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Personality determinants of goal orientation in elite long-distance and mountain runners

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Abstract

Background and Study Aim The achievement theory points to two motivational orientations that represent different views on an individual's perception of success. In sports, these aspects are closely associated with various individual characteristics and athletic achievements. The aim of the study is to determine the relationship between personality traits and aspects of goal orientation among long-distance and mountain runners of both genders.

Material and Methods The study involved 9 women aged 26 to 34 and 13 men aged 26 to 38 who were members of the national long-distance and mountain running teams (medallists at the Polish and European Championships in their disciplines). Among the participants there were graduate students. The Polish adaptation of Costa and McCrae's NEO Five-Factor Inventory questionnaire was used to examine the level of personality traits. The level of goal orientation dimensions was determined using the Polish adaptation of the Task and Ego Orientation in Sport Questionnaire. Statistical analysis was performed using Statistica 13 software.

Results In the studied group of male athletic competitors, three significant relationships were observed: a negative correlation between ego orientation and both neuroticism and openness to experience; a negative correlation between the overall level of goal orientation and neuroticism. These results are explained by the relationship that occurs between emotional balance and resilience to criticism and the desire to compare oneself to others and the tendency to demonstrate superior skills in front of others.

Conclusions The findings underscore the importance of considering individual characteristics in athletic competition. Emphasis is placed on the necessity of assessing personality traits and goal orientation dimensions among student and competitive long-distance and mountain runners of both genders. Additionally, the significance of these factors in predicting sporting achievement is highlighted, suggesting avenues for further research and practical application.

Keywords: long-distance running, mountain running, personality, ego orientation, task orientation

Introduction

The term personality describes the properties that make us who we are [1]. These properties are shaped by biological factors, situational factors and psychological processes, embedded in cultural contexts, social relationships and developmental levels [1]. Personality psychology, in turn, deals with the individual differences that occur between individuals. It pays attention to the person as a whole, examining the different aspects of his or her functioning (patterns of feelings, thoughts and behaviour), as well as the connections between them [2]. Among the many theories relating to the structure of personality are concepts in which the primary term used to describe personality is trait [3]. One of the most popular trait approaches nowadays is the Five-Factor Model, which allows personality to be characterised in a consistent and comprehensive manner. The basic dimensions of this approach can be presented as follows [4, 5]:

1. Neuroticism – characterises emotional adjustment or imbalance. Individuals scoring high on the neuroticism scale are characterised by a tendency to have irrational ideas, while those scoring low on this scale are emotionally stable, less likely to experience anxiety and irritability.
2. Extraversion – characterises social interactions, their quantity and quality, and level of activity. The level of extraversion also relates to the ability to feel positive emotions. Its opposite is introversion, characterised by, among other things, shyness, which, however, is not related to social anxiety.
3. Openness to experience – describes the willingness to seek out new experiences, valuing them positively. People characterised by a high level of this trait are, among other things, distinguished by their curiosity about the world. The opposite is true for people with more

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conservative views and conventional behaviour.
4. Agreeableness – manifests itself in cooperative or competitive behaviour, sensitivity, or indifference to the concerns of others. Agreeable people are perceived as having a healthy personality, while people with a low level of agreeableness tend to be egocentric and sceptical.
5. Conscientiousness – a dimension characterising the degree of motivation, perseverance, organisation, and attitude of an individual towards work. A high level of conscientiousness may be associated with negative tendencies such as workaholism or perfectionism. Low conscientiousness means less motivation to act and a hedonistic approach to life [4, 5].

Motivation defines a certain intrinsic force, which is not a uniform phenomenon [6], by which it can be divided into extrinsic motivation (telling people to engage in an activity because of its external consequences) and intrinsic motivation (leading people to engage in an activity without external rewards) [6]. In turn, according to Goal Achievement Theory [7], motivation is supposed to lead to behaviour that serves the development of the individual [8]. The theory presented [7] distinguishes between two types of orientation:

1. Ego (personal) orientation – concerning the improvement of skills in order to present them in front of oneself or others. An important aspect of this is being better than others and defining competences by external standards [9]. Based on this belief, an individual who has achieved a goal with less effort is considered more capable [10].
2. Task orientation – characterised by an individual's commitment to improving his or her own skills, a focus on development and learning. It is characterised by comparing one's own progress with personal achievements in the past [11], and the overriding value is learning new skills, where success (including sporting success) is linked to effort [8].

Ego and task orientations represent different views of skills, understanding of abilities and perceptions of success [10, 12]. An individual with a strong ego orientation will seek to compare him/herself with others, whereas an individual with a high level of task orientation will believe that success depends on the effort put into learning and perfecting new skills [8, 12]. Thus – in sport – what one athlete considers a success may not necessarily be considered a success by another, even if it concerns representatives of the same sport [11].

The relationship between the level of motivation and the intensity of personality trait dimensions is often linked to sporting achievements [13, 14]. For example, in a study conducted on a group of athletes (the largest group here were representatives of football and basketball), it was determined that the most important trait that is associated with a high level of motivation (and thus performance results) is conscientiousness, understood as discipline and the ability to self-control. In addition to conscientiousness, openness to experience and extraversion were also distinguished. In the same study, neuroticism, on the other hand, was shown to be negatively related to achievement motivation and was linked to anxiety in the context of sport and related competition [14].

Materials and Methods

Participants

After applying the inclusion criterion for the study (being of legal age, being a member of a national team, podium of a national or international event held within the last three years and a minimum of 10 years of training experience), 22 subjects were selected and characterised as follows:

1. Female athletes training at the competitive level (N=9) were aged between 26 and 34 years (M=29.67; Me=29; SD=2.236). The training seniority of these female athletes ranged from 15 to 25 years (M=17.33; Me=16; SD=3.082).
2. Male competitive athletes (N=13) were aged between 26 and 38 years (M=31.62; Me=33; SD=3.884). Their training seniority ranged from 12 to 27 years (M=18.69; Me=19; SD=4.171).

The elite endurance athletes participating in the study included athletes, postgraduate participants, members of the national team in long-distance and mountain running (medallists of the Polish and European Championships in their respective sports). The study is part of a larger project on individual differences among competitive runners [15].

Research Design

Based on the information provided in the previous chapter, it can be determined that the intensity of motivation (including that related to sporting activity) is significantly related to the level of an athlete's personality traits. The aim of the present study is therefore to determine the relationship between personality traits and dimensions of goal orientation in postgraduate students, competitive long-distance and mountain runners of both sexes. Accordingly, the following research hypotheses were identified:

1. The level of goal orientation is positively related to conscientiousness, openness to experience and extraversion (understood as personality traits).
2. The level of goal orientation is negatively related to neuroticism (understood as a personality trait).

The NEO Five-Factor Inventory questionnaire by Costa and McCrae in the Polish adaptation by Zawadzki et al. was used to examine the level of

personality traits [4]. The questionnaire consists of 60 items, 12 for each trait: neuroticism, extraversion, agreeableness, openness to experience and conscientiousness. The dimensions of goal orientation were determined using the TEOSQ: Task and Ego Orientation in Sport Questionnaire [16] in the Polish adaptation by Tomczak et al. [17].

Statistical analysis

In the course of the statistical analysis (performed using Statistica 13), the r-Person correlation coefficient was used to assess the strength and direction of the linear relationships.

Results

The analysis of the relationships between goal orientation and personality traits among female athletes training at the competitive level was performed first (table 1).

In the group of female runners in competitive training, no significant relationships between goal orientation and its dimensions and personality traits were indicated. In the next step, the associations between the above-mentioned factors were analysed in the group of men training at the competitive level (table 2).

Three significant relationships were indicated in the group of male athletic long-distance running coaches surveyed. The first two relate to negative relationships between ego orientation and neuroticism ($r=-0.658$; $p<0.05$) and openness to experience ($r=-0.680$; $p<0.05$). The third indicates a negative relationship between the overall level of goal orientation and neuroticism ($r=-0.798$; $p<0.01$).

Discussion

The practical use of psychological research on, among other things, the relationship of selected individual differences to performance is intended to serve the personal development of athletes and the achievement of high sporting performance. It can be determined that learning about the personality profiles and motivational relationships characterising high-performance athletes is an important element for optimising sports training [18]. Therefore, a study was conducted to determine the relationships between personality traits and dimensions of goal orientation in students training long-distance and mountain running at the competitive level. A study showed a relationship between personality traits and the direction of goal orientation only among

Table 1. Relationship between variables in the female students studied.

Variables	Correlation N=9				
	N	**E**	**O**	**U**	**S**
Ego	0.0878	-0.4601	-0.0601	-0.6129	0.0874
	p=0.809	p=0.181	p=0.869	p=0.060	p=0.810
Task	0.1306	0.5700	-0.1834	0.5526	-0.0565
	p=0.719	p=0.085	p=0.612	p=0.098	p=0.877
OC	0.2167	-0.1169	-0.2246	-0.3235	0.0643
	p=0.548	p=0.748	p=0.533	p=0.362	p=0.860

N – neuroticism; E – extraversion; O – openness to experience; U – agreeableness; S – conscientiousness; Ego – personal orientation; Task – task orientation; OC – overall score for goal orientation; p – level of statistical significance.

Table 2. Relationship between variables in the male students studied.

Variables	Correlation N=13				
	N	**E**	**O**	**U**	**S**
Ego	-0.6584	0.1209	-0.6803	-0.4429	0.3837
	p=0.020	p=0.708	p=0.015	p=0.149	p=0.218
Task	-0.5316	0.1767	-0.0647	-0.0499	0.1914
	p=0.075	p=0.583	p=0.842	p=0.878	p=0.551
OC	-0.7978	0.1887	-0.5655	-0.3723	0.4017
	p=0.002	p=0.557	p=0.055	p=0.233	p=0.196

N – neuroticism; E – extraversion; O – openness to experience; U – agreeableness; S – conscientiousness; Ego – personal orientation; Task – task orientation; OC – overall score for goal orientation; p – level of statistical significance.

the male respondents, where it was noted – firstly – that there was a negative relationship between neuroticism and ego orientation. This result is explained by the relationship that occurs between emotional equilibrium and resilience to criticism and the desire to compete and compare oneself to others, which, in a situation of failure, can lead to lower self-esteem [8]. Furthermore, neuroticism was found to be inversely related to the overall level of goal motivation, which is moderately consistent with research hypothesis number 2 (moderately because the same relationship was not indicated in the group of female respondents), but fully confirms the results described by Mirković and Lovric [14]. The result obtained can be justified by the fact that neurotic people are characterised by a tendency to negative emotions, tension, stress and worry, which can have a negative impact on, among other things, a decrease in emotional resilience during the realisation of long-term goals, including those related to frequent sporting struggles. The third significant result was the reported negative relationship between openness to experience and ego orientation (a result that does not coincide with the assumed research hypothesis number 1). This result, in turn, is explained by a weaker tendency to dominate and demonstrate superior skills in front of others by those who are characterised by greater liberalism in views and actions.

The lack of individual relationships between personality traits (as distinguished by the Five-Factor Model) and task orientation is puzzling, especially since, as shown by Howard et al. [19], individual athletes show, among other things, a higher level of self-regulation than athletes representing team sports, which is also consistent with the results of Benar and Loghmani [20]. Furthermore, it is determined that task orientation and the training climate created around it is more related to adaptive, i.e. more positive work outcomes such as increased competence or positive affect [21]. Explaining the specific lack of relationships can be pointed to the small size of the athletes studied.

Individual differences in personality traits influence how individuals respond to perceived stimuli. Having different levels of intensity of certain traits – which are relatively stable and persistent – people behave in different ways, choosing actions in accordance with their personality traits [22]. Hence, it is important for trainers to verify the effectiveness of the actions taken and training methods used. At the same time, a key aspect when planning training methods is their purpose – different motives will drive professional athletes (to optimise performance) and amateur athletes (to develop their passions, interests or reduce body weight). Due to the different motives for participating in sport, it is important to keep in mind the differentiation of sports training programmes.

Conclusions

The research carried out indicated that the selection of athletes (in long-distance running and mountain running) is purposeful and works to compensate for the high level of neuroticism in athletes, which does not serve to shape high achievement motivation, including the definition of competence by external standards (ego-oriented motivation). A similar conclusion applies to the personality trait defined as openness to experience. The indicated relationships were not identified in the female athletes studied.

Limitations

The study was conducted on a group of 22 professional athletes. The selection of such a group was dictated by their highest sporting level – among other things, relevant training experience or medal achievements (championships). Enlarging the specific research group would go beyond the availability of athletes meeting the indicated criteria for inclusion in the study. It is recommended that analogous studies be carried out on groups of runners (long-distance and mountain runners) not declaring student status, representing a lower level of sporting sophistication, as well as with regard to different age categories.

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