

Autotelic personality as a predictor of engagement in sports

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Summary

Study aim: The aim of the study was to empirically evaluate the structure of autotelic personality of athletes in the context of engagement under competitive conditions.

Material and methods: The study examined fifty athletes (volleyball players, basketball players, track and field athletes, rugby players and mountain bikers) following competitive events. The methodologies used included NEO-FFI Personality Inventory by Costa and McCrae to determine the level of personality traits and Flow Questionnaire (Csikszentmihalyi) to measure the level of subjective feeling of the state of engagement.

Results: Other significant relationships ($p < 0.001$) between the personality traits of athletes and the feeling of the state of engagement during competition (positive correlations of consciousness with concentration of attention on current tasks, with autotelic experiences and with transformation of the sense of time; negative correlations between neuroticism/extroversion with unequivocal understanding of information).

Conclusions: Personality traits and feeling of the state of engagement during sports competitions determine the structure of autotelic personality of athletes, which is a predictor of engagement in sport.

Keywords: Autotelic personality – State of engagement – Sport

Introduction

The factors which are conducive or unfavourable to experiencing of what is termed a “state of engagement” are genetically determined. Some people are able to better utilize their psychical aptitudes than others. The goal of the study is to present the results obtained during empirical investigations of personality factors of engagement in sport. Engagement can be approached as an emotional dimension of the athlete’s attitude towards their own actions. It reflects identification with the activity performed, a measure of loyalty and it defines the level of satisfaction and feeling of “emotional attachment”. It also represents a level of “participation” reflected by positive valuation and taking goal-oriented measures. From the standpoint of sports activity, identification of the factors connected with building autotelic personality seems to be particularly important. The people who are able to control mental energy might experience engagement in action while those who are incessantly worried about how they are perceived by others are doomed to feel constant lack of satisfaction [32] since they are excessively focused on their deficits [9]. Engagement is therefore

a predictor of satisfaction and an index of perceived physical health [30, 31]. The essence of the state of engagement is flow of attention necessary to be interested in the action performed just for itself. A natural manifestation of the state of engagement is feedback from a person who experiences this state and autotelic character of the action the person performs. In Greek, autotelic means two words: *auto* – self, oriented to himself, and *telos* – goal [8, 10]. The autotelic activities are performed just for themselves i.e. they are already rewarding [19].

Although engagement in sport might be approached as a psychological dimension, the attempts of creation of a coherent psychological model of engagement based on theoretical and empirical analysis of the problem have failed to be successful to date. An interesting results have been obtained during exploration of this problem during research studies carried out by numerous researchers [20]. Inclusion of personality aspects in the context of engagement is present in models proposed by Macey and Schneider [20] who separated the following components: behaviours (noticeable reactions typical for a particular role, proactivity, adaptability) states (that reflect the feeling of enthusiasm, pride and combine such constructs as satisfaction,

attachment, identification) and the traits connected with engagement. It was also demonstrated that this type of personality properties is correlated with success and largely explains work effectiveness [20].

The authors of the model pointed to four major psychological properties that determine engagement. These include proactive personality, autotelic personality, trait positive affect and conscientiousness. While making characterization of proactivity as a personality trait, researchers refer to proactive behaviour described by Crant [3]. It represents a product of personality dispositions and situational factors. One expression of proactive personality is a tendency for “creating” and affecting the environment.

However, autotelism (autotelic personality) seems to be the most important personality property related to engagement. It involves the state of psychical engagement which might be viewed as “being here and now”. Furthermore, the people with this type of personality are engaged in action just for the action itself rather than for rewards. It is typical of those people that they face challenges and are consistent in achievement of the goals and cooperation with others. While pointing to the above mentioned personality properties, the authors [20] argue that they interact with other situational factors and determine the presence of components of engagement: state and/or behaviour.

In this context, it is worth to emphasize three types of *centration* (focusing full attention on a single source of motivation while neglecting others) separated by Reykowsky (1986): concentration on “Self structure” (*egocentrism*), total concentration on the other person and their interests (*allocentrism*) and concentration on social needs (*sociocentrism*). Although this author stressed that each of the types of *centration* corresponds to different types of *integration of motivation*, it can be expected that athletes should be characterized by an optimal intensification of *sociocentrism*. However, any motivation approached as an experience that stimulates human actions or prevents humans from taking actions [29, 23] might have a decisive effect on experiencing the activity.

Other traits often referred to as those connected with engagement are: high self-assessment, generalized feeling of your own effectiveness and location of control while an intermediate agent is the perceived characteristics of actions and feeling of satisfaction [13].

With similar approach, Ryan and Deci [27] introduced the self-determination theory (SDT), where self-determination is considered as the main factor in motivation for searching innovation and changes, extending and experiencing the limits of your own abilities, exploration and learning. According to these authors, the above traits are not only essential because of

cognitive and social development but they also represent the main source of joy throughout the whole life of an individual [27]. Engagement in a variety of activities might be just the expression of the preference for seeking stimulation and meeting the need for “being busy”. The above characteristics are interrelated with engagement (with particular focus on enthusiasm), which has been emphasized by Schaufeli and Bakker [28]. Furthermore, functioning of athletes based on a high number of relations and easiness of interacting affects their performance during realization of this dimension of engagement, which relates directly to the existence in society (e.g. team games). Striving for cooperation and thus different forms of interpersonal contacts are their natural tendency.

Many authors emphasize the multifaceted nature of the stage of engagement [1, 11, 7]. Asakawa [1] refers to feeling pleasure, sacrificing yourself for performing a particular task, full motivation to action and the highest concentration and control of awareness. According to Karageorghis [11], a man in a state of engagement controls the events. Goleman [7] argues that this state represents the pinnacle of emotional intelligence, the most perfect form of “harnessing” the emotions and using them for working and learning. This means that emotional intelligence is, for an autotelic individual, a property that reveals the abilities of emotional self-control and awareness control.

Similar views were presented by Csikszentmihalyi [4], who stressed that experiencing the joy of acting necessitates autotelic personality, understood as “a Self which determines the goals” and changing the perception of potential threats into *challenges* thus sustaining an *internal harmony*. Csikszentmihalyi [4] developed a method of measuring experiences. It allows for describing subjective feelings of the people who experienced varied mental states during their own activities. The example feelings are expressed with the following words: “My mind is not thinking it over. I’m not thinking about anything else. I’m totally engrossed with what I’m doing. My body feels excellent. I seem not to hear anything. I’m cut off from the world. I’m becoming less aware of my Self and my own problems. I’m much engaged in what I’m doing. I seem to be a part of what I’m doing” Therefore, when people find themselves in a particular mental state, they start to perceive the phenomena others do not and have a feeling of connection with the whole world and being filled with a unique emotional state.

It is assumed that there are no people with entirely autotelic personality and it seems that behaviours of any human being are more or less exotelic. Therefore, there might be a personality which is autotelic to a certain degree: starting from the people who do not

experience autotelic feelings through to those who experience them very often. There is no future or past when experiencing autotelic feelings but rather the activity itself [4]. The opposite to these experiences is performing activities for external reasons (exotelic). A number of activities might have autotelic and exotelic character at the same time. The level of autotelic and exotelic behaviour is likely to be determined by personality traits of the people who experience varied state of engagement. In many aspects, athletes turn out to be a heterogeneous group: some of them are charismatic, full of energy while others are silent, quiet but consistent and determine their actions in a pragmatic way. They are also characterized by “internal localization of control” which allows for development of the stage of engagement [22, 23, 24].

Therefore the question arises: Can we point to specific dimensions of engagement and personality traits typical of athletes? Do they have any congenital mental aptitudes necessary for athletic activity? Is solution to finding high motivation for achievements and engagement hidden in their personality?

Dimensions of engagement

Level of experiences connected with the state of engagement in athletes is coherent with findings published by Csikszentmihalyi: difficulty of a challenge, awareness of action, goals clarity, understanding information, focus on current tasks, ability to control, reduction of disturbing stimuli, experiencing the rhythm of the performed activity and autotelic experience [4, 23].

Overly high level of difficulty with respect to the abilities might cause an internal anxiety whereas the excess of abilities over difficulties might bring boredom. Furthermore, through engagement, the activities performed seem to become spontaneous and automated. A person in a state of engagement feels as a part of the task and has a feeling of his body's harmonization with the environment. In such a state, the goals are clearly defined and comprehensible, matched both to the opportunities of a person and to the challenges the person must face [5, 23, 24]. During performance of the task, it is easy to keep being focused on it and the information becomes easy and comprehensible. This provides a clear feedback whether performance of the task occurs in right direction.

Concentration on current tasks is one of the most essential dimensions of the state of engagement in sport. A number of different activities can be performed. However, lack of focus on a task leads to mental entropy [5, 24]. It is also important to feel the control over the performed activities [15].

The paradox of control consists in feeling maximum control over the performed activities although there

are external factors which make it difficult to achieve the goals. There is no total control, but when an mountaineer who climbs a rock or a hurdler who races along 110 m are confident about what they do, they make fewer mistakes and might feel maximum control. They might be confident about every step, although there is always a chance that something will spoil their plans. If a person performing a task has a feeling that they have total control over what they do, their self-confidence is rising as is their satisfaction. Therefore, they might fully engage in the activity they perform.

Experiencing of the state of engagement often leads to losing the sense of time [5]. Some people claim that the time “slows down” while others feel that it “accelerates”, but both are able to perceive every detail in the environment. The sense of time is likely to be related to the strength of concentration on the task. The greater the focus the more difficult it is to receive feedback about the time. Therefore, time itself ceases to matter. It is assumed that the relationships between personality factors and dimensions of engagement form a hierarchical structure of autotelic personality. The autotelic experience consists in intensive engagement in action (without predicting its result), which is so great that the person who experiences this state is satisfied with performance of the task itself.

The above mentioned ability of being happy even with the situations which are “unbearable” for others is, according to Csikszentmihalyi [4] connected with the internalized symbolic system: The people who are able to “transfer the world into their imagination” represent “health islands” among the waves of chaos. Furthermore, the people who do not have an internalized system of symbolic representations often fell victim to media: they are manipulated by demagogues and are exploited by anyone who have anything to be sold.

Personality factors

Autotelic personality traits are the most significant in people who can derive satisfaction from difficult situations. They are able to turn very difficult situations into advantageous to them [35]. Logan [18] drew a conclusion that a common feature of people who can do this is a strongly oriented goal. This causes that any sense, any feeling and any motor function can be harnessed to produce the state of engagement. The investigations concerning the relationship between engagement and personality traits reveal empirically demonstrated correlations, although the researchers have sometimes obtained contradictory results with respect to the same personality properties [26]. The investigations of personality have usually used a model of personality proposed by Costa and McCrae [2, 35]. Therefore, the question arises: What is the contribution of

the personality factors (NEOAC) to the state of sports engagement? These factors are “bipolar”: neuroticism – emotional stability, extroversion – introversion, openness to experience – closedness to experiences, agreeableness – disagreeableness, conscientiousness – lack of conscientiousness.

According to Costa and McCrae [2, 21], personality factors cannot be easily changed due to their genetic determination and high degree of heritability [17]. They were found to be important during the process of adaptation to the environment [2]. For instance, it was demonstrated that openness is an important predictor of vocational preferences; conscientiousness is the best determinant of the quality of the work performed while agreeableness and conscientiousness are connected with life satisfaction. Therefore, there is a high probability that the bipolar character of individual personality factors will allow for observation of what is conducive and what is not to experiencing the state of engagement in sport, representing at the same time its autotelic and exotelic prediction.

The questionnaire-based survey of autotelic personality reflects a subjective feeling of engagement (e.g. happiness, joy, satisfaction), which is a very important factor in sports achievements [23]. This feeling concerns in particular concentration of attention on particular sensory stimuli. Athletes with autotelic personality are by assumption conscientious in their resolutions, organized and motivated towards achievement of the goals as well as open to new experiences and emotionally stable. They have positive attitudes toward the world around them, which positively affects their emotional state and lets them achieve the state of engagement much easier. Furthermore, the emotionally unstable people cannot easily face difficulties. Any obstacle might disturb them, make them angry and nervous. Unstable individuals are unable to control their behaviour and keep calm and show positive emotions necessary for achievement of the state of engagement. In order to get satisfaction from the effort, one must develop a group of special abilities, which in turn necessitate concentration of attention.

The aim of the study was to empirically evaluate the structure of autotelic personality of athletes in the context of engagement under competitive conditions.

The hypotheses that relate to the dimensions of engagement and constant personality traits have been verified. The authors attempted to obtain the answer to the following questions: To which degree the dimensions of engagement and personality factors are interrelated during sports activity? Which personality factors and dimensions of engagement are correlated the most? Do these components have a character of autotelic personality?

Material and Methods

All the procedures were approved by the Bioethical Committee at the University of Physical Education in Warsaw and were consistent with the standards of the Declaration of Helsinki.

The study evaluated 50 athletes (10 volleyball players, 10 basketball players, 10 track and field athletes, 10 rugby players and 10 mountain bikers). The survey was conducted during a post-competition period. Each part of the survey took place up to three days after competition, in small (4 to 5 people) groups. The authors used: engagement questionnaire and personality inventory.

The personality inventory NEO-FFI [2] is used for evaluation of five personality factors treated as a continuum: Neuroticism – Emotional stability (NEU) i.e. from high emotional sensitivity and tendency to experiencing stress through to resistance to the hardship of life, internal peace and relax; Extroversion – Introversion (EXT) i.e. from being sociable, active, optimistic through to seriousness and reserve in contacts with others; Openness to new experiences – Lack of openness (OPE), i.e. from wide interests and vivid imagination towards traditionalism and practicality; Agreeableness – Disagreeableness (AGR) i.e. from nice, friendly and non-confrontational attitudes through to scepticism and competitive attitudes towards others; Conscientiousness – Lack of Conscientiousness (CON) i.e. good organization, thoroughness, reliability, strong will and consistency in striving for achievement of goals through to spontaneity, lack of organization, comfort of life and laziness. The questionnaire contains 60 questions, statements (12 for each factor). Each statement is evaluated on a scale of 1 to 5. Maximum score of 60 points can be achieved for each of the factors. High scores suggest high level of the “left pole” of a particular factor.

Flow State Scale-2 FSS-2, (Engagement questionnaire), [4] is used for evaluation of a subjective feeling of the state of engagement. There are nine dimensions of this state on a scale of 1 to 5. Each scale has four statements assigned. Individual dimensions are:

1. Challenge-Skill Balance (balance between ability level and challenge – BA) – adjustment of your own abilities to the challenge.
2. Merging of Action and Awareness (loss of the feeling of self-consciousness – LF) – deep engagement in action so that it becomes spontaneous and automated.
3. Clear Goals (clear definition of goals – CG) – and tasks that rises no doubts.
4. Unambiguous Feedback (unequivocal understanding information, intrinsic rewarding – IR) – the information provided is clear to an individual and allows for evaluation of the highest possible goals

and achievements. 5. Concentration on the Task at Hand (concentration and focusing – CF) – on current tasks or signal in order to exclude insignificant tasks. 6. Sense of Control (potential ability of control – C) – during experiencing the state of engagement, the individual knows that the control is possible and has a feeling of potential control and effect on your own activities. 7. Loss of Self-Consciousness (lack of confusion feedback – F) – the task performed engages the attention of the individual so that they cannot think of the future or accept other disturbing stimuli. 8. Transformation of Time (distorted sense of time – DS) – objective, external time flow becomes insignificant compared to the rhythm of a particular activity. 9. Autotelic Experience (action awareness merging – AA) – experiencing flow as a state which is satisfactory in itself so that performing the task becomes a reward and positive reinforcement. The raw results on each scale equals the number of points from individual statements (4 to 20).

The authors made statistical computations using the Pearson's r correlation coefficient that determines the level of linear correlation and reveals the relationships between variables. Descriptive statistics used were means and standard deviations for the variables studied.

Results

The analysis carried out in the study demonstrated that certain personality factors are conducive to experiencing of the state of engagement during sports competition.

The aim of the current analyses was to find internal relationships between individual personality factors and the relationships between the nine dimensions of engagement with personality factors of the people surveyed. Mean values and standard deviations for individual personality factors presented in Table 1 demonstrate that the factor that characterizes the people studied the most is conscientiousness. This means that the athletes in the study are well-organized, thorough, reliable, strongly motivated and consistent in achievement of goals. Table 2 illustrates means and standard deviations for dimensions of engagement in athletes. These results point to a high yet varied level of the state of engagement among the athletes during competition.

With regard to the correlation coefficients between personality factors, it was found that conscientiousness is connected the most with extroversion (Table 3) at $p < 0.05$, and high interrelation can be observed

Table 1. Personality factors (NEO-FFI), means and SD, N=50 athletes (10 volleyball players, 10 basketball players, 10 track and field athletes, 10 rugby players and 10 mountain bikers)

Sport	NEU	EXT	OPE	AGR	CON
Volleyball	16.81 ± 6.44	32.06 ± 5.48	25.00 ± 4.02	27.38 ± 6.20	31.25 ± 5.92
Basketball	16.50 ± 6.03	32.38 ± 3.54	25.56 ± 7.89	28.06 ± 3.74	32.00 ± 7.81
Track and field	16.31 ± 6.99	32.94 ± 5.02	24.81 ± 1.77	28.38 ± 5.69	32.44 ± 3.97
Rugby	16.50 ± 2.55	33.00 ± 4.43	24.56 ± 3.12	28.25 ± 5.69	32.69 ± 5.99
Cycling	17.63 ± 3.98	32.81 ± 4.72	25.50 ± 3.84	28.50 ± 5.52	33.13 ± 3.34

Notes: NEU – neuroticism, EXT – extroversion, OPE – openness, AGR – agreeableness, CON – conscientiousness

Table 2. Dimensions of engagement, means and SD, N=50 athletes (10 volleyball players, 10 basketball players, 10 track and field athletes, 10 rugby players and 10 mountain bikers)

Sport	BA	LF	CG	IR	CF	C	F	DS	AA
Volleyball	15.56 ± 2.22	15.19 ± 2.76	16.55 ± 1.97	15.56 ± 0.89	16.56 ± 2.71	16.00 ± 2.10	15.44 ± 2.73	15.13 ± 2.80	17.25 ± 1.91
Basketball	15.11 ± 2.23	15.52 ± 2.37	14.43 ± 3.06	15.45 ± 2.76	15.56 ± 2.63	13.55 ± 4.22	12.72 ± 5.23	15.13 ± 3.13	14.7 ± 3.27
Track and field	17.41 ± 1.51	16.41 ± 2.07	17.61 ± 1.43	17.33 ± 1.42	17.52 ± 1.35	17.42 ± 1.58	17.91 ± 1.10	17.00 ± 1.05	17.5 ± 1.27
Rugby	14.15 ± 2.01	14.63 ± 1.96	15.42 ± 2.72	13.41 ± 2.22	15.91 ± 2.23	15.60 ± 2.88	16.80 ± 2.70	12.00 ± 2.45	16.2 ± 1.75
Cycling	16.00 ± 1.25	14.72 ± 1.64	16.41 ± 1.07	17.23 ± 1.40	16.30 ± 1.06	15.54 ± 2.17	14.10 ± 3.14	16.20 ± 1.62	18.00 ± 1.15

Notes: BA – Balance between ability level and challenge, LF – feeling of self-consciousness, CG – clear goals, IR – unequivocal understanding information, CF – concentration on current task, C – paradox of control, F – lack of confusion, DS – distorted sense of time, AA – autotelic experience

between these factors, which, as can be expected, dominate the athletic personality. They are probably some of the most important psychical factors that determine engagement in sport. With regard to the relationships between individual dimensions of engagement (as presented in Table 4), the most interesting are correlations occurring between clear goals and autotelic experiencing, concentration on current tasks, paradox of control and unequivocal understanding of information.

Table 3. Relationships between personality factors, N=50

Variables	NEU	EXT	OPE	AGR
EXT	-0.291*			
OPE	-0.104	-0.006		
AGR	0.032	0.089	0.069	
CON	-0.245	0.442**	0.129	0.322*

* significance <0.05; ** significance <0.001

When attempting to find the answer to the question of what is the structure of autotelic personality in the athletes studied, the authors computed the correlation

coefficients between personality factors and individual dimensions of the state of engagement. It turned out that the personality factors which highly correlated with each other were significant to engagement. Table 5 presents the level of correlation of these variables. Based on the analysis of these relationships, the authors drew a diagram for the structure of autotelic personality of athletes (Fig. 1).

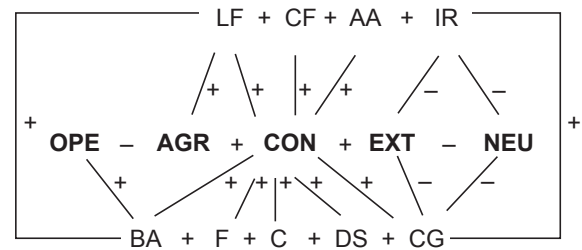


Figure 1. Structure of autotelic personality in athletes

The highest significant correlations were observed between conscientiousness and concentration of current tasks, balance between ability level and challenges,

Table 4. Relationships between dimensions of engagement, N=50

Variables	BA	LF	CG	IR	CF	C	F	DS
LF	0.650**							
CG	0.556**	0.494**						
IR	0.489**	0.240	0.485**					
CF	0.564**	0.570**	0.551**	0.361*				
C	0.470*	0.353*	0.581**	0.426**	0.541**			
F	0.334*	0.185	0.268*	0.089	0.355*	0.473**		
DS	0.308*	0.232	0.100	0.486*	0.252	0.031	-0.009	
AA	0.548**	0.470**	0.612**	0.332*	0.602**	0.391*	0.146	0.218

* significance <0.05; ** significance <0.001

Table 5. Relationships between dimensions of engagement and personality factors, N=50

Variables	BA	LF	CG	IR	CF	C	F	DS	AA
EXT	-0.224*	-0.026	-0.238*	-0.385*	-0.150	-0.179	0.008	-0.036	-0.177
OPE	0.083	-0.022	-0.238*	-0.384*	-0.153	-0.177	0.007	-0.035	-0.174
AGR	0.281*	0.146	-0.003	-0.107	0.070	0.005	0.103	0.086	0.058
CON	0.023	0.272*	0.139	0.043	0.208*	0.112	0.174	0.179	0.183
EXT	0.277*	0.355*	0.237*	0.149	0.310*	0.214*	0.253*	0.271*	0.291*

* significance <0.05;

Notes: OPE – openness to new experiences, AGR – agreeableness, CON – conscientiousness, EXT – Extroversion – introversion, NEU – neuroticism-emotional stability, LF – acting with self-consciousness, CF – concentration on current tasks, AA – autotelic experience, IR – unequivocal understanding of information, BA – balance between challenges and skills, F – lack of confusion, C – paradox of control, DS – time transformation, CG – clear goals, (+) positive correlations, (-) negative correlations

clarity of goals and paradox of control. This might suggest good organization, thoroughness, reliability, strong will and consistency in achievement of goals, which are characteristics typical of autotelic personality. They might help athletes adjust their own abilities to challenges, clearly define goals, evaluate best methods of achievement of the goals, concentrate attention on tasks and have feeling of control of your own activities.

It is interesting from the standpoint of autotelic personality that the autotelic experience i.e. actual state of engagement correlates significantly ($p < 0.05$) with conscientiousness. Another remarkable fact is a significant negative correlation between the factor of Neuroticism – Emotional stability and Extroversion – Introversion with unequivocal understanding information at $p < 0.05$. It can be expected that this regularity provides information that it is possible during autotelic experiences to be aware of the control of your own activity only when an individual is emotionally stable, quiet, relaxed and able to cope with stress, without experiencing anxiety, stress and nervousness. One can also expect that neither sociability nor seeking new experiences are conducive to feeling satisfaction from experiencing the state of engagement.

Discussion

Dimensions of engagement and personality factors are interrelated to a varied degree. The most typical of autotelic personality of athletes (i.e. of these correlations) is the structure where the common components are conscientiousness in positive correlation with acting with self-consciousness, concentration of current tasks, autotelic experience, balance between abilities and challenges, lack of confusion, paradox of control and time transformation as well as extroversion – introversion and neuroticism – emotional stability in negative correlation with unequivocal understanding information and clarity of goals. A correlation of balance between abilities and challenges with openness to new experiences and a correlation of agreeableness with acting with self-consciousness were also observed (Fig. 1).

Relationships between engagement and personality

The relationship of engagement with proactive aspects of consciousness (diligence/assiduity, orderliness, ambition, self-confidence, resourcefulness) positively verifies a hypothesis that concerns autotelism in the people characterized by high level of organization, consistency and motivation in goal-driven activities which describe person's attitudes towards different activities [12]. People with high conscientiousness exhibit strong will, are motivated and consistent in achievement of

their goals and have great achievements. Therefore, the most noticeable effect of engagement in sport will be consistent performance of the sport tasks.

The relationship between engagement and extroversion-introversion factor indicates that, on the one hand, autotelic people exhibit a natural energy, are vigorous, enthusiastic and oriented towards action [16]. On the other hand, sociability might make concentration of attention difficult [12, 13, 28, 33, 34].

The relationship between engagement and the factor of neuroticism – emotional stability explains the emotions that affect adaptation of the individual to the environment [16, 33, 34]. Emotionally stable people are able to control impulses and cope with stress and use constructive coping strategies, focused chiefly on tasks [34]. With high level of neuroticism, feeling fear would reduce tendency to exploration of the environment [6] and thus limit engagement in the tasks, especially those with high level of difficulty.

Furthermore, correlation of engagement with openness to new experiences and agreeableness is ambiguous. Some researchers emphasize lack of the correlation [33] while other demonstrated its existence [14], particularly with respect to affective engagement. This concerned the studies that offered opportunities for expression of this personality trait [25]. Openness to new experiences describes a tendency of an individual for searching and positive evaluation of life experiences that explain tolerance towards innovation and cognitive curiosity, which naturally contributes to engagement in sports tasks. However, it is important that sports activity is the goal in itself. Curiosity and the need for exploration of the environment is a trait typical of creative individuals. Indeed, in the related literature, engagement combines with innovativeness and it is suggested that these people do not act more but rather in a varied manner and they often initiate changes [20] i.e. they are proactive. Agreeableness that concerns attitudes towards others might point to a non-confrontational nature of the athletes studied.

There is a likelihood that conscientiousness, introvert concentration of attention and emotional stability helps athletes engage their attention to the degree that they do not think about future, which would distract actions. Therefore, their actions can be spontaneous and automated. Emotional stability and introversion are conducive to clear definition of goals and tasks. This might mean that preferences for being a loner are also important predictor of experiencing the state of engagement.

In conclusion, it can be stated that building a psychological model of engagement based on the diagnosis of personality traits in athletes necessitates integration of knowledge concerning an organizational context

(discipline traits, organizational factors of engagement). Sport environment might stimulate or prevent from showing natural personality traits of an athlete. A particularly important factor is care of coaches for matching the specific character of a sport with personality traits of an individual. Undoubtedly, the need arises for further in-depth theoretical and empirical analyses aimed at identification of personality dispositions that determine various forms of engagement.

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