students on the final year training of their bachelor’s degree were reviewed. The study involved 40 % male and 60 % female students who represented 7 HEI of the Kharkiv. This city is the second largest city of Ukraine. It is the industrial, cultural and educational centre of the country. The recruitment is carried out during the learning process. The survey involved students who were studying in the fields of “Education” (51.6 %) and “Technologies” (48.4 %).

In the study, 442 parents were also reviewed. Age – from 38 to 62 years old, average – 44.9 years. 48.4 % – male and 51.6 % – female. The inclusion of parents in the study is of particular importance. In this way, we cover the segment of employment associated with rates of social mobility. Intergenerational mobility is one of the central points of social mobility in general and of employment in particular (Eurofound, 2017).

Also, 104 professionals who have subordinates in the fields of education and technology were reviewed. 57.6 % – male and 42.4 % – female. Age – from 28 to 68 years old, average – 45.7 years.

In the field of education professionals are directors of 8 schools and 6 vocational schools, and their deputies, deans and heads of various departments of 3 HEIs, in total – 52 respondents. 51.9 % – male and 48.1 % – female. Age – from 33 to 68 years old, average – 49 years. In the field of technology also were reviewed 52 respondents were also reviewed. They are the heads and deputies of the various units of private and public

enterprises in the following areas: Mechanical engineering – 4 enterprises, IT – 4, Energetics – 3, Metrology – 2, Biochemical engineering – 1, Food engineering – 1, Environmental engineering – 1, Polymer engineering – 1, Civil Engineering – 1. 57.7% – male and 42.3% – female. Age – from 29 to 55 years old, average – 43.5 years.

### **Measures**

Students were asked to answer the question: “Do you play sports?”. After that, non-athletes were offered the following task: “Please list in order of importance 2-5 personal qualities that you have mastered as a result of learning activities that you can use in future professional activity”. Athletes had to specify the sport in which they are engaged and they were offered the following task: “Please list in order of importance 2-5 personal qualities that you have mastered as a result of sports activities that you can use in future professional activity”.

Students’ parents were offered the following task: “Please list in order of importance 2–5 personal qualities that your child should have when he \ she comes to their first job”. Professionals were offered the following task: “Please list in order of importance 2–5 personal qualities that are essential for your subordinate”.

The qualities mentioned by respondents in order of importance in the questionnaire were weighted as follows: 1st – 5 points, 2nd – 4 points, 3rd – 3 points, 4th – 2 points, 5th – 1 point. The condition about minimum number of qualities was substantiated by the need for ordering and weighing these qualities. The condition about maximum number of qualities was substantiated by intention to avoid frivolous answers.

### **Procedure**

Students were invited to participate on a voluntary basis. We cover students with formed ideas about the future educational and/or engineering profession that are engaged in sport (physical activities accompanied by music, weightlifting, athletics, recreational sports, martial arts or other sports) and students that are not engaged in sport who are no younger than 18 years old (average – 20.2 years old).

Data acquisition and processing were carried out for 2 years from 2016 to 2018. Given the large sample, we collected data using various methods. About 90% of students and their parents answered in the pre-designed Google-forms, about 10% – answered in the printed questionnaire with the same structure. About 50% of professionals used Google-forms, and other 50% were interviewed according the questionnaire.

It should also be noted that in the data processing some qualities that were too wide and too related were united. These qualities can be listed as follows: volition, willpower and self-control combined into self-control; stress resistance and steadiness combined into steadiness; conscientiousness and honesty combined into honesty; concentration of attention, attention to detail and attentiveness combined into attentiveness; focusing on results and effectiveness combined into effectiveness. At the same time, we tried to keep the original wording in order to minimize subjectivity in the results analysis.

### **Data analysis**

For the first time a grounded, developed and implemented the questionnaire with a high Cronbach alpha (> 0.9) due to the high number of suggested and estimated items. Quantitative and qualitative statistics provided. Adequate modern statistical methods and software is used. The questionnaire provides such quantitative statistics that give weight to each identified quality for carrying out the correlation analysis. The level of statistical significance of correlations –  $p < 0.05$ . The main questions had been open-ended. The results of the cross-sectional study allow us to calculate Kendall rank correlation coefficient,  $\tau = 0.65$ .

For consideration of the qualitative variables that were obtained, qualitative comparative analysis was used. For a quantitative representation and processing of quality data and their ordering the established methods of descriptive statistics were used. These actions were conducted using software such as Excel 2016 and Statistica10.

## RESULTS

The first result was the identification of the number of students among the respondents engaged in a sports activity. The total percentage of such students – 53.2 %, 53.6 % – male, 52.9 % – female. In the field of education, those who are physically active totalled 51.6 % of respondents, 55.8 % – male and 50 % – female. In the field of technology, those who are physically active totalled 55 % of respondents, 52.4 % – male and 58 % – female. These data suggest that engaging in sport is quite popular among Ukrainian youth people – at least every other student of any gender participated in the sports activity.

Let's consider the sports in which students are engaged in. The sports listed on the results of the survey were grouped as follows: physical activities accompanied by music, weightlifting, athletics, recreational sports, martial arts and other sports (Table 1). The category "Other sports" includes swimming, cycling, kayaking, horse riding, skiing, shooting, extreme sports – those kinds that include no more than 2 of the respondents. It can be argued that modern sports are covered on an equal footing with classical sports. For example: Piloxing and Pilates in the physical activities accompanied by music, CrossFit in the weightlifting category, tower running and hiking in athletics, ultimate frisbee in recreational sports, mixed martial arts, skateboarding and yoga along with other sports. This aspect is important in the context of innovative development.

Table 1. Type of sport.

Specialization	Number of respondents			
	Education		Technologies	
	M	F	M	F
Physical activities accompanied by music	0	16	4	16
	16		20	
	36			
Weightlifting	3	4	9	4
	7		13	
	20			
Athletics	3	17	2	12
	20		14	
	34			
Recreational sports	11	10	13	3
	21		16	
	37			
Martial arts	0	3	8	1
	3		9	
	12			
Other Sports	7	9	7	4
	16		11	
	27			

From these data it follows that students without regard to gender or education fields prefer physical activities accompanied by music and recreational sports. Taking into account the gender: male – recreational sports, female – physical activities accompanied by music. Future teachers prefer athletics and recreational sports, male – recreational sports, female – athletics. Future technologists prefer physical activities accompanied by music and recreational sports, male – recreational sports, female – physical activities accompanied by music.

Next, we consider the quantitative data on the respondents and qualities that were suggested by students (Table 2).

Table 2. Quantitative data.

Specialization	Education				Technologies			
	Non-Athletes		Athletes		Non-Athletes		Athletes	
Activity								
Gender	M	F	M	F	M	F	M	F
Number of respondents	19	59	24	59	39	29	43	40
	78		83		68		83	
	161				151			
	312							
Non-recurring qualities that were suggested	33	50	25	45	38	40	37	47
	56		44		48		56	
	64				71			
	80							
Qualities that were suggested on average per person	4.3	3.7	3.4	3.3	2.8	3.4	3.0	3.5
	3.8		3.3		3.1		3.2	
	3.6				3.2			
	3.4							

We see some differences in the receiving of professionally important qualities by future teachers and technologists – on education specialization the total number of properties is less, but more qualities were suggested on average per person. This can be explained by a large number of women who participated in the survey from the education field. As shown in the results women suggested more qualities on average per person.

An important result is that the value of the qualities that were suggested on average per person by non-athletes was 3.5. The students were able to list 50 % of the offered 2 to 5 qualities. More than 3 or 43.3 % qualities out of the offered 2 to 5 qualities were suggested on average per person by athletes. The difference was only 6.7%, but the number of non-recurring qualities that were suggested by non-athletes and by athletes totalled the same value. These qualities that were suggested by more than 1 person are: non-athletes – 50, athletes – 49. On the basis of these data, we can say that perception of the diversity of professionally important qualities obtained through learning and sport by Ukrainian students are identical.

The diversity of professionally important qualities categorized by sport is presented in Table 3.

Table 3. Diversity of professionally quality categorized by sport.

Sports that students are engaged in	Physical activities accompanied by music	Weightlifting	Athletics	Recreational sports	Martial arts	Other sports
Total non-recurring qualities that were suggested	44	28	41	41	23	29
Qualities that were suggested on average per person	3.5	3.5	2.9	3.5	3.4	3.0

Thus, the greatest diversity of professionally important qualities received from students associated with physical activities accompanied by music and recreational sports. However, it has to be taken into account that physical activities accompanied by music, according to the received data, is female dominated sports activity, and women suggested more qualities on average per person.

Next, we consider the qualitative results of the cross-sectional study.

All groups of students suggested qualities which can be attributed to the moral, psychological (cognitive, emotional and volitional) and physical fields.

The most important qualities from the students' standpoint and taking into account weight in each group are shown in Table 4.

Table 4. The most important qualities form the students' standpoint.

Respondents	Top qualities		
	The first place (weight)	The second place (weight)	The third place (weight)
non-athletes, male, future teachers	Communicability (44)	Independence (22)	Responsibility (19)
non-athletes, female, future teachers	Communicability (122)	Responsibility (114)	Attentiveness (71)
athletes, male, future teachers	Self-control (33)	Discipline (32)	Leadership (24)
athletes, female, future teachers	Self-control (116)	Effectiveness (54)	Endurance (51)
non-athletes, male, future technologists	Communicability (37)	Responsibility (34)	Creativity (26)
non-athletes, female, future technologists	Communicability (52)	Responsibility (25)	Scheduling of time and loads (22)
athletes, male, future technologists	Self-control (70)	Assertiveness (36)	Teamwork (29)
athletes, female, future technologists	Self-control (61)	Perseverance (37)	Responsibility (37)

non-athletes, male	Communicability (81)	Responsibility (53)	Independence (34)
non-athletes, female	Communicability (174)	Responsibility (139)	Attentiveness (84)

From the all students' standpoint, such qualities as communicability, responsibility, self-control, attentiveness and steadiness prevailing.

The more detailed analysis of the top qualities categorized by sports is shown in Table 5.

Table 5. Analysis of the top qualities categorized by sports.

Sports that students are engaged in	Top qualities		
	The first place (weight)	The second place (weight)	The third place (weight)
physical activities accompanied by music	Self-control (41)	Assertiveness (32)	Endurance (29)
weightlifting	Self-control (33)	Assertiveness (18)	Steadiness (17)
athletics	Self-control (56)	Endurance (38)	Perseverance (28)
recreational sports	Self-control (54)	Endurance (49)	Effectiveness (27)
martial arts	Steadiness (23)	Self-control (19)	Endurance (12)
other sports	Self-control (34)	Perseverance (27)	Independence (27)

Based on the presented data, we see that in general, students do not prioritize the formation of the cognitive qualities. Non-athletes often suggested sociability, and different moral, emotional and volitional qualities. Athletes more likely reported the formation and development of physical, emotional and volitional qualities. Depending on the kind of sport there are some differences. However, given the small sample size, it makes no sense to describe the patterns for these differences. In all sports the main (or one of the main) professionally important qualities suggested by students is self-control.

A number of unique qualities which were suggested by non-athletes and athletes were also revealed. Non-athletes suggested 22 unique qualities not suggested by athletes. Among these qualities which were suggested by more than 1 person are the following: assiduity, erudition, love for the profession, analytical thinking, spatial thinking, tenderness, organizational skills, altruism. Athletes suggested 26 unique qualities not suggested by non-athletes. Among these qualities which were suggested by more than 1 person are the following: operability, leadership, venturesomeness, HLS, reaction, personal presentation, dexterity, versatility, maximalism, systematicity, firmness, tolerance, enthusiasm. That is, on indicator of unique qualities athletes exceed non-athletes.

Next, we consider the quantitative data on respondents and qualities that were suggested by parents (Table 6).



Table 6. Quantitative data on respondents and qualities suggested by parents.

Gender	M	F
Number of respondents	214	228
	442	
Non-recurring qualities that were suggested	68	59
	74	
Qualities that were suggested on average per person	3.8	3.9
	3.9	

The most important qualities for young people required to perform professional duties in terms of their parents taking into account the weight of each group are shown in the Figure 1 and Figure 2.

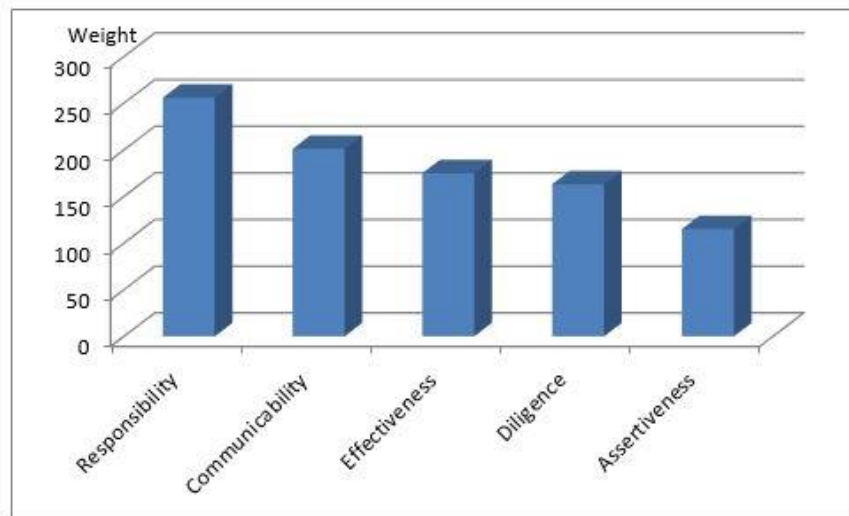


Figure 1. Top qualities that were suggested by parents, male.

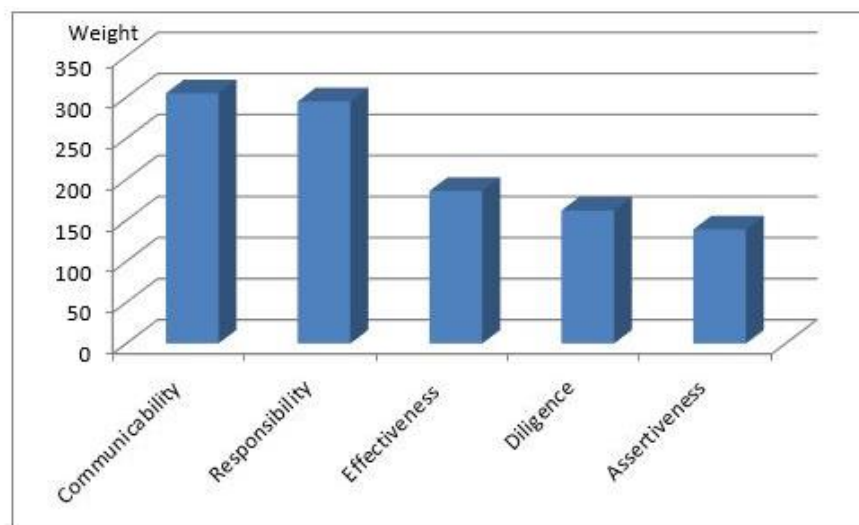


Figure 2. Top qualities that were suggested by parents, female.

As we can see, the most important qualities, according to the parents' opinion differ only in the fact that men prioritize responsibility, while women prioritize communicability.

Taking into account the weight we counted correlations between the responses of parents and students, and obtained the following results:

- Parents / All students = 0.82
- Parents / Non-athletes = 0.82
- Parents of non-athletes / Non-athletes = 0.82
- Parents of non-athletes / Non-athletes, male = 0.78
- Parents of non-athletes / Non-athletes, female = 0.78
- Parents of athletes / Athletes = 0.59
- Parents of athletes / Athletes, male = 0.51
- Parents of athletes / Athletes, female = 0.60
- Parents of non-athletes / Athletes = 0.59
- Parents of non-athletes / Parents of athletes = 0.90

The scatterplot of the correlation between the responses of parents and all of students is given in the Figure 3.

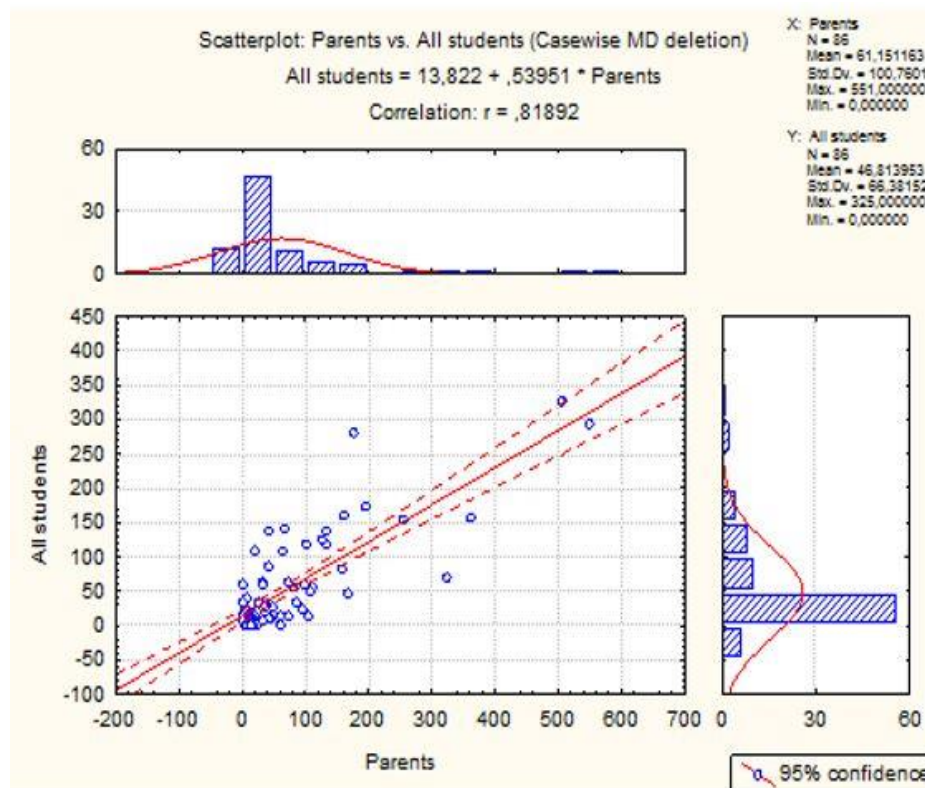


Figure 3. The scatterplot of the correlation between the responses of parents and students.

We also compared the unique qualities, suggested by students with qualities, suggested by their parents. Twenty-nine unique qualities were suggested by all students compared with qualities which were suggested

by parents. Among these qualities which were suggested by more than 1 person are the following: operability, sense of duty, venturesomeness, HLS, spatial thinking, reaction, personal presentation, organizational skills, consistency, altruism, dexterity, maximalism, systematicity, self-criticism. 17 unique qualities were suggested by parents compared with qualities which were suggested by all students. Among these qualities which were suggested by more than 1 person are the following: neatness, charisma, level of culture, loyalty, trustworthiness, stability. Non-athletes suggested 13 unique qualities compared with qualities which were suggested by parents. Among these qualities which were suggested by more than 1 person are the following: sense of duty, spatial thinking, organizational skills, altruism.

Parents suggested 25 unique qualities compared with qualities which were suggested by non-athletes. Among these qualities which were suggested by more than 1 person are the following: decency, neatness, enthusiasm, charisma, level of culture, loyalty, trustworthiness, leadership, stability. Athletes suggested 18 unique qualities compared with qualities which were suggested by parents. Among these qualities which were suggested by more than 1 person are the following: operability, venturesomeness, HLS, reaction, personal presentation, dexterity, consistency, maximalism, systematicity. Parents suggested 34 unique qualities compared with qualities which were suggested by athletes. Among these qualities which were suggested by more than 1 person are the following: erudition, kindness, professionalism, assiduity, analytical thinking, love for the profession, neatness, tenderness, charisma, level of culture, listening skills, adaptability, justness, non-conflictness, social intelligence, loyalty, tolerance, empathy, memory, trustiness, stability, exactingness, humanity.

The last stage of the cross-sectional was the survey of professionals in the areas of education and technology. The quantitative data on respondents and qualities which were suggested by professionals are presented in Table 7.

Table 7. Quantitative data on respondents and qualities suggested by professionals.

Occupation Gender	Education		Technologies	
	M	F	M	F
Number of respondents	27	25	33	19
	52		52	
	104			
Non-recurring qualities that were suggested	37	40	40	36
	53		52	
	67			
Qualities that were suggested on average per person	4.0	4.0	4.0	4.3
	4.1			

The most important qualities required from subordinates on the relevant fields of activity, are presented in the Figure 4, Figure 5 and Figure 6.

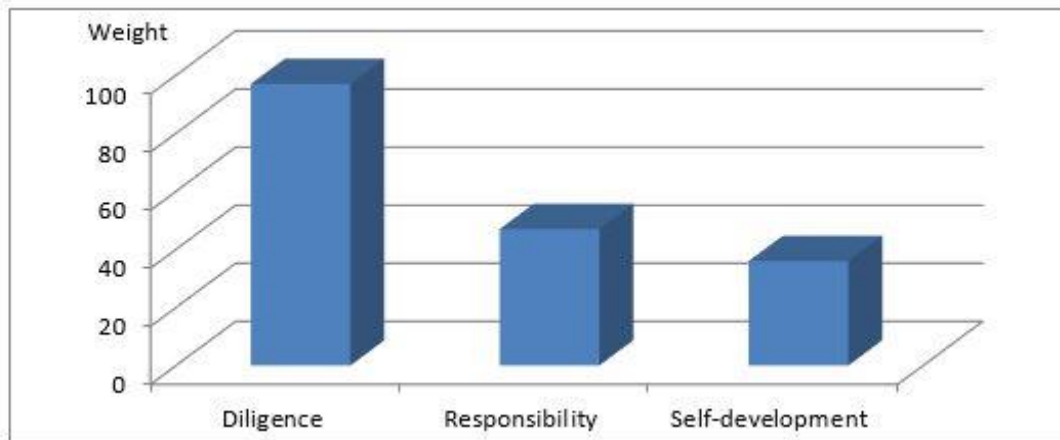


Figure 4. Top qualities that were suggested by educators.

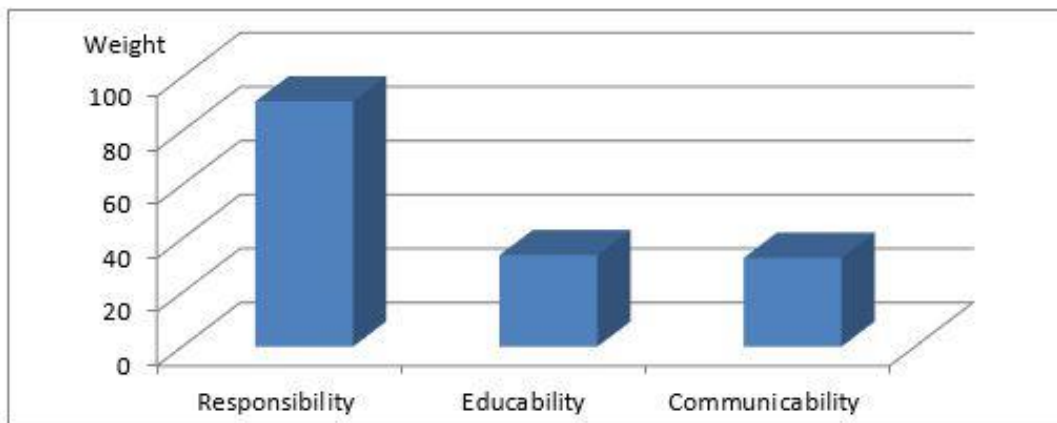


Figure 5. Top qualities that were suggested by technologists.

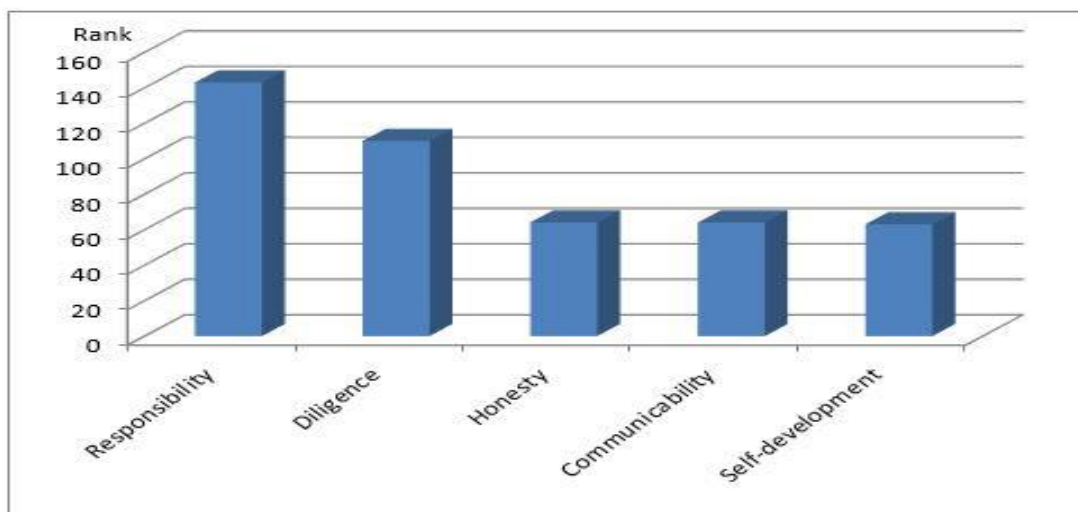


Figure 6. Top qualities that were suggested by all professionals.

As we can see, important qualities which were suggested by the professionals are somewhat different from what were suggested by the students and their parents. This fact is confirmed by the lower correlation coefficients:

- Professionals / All students = 0.59
- Professionals / Non-athletes = 0.61
- Professionals, Technologies / Students, Future teachers = 0.40
- Professionals, Education / Students, athletes = 0.28
- Professionals, Technologies / Students, Future technologists = 0.58
- Professionals, Technologies / Students, athletes = 0.44

It should be noted that during the comparison of professionals and students, professionals were interviewed significantly less (104 respondents), than students (312 respondents), but the number 104 is also significant. The scatterplot of the correlation between the responses of professionals and all of students is given below (Figure 7).

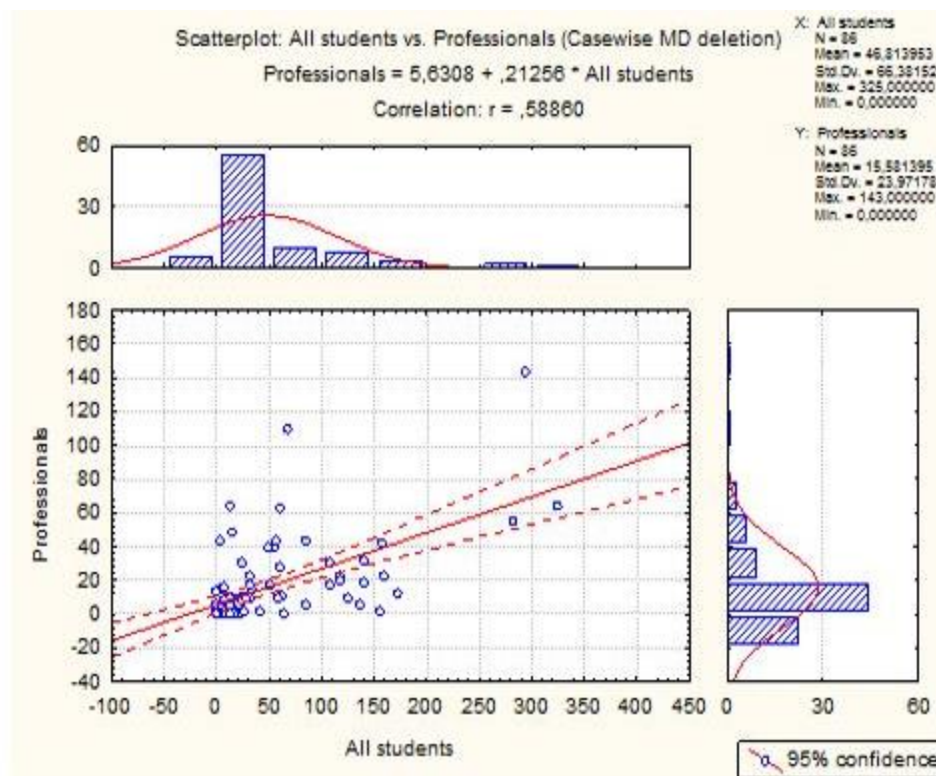


Figure 7. Scatterplot of the correlation between the responses of professionals and all of students.

All students suggested 35 unique qualities compared with qualities which were suggested by professionals. Among these qualities which were suggested by more than 1 person are the following: determination, prudence, cunning, venturesomeness, spatial thinking, precision, reaction, personal presentation, empathy, consistency, maximalism, systematicity, firmness, listening skills, optimism, watchfulness. All professionals suggested 12 unique qualities compared with qualities which were suggested by students. Among these qualities which were suggested by more than 1 person are the following: diplomacy, humanity, charisma, modesty.

Non-athletes suggested 20 unique qualities compared with qualities which were suggested by professionals. Among these qualities which were suggested by more than 1 person are the following: determination, spatial thinking, prudence, empathy, listening skills, precision, seriousness. Professionals suggested 20 unique qualities compared with qualities which were suggested by non-athletes. Among these qualities which were suggested by more than 1 person are the following: decency, operability, adequacy, humanity, charisma, modesty, HLS. Athletes suggested 20 unique qualities compared with qualities which were suggested by professionals. Among these qualities which were suggested by more than 1 person are the following: venturesomeness, reaction, cunning, personal presentation, prudence, maximalism, systematicity, consistency.

Professionals suggested 23 unique qualities compared with qualities which were suggested by athletes. Among these qualities which were suggested by more than 1 person are the following: professionalism, erudition, love for the profession, kindness, diplomacy, humanity, charisma, modesty, analytical thinking, assiduity. We see that when comparing the unique qualities of non-athletes and athletes with professionals and with parents the difference is very small.

These results allow us to calculate Kendall rank correlation coefficient,  $\tau = 0.65$ , that is statistically significant and suggests the potential application of the questionnaire.

## DISCUSSION

Based on these data we can affirm that due to the opinion of Ukrainian young people engaged in sport, physical activity is characterized by the acquisition and improvement of no less professionally important qualities than higher education, even though “sports qualities” are less related to professional activities. With that, according to parents, qualities resulting from physical activity will not affect the employment of their children, professionals have the same opinion.

Thus, the advantages of non-athletes with a completed higher education in the opinion of employers due to the coincidence of many professionally important qualities that are in demand in the labour market. At the same time, we believe that athletes have special advantages which manifest as unique qualities not expressed by professionals but adaptive to implementation in the conditions of performing professional duties. It can be said in this context that sports also make young people multifunctional and versatile.

These benefits are caused by the wide diversity of professionally important qualities and versatility of athletes rather than one or few of these qualities (Khripunova, 2014; Kiyko et al., 2015; Murphy et al., 2015; Sabetova, 2016). Diversity of professionally important qualities can bring not only increased salary (Dewenter & Giessing 2015), but also advantages in job search, career growth, speed and quality of professional tasks performance etc. Some qualities can be considered as part of others, and, for instance, quantity 23 (Brewer, 2013) is justified to a certain extent. For example, factor analysis to reduce the diversity of qualities (Serkin, 2008) according to the results of the presented study can be applied. But we need to pay attention to the opinion of the statistically significant sample that is presented in this study.

Employers do not always combine quality into groups too thorough as it is done in scientific research (Jackson, 2010). They are looking for employees according to the terminology taken from general resources and developed for themselves and/or for the company and/or for the industry. Furthermore, approximately three out of four interviewed professionals were interested about the lists of qualities which were mentioned by their colleagues. The studies that would check the opinion of employers about the specific qualities that

Ph. Ed. provides are important. It is possible that “sports qualities” are unexpressed by employers due to their inclination to general opinion. That is why such total amounts as 67 (non-recurring qualities mentioned by professionals), 74 (non-recurring qualities mentioned by parents) or 80 (non-recurring qualities mentioned by students) and 86 in total should be considered.

In comparison with the known studies (Erkut, Pappano, & Tracy, 2014; Kay & Dudfield, 2013; Meek, Champion, & Klier, 2012; Weinberger, 2014) near the high moral and neutral qualities such as responsibility, love for the profession, efficiency, etc. qualities with a questionable level of morality such as impudence, cynicism, shiftiness, cunning, avoiding responsibility and hypocrisy have also been identified. For instance, “Avoiding responsibility” and “Hypocrisy” were suggested only by athletes and “Cunning” was suggested by four athletes and one non-athlete. Nevertheless, some students believe these qualities are important in future professional activity. An unexpected result also was that the “Honesty” was mentioned by 20 professionals out of 104 who were reviewed compared with only 4 students (2 athletes and 2 non-athletes) from 312 who were interviewed. Until now, not too many such negative phenomena such as the influence of sport on employees within non-sport industries of obsessive passion taken from sport has been known (Swanson & Kent, 2017).

One of the most important unexpected results is the difference in the correlation between the views of parents of athletes and non-athletes. These results indicate that in terms of parents a sport does not extend the capabilities of their children's functionality. An interesting fact is that the correlation coefficient is unchanged in the comparison Parents of athletes / Athletes and Parents of non-athletes / Athletes. This may indicate that the professional qualities that students receive as a result of physical activity are universal in character. But as is known (Breen & Luijckx, 2004), the strength of the association between parent and child indicates the more limitation of social mobility of adults. Although the correlation between weight of qualities mentioned by student-athletes and employers is not statistically significant, lower  $r$  value between weight of qualities mentioned by athletes and their parents in comparison with  $r$  value between weight of qualities mentioned by non-athletes and their parent's marks increased social mobility rate of athletes.

The main aim of this article includes goals such as:

- Increasing the knowledge of employers, future employees, their parents and teachers about the impact of physical activity on the success of performing professional tasks that are not related to sports.
- Increasing motivation for physical activity.

In the Council conclusions (2014), we see a call for an exploration of ways to improve education pathways for future professionals and volunteers in sport and promote learning on the job, in order to develop skills which can be recognized within national qualification frameworks. Here we also see a call for an exploration of the potential for recognizing skills attained through informal and non-formal learning in sport. Motivation for students to engage in physical activity through the expansion of opportunities for employment is a promising and effective mechanism for achieving these goals.

In addition, the prospect of further research is to study the mechanisms of transformation and impact on the professional activity of the following unique qualities suggested by athletes: venturesomeness, personal presentation, consistency, altruism, maximalism, systematicity, sense of rhythm, avoiding responsibility, objectivity, aesthetics and passion. In addition, approbation of the questionnaire requires a broader confirmation.

## CONCLUSION

By giving weight to the qualities as components of a student's competency levels using correlation analysis, we have confirmed the known fact that important professional qualities can be gained through sports activity. We expect that the study in different social environments can expand understanding diversity of these qualities as components of competencies. There is a need for a more detailed analysis of the obtained data, obtaining additional data and the regional, national and international features of the impact of sports on the success of performing professional tasks that are not related to sports activities. These actions will make the scaffolding to an understanding of the benefits of physical activity for youth employment at the European level.

The main idea of the cross-sectional study is coordinated with at least two flagship initiatives of the Europe 2020 strategy: "Youth on the move" and "An agenda for new skills and jobs". Thus, we consider the problem through the following projection of economic growth: physical activity → formation and / or development of important professional qualities → addition and expansion of competences → empowerment to perform professional functions → advantages for the employer → employment and innovation in SME.

This study confirms the results that Ph. Ed. is the one of the forms of skill development. The higher social mobility rate of students-athletes that was revealed in the study can also positively influence their employment.

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