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Key Psychological Factors in Long Distance Running

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Abstract

Purpose of the article is to identify the most important psychological factors influencing success among long-distance runners.

Material and methods. The application of an electronic diagnostic survey (interview) was used as the research method in the study. The normalized questionnaire was applied as a research technique in the paper.

Results. The analysis of the results was divided into parts, the first two of which concern the characteristics and environment of the respondents, and the remaining ones refer to the research problems formulated in the methodology section. The most numerous group of women have physical and mental trainings (32%) and the majority of men trains neither physically nor mentally (28%).

Conclusions. There are many key factors in long-distance running. However, the most important ones seem to be stubbornness, motivation, self-confidence, optimism as well as support from family and peers. Runners are considered to be people who are often physically and mentally resistant. They are often able to sacrifice a lot to achieve their goals. The path taken by long-distance runners is often incomprehensible to their surroundings that is family, peers or employers.

Key words: sport, long-distance running, running events, marathons, ultra marathons, psychological factors, mental determinants.

Анотація

Чойницький Д., Смоленська О., Мушкета Р. Ключові психологічні фактори бігу на довгі дистанції.

Мета: виявити найважливіші психологічні фактори, що впливають на успіх у бігунів на довгі дистанції.

Матеріал і методи. Метод дослідження, використаний у дослідженні, полягав у використанні електронного діагностичного опитування (інтерв'ю). Метод дослідження, використаний у роботі, - це стандартизована анкета.

Результати. Аналіз результатів був поділений на частини, перші дві з яких стосуються характеристик та середовища респондентів, а решта стосуються проблем дослідження, сформульованих у розділі методології. Найчисленніша група жінок тренується фізично і розумово (32%), а більшість чоловіків не тренується ні фізично, ні розумово (28%).

Висновки. Існує багато ключових факторів бігу на довгі дистанції. Однак найважливішими, здається, є впевненість, мотивація, впевненість у собі, оптимізм та підтримка з боку сім'ї та однолітків. Бігуни - це люди, які часто мають фізичну та психічну стійкість. Часто їм вдається багато пожертвувати заради досягнення своїх цілей. Шлях, який проходять бігуни на довгі дистанції, часто незрозумілий для їх оточення - сім'ї, однолітків або роботодавців.

Ключові слова: спорт, біг на довгі дистанції, бігові заходи, марафони, ультрамарафони, психологічні фактори, психічні детермінанти

Аннотация

Чойницкий Д., Смоленская О., Мушкета Р. Ключевые психологические факторы бега на длинные дистанции.

Цель: выявить наиболее важные психологические факторы, влияющие на успех у бегунов на длинные дистанции.

Материал и методы. Метод исследования заключался в использовании электронного диагностического опроса (интервью). Методика исследования, использованная в работе, - стандартизированная анкета.

Результаты. Анализ результатов был разделен на части, первые две из которых касаются характеристик и среды респондентов, а остальные относятся к проблемам исследования, сформулированным в разделе методологии. Самая многочисленная группа женщин тренируется физически и умственно (32%), а большинство мужчин не тренируются ни физически, ни умственно (28%).

Выводы. В беге на длинные дистанции есть много ключевых факторов. Однако наиболее важными из них являются упорство, мотивация, уверенность в себе, оптимизм и поддержка со стороны семьи и сверстников. Бегуны - это люди, которые часто обладают физической и психологической устойчивостью. Часто они способны пожертвовать многим для достижения своих целей. Путь бегунов на длинные дистанции часто бывает непонятен их окружению - семье, коллегам или работодателям.

Ключевые слова: спорт, бег на длинные дистанции, беговые соревнования, марафоны, ультрамарафоны, психологические факторы, ментальные детерминанты

Introduction

Long-distance running belongs to the category of sports in which success largely depends on the fitness of the competitor. Therefore, not everyone can participate in them. Athletes who decide to practice this discipline are characterized by high resistance to fatigue and the level of acidification of the body [1, 2]. Only the most persistent ones are able to overcome long distances in training and competitions. As the training cycle progresses, runners adapt their bodies both mentally and physically [3, 4].

Long-distance running is a discipline that can be divided according to several criteria:

1. length - usually the distance is between 5 km and 42 km, however, there are longer routes - it is then called ultra marathons, i.e. runs over 42,195 m;
2. duration - the most common are runs with time limits specified in the regulations for 5 and 10 kilometers, half-marathons, marathons or ultramarathons. We also distinguish 12-hour, 24-hour, 48-hour, several-day or extreme runs lasting even several months;
3. type of route - cross-country, mountain, street - asphalt, paving and forest runs.

Each of these factors affects, among others The specificity of training used by players, however, it should be borne in mind that it is a very demanding discipline and there are a number of requirements that a person who is interested in practicing this discipline should meet.[5, 6].

The development of long-distance runners is associated with various factors. These include, among others: motivation, internal and external attributions, support, authority, eudaimonia and the so-called flow and sports talent. There is no such thing as a coincidence in long distance running. Most athletes spend years to achieve the highest level of performance. Long-distance running involves the influence of different people and the environment in which we live. Without the appropriate authority and support, most runners do not develop adequately to their abilities[7, 8].

Every athlete must be motivated to act. It is a long and complicated process, and the trainer is largely responsible for its success. Shaping motivation is extremely difficult and associated with a multifaceted action, adapted to the individual characteristics of an athlete. Motivation, however, stimulates a person to act and influences the effectiveness of his actions. A competitor who is not motivated or whose motivation is low, very often

gives up on the further implementation of the plan, because he becomes discouraged even then, when he has to face any difficulties [8]. Behavioral motivation is divided into three aspects:

1. Activation - an internal or external stimulus is associated with it, which affects the importance of the goal;
2. Sustaining - there is a mechanism of the magic half, after which it is said that it will be easier, it is the so-called psychological factor, which often allows runners to finish training efficiently, there is also a multiplication of gratification (image of reward); feedback and sense of agency with mileage control;
3. Abandonment or termination - stopping an action before reaching the goal [9, 10, 11].

For long distance runners, there are other sources of motivation. Some want to overcome their inner barriers, others want to prove something to others, while others only want victory. Every amateur who does not have a coach should be a controller for himself, checking the progress at particular distances. The best trainer listens to the information provided by the body and does nothing against it[12, 13]. Proper motivation also determines whether your running adventure will be short or long-term. It is important to use common sense in making your own decisions and set goals in line with the SMART theory. It consists of 5 elements:

1. S as specific - the goal must be unambiguous, for example, running a marathon under 3 hours;
2. M as measurable - in races, the time set is a measure for us;
3. And as achievable - it must be in line with our current predispositions, thanks to which we can achieve our goal, if we set ourselves an overly ambitious goal, our motivation will drop;
4. R as relevant - the goals are different for each runner, it depends only on us what we want to achieve. The goal should be an important step forward that will increase our physical and psychological value;
5. T as time bound - you should set yourself certain risks in time and control losses that will prepare you to meet your personal goal in the target start.

Motivation can be divided into two types - internal and external. Intrinsic motivation is when a competitor engages in physical activity for himself and enjoys movement. The external motivation for the competitor is the prize. He takes up physical activity because he wants to do it [8]. It has to do with

material or psychological aspects[14, 15]..

Today's sport requires players to sacrifice, for example, giving up other interests or relationships. The willingness to make these austerities distinguishes the professional from the amateur. Recreational sport is just one of the elements of life functioning alongside work, family and friends, which is not a source of income. For a professional, sport should be a lifetime, and competition should be the main and often the only goal to which energy is devoted [10]. In the context of this approach, it is important to distinguish the features an athlete should have[16, 17]..

One of them is perfectionism. Łomża [10] defines it as striving to be perfect at what you do. To become a perfectionist, you must be obsessed with the sport you play, think about it constantly, and always want to be the best. Professional sport also requires selfishness and looking at the world from the perspective of what an athlete needs to succeed. Selfishness allows you to focus on the development of your sports career and choose only those solutions that will bring you benefits. The tendency to compete is another feature that concerns many athletes, because sport in the 21st century is a constant race in which only the winner usually counts. Therefore, it is inevitable to face doubts during training, discuss with the subconscious about goals and dreams and fight with the hardships of everyday life, injuries [18, 19],

Sport in the 21st century also requires humility. Being humble can save an athlete from many disappointments. History knows many cases in which arrogance and disrespectful attitude towards discipline or opponents ended in failure. You have to be self-confident and respect your rivals, while striving for perfection, but without falling into self-delight. The training process is not only hundreds of hours spent on training and liters of sweat, but also work on the mental zone, which is equally important and should not be underestimated. Visualizing your own success is a method that has long been used by the greatest athletes. Most of them, just before the start, repeat the patterns they have developed, which are later used during direct competition. The ability to imagine yourself as a winner, an unshakable faith in the success of this vision, then working on making it a reality is the key to success. Without imagination, there is no success, because the way of thinking defines an athlete [10].

In sport, self-esteem is also very important, as it relates to how a person feels towards himself, regardless of situational factors. A sense of self-efficacy somewhat similar to this concept, in turn, concerns beliefs about one's abilities and it depends on the situation. Self-efficacy is influenced by successes and verbal persuasion, such as e.g.

reassuring the trainer that you are better than others or praising the results achieved. Self-efficacy is especially useful when there is a slight level difference in the competing players' skills[20].

Purpose of the article is to identify the most important psychological factors influencing success among long-distance runners.

Material and methods

Participants

Among the surveyed women, the greatest number of women started their adventure with running at the age of 21-25 - 9 people (18%), the smallest group of respondents started running at the age of 16-20. Among men, the most common age to start running was the age range of 16-20 years - 9 people (18%), the least of respondents started running at the age of 31-35:

Table 1

Age of starting adventure with running, broken down by gender of respondents

Age of starting running	Women [%]	Men [%]
10-15 years	10	6
16-20 years	6	18
21-25 years	18	8
26-30 years	12	10
31-35 years	8	4

Research stages

Part 1. The influence of environmental factors on training of long-distance runners

- Work is a barrier that limits our training possibilities due to the lack of strength and time for training.
- The vast majority of runner's training is based on individual work.
- The mental training dominant in long-distance running is visualization.
- Runners are little influenced by the media and the environment.
- The biggest barrier that makes training difficult for runners is sports burnout, choking pressure and the lack of time, the vast majority of which is spent on family and work.

Part 2. The influence of personality factors on training of long-distance runners

- The most common type of long-distance runners is the type of temperament -

introversion, which involves greater distance from the environment and closure.

- The most common attitude among runners is based on a realistic approach to training.
- The main motivation for runners is intrinsic motivation in the form of the will to compete and personal self-fulfillment.
- Runners overcome their barriers and difficulties thanks to various psychological factors: optimism, stubbornness, motivation and self-confidence.
- Distance runners derive the greatest psychological benefit from running in the form of self-actualization.

The research method used in the study consisted in the use of an electronic diagnostic survey (interview). The research technique used in the work is a standardized questionnaire. On the other hand, the research tool is a research questionnaire, which consisted of a record specifying: sex, age, place of residence and occupation, as well as questionessentials concerning training and running itself. In the proper form, 24 questions were used, divided into 2 parts, the questions from the 1st part concern the environmental factors of the respondents, while the questions from the 2nd part concern the personality traits of the respondents.

When selecting the research group, the random character dominated. The questionnaire was completed by people from various parts of Poland and representing various professional groups (50 people). Most of the respondents were from various social groups related to running. The respondents train more or less professionally in long-distance running.

Results

Analysis of opinions and psychological conditions of long-distance runners

Here, you will find selected results of research on key psychological factors in long-distance running, which were developed on the basis of a comprehensive project [1]. The analysis of the results was divided into parts, the first two of which concern the characteristics and environment of the respondents, and the remaining ones refer to the research problems formulated in the methodology section.

Characteristics of the respondents and running trainings

Among the respondents, the most numerous group of athletes performs individual training - 41 people (82%), then group training - 9 people (18%). Among women, most respondents choose individual training - 25 (50%), while group training is used by 2 women (4%). Among men, the largest number of respondents perform individual training - 16 (32%), fewer respondents train in groups - 7 (14%) (Fig. 1).

Fig. 1. Types of running training

Among women, most respondents choose to train in the forest - 17 (34%), then on asphalt - 9 (18%). 1 person trains on sawing. However, in men, the largest group of respondents choose to train in the forest - 13 (26%), then on asphalt - 6 (12%). The smallest group of respondents performs sawing training 3 (6%) and treadmill training - 1 person (Fig. 2).

Fig. 2. Types of training surface

The most numerous group of women trains physically and mentally - 16 people (32%), and most men train neither physically nor mentally 14 (28%).

The most numerous group of women choose, as the dominant mental training, relaxation - 10 people (20%), and then equally concentration and visualization - 6 women (12%) each. On the other hand, the most respondents admit that their dominant mental training is internal speech and self-reflection - 6 men (12%) and 5 visualization (10%).

The respondents also defined what they associate running itself with. The largest group considered running a passion - 5 (10%), freedom - 4 (8%) and joy - 3 (6%). Another answer was given by 29 respondents altogether (58%). Among them, there were words that sounded negative, such as "heavy",

"chaotic" or "fanaticism" (2% of responses each). Among women, the most frequent answer was the word "freedom" (8% of answers), and among men - "passion" and "amateur" (4% of answers each)(Fig. 3)..

Fig. 3. Words describing running in the opinion of the respondents

The largest group of respondents stated that there was no running idol - 11% of responses (including 18% among women). He idolized Usain Bolt - 4% of respondents (dominant among women), Kenesis Bekele - 3% of respondents (dominant among men), Mo Farah, Ewa Swoboda and Haile Gebreselassie - chose 2 people and there were also some other responses. There were also individual indications of young university athletes from the Nicolaus Copernicus University in Toruń (e.g. students Damian Chojnicki or Mikołaj Zięba)(Fig. 4)..

Fig. 4. Words describing a sports running idol in the opinion of respondents

Among the respondents, most people consider the lack of time to be the dominant training barrier - 9 people, the lack of barriers and smog were defined by 6 people, and the weather and work - 5 people each. Among women, the largest group of respondents pointed out that the greatest barriers for them are the lack of time - 5 people, smog was indicated by 4 people, and the lack of barriers - 3. In the case of men, the greatest number of respondents chose the lack of time (4 people), the lack of barriers was indicated by and weather - 3 people each(Fig. 5).

Fig. 5. Words describing the largest training barrier in running

The decisive psychological benefit that running gives them was primarily breaking barriers - 11 responses (22%), and then self-realization - 10 responses (20%). They also appeared along with other responses together. In addition, the following benefits appeared relatively often: self-confidence, eudaimonia and flow. Self-fulfillment and breaking down barriers also definitely dominated in women (12% of independent indications), while in men, self-confidence and breaking barriers were indicated much more often (at least 10% of indications)(Fig. 6).

Fig. 6. Words describing leading benefits of running in the opinion of the respondents

Environmental factors among long-distance runners

Long-distance runners' training depends on their relationship with the environment and family. It is in the early years that a person uses the authority of the parent and teachers in various situations through primary socialization. Then there is the influence of secondary socialization, that is, the environment that further shapes the personality of the young person and athlete. A significant part of society is influenced by their relatives or those around them. Extremely important in shaping physical activity is the relationship based on support from the environment in relation to training and undertaken sport. Sport takes a large part of the time, so without proper support and understanding among loved ones, it is hard to persevere in training related to long-distance running.

The most numerous group of respondents stated that the season influences their motivation to run 23 people (56%), the opposite opinion was expressed by 22 people (44%). Among women and men, the same percentage of respondents believed that the season influences their motivation to run - 14 people each (28%). However, the time of the year did not affect the attitude to running in 13 women (26%) and in 9 men (18%)(Fig. 7).

Fig. 7. Impact of the season on the motivation to run

Among the motivations for running among women, the largest number of female respondents chose the subconscious - 22 people (44%), then the family - 3 people (6%), and the least of peers - 2 people (4%). Among men, most of them are motivated by the subconscious - 19 (38%), then peers - 3 (6%) and family - 1 person.

Parents do not promote a healthy lifestyle among 31 respondents (62%). Then, 20% of the respondents stated that both parents promoted a healthy lifestyle, while 18% of the respondents stated that only 1 of the parents promoted a healthy lifestyle.

Among women, the largest group of respondents expressed the opinion that their whole family supported them in running - 13 responses (26%), then that no one supported them - 10 responses (20%), the smallest number of respondents chose that they were supported by 1 parent or siblings - 4 responses (8%). Among men, the highest percentage indicated support for the whole family - 14 (28%), then 10% of men indicated no support, and 8% of respondents received support from 1 family member (Fig. 8).

Fig. 8. Parental support in running

In determining the degree of influence of peers in the context of running, the largest group of respondents indicated the answer as moderate - 31 responses (62%), none - 12 responses (24%) and huge - 7 responses (14%) (Fig. 9).

Fig. 9. Influence of peers on running

The most numerous group of respondents indicated that it was mainly PE teachers who promoted physical activity - 39 people (78%). Among 14% of the respondents, teachers did not promote physical activity. However, the choice I have no opinion was chosen by 4 respondents (8%).

The influence of the mass media on runners was described as an ambivalent attitude by the largest number of people - 29 (58%), then 17 people (34%)

turned out to be non-conformists. 4 people (8%) turned out to be conformists.

Psychological (personality) factors among long-distance runners

Personality is an individual component of every human being. No two people or athletes are alike. Sports talent is an ability that has a variety of variables. Human temperament is very different, it depends on many sources. There are many psychological factors that affect runners. We can distinguish factors that constitute a barrier and components of a person's success and development. Among the respondents, most respondents choose

training for themselves - 40 people (80%), followed by the influence of their peers - 4 (8%), and Among women, 13 people (26%) described their attitude to training as optimistic. Then, as realistic 12 (24%), and pessimistic, 2 respondents (4%) chose. On the other hand, among men, the largest group of respondents chose a realistic attitude to training - 12 responses (24%), followed by an optimistic attitude - 11 (22%). The psychological trait that helped respondents break their boundaries was stubbornness - 32% in women and 26% in men. Then the respondents specified optimism (16%) and courage 6%). On the other hand, men chose self-confidence (10%) and other single answers (Fig. 10).

Fig. 10. The psychological factor influencing overcoming the limits of efficiency

The largest group of respondents indicated that they would not change any psychological feature - 15 responses (30%), only 10% of people show laziness and self-confidence (6%). Among women, it would not change anything in their attitude to running - 9 people (18%), in men 12% the group would not change anything in their attitude to

running. The psychological trait that the respondents would like to change in their attitude to running was laziness to the greatest extent - 4 responses (8%), self-confidence and pessimism - 4% each, the rest of the respondents chose single answers. However, among men, they would most likely change their attitude in consistency (6%) (Fig. 11).

Fig. 11. Words describing a psychological trait worth changing to achieve some running goals

Discussion

The article describes the factors that play a large role in this type of run. The purpose of this analysis was to find the main qualities that characterize long-distance runners. There are no studies that would indicate an unequivocal answer to the subject of psychological determinants for success in sport or long-distance running. The aim of the study was to identify the key psychological factors in long-distance running. These variables were discussed in the theoretical and methodological parts of the work. The research problem of this analysis was to find the main qualities that characterize long-distance runners. The main aim of the research was to identify the key psychological factors among runners training or competing over longer distances.

50 people took part in the survey - 54% of them were women and 46% men, so sometimes the indicated sex differences may turn out to be irrelevant. The survey was mostly completed by students and manual workers. The largest group of respondents had their place of residence in rural areas.

There are many key factors in long-distance running. However, the most important ones seem to be stubbornness, motivation, self-confidence, optimism, and support from family and peers. Runners are people who are often physically and mentally resistant. Often they are able to sacrifice a lot to achieve their goals. The path taken by long-distance runners is often incomprehensible to their surroundings - family, peers or employers.

The influence of the environment and upbringing on both life and sport is very different. A significant part of society is influenced by their relatives or those around them. Extremely important in shaping an athlete is the relationship based on support from the environment in relation to training and undertaken sport. Physical activity takes up a large parttime, so without proper support among relatives and understanding, it's hard to persevere in training related to long-distance running.

Professional work significantly limits training possibilities [14]. Regardless of gender, it is the same training obstacle that limits the physical forces that are needed when training long-distance runs. Physical work particularly affects energy expenditure and a lower psychological willingness to undertake training related to long-distance running. The harder the work is in the physical dimension, the less willingness to undertake additional physical activity (Hypothesis 1 - has been confirmed).

The main motivation for runners in long-distance training is definitely the subconscious,

which influences other factors, e.g. internal motivation, which was chosen by the vast majority of respondents. Internal motivation is often related to different motives, depending on the person. It is often a sense of fulfillment, breaking down barriers, or a desire to compete [17]. Men approach such matters much more ambitiously than most women, treating training and competition as an important and inseparable part of their lives, thanks to which they compare themselves with other people on a similar sports level (Hypothesis 2 - has been partially confirmed).

Training of a runner, especially a long-distance runner, is usually the proverbial loneliness on the route. It is difficult to find a person who trains at a similar level and lives in our area. Runners are individualists who rather avoid cooperation [19]. Often help and kindness ends when we stand on the starting line, then most of us only think about ourselves, it is normal because the competition is competitive and the one who thinks more strategically wins. The survey results confirm that the most numerous group of respondents choose individual training as more suited to their lifestyle. Interestingly, however, more women than men choose individual training. This may be due to the fact that women prefer to train individually, as they are often afraid of being compared to others and often lack self-confidence (Hypothesis 3 - has been confirmed).

Runners are often influenced by the environment and the media, as the largest proportion of respondents was ambivalent about these variables. The media create a healthy lifestyle, quick results, the best methods, equipment, nutrients. It is worth keeping common sense here and being critical of such influences. Most of the respondents turned out to be ambivalent, while there were slightly fewer non-conformists. This indicates that the majority of runners are influenced by the media and the environment, but there are also many people resistant to this influence (Hypothesis 4 - has not been confirmed).

The barriers for runners to do their workouts are usually a compilation of many factors. However, reasons related to the lack of time, work, weather - smog dominate. This shows that injuries are not the most important obstacle for many runners, as they are persistent and often overcome them over time. A significant limitation is the lack of time and the weather. This could be due to multiple responsibilities or poor day planning [20]. We have no influence on the weather, but we can dress appropriately and protect ourselves from low temperatures or stay hydrated during high temperatures. Another barrier that runners face is

sports burnout, excessive pressure, or fear of failure. It is natural that any sport and activity can be associated with psychological burnout, which is related, for example, to the lack of results or the neglect of other spheres of life. Therefore, it is important to keep a healthy boundary between training and personal life, which allows for greater enjoyment of each activity (Hypothesis 5 - has been partially confirmed).

Everyone is different [19, 20]. No two people or athletes are alike. Sports talent is an ability that has different ingredients. The personality of man, and therefore his temperament, is very different. There are many psychological factors that affect runners [21–23]. We can distinguish factors that constitute a barrier and components of a person's success and development.

Among the runners, it is possible often to meet people with an introverted approach to the world, they are often self-oriented and quite isolating, hiding their training, methods, or limiting contacts with others. However, the difference between introverts and extroverts polled is slight. These are two completely different approaches to life and training. This shows that runners are very diverse and often specific - having their own world. Temperament is also associated with a different approach to training and achieved success (Hypothesis 6 - partially confirmed).

Among the runners, two approaches to training dominate – these are realistic and optimistic approaches - an equal number of respondents chose these answers [24, 25]. Without the combination of these two characteristics, you often miss the limits of human capacity. You have to be both realistic and optimistic, which allows us to enjoy our successes more and push the boundaries. Interestingly, the single responses indicated a pessimistic approach to training that was marked by women. This is often due to the lack of faith in their own abilities and the lack of support in their environment (Hypothesis 7 - partially confirmed).

It cannot be unequivocally stated which psychological training is dominant in connection with training long-distance running. The answers are quite varied and depend on gender and attitude to life. Visualization, relaxation and concentration obtained the highest percentage of answers. Inner speech, it seems that practiced by many people, obtained slightly less than 1/5 of the answers, then there was self-reflection (Hypothesis 8 - partially confirmed).

The psychological feature that allows to overcome the difficulties related to the demanding training of runners cannot be clearly defined, although a large proportion of the respondents chose

stubbornness. The optimism chosen by a large proportion of women is also important. However, for men, apart from stubbornness, self-confidence - and courage are also important. Here, too, there is a certain dissonance between the responses of women and men. Women choose optimism, while men choose self-confidence and courage, which is associated with a different psychological approach related to training or competition (Hypothesis 9 - confirmed).

There are many psychological benefits of running. The main role here is played by the reward system - the so-called dopamine pathway, which is responsible, among others, for the happiness hormones and the sense of fulfillment and self-realization. Running is also associated with a significant reduction in stress and getting used to the effects of stress hormones - activation of the HPA axis. For the researcher, running is associated with a feeling of freedom and fulfillment. On the other hand, the respondents chose breaking barriers and self-realization (Hypothesis 10 - partially confirmed).

Conclusions

1. The results of the research included in the study will show potential future runners or people from the broadly understood health, personal and personal training industry, which is the main factor determining mental strength in long-distance running. Their results can complement or develop research and scientific projects of the Institute for Sport Development and Education in Warsaw (eg. EMSCo in the field of soft skills in training sports coaches), and individually serve many athletes.

2. Each athlete has a different set of genes, thoughts, and actions. Therefore, it is difficult to objectively identify all the key psychological factors related to a given sport, in this case long-distance running. Based on the experience of the authors of the study, it can be indicated that if it were not for the conscious training, both mental and physical, he would not have achieved success and would not enjoy running for such a long period of time.

3. Running brings enormous benefits in terms of psychological development. It shapes both the physical and mental state. When practicing this effort, athletes face barriers that shape their personality. Thanks to training, runners are more resilient and persistent in pursuing their goals: both in terms of sports and life.

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