

Personality determinants of value preferences in Polish adolescent athletes and non-athletes

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Abstract

The aim of the present study was to analyse selected personality underpinnings of value preferences in a group of young Polish athletes and non-athletes. Values which people prefer allow to better comprehend their psychological needs and ways of dealing with everyday problems. With regard to athletes, their preferred values cast light on their motivations to achieve sports goals. One hundred and twenty students took part in this study. The group of athletes who followed an extended physical education curriculum included 60 adolescents practicing swimming (n=20), basketball (n=17), and football (n=23). The remaining 60 students followed the standard curriculum (non-athletes). Personality traits were measured on Costa and McCrae's Big Five model. Locus of control on Rotter's Theory of Social Learning, value preferences were determined using Schwartz's Theory of Universal Human Values. Young athletes were more open and had a more internal locus of control. Non-athletes valued more Stimulation values. The configurations of relationships among personality traits, locus of control and values were different in the two groups.

Key Words: personality; values; locus of control; extended physical education curriculum; adolescence

Introduction

Many changes in physical activity in boys and girls occur during adolescence (Hallal et al., 2012), as well as transformations of value preferences of students (Whitehead et al., 2013). Young athletes become more sensitive to clues pertaining to different spheres of their sports career, including values (Gould et al., 2002). The development of the sphere of values in adolescent athletes is an important area of study (Klein et al., 2017; Whitehead et al., 2013). Physical education provides opportunities for the development of motor skills and has influence on students' efficient transition into adulthood (Bessa et al., 2020). Values are defined as specific preferences for achieving important goals to a person and preferred ways of participating in social relationships. People's preferred values allow to understand and predict their behaviour and choices, including those linked with a sports career. Values influence the way one perceives and evaluates different events (Rokeach, 1973).

One of the most notable values traditionally associated with sport are competition and fair play (Gau et al., 2019). Gutiérrez and Vivó (2005) state that values which can be achieved through physical activity can be divided into two groups: social values (i.e. competition, respect, collaboration, responsibility, and caring for one another in a team) and personal values (i.e. self-discipline, maintaining or improving one's health, achievements). It is important to know which values young sports adepts prefer, as values trigger specific motivations associated with different ways of meeting goals and coping with failures.

Physical activity and sport commitment correlates with life satisfaction of adolescents and their different health behaviours (Berki et al., 2020; Bessa et al., 2020). Studies by Lee and colleagues (2008) demonstrated that the values preferred by athletes included moral values associated with respecting sports rules, competence values connected with obtaining goals, and status values related to building a positive self-esteem. The researchers showed young athletes paid more attention to competence values and moral values than values pertaining to maintaining prestige or a high social position in a group. This finding was corroborated by Danioni et al., (2017), found that the young players attached the most importance to self-transcendence values. Additionally, analyses by Cruz and colleagues (1995), Spruit and colleagues (2018), and Bermejo (2020) demonstrated that the socio-moral environment in which sports are practiced is an important factor in shaping young people's value preferences. Young athletes cherished victory, fair play and they also valued actions which were against the rules of the game (Guivernau, & Duda, 2002).

Personality traits are closely related to value preferences during adolescence. Personality traits have biological roots and manifest in the way how people think, react, and feel. McCrae and Costa (2008) have identified five personality traits: Conscientiousness, Neuroticism, Agreeableness, Extraversion and Openness to experience. Contrarily, values are products of culture and socialisation (Schwartz, 1992). Extroverts tend to seek rewarding situations, and see new and ambiguous situations as challenges and opportunities for obtaining

reward. Moreover, extroverted individuals derive satisfaction from their successes for a longer time than do individuals with elevated Neuroticism levels (Gallagher, 1996).

Personality and social experiences both influence a person's value hierarchy. Hence, values are formed by an interplay between personality and complex social and cultural influences (Olver & Mooradian, 2003). Personality traits may affect the crystallisation of value preferences as they induce motivational processes connected with everyday decisions and preferences (Parks-Leduc et al., 2015). Athletes who are high on Neuroticism are more likely to prefer Security values, as this trait is connected with an augmented level of anxiety and deficits with coping with stress. The study of personality traits and value systems of young athletes allows to uncover their real needs and goals. Investigations in this area allow to considerably enhance the methods of teaching and educating young athletes and adapt the provisions to these students' real needs and aspirations (Allen & Laborde, 2014; Roberts & Woodman, 2017).

In addition to the Big Five personality traits, a person's preference for specific values may also depend on their locus of control of reinforcement. Although research on the connections between locus of control of success and failure and value preferences in young athletes is scarce, such associations seem very likely to exist. Research conducted by Roccas et al. (2002) confirms that cognitive control depends more on value preferences than personality traits.

The concept of locus of control derives from Rotter's (1966) social learning theory. It is an individual's generalised belief that they have control over the situations in which they participate. It forms a continuum from internal to external. The conviction that the results of one's efforts are in line with one's behaviours, capacities or traits is called an internal locus of control, while the opposite belief that the outcomes of one's actions are a consequence of coincidence or bad luck is called an external locus of control. Locus of control may shape one's ability to handle stressors of all types as it has an influence on how one perceives them (Holden et al., 2019). Research by Di Corrado et al. (2021) conducted in a group of young athletes revealed that a lower self-efficacy and an external locus of control were antecedents of an increased level of perceived stress.

Participation in extracurricular activities can help students build an internal locus of control as they have an achievement-oriented nature (Bang, et.al. 2019). Adolescents who experience different consequences in sport activities are more likely to believe that their achievements depend upon their own efforts i.e., they develop a more internal locus of control (Seow & Pan, 2014; Filipiak & Łubianka, 2020). Despite the fact that relationships between locus of control and value preferences have not been the subject of systematic research, the literature on locus of control in athletes is extensive. Assessment of locus of control in athletes has a long tradition as this variable can predict their sports career and achievements as well as their proneness to transgress rules in sport (Tsai et al., 2014). A vital role in the shaping of young people's world of values, not only in sports, is played by coaches, teachers, instructors (Danioni et al., 2017; Whitehead et al., 2013). They encourage desirable attitudes in young athletes and show them acceptable ways of achieving personal goals (Kremer-Sadlik & Kim, 2007). Research by Stupuris et al. (2013) revealed that moral and competence values were linked with young athletes' moral decisions in sport. Those researchers observed that sportspersons who perceived their coach as being consistent in instilling an attitude of strong moral character were prone to exhibit desirable behaviours.

Present Study

In the present study, we investigated personality traits, personal values and locus of control in a sample that included adolescents learning in classes with an extended PE program, which, in the Polish education system, are referred to as "sport classes". Those adolescents, in comparison with students from non-sport classes, apart from standard subjects included in the high-school curriculum, receive additional PE provision during the academic year. On the basis of a review of previous studies, we formulated the following research questions:

1. What are the differences in personality traits, locus of control of success and failure, and preferred values between athletes and non-athletes?
2. What are the relationships among personality traits, locus of control and preferred values in those two groups of students?

Material & methods

Participants

One hundred and twenty students, including 50 girls (42%) and 70 boys (58%), were surveyed. ($M=12.6$; $SD=0.50$). One group consisted of 60 students (48% girls) who followed an extended PE curriculum (athletes); they were 7th graders in elementary schools and 2nd graders in a junior high school. The athletes specialised in swimming, basketball, and football. The other group was composed of 60 students (including 35% of girls) who followed the standard curriculum (non-athletes).

Procedure

Surveys were conducted in two elementary schools and one junior high school in one of the largest cities in eastern Poland. The schools offered a specialist PE program in which students received first-stage training in sport. Apart from traditional forms of instruction, these schools also provided a special program aimed at identifying students with predispositions to pursue excellence in their chosen sports discipline. The

whole education cycle in sport classes lasted three years, with each subsequent year constituting another stage of sports training. The schools were selected randomly from a list of public schools offering the specialist PE program. The surveys were conducted in compliance with the principles of confidentiality and anonymity. Consent was obtained from head teachers or school psychologists. Participation in this study was voluntary. The protocol was approved by the Ethics Committee for Scientific Research of Maria Curie-Skłodowska University, Faculty of Education and Psychology (no 29/2019).

Measure

The Picture-Based Personality Survey for Children (PBPS-C) designed by Maćkiewicz and Ciecuch (2016) was used to assess the Big Five personality traits. The tool is recommended for surveying older children and early adolescents.

The validity of the PBPS-C, which was tested by confirmatory factor analysis and its quality indicator, estimated as the product of validity and reliability using the procedure proposed by Saris and Gallhofer (2007), was satisfactory. PBPS-C consists of 15 items pertaining to five dimensions of personality. The minimum and maximum scores that a person can obtain on each scale are 3 and 15 points. The higher the score, the higher the level of a particular trait. Value preferences were measured using the Polish adaptation of the Picture-Based Value Survey for Children PBVS-C (Döring et al., 2010) by Ciecuch et al. (2013). This instrument is used to assess value preferences in students between 5 and 13 years of age and includes an instruction and an answer sheet with 20 items. Presented situations are used to assess the ten categories of values in Schwartz's Theory of Universal Human Values (1992).

Locus of Control Questionnaire (LOCQ) by Krasowicz and Kurzyp-Wojnarska (1990) was administered to measure locus of control. This tool is used to assess locus of control described in Rotter's Social Learning Theory in adolescents between 13 and 17 years of age. The LOCQ comprises 46 questions, of which 36 are diagnostic for locus of control. Half of them refer to successes and the other half – to situations of failure. The global score is a measure of a generalised locus of control. The lower the score, the more internal the locus of control. The questionnaire has satisfactory psychometric properties.

Statistical analysis

The assumptions of normality and homoscedasticity were tested using the Shapiro–Wilk and the Levene tests, respectively. Independent sample *t* tests were used to determine mean differences between personality traits and value preferences. Hedges' *g* was calculated to estimate effect size. Regression analysis with an interaction effect of type of school was carried out to determine the relationship between the type of school program (extended PE vs standard) and personality traits, and their interaction with value preference. All statistical analyses were performed using SPSS 25.

Results

Tables 1–3 show differences between athletes and non-athletes in personality traits and value preferences, and the connections between these differences/these variables.

Table 1.

Student's t-test for differences in mean personality traits, value preference and locus of control scores obtained by athletes vs. non-athletes

	Athletes		Non-athletes		<i>t</i> (118)	<i>p</i>	Hedges' <i>g</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Personality traits							
Agreeableness	11.75	2.19	11.33	2.48	.98	.332	.18
Conscientiousness	10.42	2.99	9.90	2.38	1.05	.297	.19
Extraversion	12.95	2.35	11.68	2.57	2.81	.006	.55
Neuroticism	7.98	2.48	8.13	2.81	-.31	.757	.06
Openness	9.22	2.75	9.58	2.41	-.78	.439	.14
Value preference							
Achievement	9.38	1.98	7.86	2.02	4.15	.001	.76
Benevolence	9.77	1.64	9.36	2.11	1.16	.249	.22
Conformity	6.27	1.76	6.25	1.89	.05	.960	.01
Hedonism	10.47	1.57	10.35	1.41	.43	.669	.08
Power	7.70	2.45	7.07	2.38	1.43	.154	.26
Security	9.75	1.85	9.38	2.16	.99	.320	.18
Self-Direction	8.61	1.84	9.18	1.78	-1.68	.096	.31
Stimulation	9.00	2.28	10.01	1.75	2.74	.007	.50
Tradition	8.43	1.90	8.91	2.22	-1.28	.204	.23
Universalism	7.80	2.08	7.90	2.25	-.25	.801	.05
Locus of control							
Success	13.22	2.13	12.20	2.63	2.33	.022	.43
Failure	13.63	2.93	11.77	3.47	3.18	.002	.58
General	26.85	4.29	23.97	5.40	3.23	.002	.59

Note: *p* < .05. *p* < .01.

The data presented in Table 1 show that athletes were more extrovert than non-athletes and the effect size was moderate. Additionally, athletes valued Achievement more than non-athletes. Non-athletes showed a higher preference for Stimulation and the effect size was moderate. The young athletes had a more internal locus of control of success and failure and a more internal general locus of control compared to their non-athlete peers.

Table 3.
Results of regression analysis with school program type as moderator of relationships of personality traits and locus of control as predictors with values as dependent variables in athletes

Athletes		Universalism				Tradition				Security				Self-direction																			
Values		β	SE	<i>t</i>	<i>p</i>	β	SE	<i>t</i>	<i>p</i>	β	SE	<i>T</i>	<i>P</i>	β	SE	<i>t</i>	<i>p</i>																
		Personality determinants	N	.14	.10	1.21	.230	.06	.09	.52	.605	.33	.09	2.78	.008	.04	.09	.35	.731														
O	.41		.10	3.04	.004	.18	.10	1.26	.212	.20	.10	1.45	.153	.63	.09	4.58	.001																
C	.18		.09	1.38	.172	.31	.08	2.24	.030	.20	.08	1.49	.143	.12	.08	.92	.364																
A	.09		.11	.74	.462	.29	.10	2.37	.022	.14	.10	1.14	.258	.07	.10	.59	.558																
L	.15		.17	.83	.410	.03	.16	.17	.870	.54	.16	2.93	.005	.47	.15	2.61	.012																
		$R^2 = .31$				$\Delta R^2 = .38$				$R^2 = .24$				$\Delta R^2 = .33$				$R^2 = .25$				$\Delta R^2 = .34$				$R^2 = .30$				$\Delta R^2 = .38$			

Note: $p < .05$; $p < .01$; $p < .001$ N – Neuroticism; O – Openness to experience; C – Conscientiousness; A – Agreeableness; L – Locus of control in Successes

Table 4.
Results of regression analysis with school program type as moderator of relationships of personality traits and locus of control as predictors with values as dependent variables in non-athletes

Non-athletes		Universalism				Benevolence				Hedonism															
Values		β	SE	<i>t</i>	<i>p</i>	β	SE	<i>T</i>	<i>P</i>	β	SE	<i>t</i>	<i>p</i>												
		Personality determinants	N	.073	.10	.58	.563	.30	.08	2.68	.010	.01	.07	.013	.989										
O	.27		.12	2.15	.036	.24	.10	2.18	.033	-.17	.08	-1.26	.214												
C	-.17		.12	-1.39	.171	.12	.10	1.07	.290	-.21	.08	-2.70	.009												
A	.28		.12	2.08	.043	.34	.10	2.86	.006	.26	.08	1.84	.071												
L	.58		.19	2.57	.013	.45	.16	2.26	.028	-.03	.13	-.11	.912												
		$R^2 = .23$				$\Delta R^2 = .32$				$R^2 = .39$				$\Delta R^2 = .47$				$R^2 = .13$				$\Delta R^2 = .23$			

Note: $p < .05$; $p < .01$; $p < .001$ N – Neuroticism; O – Openness to experience; C – Conscientiousness; A – Agreeableness; L – Locus of control in Successes

Tables 4 and 5 show the results of regression analysis of the interaction effect of type of curriculum carried out separately for each value category for athletes and non-athletes. The regression model, constructed on the basis of a literature review, included preference for particular value categories as the dependent variable, and personality traits and locus of control of success/failure as predictor (independent) variables. Tables 4 and 5 present only those values for which the interaction effect was significant in the groups of athletes and non-athletes. The value categories which showed statistically significant importance for the regression model in both groups of students included: Universalism, Benevolence, Tradition, Security, Hedonism, and Self-direction. The model was well-fitted to the data both for students in the extended PE program: Universalism ($F(2, 58) = 4.82$; $p < .001$), Tradition ($F(2, 58) = 3.70$; $p < .01$), Security ($F(2, 58) = 3.87$; $p < .01$), Self-direction ($F(2, 58) = 4.59$; $p < .001$); and those in the standard program: Universalism ($F(2, 58) = 3.48$; $p < .01$), Benevolence ($F(2, 58) = 6.46$; $p < .001$), Hedonism ($F(2, 58) = 2.26$; $p < .05$). The regression coefficients obtained for athletes demonstrated that their value preferences were related to personality traits and locus of control in the following way: Openness to experience was a significant predictor of Universalism; Conscientiousness and Agreeableness were predictors of Tradition; Neuroticism and locus of control of success were predictors of Security and Openness to experience and locus of control of success were predictors of Self-direction. All these relationships were positive. The following associations were found for non-athletes: Openness to experience, Agreeableness and locus of control of success were predictors of Universalism and Neuroticism, Openness to experience, Agreeableness and locus of control of success were predictors of Benevolence. All these relationships were

positive. Conscientiousness was a negative predictor of Hedonism. All the coefficients we obtained pointed to a significant, though moderate, relationship of value preferences with personality traits and locus of control of success. The percentages of variance in value preferences explained by the model were as follows: Universalism 38%, Tradition 33%, Security 34%, Self-direction 38% for students in the extended PE program, and Universalism 32%, Benevolence 47%, and Hedonism 23% for students in the standard program.

Discussion

Based on the literature, it was assumed that students in extended PE program classrooms would be characterised by a higher level of Extraversion and Conscientiousness compared to their peers in standard program classrooms (Allen & Laborde, 2014; Perry et al., 2017). They were also presumed to have a more internal locus of control when experiencing both successes and failures, and to show a preference for Achievement values (Seow & Pan, 2014; Bang et al., 2019). The results showed that young athletes were more open and spontaneous than non-athletes (Malinauskas et al., 2014). Participation in sports requires traits such as being open to cooperation, resolving problems in an active way, and having good relationships with one's teammates and coaches (Allen & Laborde, 2014). Additionally, success in sport is often accompanied by changes in interpersonal activities which may contribute to the development of Extraversion in young athletes. In sports settings, success can also lead to greater involvement in interpersonal activities, generating high income and media attention.

Our results also indicate that young athletes show a lower preference for Stimulation values which may be associated with the fact that participation in sport competitions is risky per se. They also had a higher preference for Achievement values than non-athletes, which is in line with the results of previous studies (Roberts & Treasure, 1995; Curry et al., 1997). Ambition and the need for achievement are natural stimulators in sport. We also observed that young athletes had a more internal locus of control of success and failure and a more internal general locus of control compared to non-athletes. The second research question regarded the relationships between personality traits, locus of control and value preferences in the two study groups. Openness to experience was a predictor of Universalism in young athletes. This result is very interesting. Open individuals are curious about both the inner and the outer world and are believed to be more willing to entertain novel ideas. Because of their openness to new experiences, these individuals are hypothesised to perform especially well on tests that require flexible and original thought (Łubianka & Filipiak, 2020). Universalism is a Self-transcendence value. This category refers to tolerance and protection of other people's well-being (Schwartz, 1992). Thus, Openness to experience can be a predictor of preference for Universalism, since both of these traits relate to similar motivational characteristics. It is possible that through participation in sports, which develops traits such as the ability to cooperate and to observe and interpret the behaviour of others (teammates and rivals), individuals learn to go beyond their own point of view and engage in matters of their community (a sports team or club). Our results are consistent with other studies which show that young athletes have a higher preference for Self-transcendence values than for Self-enhancement values.

In the group of athletes, Conscientiousness and Agreeableness were predictors of preference for Tradition values. Conscientiousness is associated with the need for order, good organisation and skills related to managing one's cognitive and emotional processes in order to achieve goals (McCrae & Costa, 2008). Therefore, it can be concluded that conscientious people, who are self-disciplined and persevering, are likely to appreciate attitudes and behaviours that comply with social norms, including the rules of sport (Daniel et al., 2012). In turn, Agreeable people cooperate harmoniously with others, respecting social norms and principles, which also makes them more likely to prefer Tradition values.

The results obtained in the group of young athletes also showed that Neuroticism and internal locus of control of success correlated with their preference for Security values. Neurotic people are prone to worry and feel tension. In the context of sports, individuals who are high on Neuroticism may be anxious about losing fitness or the interest of fans. For this reason, this trait may be associated with appreciation of Security, i.e. the desire to have harmonious and stable relationships with others and to enjoy personal comfort (Ilyasi, & Salehian, 2011). Furthermore, internal locus of control in situations of successes was also linked with a preference for Security values. This might mean that by taking conscious decisions, e.g. by avoiding risky situations and taking actions that enhance their health or motivation to participate in sport, they can build their own and their team's security and stability in sport. Openness to confronting difficult situations strengthens young athletes' sense of internal and external security.

Openness to experience and internal locus of control of success are predictors of preference for Self-direction values. Creativity, versatility and readiness to accept change are associated with the preference for independence of judgement and opinion and making one's own path in life (Schwartz, 1992). Individuals with an internal locus of control of success have a tendency to prefer Self-direction values.

In non-athletes, Openness to experience, Agreeableness and locus of control of success were predictors of preference for Universalism values. The ability to reconcile the world's contradictions, openness to new views and ideas, creativity in solving problems, good relations with other people and a sense of control over successes contribute to preference for Universalism values, and, by the same token, an interest in general human matters. Additionally, our results showed that in this group of students, Conscientiousness was a negative predictor of

Hedonism. This means that low perseverance and low meticulousness in work contribute to preference for this value, i.e. readiness to enjoy quick gratification and the desire to immediately satisfy one's needs (Schwartz, 1992).

Limitations and further research directions

Although this present study fills a research gap in sport psychology regarding the analysis of personality determinants of athletes' value preferences, it has several limitations. First of all, the results cannot be generalised to a larger population, because the survey was conducted in only one large city in eastern Poland. Another limitation is the cultural context of values, which, even though values universally take part in the interactive process of team-building, may have different transmission patterns in different cultures (Kernan & Greenfield, 2005). Moreover, the respondents represented three different sports disciplines. Some data indicate that athletes who play team sports differ in personality traits from those who do individual sports (Ilyasi & Salehian, 2011; Nia & Besharat, 2010).

Conclusions

Participation in PE has an influence on the development of students' personal and social skills (Bessa et al. 2020). Sport gives young athletes a possibility to experience Olympic values such as fair play, friendship, providing new experiences and social responsibility (Berki et al., 2020). On the other hand, sport is also a field of socially-negated behaviour, such as doping, and it is subject to constant commercialisation, manipulation and exploitation by the mass media. Knowledge of the relationships between personality variables and values preferred by young athletes allows psychologists and representatives of sports associations to analyse in depth what students in sport classes deem important and how they want to achieve their goals at the very first stage of their sports career. This knowledge may help to explain motivations of young athletes to engage in anti-sport behaviours, such as doping, and may help to find strategies for promoting the development of a good form in sports in a socially-acceptable way (Petróczi et al., 2017; Mortimer et al., 2021). Knowledge about the personality profile of young athletes also enables coaches to better comprehend how the players react in different situations. Finally, it permits to optimise their mental preparation in the formative stages of training (Mihăilescu & Cucui, 2014).

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